INTERNATIONAL COFFEE ORGANIZATION

COFFEE DEVELOPMENT REPORT

THE FUTURE OF COFFEE

Investing in youth for a resilient and sustainable coffee sector

2021

A Flagship Report of the International Coffee Organization

MISSION

The ICO's mission is to strengthen the global coffee sector and promote its sustainable expansion in a market-based environment for the betterment of all participants in the coffee sector.

INTERNATIONAL COFFEE ORGANIZATION

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Investing in youth for a resilient and sustainable coffee sector

A Flagship Report of the International Coffee Organization

2021 COFFEE DEVELOPMENT REPORT

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ACKNOWLEDGEMENTS

The Coffee Development Report (CDR) 2021 has been prepared by the ICO under the leadership of its Executive Director, José Sette, and under the overall guidance of Gerardo Patacconi, Head of Operations, who was responsible for the conceptualization of the CDR and for overviewing its preparation, finalization, editing and publishing. Denis Seudieu, ICO Chief Economist, coordinated the work of the external contributors.

The CDR is based on extensive research carried out by experts from Michigan State University (MSU) led by Dr Felix Kwame Yeboah, who was in turn assisted by Dr Leonidas Murembya and Dr Deepa Thiagarajan. Other contributors from MSU included David DeYoung, Academic Specialist, and Mariana Sow, a third year PhD student. These experts from MSU prepared Part II of the CDR and their research was co-funded by the ICO and the German Federal Ministry for Economic Cooperation and Development (BMZ) through Deutsche Gesellschaft fur Internationale Zusammenarbeit (GIZ), GmbH, to which the ICO expresses sincere thanks and appreciation.

Important contributions were also made by members of the ICO's Coffee Public-Private Task Force (CPPTF) who actively participated in the research process by sharing their experiences in addressing the topical issue of youth involvement in the coffee global value chain (C-GVC). Specifically, the CDR benefitted from the valuable input of and comments from Matteo Landi and the Allmende team, as well as research support from Rafael Paz, Bin Wen, Art Ma and Chloe Majzel. Special thanks go to Elizabeth Price and Saano Murembya, whose pro-bono work kick-started the analysis. The ICO's deepest appreciation goes also to the numerous coffee sector stakeholders and young "coffeepreneurs" who took the time to share their insights with us, including those who kindly responded to two ad-hoc online surveys managed by the ICO/ Allmende and by the MSU team.

The ICO team further recognizes the valuable contributions of ICO staff members: Dock No, Statistical Coordinator; and Alexander Rocos, Statistics Consultant, who prepared Part III, section D; Veronica Ottelli, Secretariat and External Relations Officer, and Nina Clarke, Translation and Documents Coordinator, for proof-reading, editing and harmonization of the Report, and publishing coordination; and Aaron Calzadilla-Sarmiento, ICO intern. Valuable inputs were also provided by the team from the Initiative for Sustainable Agricultural Supply Chains (INA) of the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH and by Wolfgang Weinmann, Coordinator, ICO Coffee Public-Private Task Force (CPPTF), on secondment from GIZ.

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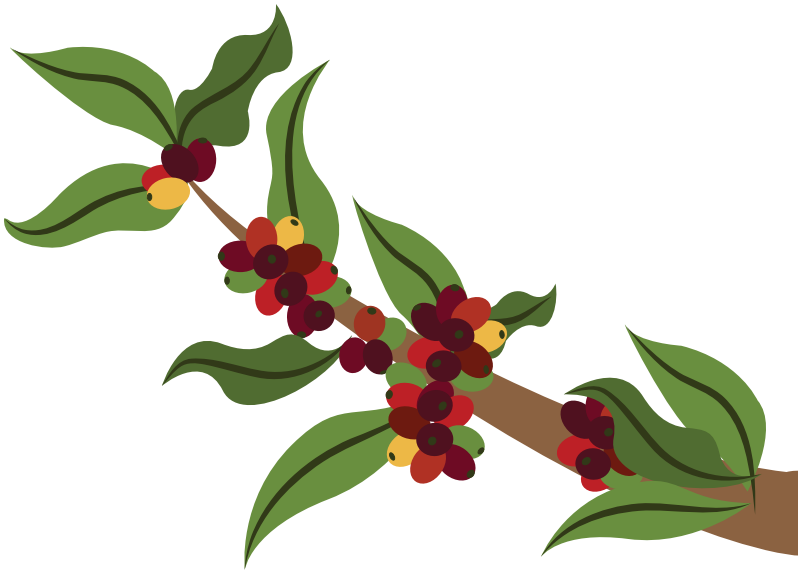
The list of those who agreed to be interviewed by the MSU team is presented in Annex 2, and apologies go to any individuals or organizations inadvertently omitted from this list. We express our gratitude to everybody who contributed to this Report, including those whose names may not appear herein, and to all families and friends who have supported us in this endeavour.

The ICO team recognizes that young people face many obstacles when trying to earn a living due to limited access to skilled jobs. Despite the hard work it requires, agriculture provides an enormous range of career opportunities for young people who are expected to be the driving force behind the positive transformation of the coffee sector. This expectation and belief in the capacity of young people in coffee-producing countries (CPCs), as well as those engaged in all components of the coffee supply chain, including baristas and consumers, have inspired and motivated the preparation of this CDR. Engaging effectively with and providing tools and resources to the coffee sector's Next Generations is, after all, not an aim but a must.



ABBREVIATIONS

4C	The Common Code for the Coffee Community
AICS	Italian Agency for Development Cooperation
AIESEC	Association internationale des étudiants en sciences économiques et commerciales
AUC	African Union Commission
AtCoF	Coffee Attraction Index
BMZ	German Federal Ministry for Economic Cooperation and Development
CAISTAB	Gabonese Coffee and Cocoa Authority
CDR	Coffee Development Report
CEO	Chief Executive Officer
CGIAR	Consultative Group for International Agricultural Research
CGLF	CEO and Global Leaders Forum
C-GVC	Coffee Global Value Chain
CIC	Coffee Industry Corporation
CICC	Interprofessional Cocoa and Coffee Council
CONACAFE	Honduran National Coffee Council
COSA	Committee on Sustainability Assessment
CPC	Coffee-producing country
CPPTF	Coffee Public-Private Task Force
CSO	Civil Society Organization
CTC	Coffee Training Centre
CURAD	Consortium for enhancing University Responsiveness to Agribusiness Development
ECOM	Ecom Agro-industrial Corporation
ECTA	Ethiopian Coffee and Tea Authority
EU	European Union
EYS	Expected Years of Schooling
FAO	Food and Agriculture Organization
FNC	Colombian Coffee Growers Federation
FTE	Full-Time equivalent
GAEZ	Global Agro-Ecological Zones
GAPs	Good Agricultural Practices
GDP	Gross Domestic Product
GIZ	Deutsche Gesellschaft fur Internationale Zusammenarbeit (GIZ) GmbH
GEN Z	Generation Z
HIVOS	Humanist Institute for Development Cooperation
HRNS	Hanns R. Neumann Stiftung (HNRS) Foundation
ICC	International Coffee Council
ICD	International Coffee Day
I-CIP	ICO Composite Indicator Price
ICO	International Coffee Organization
ICT	Information and communication technology
IDH	The Sustainable Trade Initiative
IFAD	International Fund for Agricultural Development
IFIs	International public and private funding institutions
ILO	International Labour Organization
IMF	International Monetary Fund
JECCA	Coffee & Cocoa Young Entrepreneurs' Programme
KUL	Kawacom Uganda Limited
LIFFE	London International Financial Futures and Options Exchange
LSMS	Living Standards Measurement Study
MIJARC	International Movement of Catholic Agricultural and Rural Youth
MSU	Michigan State University
MYS	Mean Years of Schooling
NEET	Not in employment, education or training
NGO	Non Governmental Organization
NYBOT	New York Board of Trade
OECD	Organization for Economic Cooperation and Development
PMJDY	Pradhan Mantri Dhan Yojana government
R&D	Research and Development
SME	Small- and Medium-sized Enterprise
SPEI	Standardized Precipitation-Evapotranspiration Index
SSA	Sub-Saharan Africa
TKL	Tutunze Kahawa Limited
TVET	Technical and Vocational Education and Training
TW	Technical Workstreams
UN	United Nations
UN SDGs	United Nations Sustainable Development Goals
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNIDO	United Nations Industrial Development Organization
US	United States
USAID	United States Agency for International Development
VET	Vocational Education and Training
WFF	World Food Forum
YDP	Youth Development Project

FOREWORD

When I joined the International Coffee Organization (ICO) in May 2022, the drafting of the Coffee Development Report 2021 was already nearing completion. This was the result of the hard work and dedication of the whole ICO team under the capable leadership of the former Executive Director.

I come from a coffee producing family so I know that promoting the engagement of young people in the coffee sector is not just an aspiration or a strategy, but an imperative necessity. I am therefore confident that this outstanding CDR will inspire and foster investment in the coffee Next-Gen and in turn involve more young men and women in the C-GVC, where we will see everyone, from farmers to baristas, act as agents of change and successful and responsible entrepreneurs and workers. We need to build on young women and men's strong commitment to sustainability as the responsible coffee consumers of tomorrow.

Vanúsia Nogueira
Executive Director, ICO
May 2022-present

As is the case for many agricultural commodities produced in developing countries, the world coffee sector faces a long list of challenges, from volatile prices, rising production costs and the reduced availability of land and labour, to the need to improve the social conditions of smallholder farmers, shifting global weather patterns and the scarcity of environmental resources such as water. While the global economy is only just starting to recover from the Covid-19 pandemic, which severely affected coffee growers worldwide and worsened their already precarious living conditions, there is another critical challenge likely to affect the future of the coffee industry.

Indeed, in CPCs, the ageing workforce in the coffee value chain is an additional threat and stress factor jeopardizing the future and sustainability of the coffee industry worldwide, and we are thus critically concerned with how to attract and retain young people in the coffee industry. As a result, the ICO focused its efforts and limited financial and human resources on the theme of youth in the organization of the International Coffee Day (ICD) in 2020 and 2021, in addition to the G20/Y20 and the Food and Agriculture Organization (FAO) World Food Forum events on coffee. These efforts have attracted attention and highlighted the importance of coffee as a driving force behind social and economic development, with particular emphasis on the significance of the role of young people. In general terms, young men and women are particularly important resources for any country striving to sustain agricultural development.

The coffee sector's structural weaknesses and stressors (as analysed in the 2019 and 2020 editions of our CDR) threaten its resilience and its future in terms of quality, quantity and diversification of origins. These factors jeopardize the coffee sector's ability to provide a reliable and consistent living income to growers and workers. One of the core functions of the ICO is to identify priority issues, concerns and opportunities affecting the coffee economy, to raise awareness among all stakeholders, including decision makers, and to provide advice on responses. The future of the coffee sector depends on a coherent process of modernization and on the effective engagement of young people. The opportunities arising from youth engagement in the entire coffee global value chain are immense: they must not be overlooked and require special attention and funding. I believe that young men and women can become agents of change who see sustainability as part of a non-negotiable set of values. By engaging them in the coffee sector, "sustainability", "resilience" and "inclusiveness" will no longer be mere words but will be transformed into concrete actions.

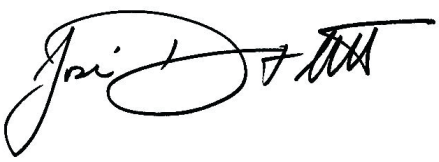
Within this context, I am pleased to present this third edition of the CDR, which explores the potential benefits of young people's participation in the C-GVC and analyses the causes behind their reduced interest in the sector. The title of this third edition of the CDR, "Coffee Next-Gen: Investing in youths for a resilient and sustainable coffee sector", gives a clear indication of its subject matter and, based on existing experiences and case studies on youth involvement in agriculture in general, and particularly in coffee, it provides recommendations for attracting and retaining young people in the sector. This publication brings together a number of evidence-based research papers by MSU which explore the implications for youths in the C-GVC and make detailed recommendations for policy makers, international development agencies, non-governmental organizations (NGOs) and bilateral and multilateral development institutions to address the challenges. As you will read in the report, a central theme is that a thriving and sustainable coffee sector is critical to securing the livelihoods of young men and women in CPCs, but a sustainable and resilient coffee sector requires the strong engagement of youths: the coffee Next-Gen.

I would like to pay tribute to the experts from MSU for their valuable contributions to the work of the ICO. This is a concrete example of the Organization's new vision, which seeks to strengthen collaborations with universities and research institutions in order to benefit from their expertise in areas linked to the coffee industry and related fields.

By acting on these recommendations and working collaboratively, we will not only help to bring about the future coffee industry to which we all aspire, but also lay the foundations for present and future generations to prosper. Involving youths in every aspect of the C-GVC is vital not only to guarantee a regular supply of coffee to the industry in the future, but more importantly, to create job opportunities for the growing youth population in CPCs. The ICO believes that leveraging youths in the coffee sector is crucial to modernizing coffee farming and ensuring its future growth, and also to capitalizing on the ideas, energy, entrepreneurial spirit and innovation talent of the Next-Gen both in coffee exporting and importing countries.

I do sincerely believe that successful experiences can be scaled up and extrapolated across ICO Member countries, and I am confident that this report will contribute to discussions between all stakeholders regarding the collaborative initiatives required to secure the future sustainability of our coffee industry, particularly in origin countries through its transformation into a rewarding and resilient sector that appeals to young men and women all around the world.

As I conclude, I would like to recognize the extraordinary efforts made by the ICO team who worked tirelessly on this report despite their limited number. This is my last contribution as Executive Director and I am especially proud of the fact that we have revolutionized the ICO's contributions to the general debate on the coffee sector by focusing every year on a specific theme and producing an innovative flagship report series: the Coffee Development Reports. These innovative studies have dramatically increased the quality, audience and impact of the Organization's analytical work, from women in coffee and economic sustainability to an in-depth assessment of the C-GVC, and now youths. I am confident that my successor, Ms Vanúsia Nogueira, will further develop and strengthen this process, all the while benefiting from the same commitment and dedication from the ICO team and the support of ICO member countries, donors and partners.



José Sette
Executive Director, ICO
2017-2022

PART I
OVERVIEW

0.1 Objective and structure of the Report

This flagship publication of the International Coffee Organization (ICO), the Coffee Development Report (CDR), marks its third edition. The first CDR focused on economic sustainability, while the second one on an in-depth assessment of the dramatic changes that have occurred in the past 30 years in the coffee global value chain (C-GVC). The CDR 2021 seeks to build a case on the role that youths will play in guaranteeing the future of the coffee industry by analysing the challenges and prospects of attracting and engaging them as employees, entrepreneurs and consumers within the coffee sector.

Young people between the ages of 15 and 34 years comprise about a third of the 4.9 billion people living in coffee producing countries (CPCs) and at least half of the overall labour force, depending on the country's demographic. In this sense, the future of coffee will depend on their labour, innovation, advocacy, lifestyle and consumption patterns. The Next-Gen will play a crucial role at each step of the C-GVC, in particular through research, development and innovation and the adoption of new technologies to drive a true rural and industrial revolution towards sustainability and fairness. This CDR will look specifically at the critical participation of the Next-Gen in the C-GVC, with emphasis on production levels where ageing grower populations represent a serious threat to future coffee supplies, particularly for smaller and less productive CPCs.

There are unresolved issues which threaten the coffee sector's potential to boost incomes and reduce poverty, namely climate change and ageing coffee farmers, while price volatility raises concerns about the prospects of increasing and sustaining coffee production. The coffee sector will therefore increasingly require innovation and greater youth engagement to address these threats.

While young people's catalytic potential to bring about the innovation required to sustain the coffee sector is widely acknowledged, questions remain on how to effectively promote greater youth engagement to enhance the sustainability and resilience of the coffee sector.

In response to these policy challenges, this report reviews evidence on the synergies between youth livelihoods and a sustainable and resilient coffee sector by:

(i) Analysing key demographic trends in CPCs and their potential impact on the future production, transformation, trade and consumption of coffee;

(ii) Examining trends, opportunities, and barriers to youth engagement in agriculture with an emphasis on the C-GVC;

(iii) Reviewing youth-focused interventions to identify best practices and effective approaches for supporting youth engagement in agriculture and the C-GVC;

(iv) Discussing key entry points for pragmatic investments and supportive policies to foster meaningful youth engagement in the C-GVC.

A central theme of the CDR 2021 is that a thriving and sustainable coffee sector is critical for securing youth livelihoods in CPCs. Likewise, as noted, a sustainable and resilient coffee sector requires greater youth engagement. Simply put, youths need coffee and coffee needs youths.

This CDR draws on numerous research publications and on the experience of successful programmes on the integration of young people in agriculture, and particularly in the coffee sector, as well as on surveys and direct interviews with key coffee stakeholders, both young "coffeepreneurs" and mainstream business actors. Analysing challenges, opportunities and best practices has enabled the ICO team to formulate a set of 'sound' policy recommendations addressing all public and private coffee stakeholders as well as development partners, so as to foster actions towards a resilient, inclusive and sustainable coffee sector: a transformation centred around innovation and youths as the main agents of change.

The CDR is structured into five main sections divided into three parts. Part I provides a comprehensive overview of the Report, as it contains its objectives, structure and background, as well as a snapshot of the key highlights. More specifically, Part I introduces the concept and the major thrust of the report: "The Coffee Next-Gen: investing in youth for a resilient and sustainable coffee sector" which underlines the relevance of the report and the methodology used – mainly desk research and literature review, complemented by an analysis of secondary data and a series of stakeholder consultations through interviews and online surveys.

Part II covers the core theme of the entire report, analysing obstacles to youth involvement in the coffee sector and untapped opportunities offered by the C-GVC. Section A addresses trends, challenges, and opportunities for youths in the C-GVC; section B discusses how to promote youth employment in agriculture and across the entire C-GVC; and section C examines opportunities, challenges and policy options to engage the Next-Gen in coffee. Part III presents section D in which the key coffee market trends observed in 2020/21 in relation to major events and policies affecting the sector, including the Covid-19 pandemic, are highlighted.

Box 0.1: Defining youth

There is no universally accepted definition of "youth". Various age-based definitions of youth are used within and across countries and programmes. The UN defines youths as individuals between 15 and 24 years of age, while the African Union extends the upper limit to 34 years. To ensure the policy relevance of the statistical analysis in different contexts, this report adopts an age-based definition that classifies young people in two categories - individuals aged 15 to 24, referred to in the report as "youths". And those aged 25 to 34 deemed "young adults".

In addition to the age-based definition, this report recognizes "youth" as a distinct developmental stage, a period of transition from family-dependent childhood to independent adulthood with full rights as a responsible member of society. As adulthood may differ by social and cultural context, the report's discussion of youth livelihood strategies attempts as much as possible to reflect the lived experiences of individuals at this developmental stage without regard to age. It explores the avenues needed to equip them with the required skills and support for a successful transition to adulthood as defined within various social and cultural contexts.

0.2 Main findings

0.2.1. Youths in coffee: is it a "want" or a "must"?

While there is no unanimity on the age range classified as "youth" (see box 0.1), this CDR adopts both the United Nations and the African Union's definitions and makes two different references to young people in the report, with **"youth" indicating the population between 15 and 24 years, and "young adult" a person between 25 and 34 years of age.**

A thriving and sustainable coffee sector is critical for securing youth livelihoods in CPCs, while a sustainable and resilient coffee sector requires a greater engagement of the Next-Gen. However, the combined forces of rapid population growth, slower expansion of meaningful employment, and limited opportunities for skill development have consigned many young people in CPCs to unemployment and/or underemployment in less productive activities.

As defined previously, most CPCs have the largest youth populations in the world, with more than 70 percent of those living in CPCs being in Africa and Asia. Of the 4.9 billion people living in coffee producing countries, about one third are between 15 and 34 years of age. A large share of this youth population derives income from agriculture and they could be attracted to productive and profitable engagement in coffee to improve their livelihoods. It is projected that young Africans will increasingly account for a greater share of the global population and will exert considerable influence on the future trajectory of coffee production through their labour, consumption patterns and activism.

0.2.2. Youth employment in agriculture and in the coffee sector

As established, agriculture is still a significant source of income in many developing countries, offering significant employment opportunities. However, many youth employment activities tend to be concentrated in the fast-growing service sector, and, generally speaking, young people participate less in the labour force and are disproportionately impacted by unemployment, underemployment and vulnerable employment. Relative to adults, youths often lack the experience, social network, productive resources and skills to effectively access income-generating opportunities. Consequently, they face greater challenges accessing livelihood opportunities.

Box 0.2: Minimum age of employment

This report and its analysis of youths and young adults and their engagement in the coffee sector refers to the international regulatory framework, conventions and laws with regards to minimum age for admission to employment, formal and informal sectors of employment, conditions related to school attendance and age of completion of compulsory education, or participation in vocational orientation or training programmes. A comparative analysis of laws related to minimum age in different countries and regions or of child labour is beyond the scope of this report.

[https://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---travail/documents/projectdocumentation/wcms_765134.pdf

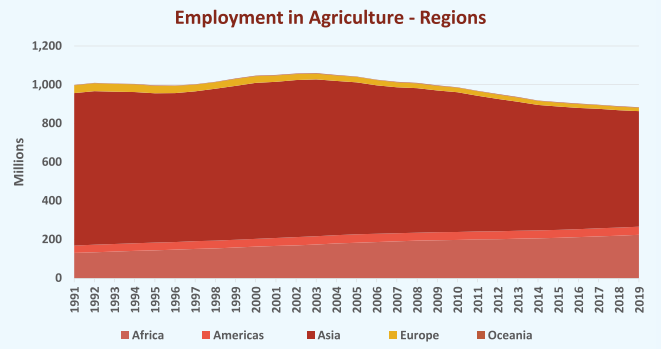
- The minimum age of admission to employment is critical in protecting children from all forms of child labour and exploitation. It also takes into account the positive dimensions for adolescents to contribute to society in conditions that do not impair their development, health and education.
- The general minimum age designates the age at which a child is allowed to work on a full-time basis. Work performed under the minimum age for employment is considered child labour.
- International Labour Organization (ILO) Convention No. 138 establishes this age at 15, with the possibility to temporarily set the general minimum age at 14 for countries in which the economy and education system are insufficiently developed.

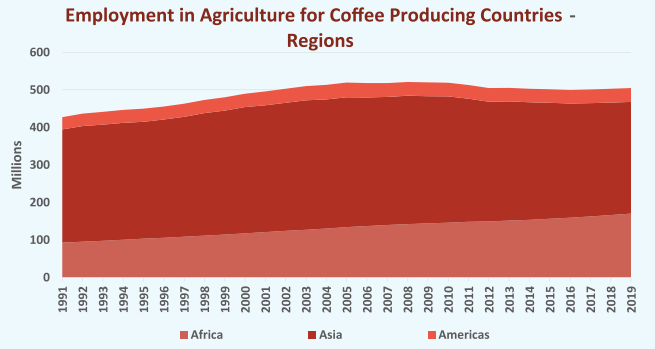
(Ref:https://www.unicef.org/lac/media/2751/file/PDF%20Minimum%20age%20for%20admission%20to%20employment.pdf)

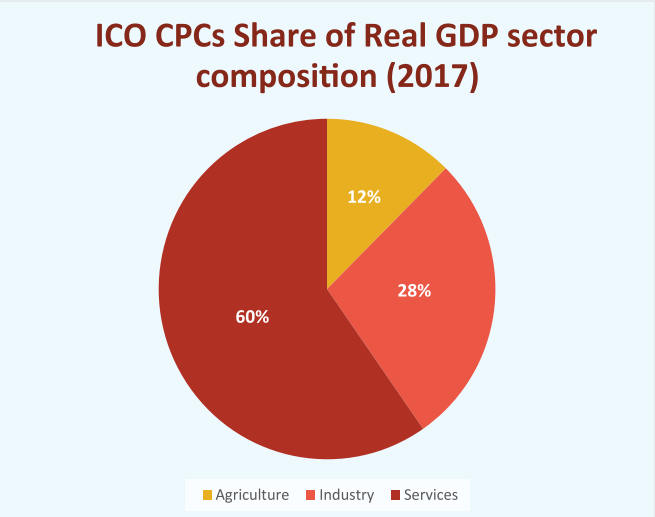
To understand the youth population's position in the labour market, this CDR explored a number of indicators, including unemployment, labour-force participation, NEET (not in employment, education or training) status, as well as the prevalence of young people in vulnerable employment in CPCs. Despite variations across regions and countries, a few trends have been observed.

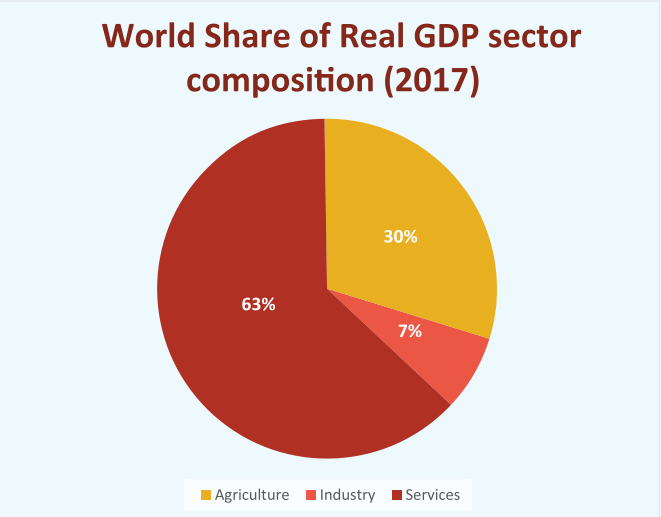
Coffee growing is still a low-paid and labour-intensive activity that requires hard manual work such as picking, sorting, pruning, weeding, spraying, fertilizing and transporting products. As a result, its attractiveness is limited in many CPCs: many young people tend to leave rural areas to migrate to cities or to neighbouring or industrialized countries in search of more lucrative and rewarding opportunities. This migration leaves behind ageing farmers who are poorly suited to sustain future agricultural production, including that of coffee. **In line with global trends, relatively low and declining labour force participation rates among youths (15-24 years) have been observed over time.** By way of example, for CPCs with sufficient opportunities for formal education, youth participation rates in the labour force are relatively low and decline as educational opportunities increase. Meanwhile, labour force participation rates for young adults (25-34 years), who have typically completed schooling, and/or started families of their own, are significantly higher. In most top CPCs, the labour participation rate for this group is 85 percent or above. Where this rate is lower, it is usually because of a very low rate of female participation. Young women on average participate in the labour force at lower rates than men, often because of a "discouragement" effect, childcare, and gendered perceptions of acceptable jobs (ICO 2020).

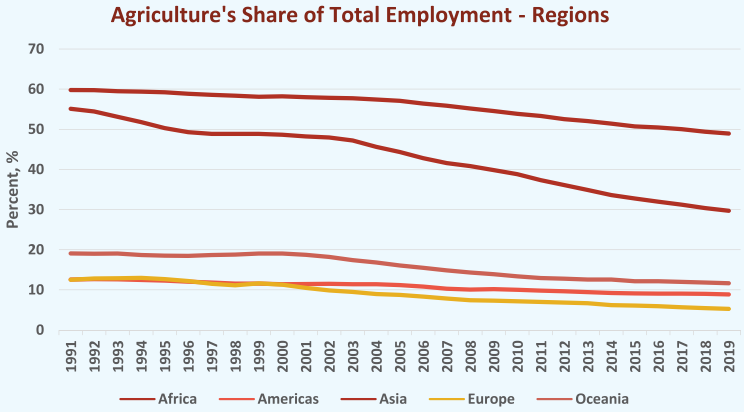
Figure O.1 – Employment and share of agriculture in GDP by region











Source: (ILO, International Monetary Fund, World Economic Outlook Database, elaboration by ICO)

Table O.1: Labour force participation rates in top CPCs by region, 2019

	Total	Male	Female	Total	Male	Female	Total	Male	Female
Africa									
Tanzania	71.04	73.08	68.98	90.37	95.43	85.31	83.42	87.22	79.69
Ethiopia	70.14	73.65	66.57	89.55	94.74	84.33	79.29	85.36	73.31
Cameroon	54.83	58.32	51.31	87.36	94.51	80.2	76.11	80.98	71.3
Uganda	51.08	52.86	49.34	84.64	88.32	81.23	70.04	73.38	66.93
Kenya	42.49	43.72	41.25	89.54	93.7	85.44	74.24	76.53	72.01
Cote d'Ivoire	28.95	31.7	26.2	66.02	78.21	53.92	53.69	62.59	44.58
Asia									
Lao PDR	58.87	56.26	61.53	93.53	94.69	92.36	78.15	79.81	76.49
Vietnam	55.95	59.58	52.1	94.15	96.02	92.21	77.37	82.18	72.73
Indonesia	47.88	55.64	39.69	76.34	94.89	57.63	68.01	82.17	53.81
Malaysia	42.63	49.76	35.06	85.53	96.51	73.83	64.73	77.41	51.33
Thailand	40.3	47.08	33.22	86.94	93.39	80.46	66.74	75.3	58.79
India	27.06	42.38	9.82	61.91	95.09	25.05	49.34	75.92	20.79
Central America									
Honduras	57.95	74.71	40.59	78.69	95.58	61.51	68.97	86.06	52.26
Guatemala	53.32	74.69	31.26	72.33	96.43	48.62	62.64	86.27	40.55
Nicaragua	50.97	71.4	29.24	78.72	95.3	62.05	66.66	84.67	49.74
Costa Rica	46.36	53.77	38.64	82.97	94.66	70.95	64.47	77.2	51.9
Mexico	45.69	58.31	32.81	75.01	93.64	57.07	61.42	78.49	45.58
El Salvador	43.37	56.46	30.47	72.46	91.76	55.89	59.12	75.73	45.37
South America									
Peru	62.52	66.86	58.49	84.25	92.26	76.08	77.86	85.29	70.58
Brazil	56.57	62.42	50.53	82.34	91.08	73.55	64.46	74.35	55.09
Colombia	50.91	58.98	42.54	84.33	95.32	73.23	67.81	80.14	56.19
Ecuador	45.63	55.7	35.2	80.38	94.27	66.29	67.83	80.69	55.17
Venezuela, RB	34.09	46.13	21.78	81.36	96.63	66.53	57.95	74.87	41.95
Oceania									
Papua New Guinea	35.08	34.47	35.73	53.69	53.5	53.88	47.01	47.59	46.42

Source: (ILOSTAT 2019)

Young people are disproportionately impacted by unemployment. Among the CPCs examined, youth unemployment rates are at least twice that of the entire labour force (Figure O.2). Unemployment rates are generally higher in urban areas than rural areas, where opportunities for agricultural activities tend to have a mitigating effect on joblessness. Hence, countries that are relatively urban with limited agricultural opportunities are generally associated with higher unemployment rates, thus making interventions addressing youth-specific challenges critical to improve youth employment outcomes.

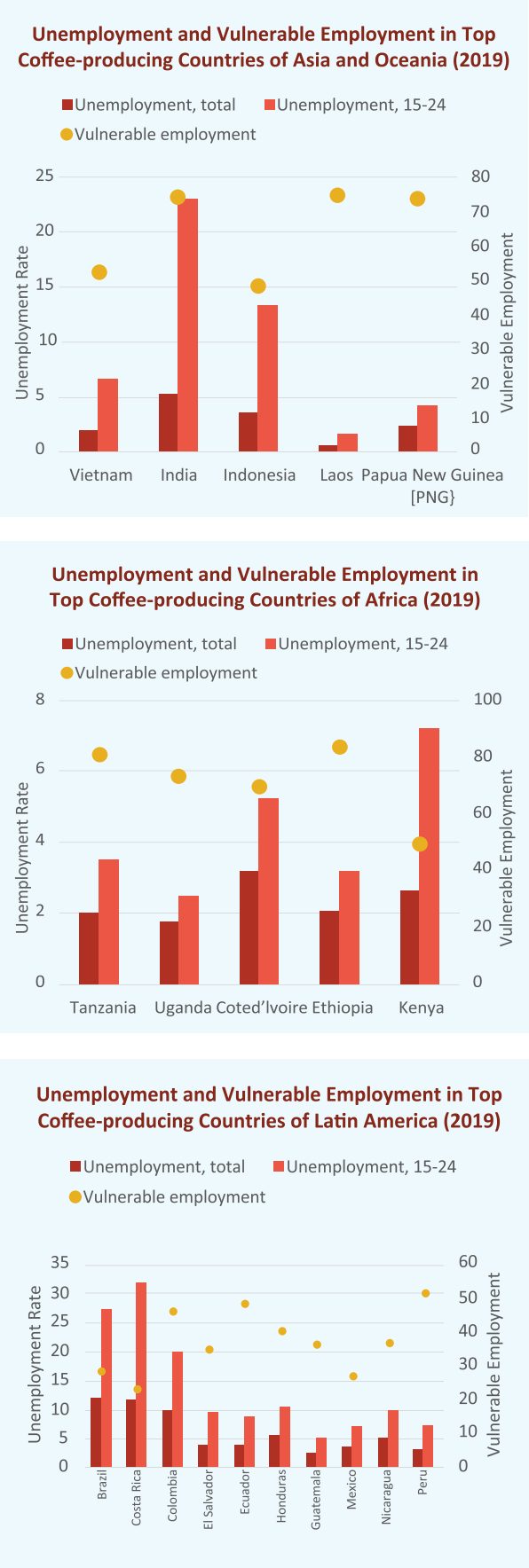
Young people are more likely than adults to be underemployed and/or engage in vulnerable employment. When employed, youths are more likely to be in short-term jobs, with poor pay, long working hours and substandard working conditions (ILO 2020; White 2020). About 80 percent of working youths in Sub-Saharan Africa (SSA) are engaged in vulnerable employment, and nearly two-thirds of them live in poverty relative to half of the adult population (ILO 2020). Similar trends are observed in CPCs across Asia, South and Central America, albeit to a lower extent.

Young people are also more likely to see their livelihoods severely impacted during economic crises, often being the first to lose their jobs and the last to be hired. This has been exacerbated by the Covid-19 pandemic, which has left young people unemployed in far greater numbers than adults (Fleming 2021). It is not surprising, therefore, that young people's access to employment has been the focus of several national, regional and global efforts aimed at achieving the UN SDGs. For instance, the European Union has declared 2022 the year of youth in recognition of the devastating effect of Covid-19 on youth livelihoods, placing young people at the heart of pandemic recovery programming.

Youth engagement and employment in primary agriculture and in specific agricultural value chains remain heavily under-studied. Global estimates of the total number of youths engaged in farm-based activities vary widely due to differences in data sources and methodology. Nonetheless, there is generally a consensus that the number of people working in agriculture is declining over time, despite population growth. Agriculture's share in total employment has also shrunk by a factor of almost 50 percent from the 1990s to 2020 (ILOSTAT 2020) as opportunities for off-farm employment expand in the economy. This pattern of declining agricultural employment is observed also among CPCs.

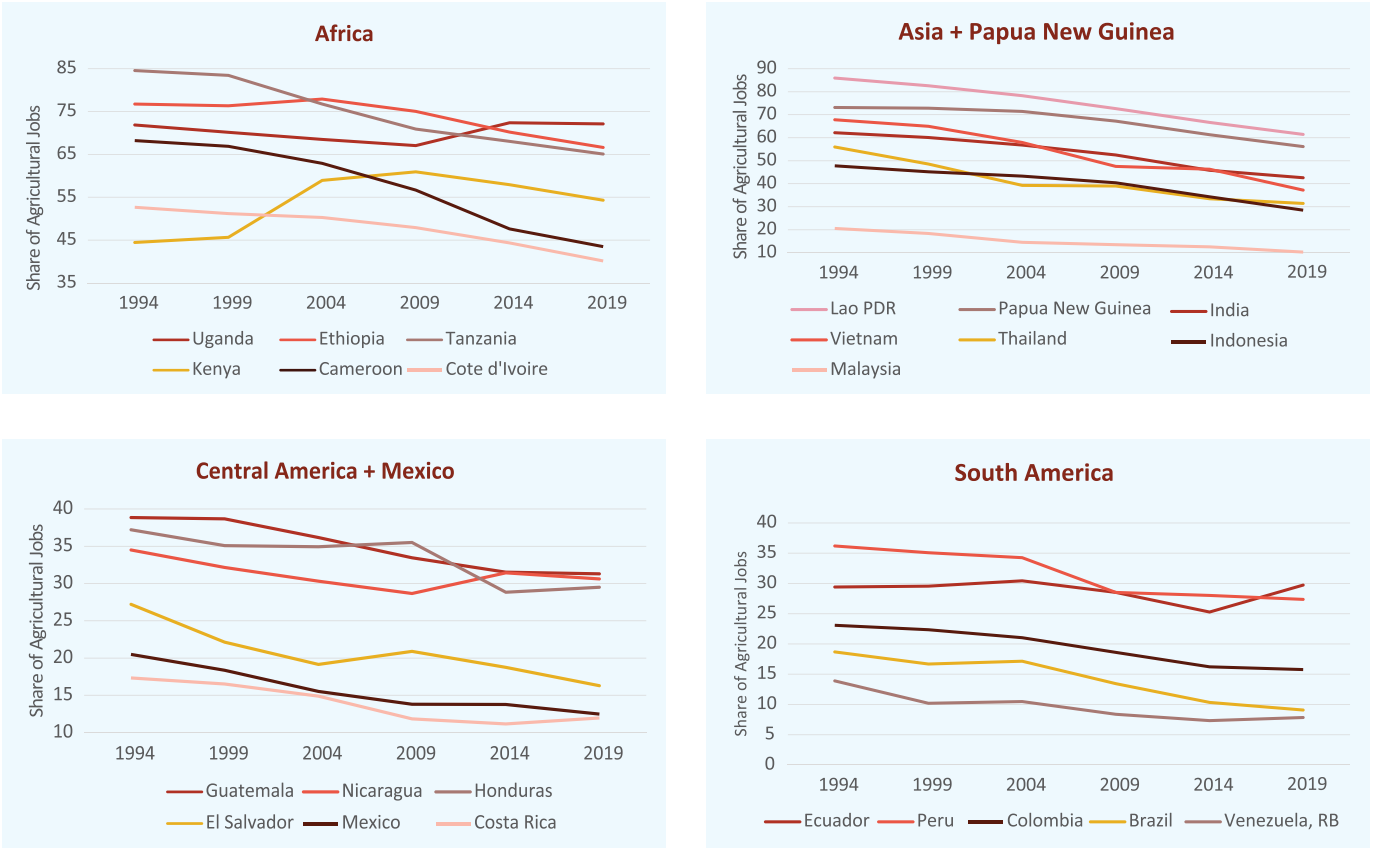
Despite declining shares, agriculture remains a dominant source of employment for the labour force and young people in CPCs in the global south. In fact, although the relative share of labour in agriculture is declining, the absolute number of people engaged in agriculture is still rising in most developing countries to the extent that the number of new hires in farm-based activities may be larger than those in the off-farm segment of the agri-food system over the next decade. This is particularly true for SSA, where the number of people working in agriculture has seen an absolute increase of more than 80 percent in the last 20 years (ILOSTAT 2020). **(Figure O.3)**

Figure O.2: Unemployment and vulnerable employment Rate in Top CPCs



Source: ICO Figures Compiled by Author

Figure O.3: Share of agricultural employment in top CPCs by region



Source: ICO Figures Compiled by Author

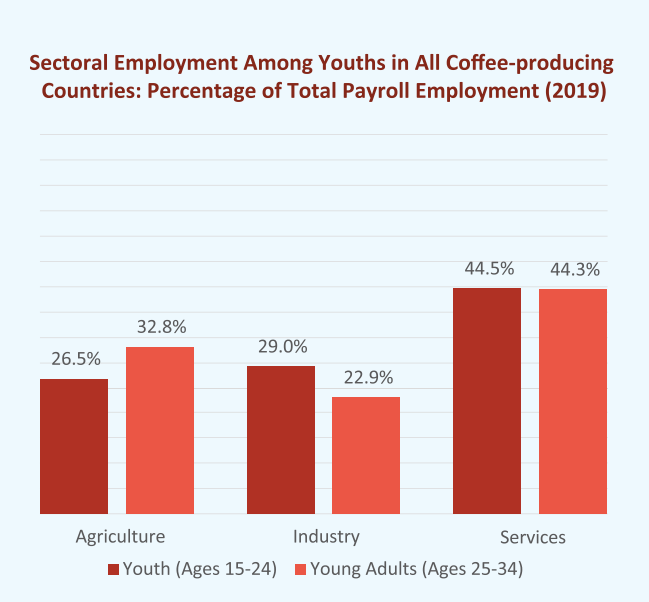
Interestingly, **economically active youths are engaged in agriculture at higher rates than the adult population.** Indeed, farm-based activities still account for more than half (52 percent) of total employment for young Africans (ILOSTAT 2020). In a recent analysis involving countries in SSA, Asia and South America, (Dolislager, et al. 2020), it has been estimated that the rural youth population on average devotes about 51 percent of their total work time to farming relative to 36 percent for adults. It is, however, noteworthy that as young people leave home or school and integrate more fully in the labour force, their engagement in farming reduces.

Agricultural employment often falls short of the economically rewarding, technology-oriented, intellectually-stimulating and meaningful careers that youths typically seek, leading many to aspire to careers outside of agriculture.

Young people are active in many roles and spaces along the value chain beyond primary agriculture.
Depending on a country's level of structural change, the off-farm segment of agricultural and food systems accounts for 8 to 16 percent and 10 to 25 percent of total full time employment (FTE) jobs held by youths (15-24 years) and young adults (25-34 years), respectively (Yeboah and Jayne 2018). However, the off-farm segment of agricultural value chains including that of coffee roasting, processing and retailing, remains underdeveloped in most countries, with entry barriers related to skills and capital requirements.

Many youth employment activities are concentrated in service, primarily in commerce and distribution. Today, over 50 percent of people worldwide are employed in services, compared to less than 35 percent in 1991 (The World Bank 2021). Young people in CPCs are no exception. Data from the ILO show that in 2019, close to 45 percent of youths (aged 15-24 years) were employed in the services sector, while a little over a quarter were in agriculture. The situation for young adults in CPCs is similar to that of youths, with a little over 44 percent working in the services sector. However, as noted, the proportion of young adults in agriculture is slightly higher than that of youths (Figure O.4). In their 2020 article, Dolislager et al. confirm these trends but also highlight variation across geographical regions. For instance, they noted that paid agricultural employment and youth engagement in off-farm segments of the agricultural value chains are more pronounced in Asia and South America relative to Africa.

Figure O.4 Sectoral employment among youths and young adults in CPCs



Source: ICO calculations Based on ILO Data (2019)

Youth engagement in agriculture and the C-GVC extends beyond wages, family and self-employment activities related to coffee production, processing and distribution. In fact, the C-GVC today includes a wide array of careers and activities in marketing, food safety and post-consumption. Youths are also engaged as consumers, researchers and advocates for policies related to climate change, food justice and conscious consumerism, which indirectly impacts the production and distribution of coffee. Some educational models that empower young change-makers to influence the global transition to a sustainable food system are presented in this CDR, as a response to the demand for sustainable coffee.

Analysing the impact of **ageing and the attractiveness of coffee farming** shows that there is a common view that youths are increasingly disinterested in agriculture. This results in a mass exodus of young people from rural areas and farming, leaving behind an ageing farmer population which is poorly suited to sustain future agricultural production, including that of coffee. The average coffee farmer in Colombia and Kenya is 55 and 60 years old, respectively (Kebaso 2021). However, there is a dearth of empirical evidence supporting this claim that farmers are getting older, particularly in SSA. There, populations are young and much of the labour force remains in agriculture, hence claims that agriculture is the preserve of the elderly seem questionable.

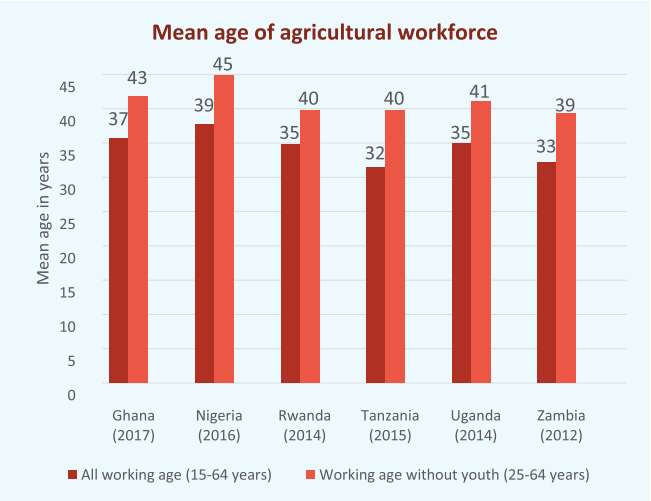
As indicated above, analysis of the age of the agricultural workforce in selected countries in SSA shows, on the contrary, that the average agricultural worker is less than 40 years of age. Moreover, if we exclude young people between 15 and 24 years of age, the average age of the agricultural workforce ranges from 38 to 45 years. The age structure of African farmers has hardly changed over the last decade.

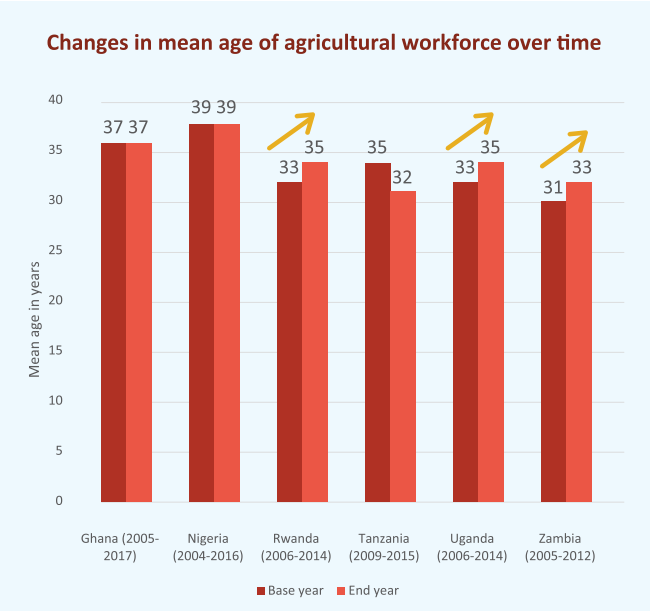
It appears that the widespread perception of an ageing farmer population in agriculture and coffee specifically is partly shaped by the methodologies used to classify individuals as farmers, which focus mainly on those individuals who exercise management control over agricultural landholdings and/or make decisions over resource use, and members of agricultural holders' households (Heide-Ottosen 2014). The exclusion of youths and landless households who contribute to agricultural labour through paid employment negatively impacts the accuracy of the analysis, with an overestimation of the average age of the agriculture workforce. It is also true that many young people from rural areas are leaving farming as opportunities for non-farm employment expand.

Nevertheless, most young Africans who are economically active remain engaged in farming and its attractiveness is often related to wages and income fluctuations.

Hence, as this analysis shows, Africa seems less at risk of its farming population being the preserve of older people. Nonetheless, it is unclear to what extent Africa is an anomaly in the age distribution of coffee farmers given that populations in other regions of the world are much older. Further analysis of age in other regions is needed to conclusively confirm these trends.

Figure O.5 Mean age of agricultural workforce in selected African countries and trends





Source: ICO Figures Compiled by Author

Although their access to education has improved considerably, young people are disproportionately impacted by unemployment, and more likely than adults to lose their jobs during economic crisis or any pandemic such as Covid-19.

O.2.3. Coffee demand, challenges and the role of youths

Youths and coffee demand

The global coffee demand is growing, and recovering from the impact of the Covid-19 pandemic, particularly in emerging markets, offering job and income opportunities for future generations. Nonetheless, there are unresolved issues on how to fully harness coffee's potential to boost incomes and reduce poverty, ranging from climate change and ageing coffee farmers, as noted, to price volatility and supply chain disruptions. The CDR shows that the coffee sector will increasingly require innovation and greater involvement of the next generation of producers, processors, distributors and consumers to address these threats and to enhance its sustainability and resilience.

Demographic and income differences among regions will become significant and key factors shaping patterns of both coffee production and demand in the coming years. More than half of the projected increase in the world's population between now and 2050 will occur in SSA. By the mid-century, populations in SSA are projected to double, making Africa home to about 2.2 billion people. Another 2.4 billion people will reside in South Asia (UN 2021), but in Europe, North America and East Asia, where the current demand for coffee is greatest, populations are ageing and experiencing decline.

Therefore, new coffee demand will increasingly be derived from the young global south with an expanding middle class. In Africa, for instance, business and consumer spending are projected to reach US$6.7 trillion by 2030, and the growing youth population that thrives on "coffee culture" is fuelling a growing demand for coffee (World Bank 2015). However, this potential will be realized only when new economic opportunities are created to combat migration, social unrest and insecurities. Most economies in Africa and Asia are agrarian, with a sizeable populace dependent on coffee and other agricultural commodities for employment and income. Thus, investments that engage youths to develop sustainable and fair models of production will help foster positive images of the coffee sector that, in turn, influence long-term consumption and spending patterns.

Another key factor influencing future consumption patterns is attributable to stronger interest on the part of future consumers, millennials and Generation Z (Gen Z), in specialty coffee and product innovations, particularly coffee-based beverages. For example, between 2021 and 2028, the global espresso market is projected to record a cumulative annual growth rate of 7.15 percent, largely fuelled by rising disposable incomes and consumption of coffee by students and employees to cope with growing stress and work-related burdens (Data Bridge Market Research 2021).

Geography and demography

The resurgence of protectionism, low international coffee prices and price volatility, coupled with a global pandemic that has disrupted operations in supply chains, have put millions of coffee-growing households at risk (ICO 2020). Climate change and the occurrence of pests and diseases can negatively impact regions suitable for coffee production in the long term. This may have to be mitigated by increased productivity, concentrated in large-scale and high-productivity CPCs, thus making small origins disappear or require significant land expansion, and in turn negatively affecting forests and other protected areas.

On the one hand, the coffee sector is expanding, presenting new opportunities for overcoming job insecurity and income gaps. On the other, ageing coffee farmers and declining youth participation in coffee farming may impact the future coffee supply. Building a sustainable and resilient coffee sector is an **intergenerational mandate that demands cross-generational collaboration.** Mentorship and coaching programmes will allow younger generations to meaningfully engage and build sustained relationships with older generations, enabling the transmission of relevant knowledge systems and supporting youths to take on new leadership roles.

To ensure a productive and sustainable future, the coffee sector will increasingly need new knowledge and innovative techniques to flexibly adapt to emerging and existing threats. For instance, at the farm level, drought-resistant coffee varieties and soil amendments designed to hold moisture for longer periods and provide a greater response to fertilizer will be essential for climate-smart agriculture. The adoption of regenerative agriculture systems is also being considered, with growing good practices available to CPCs.

Industry experts agree that improvements are needed in the **adoption of Good Agricultural Practices (GAPs) and eco-friendly production systems,** better post-harvest handling with more modern facilities, precision in roasting processes, differentiation via specialty coffees, and in embedding sustainability all along the C-GVC.

Meaningful youth engagement may be a critical component of the solution, as follows:

- Youths are fast learners and technology savvy and can bring technology to the sector, as evidence shows that younger farmers tend to pick up new technologies more easily and are often keen to increase production through enhanced modern solutions.
- Digital technology is a critical tool for addressing value chain challenges related to information and remoteness, and also has a broader appeal among youths.
- Youths have a longer future in the industry with minimal to no blinders related to previous experience. Hence, they tend to be amenable to trying new things, especially those with longer-term benefits that more experienced producers with less time left in the sector may not consider.
- Youth-led start-ups have proven to be a useful driver for job creation particularly for peers, globally and in the African context.
- Youth engagement facilitates intergenerational transmission of knowledge and technology, which is foundational to sustaining the coffee sector.

As a cash crop, **coffee is an important source of household income in CPCs.** As its demand continues to rise globally, so will household revenues in CPCs if proper measures are taken to ensure a smooth transition of ownership to the next generations.

To understand the economic context within which youths in CPCs are operating, it is necessary to analyse **evolving demographic, human capital and labour market trends.** It is noted that the combined forces of rapid population growth, slower expansion of gainful employment, and limited opportunities for skill development have consigned many young people in CPCs to unemployment and/or underemployment in low productive activities. A large share of this youth population derives income from agriculture and can be attracted to productive and profitable engagement in coffee to improve their livelihoods.

Coffee is largely produced in developing regions of the world with a considerable proportion of youths in their current and future populations. In the coffee growing regions of Asia, South America and Central America, where populations are relatively older, youths and young adults together comprise about a third of the population and over half of the total labour force. That is a significant pool of producers and consumers with the potential to shape the future of the coffee industry and the global economy as a whole.

Access to quality education for young people in CPCs

To effectively contribute to a vibrant and sustainable coffee sector, young people need a range of foundational, soft and industry-specific skills. Analysis of data on educational indicators such as Expected Years of Schooling (EYS), Mean Years of Schooling (MYS), literacy rates, and reading and mathematical competencies in CPCs reveal some **interesting insights, highlighted below.**

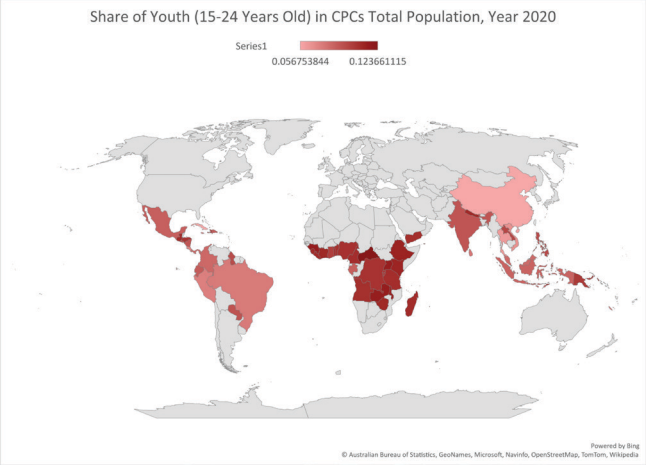
Access to education for young people has expanded in CPCs over the past decade. Across all regions, there is noticeable growth in EYS and net school enrolment at all educational levels. For the top six CPCs in Africa, the average EYS has increased from six years in the early 1990s to 10.3 years in 2019, with countries like Ethiopia experiencing nearly a three-fold increase in EYS and net enrolment in primary education during the period. Similar growing trends are observed among CPCs in other regions, with increases of three to five years in EYS recorded in Asia, Central America, and South America. These trends align with global trends, which point to expanding access to education (UNESCO 2021). Indeed, the current population of young people represents the most educated generation that CPCs have ever had.

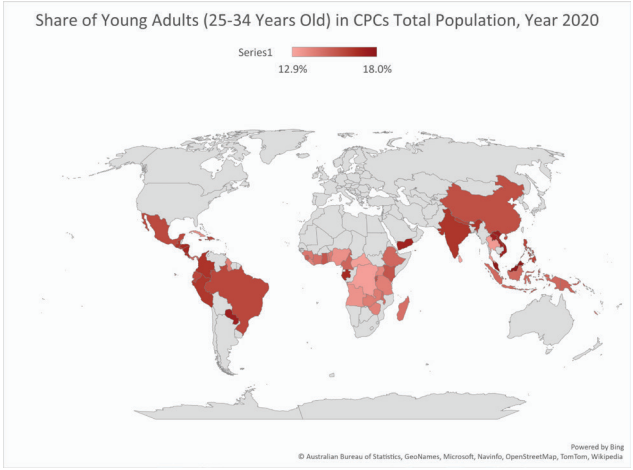
The gender gap in educational access is also closing in almost all CPCs. In contrast to trends observed in the early 1990s, females in CPCs are now expected to receive similar rates of education as their male counterparts. The closure of the youth gender gap in EYS is greatest in Asia, where by 2019 girls' EYS were higher than boys' in almost all top CPCs, except Laos. The only exception is Africa, where the gender gap in EYS among the top CPCs has stabilized to about one year in favour of male youths since the mid-1990s.

"Between 2000 and 2020, primary school completion rates for children increased from about 82 percent to 90 percent, with several countries particularly in Asia and South America achieving universal primary education (UNESCO 2021). Still, less than a third of young people completing primary school in Africa and South Asia achieve basic standard competencies in literacy and numeracy (UN 2022)".

The uptake of new technologies in the coffee sector is still low. In Honduras, for example, the Green Climate Fund estimated that only 15 percent of producers have incorporated agroforestry on their coffee farms (Green Climate Fund 2019). Given that the benefits of such investments are realized in the medium to long term, youths are well-positioned to embrace and implement these investments.

Figure O.6: Proportion of youths and of young adults in the total population of CPCs





Source: ICO Figures Compiled by Author

Despite this remarkable progress, educational access and attainment remains low especially for CPCs in SSA, where about two-thirds of young Africans entering the labour force do not have any secondary school education, and as much as 20 percent of youth and 30 percent of young adults have no education at all (Fox and Filmer 2014).

Access to secondary and higher quality education for young people in coffee growing communities is limited by several factors such as:

- Financial impediments, unreliable transportation, and inaccessible education programmes;
- Structural and cultural barriers, which particularly impact young girls; and
- Flaws in education systems due to a lack of school materials and poorly trained teachers.

Limited development of "soft skills", such as critical thinking, communication, leadership, collaboration and problem-solving, influences lifetime earnings and other aspects of social life.

Efforts to improve educational access and quality must, therefore, pay special attention to the barriers faced by girls and rural youths. These efforts must go beyond fiscal policies and include social reforms; improving the quality of education is crucial if young people are to become valuable assets to an increasingly knowledge- and technology-intensive coffee sector. Alignment with industry demands and requirements, both in terms of technical and non-technical skills, would tremendously improve job placement and employment opportunities for young people. In recognition of the role and aspirations of youths in the coffee sector, and as part of the ICO actions for the 2021/22 focus on the coffee Next-Gen, the Secretariat brought the subject of youths and coffee to two high-level international events (see Box 3):

- A full day devoted to youth and coffee at the annual meeting of the Youth20, the engagement group of the G20 Summit during the Italian Presidency (ICO PR 315/21 https://www.ico.org/documents/cy2020-21/pr-315e-youth-20-summit.pdf)
- Opening of the 2021 World Food Forum, organized by the FAO Youth Committee and many young leaders to build better food systems, with an event on youth and coffee (https://media.un.org/en/asset/k1k/k1knkxxxrw)

These two high-level political forums enabled the ICO to leverage and attract the global community's attention to the challenges and opportunities of the coffee sector for millions of young people.

Exogeneous and endogenous barriers to engaging in agriculture and coffee

Negative perceptions about agriculture as a last resort for poor, uneducated and failed youths are associated with traditional agricultural practices. Across CPCs, particularly in Africa and Central America, it is common for parents and teachers to encourage youths to seek opportunities outside of farming. Disinterest is predominant among educated youths, who typically feel that opportunities in agriculture clash with their aspirational lifestyles (Afande, Maina and Maina 2015; Mulema, et al. 2021). Nonetheless, evidence indicates that when given opportunities for productive and profitable engagement in agriculture, youths do take advantage of them (Mabiso and Benfica 2019).
As analysed in this CDR, youth engagement in the coffee sector is impeded not only by access to quality education but also by a **lack of skills and the technical know-how** required to take advantage of the opportunities in an increasingly knowledge- and technology-intensive coffee sector.

In most CPCs, an agricultural curriculum is often absent and technical and vocational education and training (TVET) on best practices and emerging technologies for coffee production is generally non-existent. Moreover, there is no career guidance in higher education to enhance knowledge or promote decent employment along the C-GVC. Due to the lack of agricultural extension services in CPCs, youths outside the formal education system have also no access to know-how in downstream components of the coffee global value chain (C-GVC) where actors are increasingly required to comply with ever-evolving food safety and environmental standards.

As a perennial crop, coffee requires up to three or four years to reach its first harvest, and likely more time to break even. Hence, coffee production demands secure **access to land** to be profitable, a privilege that most youths in CPCs cannot afford. Even in Africa, where land is widely perceived to be abundant, population pressures and associated intergenerational subdivisions of land have led the average farm size for smallholder farmers in over 40 countries to decline by about 30-40 percent since the 1970s (Headey and Jayne 2014).

"Access to land is therefore an important factor shaping rural youths' decisions to stay in agriculture or migrate to urban centres (Bezu and Holden 2014; Kosec, et al. 2017)".

Most youths traditionally acquire land through inheritance under customary tenure systems. However, allocable land resources are becoming increasingly scarce, as populations increase relative to relatively fixed land resources (Jayne, Chamberlin and Headey, 2014). As a result, the proportion of rural youths inheriting land is declining as land becomes scarcer, mainly due to a) average life expectancies increasing, delaying the inheritance of land; b) women in particular facing greater difficulties in securing land due to customary land tenure systems that bar women's land ownership rights; and c) growingly cumbersome requirements imposed by financial institutions when youths try to obtain funding to start or expand their coffee enterprises (Njeru and Gichimu 2014).

Access to finance in coffee production is needed for both the acquisition of land, equipment, and working capital to procure inputs (e.g., improved seed varieties, fertilizer) and to cover operational expenses (e.g., land preparation, weeding, harvesting). However, financial institutions are often unwilling to lend to agri-enterprises, let alone youth-led agri-enterprises. Agriculture is widely perceived as a high-risk activity because of low profitability, high inflation, poor land markets and issues with collateral and property rights (Kaula, Arasa and Nzioki 2019). To minimize risk, commercial banks have preferred to lend to medium- and large-scale farmers, a situation that has left over 250,000 coffee farmers in Central America without finance options (Bathrick 2015).

For young people, the added disadvantages of a lack of credit history, proven experience executing funded agricultural activities and/or lack of collateral disproportionately affects their ability to have the investments needed to make their coffee farms productive and resilient to shocks (Archer, et al. 2018).

Lack of access to digital technologies, which constitute important tools for building productive and profitable coffee farms, strongly affect productivity and youth engagement in agriculture and the coffee sector. For example, ICT, smart communications and access to the most updated prices and weather patterns allow producers to more effectively manage and plan their production.

Box O.3: Youth 20 Coffee Day appeal to the G20 leaders

Investing in the coffee sector to unleash the potential of our youths and their aspiration to a sustainable and inclusive world. On 22 July 2021, the Young Ambassadors Society, Chair of Youth20 and the official G20 engagement group for young people, organized a roundtable in partnership with the ICO on issues related to sustainability, innovation and inclusion. The virtual meeting facilitated a dialogue between the Youth20 delegates and key players in the coffee sector from the ICO, the World Coffee Producers Forum, the Italian Coffee Committee, the Coffee Promotion Consortium, the Slow Food Coffee Coalition, Illycaffè, IMA Group and LAVAZZA Group. Among the issues at the centre of the debate were innovation and sustainability within the coffee supply chain; opportunities for inclusion and professional growth for young people in the coffee sector; potential and future challenges of the industry.

ICO at the World Food Forum

The World Food Forum (WFF), an independent global network of partners created for and led by youths, serves as the leading platform to engage and harness the passion of youngsters to galvanize action and identify solutions to the growing challenges facing our agri-food systems and to achieve the UN SDGs.

The WFF flagship event took place in October 2021 and gathered major youth groups, influencers, companies, academic institutions, non-profits, governments, media and the public audience to drive awareness, foster engagement, and advocacy, and mobilize resources in support of agri-food systems transformation through youth-led action.

The ICO, supported by the Allmende team, took part in the WFF events organized by the FAO Youth Committee and celebrated the International Coffee Day 2021 during the opening day of the WFF. The event "Tracing the Coffee Value Chain" was opened by José Sette, Executive Director of the ICO, and in collaboration with the Slow Food Coffee Coalition Youth Network, themes such as the socio-economic challenges from farmers and all the way up to the coffee reaching the final consumer were explored.

"One of the largest barriers for young coffee growers is that resources and new technologies do not reach them (Deichmann, Goyal and Mishra 2016)".

Unsurprisingly, a recent report determined that youth interventions involving credit are among the most successful in the training and capacity building of young coffee growers, as with Coffee Kids in Trifinio (Central America) and in Colombia with Pret à Manger and Twin Trading.

Rural areas, where the bulk of coffee production takes place, are often inadequately resourced with road networks, reliable and cheap sources of energy, internet connections, and relevant social amenities that can support the development of profitable agricultural enterprises, which pushes many youths to migrate from coffee growing communities to urban centres in search of non-existent jobs (UN 2021). Additionally, digital illiteracy prevents many young coffee growers from properly understanding how to use technologies to the same extent that poor connectivity prevents young smallholder farmers from connecting with global markets that are dominated by larger farming plantations.

Providing **access to traditional and new markets** is critical to engaging youths in agriculture. One method of improving access and transparency of markets has been certified markets, such as Fair Trade, which are increasingly common in coffee growing regions. However, rural youths face many barriers to accessing certified markets due to: a) high certification costs; b) low economies of scale to cover coffee export operations; c) inability to meet stringent quality requirements; and d) altitude constraints (Tellman, Gray and Bacon C.M. 2011). These barriers to access also apply to other markets as youths generally have limited access to land, financial resources and capital.

Limited youth participation in coffee value chains can be costly in terms of foregone income and reduced production. But to what extent are areas suitable for coffee production attracting young people into the coffee sector? To answer this question, a **coffee attractive (AtCof) index** has been developed, aimed at measuring the appeal of coffee production in an area based on four key characteristics: namely climate conditions, land tenure, potential coffee yields and market access indicators. Empirically, the AtCof in a district i of country c can be represented by the following formula:

$$AtCof_i^c = f(\text{Climate Conditions, Land Possession, Coffee Yields, Market Access})$$

The index relates firstly to **climate conditions**, since coffee quality is known to be highly sensitive to droughts, poor temperatures and climate change. Drought-induced displacement is a common phenomenon and hence an important factor in the coffee attractiveness index (Adaawen et al. 2019; Cheserek and Gichimu 2012). The second set of characteristics in the index relates to land tenure, since unfavourable **land tenure** institutions prohibit farmers from making investments that could improve productivity in the long term. Therefore, improving youth land ownership is key to making young people more interested in coffee farming. The third variable considered is **coffee yields and productivity.** Simply put, young people will be more attracted to coffee farming if revenues are higher than non-farming activities. The fourth and final component is **market access,** which is synonymous with better access to high bidders (Borrella, Mataix and Carrasco-Gallego 2015), increased competitiveness and quality, particularly with regard to specialty coffee markets.

Although the AtCof index can be calculated across several nodes of the value chain, the present analysis focused on primary production. Relying on data from Uganda, coffee attractiveness was estimated for various districts and its impact on youth participation in coffee examined. **(See A2 for detailed methodology).**

Figure O.7 illustrates the distribution of the coffee attractiveness index across districts in Uganda, with the darker shade representing areas where coffee production is more attractive. Findings indicate that in southern and central districts, the production of coffee is more attractive, with an AtCof between 3 and 5. Initial tests of the Index suggest that increasing the attractiveness of any area of coffee production is a necessary but not determinant condition for youth engagement in coffee. Rather, complementary interventions addressing resource constraint issues are critically needed to enhance youth participation in coffee production, all of which are analysed in this CDR.

What can trigger higher youth engagement in national and global coffee value chains?

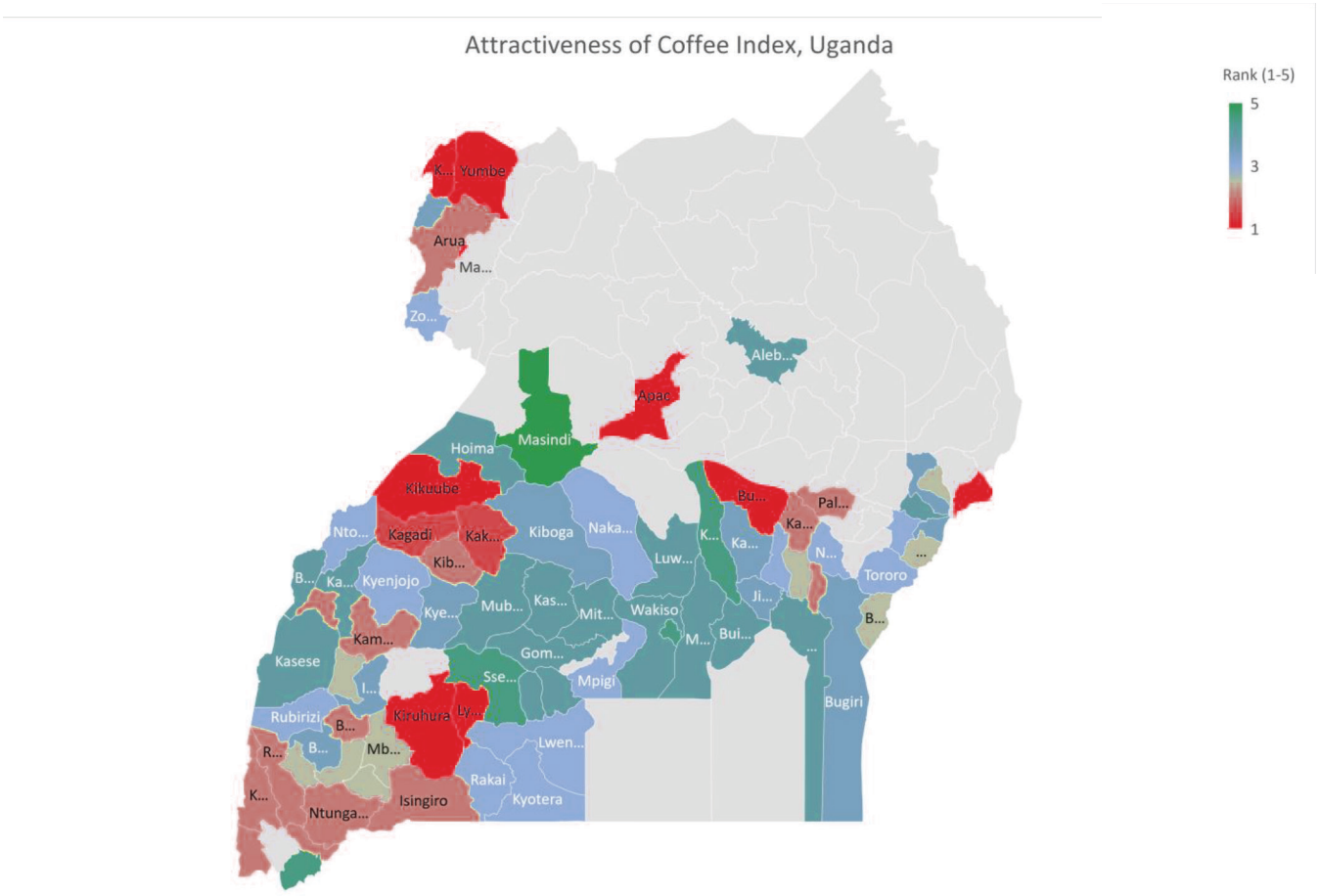
A sustainable coffee sector requires coffee production to expand at a rate that is commensurate with the growing demand. The main questions are therefore related to different strategic and political choices on increasing productivity and yield, mitigating climate stress and reducing land expansion when this has negative environmental impacts.

Farm-level interventions have been the focus of most local governments and public and private bodies, and they present ample opportunities to engage youths in coffee production in diverse ways, since in many CPCs coffee production is still a high labour-intensive and low mechanization process. The labour demands for coffee together with the rising concerns about an ageing coffee farmer population opens up opportunities for greater engagement of youths as the next generation of coffee farmers.

Opportunities for youths in coffee farming also exist in direct service provision, supporting the application of GAPs, rehabilitation and maintenance of coffee farms, management of storage facilities, systematic application of inputs, quality control and pest and disease control, as well as post-harvest storage and handling. These are all critical areas in which the energy of young people is needed.

Additional opportunities for youth engagement are related to: empowering young adults in both upstream and downstream segments of the C-GVC, offering financial support for higher education, training and skill building, and improving

Figure O.7. Coffee attractiveness index in Uganda



Source: Authors' Calculation using LSMS, SPEI, and FAO Data

entrepreneurship and leadership capacities. The Young Coffee Farmers Programmes started by the Colombian Coffee Growers Federation (FNC) is one such example, which is focused on building capacity development of general agricultural practices knowledge to produce high quality coffee in Colombia (Next Generation Coffee 2022).

As noted, concern for the planet and tackling climate change are among the important issues that young people care deeply about in the coffee sector. Across the C-GVC, there are opportunities for agroforestry on farms, investments in waste mitigation and use of solar or other renewable energy sources at post-harvest processing sites, all of which are related to "environmental services". It is estimated that approximately 25 percent of youths in the coffee industry can be employed in extension services focused on modernizing and mainstreaming sustainability in coffee agriculture, working with local groups to improve the health and productivity of soil (Lutheran World Relief 2022).

Growing scarcity of land implies difficulty securing land devoted to coffee alone. As mentioned previously, it may take up to three to four years for coffee producers to secure their first harvest, so encouraging young women and men to cultivate other crops ("intercropping") to sustain them during this waiting period may be a good strategy.

Given the well documented constraints that youths face to acquire land for agricultural purposes, the key informants interviewed identified trade, transformation, distribution and retail as the nodes of the C-GVC where youths have the greatest opportunities. Diversification via coffee transformation, processing to improve quality, cupping, and café culture are among the areas of current and growing opportunities mentioned by key informants.

"Along the coffee value chain, young people should be most engaged in the topics of barismo (coffee preparation) and coffee cupping (knowing and recognizing qualities). Young people tend to be interested in more innovative topics and not so much in continuing to be coffee growers on the farm."

Andrés Romero, FNC, (Colombia)

As the coffee sector is modernizing at a significant pace, driven in particular by technological innovation and growing demand for sustainability, the Next-Gen will be able to generate and access additional and new opportunities for employment and sustainability through the development of human capital and capacity to:

a) Apply information and communication technology (ICT) for diversification of export markets and more direct involvement in the marketplace;

b) Engage in marketing, retailing, sales and trade-related activities;

c) Participate in the production, sales, maintenance of coffee-machinery and other coffee-related equipment;

d) Create social enterprises and develop support services for implementing circular and sustainability practices, audits and certification;

e) Further develop and widely disseminate approaches for coffee-producing communities to encourage and capitalize on improved gender equity also contributing to more resilient coffee supply chains.

0.3 Opportunities for youths in the coffee sector: best practices

This CDR is based on the review of over 100 youth-related interventions classified by type (private sector, public sector and civil society) and by services provided (skill development and training, coffee attractiveness, and access to productive assets, inputs, and markets). Several initiatives undertaken by coffee stakeholders to benefit youths in the sector revealed that there are opportunities for youths to engage in profitable activities along the C-GVC and make a "decent" living while contributing to building a sustainable future for the coffee industry. Several development programmes that strengthen youth involvement in the coffee sector have been initiated in many CPCs. The support provided by both the private and public sectors as well as NGOs, bilateral and multilateral donors resulted in relevant and useful lessons that need to be shared and upscaled.

The main areas covered by these interventions include skill development through training young people on coffee production techniques, sustainability and compliance with standards and regulations and, more generally, on agribusiness development. These programmes support and promote youths working in coffee-related sectors and reduce rural-to-urban and regional and international migration, encouraging young people to find opportunities in their family coffee businesses.

Several projects sought to improve the prospects of rural youths and address their negative perceptions and attitudes towards rural life and work in agriculture, specifically coffee. Another series of programmes addresses youth access to productive assets, including land, finance, equipment, farm inputs and market. Finally, many support programmes are centred around fighting and preventing child labour and other illegal labour practices that often disproportionately affect women and youths.

By far the most common youth intervention activity, across all types of actors reviewed, focused **on supporting youths to acquire skills** for coffee production, business, and/or soft skills:

- Projects focused on teaching youths skills for coffee production, involving land management skills, good agricultural practices, innovations to improve quality and production, and on-farm processing.
- Skills needed in the service sector, such as those required to become baristas. Many of the examples analysed involved teaching youths the different ways of preparing coffee, as well as coffee properties, extraction methods, roasting, grinding, and cupping
- Roasting, distribution, marketing and the service and hospitality sectors as the parts of the C-GVC where youths are becoming more involved.
- Training in business skills guides youths on how to design and run a coffee business.
- Soft skills training programmes to prepare youths for employment opportunities inside and outside the C-GVC are also being increasingly funded, mainly by the private sector.

The second category of interventions is focused **on attracting youths to coffee** or encouraging them to remain in their family coffee businesses by addressing the negative perceptions and attitudes that they develop towards rural life and work in agriculture, and specifically coffee, by:

- Demonstrating that coffee production is profitable, especially with regard to specialty coffee and niche markets.
- Showing the potential for activities that run alongside coffee production, such as eco-tourism and bird watching (as in Colombia, Uganda and Tanzania),
- Building on successful initiatives (such as fair-trade certified cooperatives in Guatemala) to show youths that farming can be profitable when upgrading traditional production and marketing systems and through intercropping.

The third and final category of interventions analysed involves helping youths access productive assets, markets and inputs.

Land. Despite access to credit and land being among the most cited barriers to youth involvement in coffee production, less than 10 percent of interventions considered in this report addressed this important barrier, mainly:

- Incentivizing landholders to sign over portions of their land to children (Colombia, Rwanda, and Uganda).
- Encouraging intergenerational transfer of land suitable for coffee production (as in Colombia where older farmers are supported to invest premiums into a pension fund that will allow them to retire and transfer land to younger farmers).

Finance. Several interventions incorporate financing youth-owned business start-ups in their programming to improve access to finance as well as training for business start-ups or sustainable coffee production, composite/organic fertilizer production and coffee service provision for youth in rural coffee communities (Central America, Uganda). Special coffee funds and credit facilities have also been created for those without access to the formal banking system (Honduras and India).

Markets. Supporting youth access to markets, including direct and e-trade and marketing linkages, particularly for high-quality and specialty coffee to sell domestically or in export markets (Brazil, Colombia, Kenya Uganda, Tanzania supported by the Löfbergs Group). Growing opportunities for accessing niche markets for small youth-led producers are also occurring, particularly in connection with new digital solutions (blockchains) and online marketing platforms.

Facilitating access to inputs and technical equipment also through coffee business incubators and online platforms and mobile services renewal and maintenance of coffee plants, nurseries (Cameroon, Yemen, Cuba.)

Many youth-focused programmes are developed, financed and implemented by partnerships between CPC governments, the private sector, CSOs and development and financial institutions. Some of the examples are presented below, according to the leading entity.

O.3.1. Solutions and actions by CPC governments

Public entities participate in engaging youths in the C-GVC at varying degrees. For example, all governments in CPCs have policies and programmes targeting agricultural development in general. Some governments specifically target youth engagement in coffee production to maintain future coffee exports as a source of foreign currency.

The Coffee & Cocoa Young Entrepreneurs' Programme (JECCA)[1] in **Gabon**, for instance, aims to revamp coffee and cocoa production, attracting young people to live in rural areas and addressing the challenge of the ageing coffee and cocoa farmer population. Selected youths who own land receive financial support to establish their coffee or cocoa farms, and the financial assistance ends after the first harvest. Launched in 2018, the programme sponsored 17 young coffee farmers and 283 cocoa farmers until the outbreak of the Covid-19 pandemic which slowed down the process. A second programme covers activities along the value chain. The Gabonese Coffee and Cocoa Authority (CAISTAB) provides financial assistance, through capitalization, to other groups of young people who have created small- and medium-sized enterprises (SMEs) to provide farm maintenance services, including weeding and spraying, and to SMEs in the market outlet (coffee shops). CAISTAB is looking for additional funding to expand these two programmes which are attracting youths in the coffee and cocoa value chain.

The Coffee Board of **India** implements several education-focused initiatives for young entrepreneurs and children of coffee farming families and workers. These included a 12-month quality management course, mentoring through its coffee incubator, a five-day coffee technology course to inspire youths to engage in the coffee value chain, financial educational support for the children of coffee farm labourers, and a programme to encourage the children of coffee farming families to stay in farming.

In **Indonesia,** the government developed policies to provide equipment to farmer groups through price discounts or reimbursements. Training on quality, entrepreneurship, cupping, roasting, brewing, blending and coffee shop management is also being provided to actors in the coffee sector with funding from the

ICO Special Fund. The government seeks to engage youths in digital technology through empowerment activities and the appointment of "Ambassadors for Millennial Farmers and Agricultural Development".

The Government of **Colombia** funds several initiatives administrated by the FNC, such as the National Coffee Fund, which provides a purchase guarantee, R&D, extension services, and marketing of the Colombian coffee brand. Through the Ministry of Agriculture and Rural Development, the Government and FNC have established and committed to a strategic plan for the coffee sector focused on sustainability which includes youth engagement.

In Honduras, the National Coffee Council (CONACAFE) created the National Young Coffee Sector Plan.

In **Mexico**, the government programme "young people building the future" provides scholarships to youths in different value chains, including coffee, to equip them with the skills needed to become field technicians or baristas.

In **Papua New Guinea**, the Coffee Industry Corporation (CIC) has developed strategies that target youths through its cooperative movement, integration of coffee-specific skill development in the primary school curriculum, and the Incorporated Land Group certification process.

The government-led youth-in-coffee initiatives presented herein are just a selection and by no means be considered an exhaustive list of CPC interventions.

O.3.2. Engaging young people beyond production: corporate-led initiatives

The private sector has recognized the importance of investing in youths for the future of coffee. Coffee traders and roasters are investing in young people as part of the support they provide to their suppliers and communities through productivity and quality improvement programmes, sustainable production and sourcing, and fighting inequalities, deforestation and child labour. In this sense, they all recognize that generational change (of land ownership, engagement and decision-making) could create sustainability and procurement issues in some CPCs. Among those that responded to queries from the team were Starbucks, Nestlé, Lavazza and illycaffè. Most support programmes include education and upskilling aimed at women and youths as well as providing youths with better access to other basic services like health, housing, social services. Below is a sample of youth-focused programmes led by private sector companies and organizations.

One private sector programme aimed at new generations of coffee and cocoa farmers in **Cameroon** is led by the **Interprofessional Cocoa and Coffee Council (CICC)**, a private sector association representing farmers, exporters, processors and factories/buyers. It supports the upskilling of young men and women in farming techniques and technologies.

In 2017, the **Lavazza Group** launched a training programme entitled "A Cup of Learning", aimed at supporting young people, notably those from disadvantaged backgrounds, to seek employment opportunities along several parts of the C-GVC.

"CISA Exportadora, a member of the Mercon Coffee Group, through its Seeds for Progress Foundation launched in 2013, has begun a "Cultivating Education Program" that offers childcare and educational attention during the coffee harvest season in Nicaragua. The programme aims to benefit the children of coffee farm workers, while contributing to the economic and social development of the country's coffee-growing communities though the creation of community centres, allowing children to learn and develop throughout the harvest season".

The **Sucafina** intervention in Rwanda and Kenya is focused on investing in youths in the coffee industry by training and employing young people (of legal working age) from the communities they represent to carry out soil testing as a full-time occupation, covering not only coffee farms but also other crops and animal feeds.

Illy Università del Caffè, a centre promoting coffee quality through training, research and innovation offers a Master's degree in Coffee Economics and Science. The programme aims to "offer graduates who are interested in working in the coffee world – and more generally in the agri-food sector – a suitable multidisciplinary preparation along the entire production chain, from cultivation to hospitality and retail, including logistics, trading and the industrial process."

In addition to large corporations, a number of Specialty Coffee groups also engage with youths in their productivity and sustainability programmes such as the **Umami Area Association** (founded by Dr Andrej Godina in 2015), which organizes youth-focused training both in producing and consuming countries such as Brazil, Vietnam, and Malawi, enabling hundreds of coffee industry actors to receive training on coffee or methods for processing, harvesting, cup tasting and quality control.

Ecom Agro-industrial Corporation (ECOM), Kawacom Uganda Limited (KUL) and Tutunze Kahawa Limited (TKL), in partnership with Hivos, initiated a five-year project in Kenya, with a target of 60,000 small holder farmers to create viable smallholder coffee farming systems and offer long-term business opportunities for 2.4 million smallholder coffee farms and 16 million people dependent on the sector. Key activities include incorporating biogas into the whole farm system; diversification of incomes, in particular through dairy and horticulture; the provision of credit facilities; enhanced GAPs, including climate resilience; and training and support targeted at women and young people.

Again, it must be reiterated that there are many private sector-led initiatives; this list does not intend to be exhaustive but provides

2. The ICO Special Fund provided ICO coffee exporting members with financial and technical support to increase domestic consumption.

some insights into the programmes shared with the drafting team. Nevertheless, all engaged parties are invited, once again, to share their youth-focused programmes and success stories with the ICO. As part of the Next-Gen initiative, the ICO will continue to act as a global platform to share best practices related to all components of the C-GVC.

0.3.3. Youth interventions in the C-GVC by CSOs

The final category of actors in youth interventions in the C-GVC is CSOs, which include NGOs, foundations and philanthropic organizations. Many such organizations work alongside national and local governments and the private sector, as well as with bilateral and multilateral partners. In most cases, actions by CSOs include improving the livelihood of youths and women and sustainability. The foundations that are closely tied to private companies in the C-GVC stand to benefit from increased youth engagement by ensuring a steady supply of future coffee producers, qualified baristas, and a customer base with a knowledge of coffee production that is willing to pay for quality and sustainably-sourced coffee.

The Hanns R. Neumann Stiftung (HRNS) Foundation: Because Coffee Farmers Deserve Prosperity
Sources: The Power of Youth in Coffee (Tomchek 2021), 2018 Report: (Archer, et al. 2018), YDP Uganda: (Jacobs Foundation 2020), Team Up Uganda in 60 seconds: (HRNS 2021).
Since 2010, HRNS has been incorporating youths into the C-GVC and encouraging them to explore coffee cultivation as an economically viable activity by developing social and technical skills in farming practices, supporting youths in identifying and pursuing job opportunities, and engaging them in soft skills and entrepreneurship training. To date, HRNS has worked with over 14,000 youths in Brazil, Colombia, El Salvador, Ethiopia, Guatemala, Honduras, Indonesia, Uganda and Tanzania.

In partnership with Hivos, Agri-ProFocus Fair & Sustainable Advisory services and many others, the IDH has developed "Sustainable Coffee as a Family Business", a toolkit which focuses on farming as a family business and as a way to improve the integration of women and youths into the C-GVC. This approach towards the sustainable development of the coffee sector, particularly in smallholder-dominated production systems, aims to reduce unequal distribution of information, labour, and other resources and benefits within coffee-farming families. (https://www.idhsustainabletrade.com/uploaded/2016/08/toolkit_total.pdf).

0.4 Key areas for actions to capitalize on the Coffee Next-Gen to achieve sustainability.

Following the analysis of youth involvement in the coffee sector and the major constraints, as well as the review of public and private initiatives for the active participation of young people in the C-GVC, a set of priority areas for actions were identified, including the main actors and the timescale for implementation.

- Most of these youth programmes target the coffee production part of the C-GVC, omitting other areas for engaging the whole Next-Gen in the coffee sector.
- There is lack of coordination across projects, often related to sourcing priority and policies.
- The geographic focus of youth programmes and types of intervention need to align with where youth opportunities are needed most.
- There is strong emphasis on upskilling but less on a more holistic capacity-building approach and a weak link with sustainability priorities.

Box 0.4: ICO " Coffee's Next Generation " and Good Case Practice Survey

The ICO initiative "Coffee's Next Generation" was launched during the celebration of International Coffee Day 2020 and aimed at helping and investing in one of the most vulnerable segments of the coffee sector. This initiative was geared towards supporting and inspiring young people to contribute to a future coffee sector that is brighter, more sustainable and prosperous for all. To enable young people to build a prosperous and sustainable future, "Coffee's Next Generation" targeted talented and motivated young people and entrepreneurs in the coffee sector to support them in accessing finance and knowledge, skill development, coaching and training as well as opportunities for networking.

In line with the identification of youth-led projects in the C-GVC, the ICO Good Case Practice Survey, developed with the support of consulting agency Allmende, was launched to collect the best practices and success stories in the coffee sector to enhance and highlight the vital role played by youth in advancing a sustainable, inclusive and innovative C-GVC. The survey was open to all coffee stakeholders and to global youth organizations. Most respondents identified themselves as a coffee producer, trader, exporter or trainer within the C-GVC. Additionally, 44.7 percent of the respondents were aged 18 to 34 years. Some of the challenges identified by the respondents in realizing their ideas/projects were:

- Financial challenges in investing in coffee processing and distribution activities.
- Lack of youth regeneration in the upstream sector of the supply chain.
- Product branding and marketing.
- Lack of support to replicate or scaling up success stories.
- Promoting and connecting with rural areas.
- The business model 'shared value' needs to be translated into practices addressing risks around the speed of growth, level of impact required, governance, etc.

A multi-prong investment is needed in key areas to foster youth-inclusive agricultural productivity growth and human capital development that would, among other things, develop the skills and innovative capacity of young people, enhance youth voices in policy dialogue and implementation, and facilitate their access to productive and financial resources. Below are few recommendations based on insights from the literature review and stakeholder consultations.

Including youths in policy dialogue and decision-making processes

Engaging youths as equal partners in project design, decision making, and implementation can be an effective way to ensure that youth-focused interventions are consistent with young people's interests and talents, fostering greater and meaningful engagement in decisions that affect them.

Upskilling youths in coffee

A sustainable and resilient future coffee sector will be more knowledge- and technology-intensive, demanding a wider range of technical, business and soft skills, beyond what youths are currently offered in CPCs. Therefore, investments in education and skill development programmes remain a key cornerstone to any efforts aimed at enhancing productive youth engagement in the coffee sector.

Expanding youth access to productive resources (land, finance, digital technologies)

The two greatest constraints to young people's active participation in the C-GVC are land and finance. Youths (particularly young women) in many CPCs are increasingly unable to inherit land or acquire enough land to make farming a viable business. Moreover, digital technology is widely known to have broad appeal among youths and to be a key transformative tool for agriculture. If youths are going to remain in coffee-growing areas, overall transformation of the rural landscape towards improved access to digital technology and social amenities is paramount.

Promoting value addition in CPCs to expand opportunities for youth engagement in the C-GVC

Most of the coffee produced in CPCs in the global south is exported as green beans. There are great prospects in CPCs for value addition along the C-GVC through product upgrading (better quality and convenience), functional upgrading (more processing), and process upgrading (higher efficiency) (CDR 2020). However, to kickstart the upgrade process, in addition to lower import tariffs on processed coffee and investment in better market infrastructure, creating an enabling business environment will be required so that the Next-Gen have better opportunities to engage in coffee beyond the farmgate.

Investing in actionable research, monitoring, evaluation and learning, and robust extension systems to make the coffee sector responsive to evolving needs of youths and emerging threats.

The coffee sector will increasingly require new knowledge and technology to successfully adapt to current and emerging threats facing the sector. The sector's future will depend on its ability to build an innovative environment that anticipates, rapidly responds and flexibly adapts to prevent, mitigate and recover from evolving threats and shocks. The summary of recommendations is presented in the Table O.2 below.

Box O.5: FAO and African Union Commission's "Investment guidelines for youths in agrifood systems in Africa"

At the time this report was finalized, FAO and the African Union Commission (AUC) published the jointly-developed "Investment guidelines for youths in agrifood systems in Africa" [FAO and AUC. 2022. Investment guidelines for youth in agrifood systems in Africa. Rome. https://doi.org/10.4060/cb9001en] which aims to accelerate investments for and by youths in agrifood systems, through providing practical guidance on designing, developing, implementing, monitoring and evaluating youth-focused and youth-sensitive investment programmes and to engage them fully as partners in the entire process. The publication highlights the importance of youths as agents of change, stressing that "the role of young people is vital to achieving more efficient, inclusive and sustainable agrifood systems" and how "scaling up investments in agrifood systems with active participation of youth is fundamental to meeting national, regional and global commitments, contributing to the Sustainable Development Goals, in particular SDG 8 "full and productive employment and decent work for all."

In this regard, the CDR 2021 is fully aligned with the broad discussion in agribusiness and development fields and the ICO joins the appeal by FAO and AUC to support wide dissemination and promotion of the guidelines at national and local levels, according to the specific constraints, needs and aspirations of young people and to apply and adapt them as appropriate, engaging young men and women as partners, advisors and innovators.

Table O. 2 Summary of recommendations proposed in report

Policy Recommendation	Key Actions	Key Actor	Time Frame	Investment Required
I. Include youth in policy dialogue and decision-making processes	I.1 To create a dedicated space for youth representatives to actively and meaningfully participate in discussions and decisions that may impact them	National Governments, International Organization, Private Sector, NGOs	Short	Low
	I.2 To invite youth representatives to join the ICO-led Coffee Public Private Task Force/Technical Workstreams	ICO	Medium	Low
	I.3 To advocate for a youth-inclusive organizational culture among coffee federations/associations	Coffee Associations, ICO	Medium	Low
	I.4 To partner with global, regional and local youth organizations and engagement platforms	Youth Organizations, National Governments, International Organization, ICO	Long	Low
II. Upgrade the skills of youth in the C-GVC	II.1 To establish skills upgrading programmes that equip youth with relevant skill and industry-specific knowledge and promote sustainability and circular economy	National Governments, Civil Society Organizations, Private Sector (traders/roasters)	Long	High
	II.2 To actively engage with educational institutions (including TVET) in CPCs to influence curriculum reform	National Governments, Civil Society Organizations, Private Sector (traders/roasters)	Medium	Medium
	II.3 To leverage coffee producer associations as platforms for mentoring youth	Private Sector, Civil Society Organizations, Development Partners	Medium	Medium
	II.4 To build online knowledge hubs to facilitate exchange of ideas, technologies and innovations with and among youth	Private Sector, Civil Society Organizations, Development Partners, ICO	Short	Medium
III. Expand youth access to productive resources (land, finance, digital technologies)	III.1 To promote youth access to land through schemes such as those that lobby traditional leaders to allocate land to youth	National/Local Governments, Youth/community Groups	Medium	High
	III.2 To establish dedicated funds to support youth seeking to establish or expand existing coffee farms or coffee related businesses	Private Sector, Civil Society Organizations, IFIs, local financial institutions	Short	HIgh
	III.3 To advocate for policies that encourage private financing of agriculture through crowd-sourcing	Private Sector, Civil Society Organizations, IFIs, local financial institutions	Medium	Low
	III.4 To create incubation and acceleration programmes, matched with adequate financial mechanisms to spur both innovative and sustainable ventures in the coffee sector	Private Sector, Civil Society Organizations	Medium	High
	III.5 To develop policies that expand access to affordable and user-friendly digital technology	Private Sector, Civil Society Organizations	Long	Low
IV. Promote value addition in CPCs to expand opportunities for youth engagement in C-GVC	IV.1 To advocate for removal of trade barriers	International Organizations (WTO), Local Governments	Long	Low
	IV.2 To assist young entrepreneurs to acquire/access new low cost technology (dryers, packaging, mini-roasteries...)	Private Sector, Civil Society Organization, Development partners, International Organizations, IFIs, Regional/Local financial intitutions	Short	Medium
	IV.3 To engage and lobby governments in CPCs to invest in physical infrastructure and circular solutions to improve the supply of reliable and low-cost energy	National/Local Governments, Civil Society Organizations, IFIs, Regional/Local financial intitutions	Long	Low
V. Invest in actionable research, monitoring, evaluation & learning, and extension systems to make the coffee sector responsive to evolving needs of youth and emerging threats	V.1 To foster investments in research & development and complementary extension services	Research Professionals, Private Sector, Civil Society Organizations, development partners	Medium	High
	V.2 To mainstream, monitor, evaluate and enhance learning in all aspects of youth programming to measure progress and impact of youth integration in the coffee value chain	Private Sector, Civil Society Organization, ICO/CPPTF, developemnt partners	Medium	HIgh
	V.3 To engage academic and research institutions as knowledge partners to collect coffee specific data on youth engagement.	Research Professionals, Private Sector, Civil Society Organization, development partners	Long	HIgh

Priority Legend

High	Medium	Low

PART II
SECTION A

Trends, challenges and opportunities for youths in the C-GVC

Key findings

- Many CPCs have the youngest population in the world and yet the average age of coffee growers is increasing. Youth populations are more concentrated in Africa and Asia, which account for over 70 percent of the youth population across all CPCs.
- The rapid growth of youth populations in these regions presents challenges for sustainable development due to increasing levels of youth unemployment and underemployment as well involvement in vulnerable employment.
- Youth livelihoods are likely most severely affected by external shocks such as economic crises, climate change or health-related pandemics.
- The C-GVC offers income and employment opportunities for youths across production, post-harvest operations, logistics, transport, processing, trade and other services.
- Youth engagement facilitates intergenerational transmission of knowledge and technology, which is fundamental to sustaining the coffee sector. Youths are the present and the future of coffee.
- Youths also represent the next generation of coffee consumers and hence are a significant future market with the potential to sustain the sector.
- Although access to education has improved for young people, quality skills to contribute to a vibrant and sustainable coffee sector remain a concern.
- Young people are active in the off-farm component of agricultural value chains such as services and distribution.
- Barriers to youth engagement in agriculture generally and coffee farming specifically include a lack of skills and awareness in the C-GVC, limited access to land and inadequate finance.

A.1. Why invest in youth in coffee?

A.1.1. A sustainable coffee sector needs youths: a case for investment in youth engagement

Greater engagement of the next generation of producers, processors, distributors, and consumers is critically needed to ensure a sustainable future for the coffee sector for several reasons. **First, youths are the present and future of coffee**. With ageing coffee farmers, it is critical for any system to invest in training the next generation of business workers and owners to avoid disruptions in production. This is particularly true for coffee as its demand continues to rise, due in part to rising consumption in emerging economies and a stronger interest in specialty coffee and product innovations in developed countries, as well as increasing domestic consumption in CPCs. The high convenience (less time and effort) factor and growing consumer awareness on novel flavours, changing consumer tastes and busy work-schedules are giving rise to demand for coffee and coffee-based beverages among the millennial and Gen Z populations. Indeed, between 2021 and 2028, the global espresso coffee market is projected to record a cumulative annual growth rate of 7.15 percent, largely fuelled by rising personal disposable incomes and consumption of coffee by students and employees to cope with growing stress and work-related burdens (Data Bridge Market Research 2021). This growing demand presents a stable opportunity for job security, but it must be met with long-term engagement and quality interventions to attract youth. Declining youth participation in coffee farming may impact the availability of coffee in the future and may be a foregone source of income and employment, particularly in CPCs, where coffee is a significant source of revenue and foreign exchange.

Second, young people may be valuable agents of change and catalysts for innovation and technology adoption that foster sustainability and resilience in the coffee sector. The coffee sector faces unprecedented challenges that may jeopardize the future coffee supply. In recent years, the resurgence of protectionism, low international coffee prices, and price volatility, coupled with a global pandemic that has disrupted operations in supply chains, have put millions of coffee-growing households at risk (ICO 2020). At the same time, climate change, which is predicted to usher in increases in harsh weather regimes as well as pests and diseases, can negatively impact the global area suitable for coffee production in the long term. Industry experts agree that improvements are needed in the adoption of GAPs and eco-friendly production systems, better post-harvest handling with modern facilities, precision in roasting processes, differentiation

via specialty coffees, and in embedding sustainability all along the value chain. To ensure a productive and sustainable future, the coffee sector will increasingly need new knowledge and innovative techniques to flexibly adapt to emerging and existing threats. For instance, at the farm level, drought-resistant coffee varieties and soil amendments that hold moisture for longer periods and provide greater response to fertilizer will be essential for climate-smart agriculture. Meaningful youth engagement can be a critical component of the solution. Although a systematic analysis of whether youths are more innovative than adults is lacking, many of the industry professionals interviewed for this report highlighted the catalytic role youths can play in infusing the sector with technology. They noted the large innovative and entrepreneurial spirit present in young people and often described them as "fast learners" and "technology savvy". Reports from discussions with youths also indicate that younger farmers tend to adopt new technologies more easily and are often keen to increase production through improved modern technologies.

There are great returns on investments in improving the involvement of young people in coffee value chains. There is a great level of efficiency to be gained. They catch up to innovative ideas faster. They are more open-minded and can adapt to technological change faster. They are starting their professional lives and the training they receive can work with recent technology that exists.

---Michael Opitz, Managing Director, Hans R. Neumann Stiftung (HRNS)

In fact, digital technology, a critical tool for addressing value chain challenges related to information and remoteness, also has a broader appeal among youths. If supported with the requisite resources, skills and space, young people will be able to facilitate the infusion of modern technologies and new sets of production values in support of a smart, sustainable and resilient coffee sector. Moreover, as stated, youths have a longer future ahead of them in the industry, with minimal to no blinders of experience. Hence, they tend to be amenable to trying new things, especially those with longer-term benefits that more experienced producers with less time left in the sector may not consider. Across the C-GVC, there are opportunities for implementing low carbon sustainable systems such as agroforestry on farms, waste mitigation systems and use of renewable energy sources at post-harvest processing sites. However, the uptake of these technologies is low. In Honduras, for example, the Green Climate Fund estimated that only 15 percent of producers have incorporated agroforestry on their coffee farms (Green Climate Fund 2019). Given that the benefits of such investments are realized in the medium to long term, youths are well-positioned to embrace and implement them. Youth-led start-ups have proven to be a useful driver for job creation, particularly for peers, globally and in the African context.

Third, youth engagement facilitates intergenerational transmission of knowledge and technology, which is foundational to sustaining the coffee sector. Building a sustainable and resilient coffee sector is an intergenerational mandate that demands cross-generational collaboration. As experienced stakeholders, the older generation may be custodians of indigenous knowledge that has helped to sustain the coffee sector for several decades. They offer a sturdy foundation upon which current and future resilience-related innovations can be built. Creating mentorship and coaching programmes for young people to meaningfully engage and build sustained relationships with older generations in the solution process would enhance preservation and intergenerational transmission of relevant knowledge systems and ensure that youths have support systems and access to resources as they step into leadership roles.

Fourth, youths represent the next generation of coffee consumers and hence a significant future market that would sustain the coffee sector. The global population is youngest and fastest growing in the global south. Indeed, more than half of the projected increase in the global population between now and 2050 will occur in SSA. Hence, by the mid-century, populations in SSA are projected to double, making Africa home to about 2.2 billion people. Another 2.4 billion people will reside in South Asia (UN 2021), but in Europe, North America and East Asia, where the current coffee demand is greatest, populations are ageing and experiencing declines. Consequently, a growing share of new coffee demand will come from the global south, with its sizeable youth populations. Evidence already suggests rapid urbanization and an expanding middle class with disposable incomes, particularly in Asia and Africa which represent an enormous potential for coffee consumption. In Africa, for instance, business and consumer spending are projected to reach US$ 6.7 trillion by 2030, and the growing youth population that thrives on "coffee culture" are fuelling a growing demand for coffee (World Bank 2015). However, this demand will only continue to grow if economic opportunities expand for a greater share of the youth population.

Although recent economic growth is gradually expanding purchasing power in these regions, more needs to be done to support a large segment of the next generation to join the ranks of the middle class and forestall outmigration, social unrest and other insecurities brought about by economic opportunities. Most economies in these regions are agrarian with a sizeable populace dependent on coffee and other agricultural commodities for employment and income. A thriving coffee sector thus offers the potential to increase incomes, expand economic opportunities for young people and generate effective future demand for coffee. Investments that engage youths to develop sustainable and fair models of production will help foster positive images of the coffee sector that influence long-term consumption and spending patterns.

Fifth, engaging youths in the C-GVC helps CPCs to achieve several of the 17 Sustainable Development Goals (SDGs). As a cash crop, coffee is an important source of household income in CPCs. As its demand continues to rise globally, so will household revenues in CPCs if proper measures are taken to ensure a smooth transition

of ownership to the next generations. Rising incomes are a sure way to reduce poverty (SDG 1), afford other foods and cut hunger (SDG 2), have extra funds for health (SDG 3) and quality educational services (SDG 4). Good policies and programmes for youth engagement in the C-GVC must include vocational education and technical training (SDG 4) and should also break away from the customary male-biased land transfer practices in many CPCs to guarantee gender equity for the next generations of coffee owners (SDG 5). Engaging youths in the C-GVC also facilitates decent employment opportunities and economic growth for the future generations (SDG 8). Youths are more concerned about issues such as global warming, so including them in the decision-making process regarding the transformation of the coffee sector will ensure the development of varieties that are resistant to climate change and have minimal impact on the environment (SDG 13). Last but not least, engaging youths from the global south in the C-GVC ensures increased economic opportunities that could hinder emigration towards the north, and reduce extremism and social unrest, thus promoting peace and justice (SDG 16).

A.1.2. The ICO advocates for the recognition of the role and aspiration of youths in the coffee sector

As part of the ICO's actions in response to Members and all stakeholders, the focus for 2021/22 has been placed on the coffee Next-Gen. As a result, the Secretariat brought the question of youths in coffee to two high-level events:

- A full day devoted to youths and coffee at the annual meeting of Youth 20 during the G20 summit in Italy in 2021 **(https://www.ico.org/documents/cy2020-21/pr-315e-youth-20-summit.pdf)**.
- Opening of the 2021 World Food Forum, organized by the FAO Youth Committee and many young leaders to build better food systems, with an event on youths and coffee **(https://media.un.org/en/asset/k1k/k1knkxxxrw)**

These two high-level political events enabled the ICO to leverage and attract the global community's attention to the challenges and opportunities of the coffee sector for millions of young people.

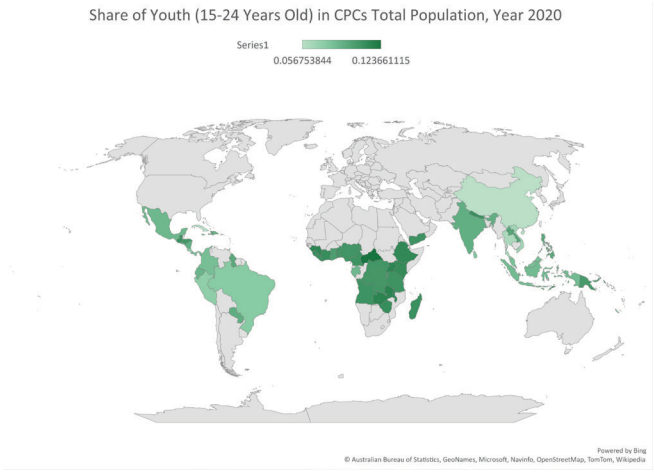
A.2. Profile of Rural Youths in CPCs

To understand the economic context within which youths in CPCs are operating, this section examines evolving demographic, human capital and labour market trends. It is noted that the combined forces of rapid population growth, slower expansion of gainful employment and limited opportunities for skill development have consigned many young people in CPCs to unemployment and/or underemployment in low productive activities. A large share of this youth population derives income from agriculture and can be attracted to productive and profitable engagement in coffee to improve their livelihoods. In short, youths in CPCs need coffee.

A.2.1. Demographic trends

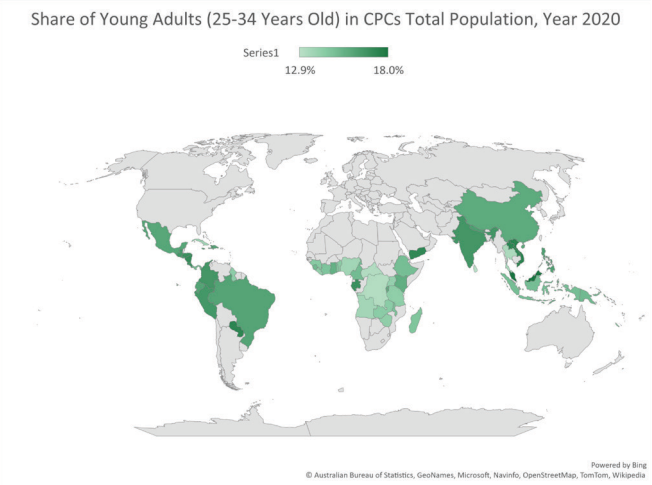
Coffee is largely produced in developing regions of the world with considerable shares of youths in their current and future populations. About a third of the over 4.9 billion people living in CPCs are between the ages of 15 and 34. Among CPCs in SSA and Oceania, where populations are youngest, youths (15-24 years) constitute about 20.5 percent and 22.6 percent of the population, respectively (Figure A.1). Young adults (25-34 years) also account for an additional 14.5 percent in SSA and 17.3 percent in Oceania (Figure A.2). In the coffee growing regions of Asia, South America and Central America, where populations are relatively older, youths and young adults together comprise about a third of the population and over half of the total labour force. That is a significant pool of producers and consumers who can shape the future of the coffee industry and the global economy as a whole.

Figure A.1: Shares of youths in the total population of CPCs



Source: ICO Figures Compiled by Author

Figure A.2: Shares of young adults in the total population of CPCs



Source: ICO Figures Compiled by Author

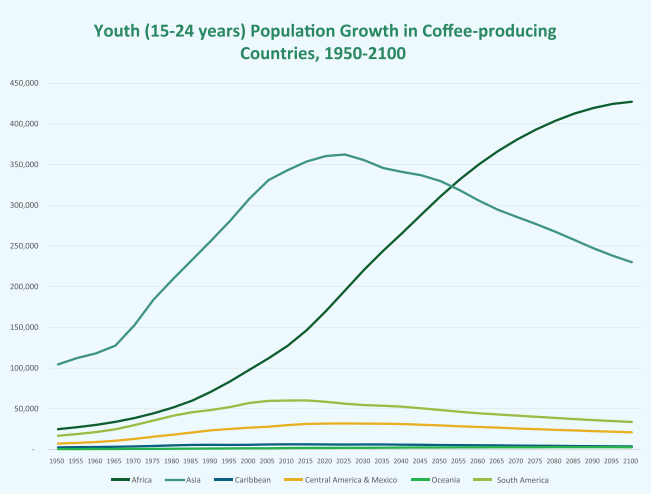
More than 70 percent of the global youth population can be found in CPCs in Africa and Asia. Over the next few decades, the proportion of youths in the global population will decline in most regions but the absolute number of young people is projected to continue growing and much of this growth will occur in SSA and Oceania. Indeed, among the CPCs, only Africa and Oceania will display significant population growth beyond 2020. Between 2020 and the end of the 21st century, the population in CPCs of SSA is projected to expand by 2.9 billion people. That is about 700 million above the projected population in coffee-producing Asian countries, the population of which is projected to be only 7 percent above their 2020 level by the end of the century. By the same period, the population in the two Oceanic CPCs of New Caledonia and Papua New Guinea will double even as the Caribbean and South America are expected to be below their current 2020 levels (Figure A.3).

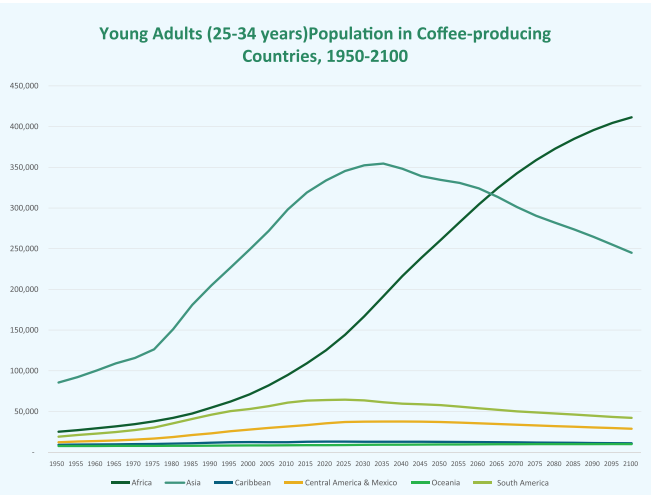
Young Africans will therefore increasingly account for a greater share of the global population and will, hence, exert considerable influence on the future trajectory of coffee production through their labour, consumption patterns and activism. The nature of their impact will be determined by the quality of the training and economic opportunities that the coffee industry and other sectors of the economy provide them. Given their sheer numbers and the fact that rising incomes in Africa are driving up consumer and business spending which is projected to reach about US$6.7 trillion by 2030, these young people may constitute a significant market for coffee and source of social transformation if opportunities for skill development and gainful employment expand (The World Bank 2015). On the other hand, a lack of opportunities may lead to higher levels of migration and social unrest that could disrupt coffee production and trade.

A.2.2. Literacy and educational attainment

Access to education is improving for young people in CPCs but educational quality remains a concern. To effectively contribute to a vibrant and sustainable coffee sector, young people need a range of foundational, soft and industry-specific skills. But to what extent are youths and young adults in CPCs afforded educational opportunities to develop these required knowledge and skills? Analysis of data on educational indicators such as EYS, MYS, literacy rates, reading and mathematical competencies in CPCs reveal some interesting insights. **First, access to education for young people has expanded in CPCs over the past decade.** Across all regions, there is noticeable growth in EYS and net school enrolment at all educational levels. For the top six CPCs in Africa, the average EYS has increased from six years in the early 1990s to 10.3 years in 2019, with countries like Ethiopia experiencing nearly a three-fold increase in EYS and net primary school enrolment during the period. Similar growing trends are observed among CPCs in other regions, with increases of three to five years in EYS recorded in Asia, Central America and South America. In El Salvador, for instance, secondary enrolment soared by over 20 percent between 2000 and 2013, while enrolment in tertiary education also improved from a little over 22 percent in 1999 to over 29 percent in 2018. These trends align with global trends, which point to expanding access to education (UNESCO 2021). Indeed, the current youth population represents the most educated generation CPCs have ever had.

Figure A.3: Population growth in coffee producing countries





Source: UN Data, Elaborated by ICO

4. We use net (rather than gross) enrollment because this metric compares the enrollment of children of official school age who are enrolled in school to the population of the corresponding official school age. In contrast, gross enrollment ratio is the ratio of total enrollment, regardless of age, to the population of the age group that officially corresponds to the level of education shown.

Second, the gender gap in educational access is closing in almost all CPCs. In contrast to trends observed in the early 1990s, females in CPCs are now expected to receive similar rates of education as their male counterparts. In fact, in some regions the EYS for girls are now slightly higher than boys. Closure of the youth gender gap in EYS is greatest in Asia, where by 2019 girls' EYS were higher than boys' in almost all the top CPCs, except Laos. The most drastic change was recorded in India, where the gap observed in the 1990s of about 2.5 years in favour of boys was closed by 2010. By 2019, girls' EYS were about one year higher than those of boys (Table A.1). The only exception is Africa, where the gender gap in EYS among the top CPCs has stabilized to about one year in favour of male youths since the mid-1990s. Today, the gap is highest in Cote d'Ivoire (1.9), Cameroon and Uganda (1.6). Tanzania displays the lowest EYS for both sexes with girls performing better than boys in 2019 (8.2 vs. 8.0 EYS).

Despite remarkable progress, educational access and attainment remains low especially for CPCs in SSA. About two-thirds of young Africans entering the labour force do not have any secondary education, and as much as 20 percent of youths and 30 percent of young adults have no education at all (Fox and Filmer 2014). Young girls, ethnic minorities, and rural residents tend to be disproportionately affected (UNESCO 2012). Young people in coffee growing communities generally find themselves isolated from opportunities to study beyond primary school. A recent analysis identified financial impediments, unreliable transportation and inaccessible education programmes as critical educational challenges in coffee growing communities. In Honduras, for instance, the study estimated that rural students travel about 20km to reach the nearest public schools, 90 percent of them face challenges with transportation to school and that 70 percent are unable to attend school without financial support (Educate 2 Envision, 2021). In addition, structural and cultural barriers, such as early marriage, teenage pregnancy, and the tendency for young girls to shoulder the burden of household tasks and childcare, prevent many girls from either receiving and completing formal education and training, or actively participating in the labour force. Efforts to improve educational access and quality must, therefore, pay special attention to the barriers faced by girls and rural youths. These efforts must go beyond fiscal policies and include social reforms.

Moreover, **there are concerns about the quality of the education being received.** Learning assessments indicate that education systems in developing regions, often characterized by lack of school materials and poorly trained teachers, are failing to adequately equip students with the basic literacy, numeracy and technical skills necessary for productive employment in the modern economy (Fazzio 2020). Less than a third of young people completing primary school in Africa and South Asia achieve basic standard competencies in literacy and numeracy (UN 2022). Even in South America and the Caribbean and Oceania, where the numbers are better, nearly half of young people are below the threshold for mathematics and reading standards (UN 2022). Moreover, there is a general disconnection between the range of skills that employers demand and what educational institutions are teaching students. Competencies in "soft skills," such as critical thinking, communication, leadership, collaboration and problem-solving influence lifetime earnings and other aspects of social life. Yet, there are fewer opportunities for young people to develop these core skills through their educational systems, which have

Table A.1: Youths' expected years of schooling by gender and region for the top CPCs

Region		1990	1995	2000	2005	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Africa	Female	5.0	5.6	6.7	7.8	9.1	9.2	9.3	9.4	9.4	9.5	9.6	9.7	9.6	9.7
	Male	5.1	6.4	7.9	9.1	10.3	10.4	10.5	10.5	10.5	10.6	10.7	10.8	10.7	10.8
Asia & Oceania	Female	6.8	7.6	9.2	10.9	11.9	12.2	12.4	12.5	12.7	12.8	13.0	13.1	13.0	13.3
	Male	8.0	8.8	10.0	11.3	11.9	12.1	12.1	12.2	12.4	12.5	12.7	12.8	12.7	12.8
Central America & Mexico	Female	9.6	10.1	10.7	11.7	12.2	12.3	12.3	12.4	12.5	12.6	12.7	12.7	12.7	12.8
	Male	9.6	10.2	10.6	11.5	11.9	12.0	12.0	12.1	12.2	12.3	12.3	12.3	12.3	12.4
South America	Female	9.3	10.7	12.6	13.4	14.1	14.2	14.4	14.9	15.1	15.0	15.0	14.8	14.9	14.8
	Male	8.6	10.0	12.2	12.8	13.3	13.3	13.5	13.9	14.0	13.9	13.8	13.7	13.8	14.1

Source: Authors' Calculations Based on Data from the UN Human Development Index, 2020

5. Between 2000 and 2020, primary school completion rates for children increased from about 82 percent to 90 percent with several countries particularly in Asia and South America achieving universal primary education (UNESCO 2021).

seen minimal reforms to reflect the realities of today's labour market conditions. During stakeholder consultations, employers in the C-GVC repeatedly cited soft skills as the most critical skills which are often lacking among young employees.

"Young people often lack focus and critical thinking abilities. They often reach out to their supervisors when facing issues, instead of giving the problem a first try"

--Jacklene Arinda, CEO JADA Coffee

Improving the quality of education is crucial if young people are to become valuable assets to an increasingly knowledge- and technology-intensive coffee sector. Alignment with industry demands and requirements, both in terms of technical and non-technical skills, would tremendously improve the job placement and opportunity for employment of young people.

A.2.3. Labour market trends

Although youth livelihoods are not markedly different from other demographics, youth as a transitory stage in life is associated with peculiar features that disproportionately disadvantage young people in their quest to secure a decent livelihood and find opportunities to earn a living income. For instance, relative to adults, youths often lack the experience, social network, productive resources and skills to effectively access income-generating opportunities. Consequently, youths face greater challenges accessing livelihood opportunities. To understand youths' position in the labour market, a number of indicators have been explored, including unemployment, labour-force participation, NEET status (not in employment, education or training), as well as the prevalence of young people in vulnerable employment in CPCs. Despite variations across regions and countries, a few trends are apparent.

First, in line with global trends, relatively low and declining labour force participation rates among youths (15-24 years) have been observed over time. The youth age bracket is generally considered a period of education and skill building. Hence, in some countries, individuals in this age bracket are mandated by law to be in school, limiting their availability for work. Consequently, for CPCs with sufficient opportunities for formal education, labour force participation rates among youths are relatively low and decline with increasing educational opportunities. For instance, in Ethiopia, the youth labour force participation rate was at 79 percent in 2004 when primary school enrolment was at 50 percent. This dropped to 74 percent in 2015, when primary school enrolment rose to 85 percent. Similar trends are observed in CPCs in other regions, with countries in South America, where educational enrolment at the secondary and tertiary level is relatively high, recording lower shares of the youth labour force actively engaged in the labour market (Table O.1). Labour force participation rates for young adults (25-34 years), who have typically completed schooling and/or started families of their own, are significantly higher. In most top CPCs, the labour participation rate for this group is 85 percent or above. Where this rate is lower, it is usually because of a very low rate of female participation. For example, in India where young adults' participation was around 62 percent in 2019, male participation stood at 95 percent while female participation was only 25 percent. Young women on average participate in the labour force at lower rates than males often because of a "discouragement" effect, childcare and gendered perceptions of acceptable jobs (International Coffee Organization 2020).

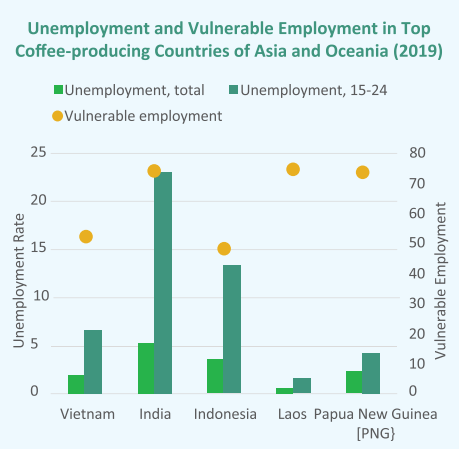
Second, young people are disproportionately impacted by unemployment. Among the CPCs examined, youth unemployment rates are at least twice that of the entire labour force (Figure A.3). Unemployment rates are generally higher in urban areas than rural areas, where opportunities for agricultural activities tend to have a mitigating effect on joblessness. Hence, those countries that are relatively urban with limited shares in agriculture are generally associated with higher unemployment rates. For instance, in South America, unemployment rates are highest in Brazil, Costa Rica, and Colombia where economies present alternative employment opportunities outside agriculture. Similarly, in Africa unemployment rates are relatively high in more urbanized countries of Kenya and Cote d'Ivoire, where opportunities for non-agriculture employment are high. Youth unemployment increases the probability of future unemployment, lowers lifetime earnings, and reduces future job satisfaction and contribution to national development (Bell and D.G. 2011). Therefore, interventions addressing youth-specific challenges to improve youth employment outcomes remain critical.

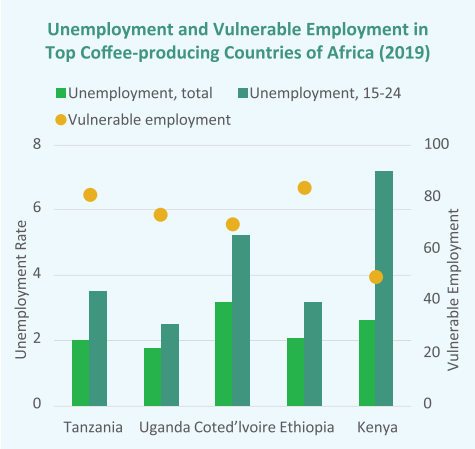
Third, young people are more likely than adults to be underemployed and/or engage in vulnerable employment. When employed, youths are more likely to be in short-term jobs, with poor pay, long working hours and substandard working conditions (ILO 2020; White 2020). About 80 percent of the working youth in SSA are engaged in vulnerable employment, and nearly two-thirds of them live in poverty relative to half of the adult population (ILO 2020). Similar trends are observed in CPCs in Asia, South and Central America, albeit to a lower extent. Generally, vulnerable employment rates rise in countries where agriculture dominates the economy (Figure A.3). Among the top CPCs in South America, for instance, high rates of vulnerable employment are recorded in Peru and Ecuador relative to Brazil and Costa Rica, whose economies are less dependent on agriculture. Globally, agriculture accounts for the majority (62 percent) of young people in hazardous work (ILO 2018). Other intersectional differences such as gender, ethnicity and social class further disadvantage young people. Indeed, young women are disproportionately represented in indices of unemployment and vulnerable employment (ILO 2020).

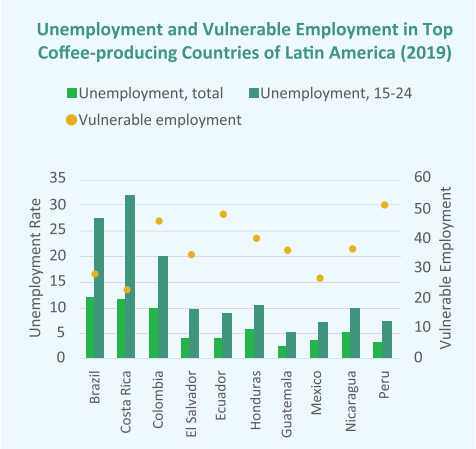
Young people participate less in the labour force but are disproportionately impacted by unemployment, underemployment and vulnerable employment

6. One factor associated with lower female EYS is adolescent fertility rates (births per 1,000 girls aged 15-19 years). Data from the UN Population Division (2019) show that over the 2015-2020 period, Africa had the highest fertility rate among teenage girls at 95.0 (vs. 42.5 worldwide), followed by South America and the Caribbean (63.0). This rate was even higher in SSA (104.4), where all CPCs are located. Africa also displays highest fertility rates among the 20-24 years old girls and young adults (25-34 years of age). As a consequence, primary school completion rates, which are lowest in CPCs of Africa, are even lower for girls. In some countries like Cote d'Ivoire, the gap is about six percentage points.

Figure A.4: Unemployment and vulnerable employment rate in top CPCs







Source: (The World Bank 2019)

Similarly, young people are also most likely to see their livelihood severely impacted during economic crises, often being the first to lose their jobs and the last to be hired. The recovery of youth employment after economic shocks takes longer than that of the general population. For instance, over 10 years have passed since the 2008 global financial crisis, but the global youth unemployment rate is yet to return to its pre-crisis level of 11.7 percent. This has been exacerbated by the Covid-19 pandemic, which has left young people unemployed in far greater numbers than adults (Fleming 2021). It is not surprising, therefore, that young people's access to employment has been the focus of several national, regional and global efforts aimed at achieving the UN SDGs.

A.3 - State of youth engagement in agriculture and the C-GVC

Youth engagement and employment in primary agriculture and in specific agricultural value chains remain heavily under-studied. Global estimates of the total number of people, including youths, engaged in farm-based activities vary widely due to differences in data sources and methodologies. Nonetheless, there is generally a consensus that the number of people working in agriculture is declining over time, despite population growth. Estimates from the ILO show that the number of agricultural workers has declined from 1 billion in the early 1990s to about 880 million in 2020. Agriculture's share of total employment has also shrunk by a factor of almost 50 percent during the same period (ILOSTAT 2020) as opportunities for off-farm employment expand in the economy. This pattern of declining employment shares in agriculture are observed among CPCs, but with variations across regions and countries. Indeed, between 1991 and 2020, agriculture's share of total employment declined by about 8 percentage points in Colombia, 10 percentage points in Brazil and Ethiopia, and 34 percentage points in Vietnam (ILOSTAT 2020).

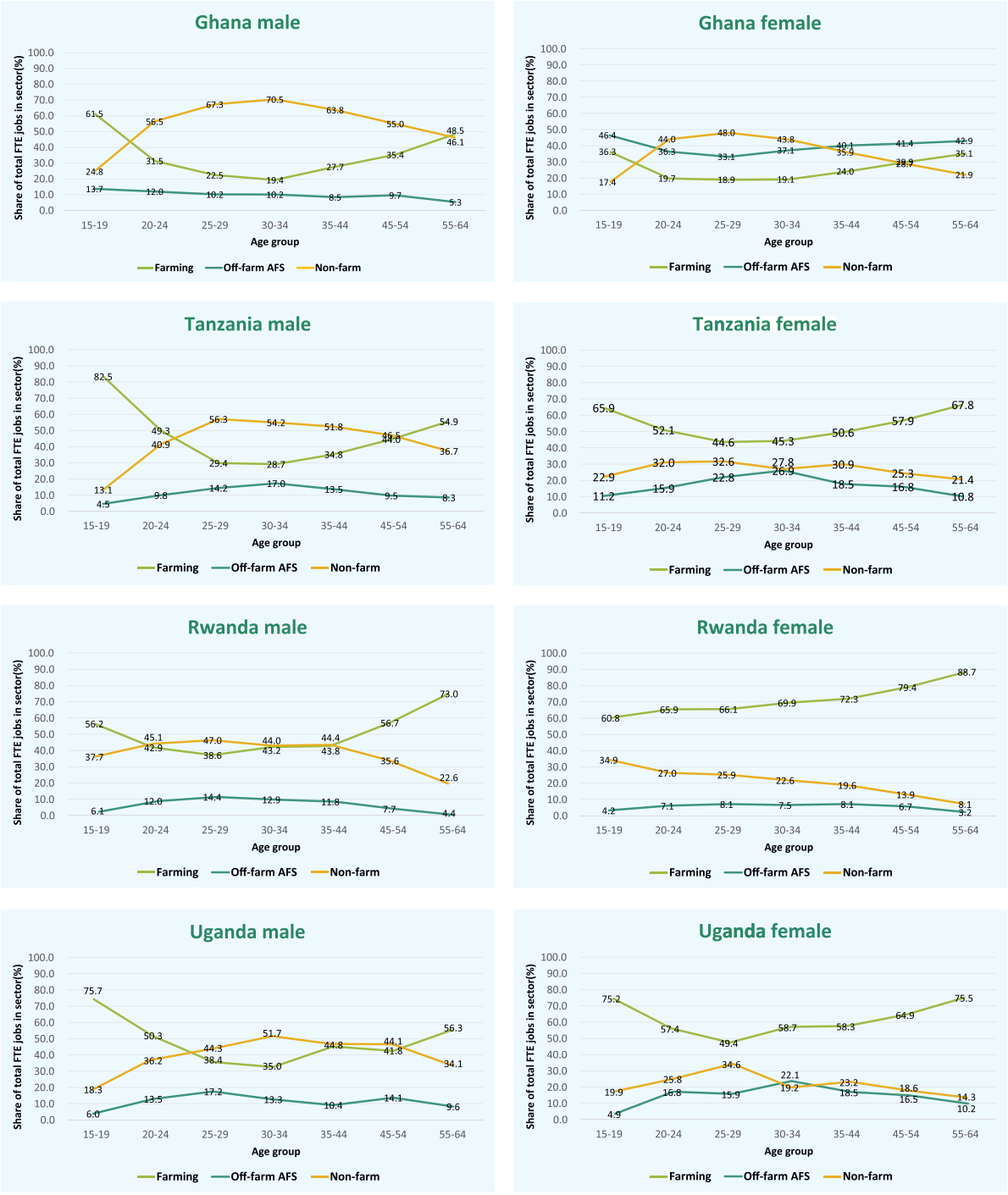
Despite declining shares, agriculture remains a dominant source of employment for the labour force and young people in CPCs in the global south. In fact, although the share of labour in agriculture is declining, the absolute number of people engaged in agriculture is still rising in most developing countries to the extent that the number of new hires in farm-based activities may be larger than those in the off-farm segment of the agri-food system over the next decade. This is particularly true for SSA, where the number of people working in agriculture has seen an absolute increase of more than 80 percent in the last 20 years (ILOSTAT 2020). Agriculture's employment shares among the top coffee producers in the region also remains high, ranging from about 40 percent in Cote d'Ivoire to 72 percent in Uganda in 2019. Similar rates of agricultural employment shares are recorded among countries in Asia, Oceania and Central America, although they are relatively lower than in SSA. The lowest agricultural employment shares are recorded in South America where rates ranged from about 30 percent in Ecuador to 8 percent in Venezuela (Figure O.3)

Interestingly, economically active youths are engaged in agriculture at higher rates than the adult population. Indeed, farm-based activities still account for more than half (52 percent) of total employment for young Africans (ILOSTAT 2020). An analysis of nine African countries shows that the share of the youth labour force (15-24 years) engaged in agriculture, even when accounting for total time devoted to agriculture, ranges from 40 percent in Ghana to 63 percent in Tanzania. For young adults, agriculture's share in full time equivalence terms ranges from 25 percent in Ghana to 49 percent in Uganda (Yeboah and Jayne 2018). A recent analysis involving countries in SSA, Asia and South America (Dolislager, et al. 2020) estimates that rural youths, on average, devote about 51 percent of their total work time to farming relative to 36 percent for adults. Youths (15-24 years) tend to be more dependent on their parents' decisions and preferences. Hence, the high levels of youth engagement in agriculture perhaps reflect their contributions to their parents' agricultural activities. It could also be explained by farming's low entry barriers (particularly on family farms) and the lack of alternative employment options for this age cohort, who typically lack the required skills, experience and social network to secure off-farm employment (McCullough 2017; Organization for Economic Co-operation and Development 2018).

7. In recognition of the devastating effect of Covid-19 on youth livelihoods, the EU has declared 2022 the year of youth to place young people at the heart of the Covid-19 recovery programming.

It is, however, noteworthy that as young people leave home or school and integrate more fully into the labour force, they reduce their engagement in farming (Figure 5). This pattern is apparent in the declines in the proportion of labour time in farming and an increased engagement in both non-farm and off-farm agri-food system jobs as youths move into young adulthood (25-29 and 30-34 years). For both males and females, farming's share of total work time is lowest among individuals in the 25-29 and the 30-34 age brackets, but accounts for at least a third of the total full-time equivalent (FTE) jobs among these age categories. Moreover, much of youth engagement in agriculture occurs as unpaid activities on relatively low production family farms that typically operate seasonally due to their rainfed nature (ILO News 2016). Therefore, agricultural employment often falls short of the economically-rewarding, technology-oriented, intellectually stimulating and meaningful careers that youths typically seek, leading many to aspire to careers outside of agriculture. Nonetheless, the aforementioned trends paint an optimistic picture for those trying to encourage youth engagement in coffee production. It shows that in CPCs, youths are already doing agricultural work and a transition to coffee production is possible under adequately enabling conditions.

Figure A.5: Proportion of total full-time equivalent (FTE) jobs, by employment sector, age group and gender



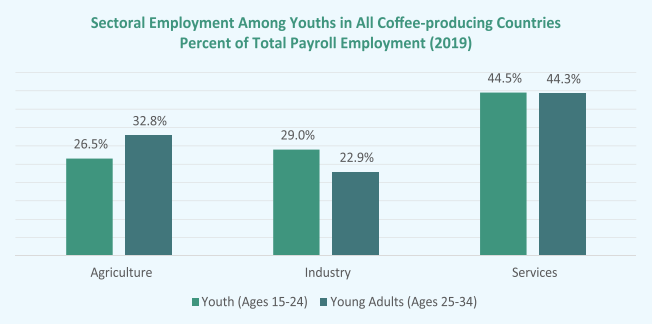
Source: Author's estimates from Ghana Living Standard Survey 7 (Ghana Statistical Service 2017); Rwanda Integrated Household Living Survey (National Institute of Statistics of Rwanda 2017)); Tanzania National Panel Survey (National Bureau of Statistics 2015); Uganda National Panel Survey (Uganda Bureau of Statistics 2015)

Young people are active in many roles and spaces along the value chain beyond primary agriculture. Depending on a country's level of structural change, the off-farm segment of agricultural and food systems accounts for 8 to 16 percent and 10 to 25 percent of total FTE jobs held by youths (15-24 years) and young adults (25-34 years), respectively (Yeboah and Jayne 2018). However, the off-farm segment of agricultural value chains, including that of coffee, remains underdeveloped in most countries. In fact, for most CPCs, particularly those in Africa and Central America which largely export raw green coffee beans, the off-farm segment of the C-GVC, including roasting and processing, remains too small to either generate large numbers of youth employment or to create economies of scale to attain competitiveness and high levels of productivity. This, coupled with barriers of entry related to skills and capital requirements to operate in the sector, has largely restricted youth engagement in the off-farm segment of the C-GVC in the global south. In addition, recent disruptions to the C-GVC from the Covid-19 pandemic have also severely put jobs in the off-farm segment at risk, and further jeopardized future youth employment prospects (UN 2020). Hence, barring any intensive and pragmatic investment to increase value addition in CPCs, the off-farm segment of the C-GVC is unlikely to surpass primary agriculture in employment creation for youth in the foreseeable future among CPCs in the global south. Investments that assist young entrepreneurs to acquire low-cost mini roasteries may create new small-scale but profitable business opportunities, and promote greater youth engagement in the off-farm segment of C-GVC.

Within the off-farm component of agricultural value chains, many youth employment activities are concentrated in service activities, primarily in commerce and distribution. This development is symptomatic of the general trend of post-industrialism that has seen stagnation within the manufacturing sector, leaving the service sector to absorb much of the excess labour leaving agriculture. Today, over 50 percent of people worldwide are employed in services, compared to less than 35 percent in 1991 (The World Bank 2021). Young people in CPCs are no exception. Data from the ILO show that in 2019, close to 45 percent of youths (ages 15-24) were employed in the services sector, while a little over a quarter of them were in agriculture. The situation for young adults in CPCs is similar to that of youths, with a little over 44 percent working in the services sector. However, the share of young adults in agriculture is slightly higher than that of youths (Figure A.6). In their 2020 article, Dolislager et al. confirm these trends but also highlight variation across geographical regions. For instance, they noted that paid agricultural employment and youth engagement in off-farm segments of the agricultural value chains are more pronounced in Asia and South America relative to Africa.

Youth engagement in agriculture and in the C-GVC extends beyond wages, family and self-employment activities related to coffee production, processing and distribution. In fact, the C-GVC today includes a wide array of careers and activities in marketing, food safety and post-consumption. Youths are also engaged as consumers, researchers and advocates for policies related to climate change, food justice and conscious consumerism which indirectly impact the production and distribution of coffee. The Slowfood Youth Network, an educational model that empowers young change-makers to influence the global transition to a sustainable food system, is an example of one such youth movement. There are also youth actors working to ensure the sustainable disposal of coffee waste, such as Natan Jacquemin of NĀM mushroom farms, who upcycles coffee waste into suitable growing matter for mushrooms and organic fertilizer for vegetable production (See Box 5 NĀM farm). Such engagements can be individual, as in youths choosing to purchase sustainable coffee, or collective as exemplified by youth movements advocating for sustainable coffee.

Figure A.6 Sectoral employment among youths and young adults in CPCs



Source: Authors' Calculations Based on ILO Data (2019)

Box A.1: NĀM Mushrooms powered by Delta Cafés

In April 2018, Lisbon-based Belgian youth entrepreneur, Natan Jacquemin founded his company NĀM Mushrooms. NĀM, which means mushroom in Vietnamese, collects used coffee waste from local coffee shops and uses it to cultivate organic oyster mushrooms. The company works towards creating a more sustainable coffee production model. Specifically, Natan and his company believe that current economic production models do not account for environmental impacts. Rather, current production mechanisms are "linear"; that is, once raw materials create their intended products, they are disposed of. In contrast, NĀM provides a key example of a "circular economy", the key aim of which is to minimize or even eliminate waste. Natan defines waste as "a sleeping asset" and "a free resource which you can use to create value both economically and environmentally."

Natan's production process is as follows: first, he collects used coffee grounds from local Lisbon coffee shops and restaurants. Upon mixing the grounds with mushroom seeds, the mixture is placed in an incubator. Natan then sells the mushrooms to the same restaurant, which will in turn create seasonal dishes using the mushrooms. Given the increasing size of cities, initiatives like NĀM can be replicated elsewhere with the aim of amplifying sustainable food production processes. Currently, 10,000 tons of coffee waste go to landfills every year; NĀM reuses 500 kilos of coffee in its production processes, thus highlighting the potential for the initiative to be upscaled.

Sources: Interview with Natan Jacquemin - (Partington 2019) Coffee in, mushrooms out: This urban farmer is Lisbon is turning waste into produce, Start-up guide https://startupguide.com/this-founder-grows-mushrooms-from-used-coffee-grounds

A.3.1 - Attractiveness of coffee production and ageing coffee farmers

It has become common knowledge that youths' disinterest in agriculture has resulted in a mass exodus of young people from rural areas and farming, leaving behind an ageing farmer population who are poorly suited to sustain future agricultural production, including that of coffee. The average coffee farmer in Colombia and Kenya is 55 and 60 years old, respectively (Kebaso 2021). A 2014 report by HelpAge International estimated that about 27.5 percent of agricultural holders were over 55 years old, and this proportion has been growing over time. Despite much conjecture, there is a dearth of empirical evidence supporting this claim that farmers are getting older, particularly in SSA. There, populations are young and much of the labour force remains in agriculture, hence claims that agriculture is the preserve of the elderly seem questionable.

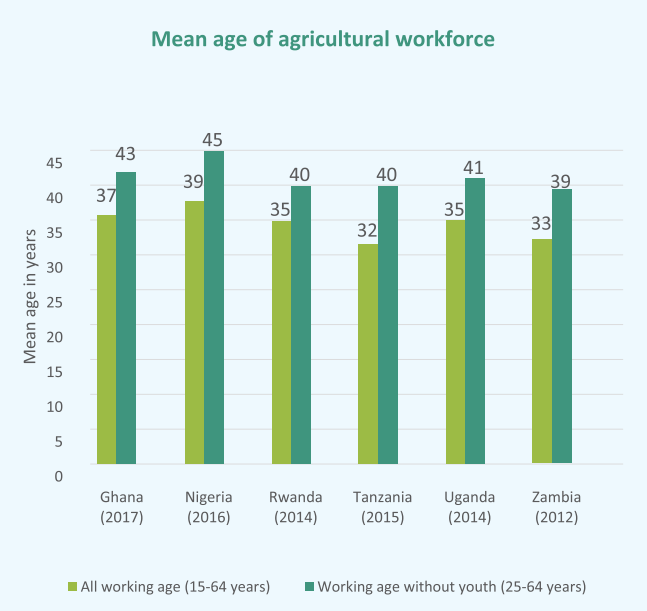
Indeed, analysis of the age structure of the agricultural workforce in selected countries in SSA shows that the average age of the agricultural workforce is less than 40 years (Figure A.7a). Even when excluding young people between the ages of 15 and 24 years, whose engagement is largely seen to reflect their parents' labour allocation preferences, the average age of the agricultural workforce ranges from 38 to 45 years. This average age hardly changes, even if elderly people of all ages working in farming are included in the sample. Moreover, the age structure of African farmers has hardly changed over the last decade (Figure A.7b). Between the first and latest survey periods, which span from 6 to 12 years, the average age of the labour force in farming increased by less than two years in most of the countries examined. Although a large number of rural youths are leaving agriculture as off-farm opportunities continue to expand, the majority of the economically active youth population remains engaged in farming at least on a part-time basis (Yeboah and Jayne 2018). As a result, the average age of African adults in farming is hardly rising over time. It is, however, noted that individuals engaged in off-farm activities are slightly younger than those engaged in farming.

It appears that the widespread perception of ageing farmers in agriculture and coffee specifically is partly shaped by the methodologies used to classify individuals as farmers. Previous studies examining the age distribution of the agricultural labour force typically restrict the sample to individuals who exercise management control over agricultural landholdings and/or make decisions over resource use, and members of agricultural holders' households (Heide-Ottosen 2014). Landless households who contribute to agricultural labour through paid employment, and youths, who by virtue of sociocultural factors are less likely to own land or have decision-making authority over agricultural resources, are often excluded. This discounting of young agricultural workers potentially results in an overestimation of the average age of the agriculture workforce.

Although these statistics are not coffee-specific, they are certainly indicative of broad trends in the age structure of coffee producers in Africa. It is true that many young people from rural areas are leaving farming as opportunities for non-farm employment expand. Nevertheless, most young Africans who are economically active remain engaged in farming. Hence, as this analysis shows, Africa seems less at risk of its farming population being the preserve of old people. What is missing, however, is a critical mass of skilled young Africans with access to finance and know-how to drive productivity growth in the C-GVC. Youth engagement efforts in Africa should prioritize resourcing the millions of rural youths already engaged in coffee farming to raise their productivity. A related priority is to encourage skilled young Africans to apply their expertise to address the myriad of policy, regulatory and financing barriers that inhibit their ability to start and expand agribusiness firms that provide important services to African coffee farmers.

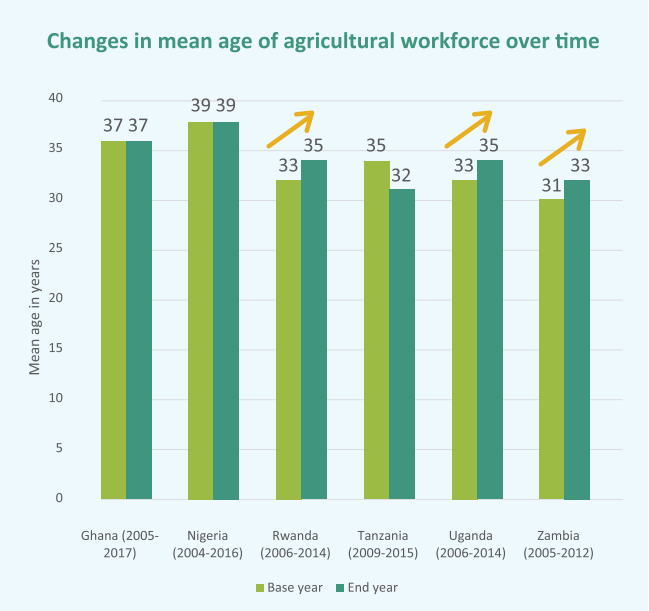
Nonetheless, it is unclear to what extent Africa is an anomaly in the age structure of coffee farmers given that populations in other regions of the world are much older. Further analysis of age distribution in other regions is needed to conclusively confirm these findings.

Figure A.7a. Mean age of agricultural workforce in Africa is below 40 years



Source: ICO Figures Compiled by Author

Figure A.7b. The mean age of the agricultural workforce in Africa has hardly risen in the past decade



Source: ICO Figures Compiled by Author

A.4. - Barriers to youth engagement in agriculture and in the C-GVC

Young people in CPCs face a well-documented set of endogenous and exogeneous barriers to engaging in agriculture and the coffee sector specifically. A few of them are highlighted below:

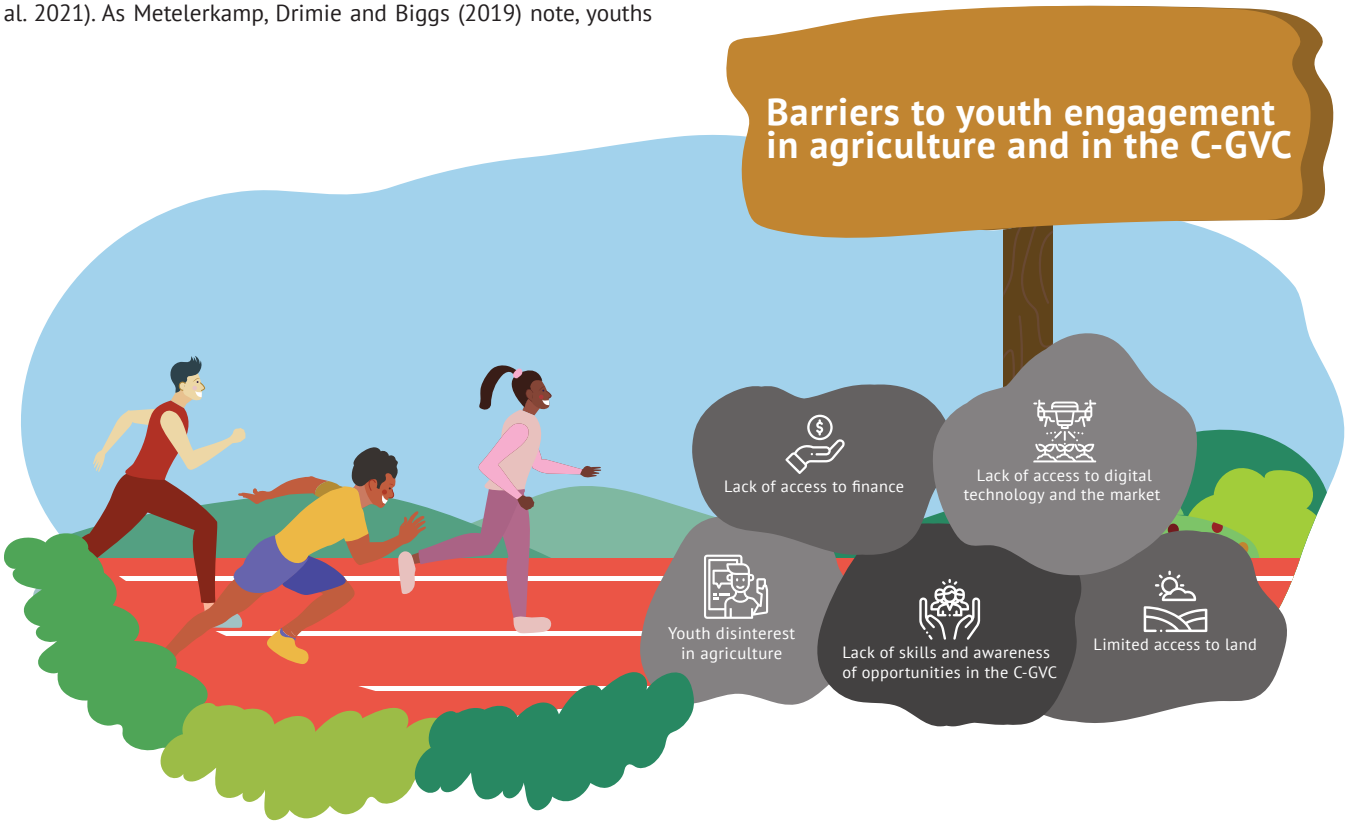
Youth disinterest in agriculture

Generally speaking, youth disinterest in agriculture has kept many young people out of coffee production. Several studies have noted negative perceptions about agriculture as a last resort and the preserve of poor, uneducated and failed youths; the drudgery associated with traditional agricultural practices and the negative manner in which families, the media and education systems emphasize white collar jobs and socialize agriculture to young people are significant contributors to youths' lack of interest in coffee production (Minde, et al. 2015). Across CPCs, particularly in Africa and Central America, it is common for parents and teachers to encourage youths to seek opportunities outside of farming. Many analysts have noted that young people's participation in agriculture can be traced back to a lack of clear-cut career pathways in schools and the poor promotion of the sector as a viable venture at the different levels of education and at home (Kimaro, Towo and Moshi 2015).

However, it is worth noting that most studies on youth interest in agriculture tap into their aspirational goals, which are often far removed from the livelihood opportunities available to them. In fact, evidence indicates that when given opportunities for productive and profitable engagement in agriculture, youths take advantage of them (Mabiso and Benfica 2019). Also, these studies often treat youths as a homogeneous group and fail to segment their responses across various subgroups. Evidence suggests that youth disinterest is predominant among educated youths, who typically feel that opportunities in agriculture clash with their aspirational lifestyles (Afande, Maina and Maina 2015; Mulema, et al. 2021). As Metelerkamp, Drimie and Biggs (2019) note, youths are sharply divided on the prospects of agriculture, with some showing clear interest while others hold negative views (Bezu and Holden 2014). Efforts to educate youths on profitable opportunities within agriculture that are less arduous and offer quick returns may help expand the number of youths with favourable views of agriculture and coffee.

Lack of skills and awareness of opportunities in the C-GVC

Youth engagement in the coffee sector is impeded by a general lack of skills and technical know-how to take advantage of the opportunities in the increasingly knowledge- and technology-intensive coffee sector. This phenomenon is closely tied to limited educational opportunities to develop relevant skills. In most CPCs, an agricultural curriculum is often absent in the early years of education and many youths, who eventually end up in farming, drop out of school before being exposed to proper agricultural training. Vocational education and training (VET) on best practices and emerging technologies for coffee production is generally non-existent. This, combined with a general lack of career guidance in higher education and common social pressures to seek "white collar employment", implies that many young people are leaving school either unaware of the opportunities available for decent employment along the C-GVC or lacking the skills to fully harness the opportunities offered by the sector. Youths outside the formal education system also have limited opportunities to develop the knowledge and skills needed as the coffee sector is not spared from the negative effects of defunct agricultural extension services in CPCs, which often fail to deliver timely information and relevant cutting-edge technology into the hands of producers. This skills barrier is particularly critical for emerging opportunities in the downstream components of the C-GVC where stakeholders are increasingly required to comply with ever-evolving food safety and environmental standards.



Limited access to land

As a perennial crop, coffee requires up to three or four years to reach its first harvest, and likely more time to break even. Hence, coffee production demands secure access to land to be profitable, a privilege that most youths in CPCs cannot afford. A growing body of research has documented difficulties that young people face in accessing land for agricultural production, including that of coffee, partly due to rising land scarcity arising from population growth (Bezu and Holden 2014; Yeboah, Jayne, et al. 2019). Even in Africa, where land is widely perceived to be abundant, population pressures and associated intergenerational subdivisions of land have led the average farm size for smallholder farmers in over 40 countries to decline by about 30-40 percent since the 1970s (Headey and Jayne 2014). In Kenya, for instance, more than 25 percent of smallholder farms control less than half a hectare and are approaching landlessness (Jayne and Muyanga, 2012). This increasing land scarcity and associated rising land values are restricting youth access to land for coffee production.

Moreover, most youths traditionally acquire land through inheritance under customary tenure systems. However, allocable land resources are becoming increasingly scarce, as populations increase versus relatively fixed land resources (Jayne, Chamberlin and Headey, 2014). As a result, the proportion of rural youths inheriting land is declining as land becomes scarcer. According to Living Standard Measurement Survey data from Ethiopia, only 40 percent of households acquired land through inheritance. In Kenya, only 25 percent of rural youths inherit land. Growing evidence also suggests a weakening or breakdown of customary tenure systems, which are typically designed to hold land in reserve for current and future generations. Furthermore, average life expectancies are increasing and, even where land is still available, many rural youths now have to wait until they are much older to inherit their share of family land or rely on alternative avenues (e.g. land rental markets) to access land (MIJARC; FAO; IFAD 2012). Women in particular face greater difficulties in securing land due to customary land tenure systems that bar women's land ownership rights. These situations dissuade many young people from engaging in the coffee sector. Lack of land also makes it increasingly cumbersome for youths to present collateral to financial institutions to obtain funding to start or expand their coffee enterprises (Njeru and Gichimu 2014).

Indeed, evidence from Ethiopia, Tanzania and South America shows access to land to be an important factor shaping rural young people's decisions on whether to stay in agriculture or migrate to urban centres (Bezu and Holden 2014; Kosec, et al. 2017). Efforts to promote youth livelihood through agriculture must therefore recognize increasing land scarcity and develop effective strategies that allow young people with an interest in coffee to access land, with particular attention paid to the gender dimension involved in obtaining this access.

Although the above factors are pervasive in constraining young people's ability to access opportunities, they do not impact the heterogeneous youth population equally. The intersectionality of a range of vulnerability factors yields different barriers/outcomes for various youth subgroups. Gender, for instance, determines the extent to which young people are hindered from taking up

Box A.2: Coffee Public-Private Task Force to champion improved resilience, sustainability and the ability to earn a living income to make coffee attractive

In September 2018, the International Coffee Council (ICC) adopted Resolution 465 on "coffee price levels" during its 122nd session in London. This led to a Sector Dialogue organized by the ICO, engaging the relevant sector stakeholders and broader international community in the dialogue on coffee price levels. This culminated in the development of a joint Declaration of Intent of stakeholders from both the private and public sector in the form of the "London Declaration" which was signed the following year by 12 private sector companies and welcomed by the 125th ICC session, which also adopted resolution ICC-125-10, requesting the ICO to set up a Coffee Public-Private Task Force (CPPTF).

The CPPTF now consists of 18 private sector 'Sherpas' — representatives of the signatory companies — and the same number of public sector representatives from ICO Member countries, both importing and exporting. The aim of the CPPTF and its related Technical Workstreams (TW) is to implement the ICC Resolution 465 and the London Declaration, thereby actively advancing the work of the Sector-Wide Dialogue initiated and led by the ICO. The ultimate objective of the Task Force is to build consensus on priority issues and actions to be submitted for consideration to the ICC and the CEO and Global Leaders Forum (CGLF), and to be implemented to achieve a sustainable and prosperous future for coffee producers and the sector as a whole.

To realize this approach, the CPPTF developed a Roadmap, endorsed by the 128th ICC, which provides an unprecedented opportunity for public-private alignment around a common vision for the coffee sector (closely aligned with existing initiatives) as the basis for identifying joint actions to be taken by the CPPTF.

A shared problem statement highlighted, among many other issues and topics, that "…The persistently low prices leave many coffee producers unable to achieve a Living Income, because of which they are unable to cover their cost of production and maintain a decent standard of living for themselves and their families, and thus incentivizes environmentally and socially unsustainable behaviour…", leading to an unsustainable economic outcome. This lack of economic sustainability means producers lack access to capital, creating barriers to investment in sustainable production. **Furthermore, coffee production is not seen as an attractive career for younger generations, which threatens future supply,** whilst significant additional barriers to economic sustainability persist for women and other marginalized groups."

As a concerted answer to this challenge, the CPPTF endorsed a long term vision of economic resilience and social sustainability that explicitly stresses as a commitment and goal that "…Coffee producers are economically sustainable, among other things through improved efficiency, resilience and the ability to earn a living income… and the sector has eliminated structural barriers to economic and social sustainability for all coffee producers and communities; including women, men, **youths**, and currently marginalized populations."

agriculture. In most African societies, young men have more privileged access to productive resources such as land compared to women (Woldenhanna and Tafere 2014). Moreover, education levels and other factors of vulnerability such as family/caregiver status, refugee/internally displaced person status, and limitations due to vastly rural areas, increase or decrease young people's constraints. These constraints may be binding and require dedicated support to overcome them. Without addressing these specific constraints of the heterogeneous youth population, policies and programmes will likely disproportionately benefit youths with greater assets and resources.

Lack of access to finance

Access to finance is crucial for starting, sustaining and/or scaling up any enterprise. In coffee production, financing is needed to procure inputs (e.g., improved seed varieties, fertilizer) and to cover operational expenses (e.g., land preparation, weeding, harvesting). Research shows that access to finance is an important catalyst for growth in both new and existing enterprises (Ayyagari et al. 2016). Access to finance remains a major barrier as financial institutions are often unwilling to lend to agri-enterprises, let alone youth-led agri-enterprises. Agriculture is widely perceived as a high-risk activity because of low profitability, high inflation, poor land markets and issues with collateral and property rights (Kaula, Arasa and Nzioki 2019). To minimize risk, commercial banks have preferred to lend to medium- and large-scale farmers, a situation that has left over 250,000 coffee farmers in Central America without finance options (Bathrick 2015).

For young people, the added disadvantages of a lack of credit history, proven experience executing funded agricultural activities and/or a lack of collateral disproportionately affect their ability to access financial support. Lack of funds limits youths' ability to make the needed investments that would make their coffee farms productive and resilient to shocks (Archer, et al. 2018). Unsurprisingly, a recent report determined that youth interventions involving credit are among the most successful in training and upskilling young coffee growers – as with Coffee Kids in Trifinio (Central America) and Pret à Manger and Twin Trading (Colombia).

Lack of access to digital technology and the market

Information and digital technology are important tools for building productive and profitable coffee farms. Instant communication and access to the most up-to-date prices and weather patterns allow producers to manage and plan their production more effectively. Moreover, information and digital technology can improve efficiency when coupled with other production factors, while spurring innovation and reducing transaction costs. Studies have shown that using information and communication technologies has led to time and cost savings in small-scale African farms (Deichmann, Goyal and Mishra 2016).

One of the largest barriers for young coffee growers is that resources and new technologies do not reach them (Deichmann, Goyal and Mishra 2016). Remote rural landscapes and poor public infrastructure continue to be challenges in CPCs, which also limits access to new technologies. Rural areas, where the bulk of coffee production takes place, are often inadequately resourced with road networks, reliable and cheap sources of energy, internet connections and relevant social amenities that can support the development of profitable agricultural enterprises, pushing many youths to migrate from coffee growing communities to urban centres in search for non-existent jobs (UN 2021). Additionally, digital illiteracy prevents many young coffee growers from properly understanding how to use technology. Other issues for farmers include limited availability, high service costs, uncertain returns from new technologies, and other behavioural preferences. Poor connectivity prevents young, smallholder farmers from connecting with global markets that are dominated by larger farming plantations.

Providing access to traditional and new markets is critical to engaging youths in agriculture. One method of improving market access and transparency has been certified markets such as Fair Trade, which are increasingly common in CPCs. However, rural youths face many barriers to accessing certified markets due to a) high certification costs; b) low economies of scale to cover coffee export operations; c) inability to meet stringent quality requirements; and d) altitude constraints (Tellman, Gray and Bacon C.M. 2011). These barriers are also present for accessing other markets as youths generally have limited access to land, financial resources and capital.

A.4.1 - Attractiveness of coffee production and youth engagement

Limited youth participation in the C-GVC can be costly in terms of foregone income and reduced production. But to what extent are areas suitable for coffee production attracting young people into the coffee sector? To answer this question, a coffee attractive (AtCof) index was developed, measuring the appeal of coffee production in an area based on four key characteristics, namely climate conditions, land tenure, potential coffee yields and market access indicators. Empirically, the AtCof in a district i of country c can be represented by the following formula:

$$AtCof_i^c = f\ (Climate\ Conditions, Land\ Possession, Coffee\ Yields, Market\ Access)$$

Coffee quality is known to be highly sensitive to droughts and poor temperatures (Melke and Fetene 2014). Hence, worsening drought instances can lead to one shifting away from coffee production and engaging in the production of other crops or leaving agriculture altogether. With climate change, drought-induced displacement is an increasingly common phenomenon and hence an important factor in a coffee attractiveness index (Adaawen et al. 2019; Cheserek and Gichimu 2012).

The second set of characteristics in the index relates to **land tenure.** During interviews, lack of land ownership was often cited as the key impediment to youth involvement. Researchers hypothesize that unfavourable land tenure institutions prohibit farmers from making investments that may improve productivity in the long term (Place and Otsuka 2002; Wambua, et al. 2019). In addition to improving investments in agriculture, titling is also important for access to credit, another commonly cited challenge prohibiting the involvement of young people in agriculture. Land titles can be used as collateral during loan applications (Hill and Vigneri 2011), and not only does titling improve access to credit, but it also improves the size of loans given to farmers

(Routray and Sahoo 1995). Thus, improving youth land ownership is key to making young people more interested in coffee farming. The third variable considered is **coffee yields and productivity**. Simply put, young people will be more attracted to coffee farming if revenues are higher than non-farming activities. For instance, during interviews, ExIm expert Norlan Altamirano mentioned that in cases when coffee yields are low, young people in Nicaragua switched to working in the tourism industry or out-migrated altogether.

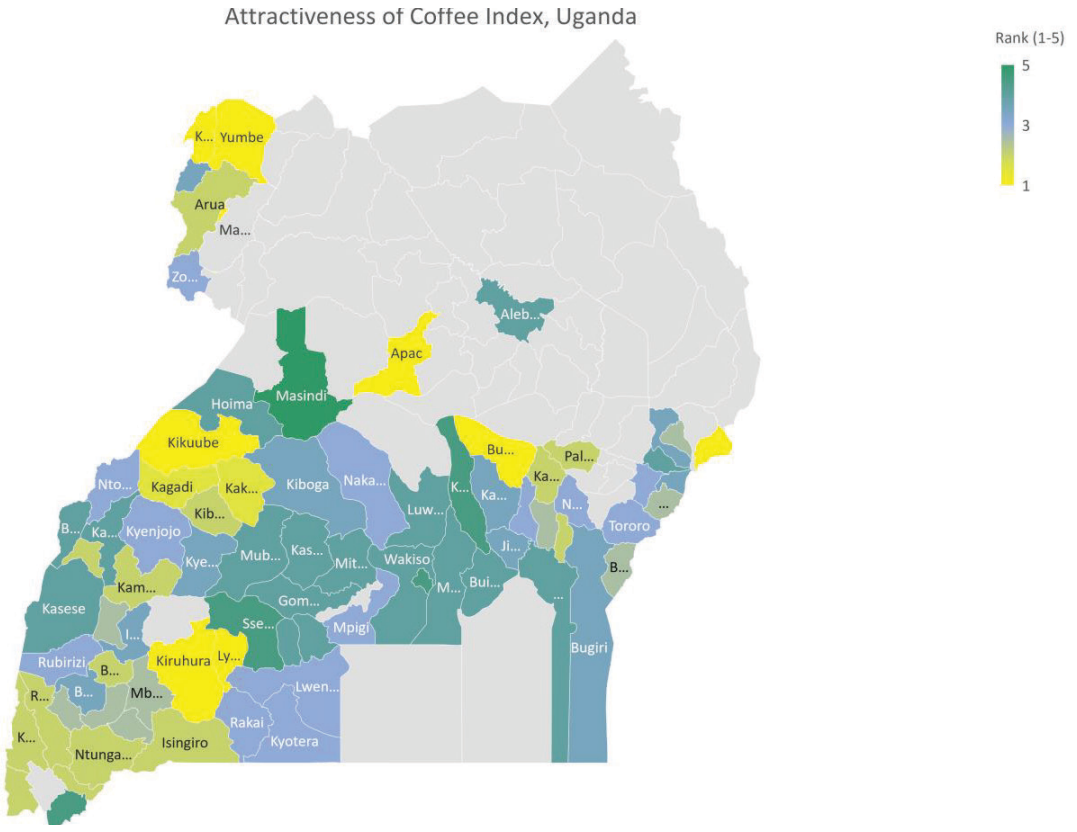
The last component is **market access,** which is synonymous with better access to high bidders (Borrella, Mataix and Carrasco-Gallego 2015). In addition, better market access can also lead to increased competitiveness. Given a larger array of customers at the market, customers are willing to pay for products with better quality (Lourenzani, et al. 2020). Although the AtCof index can be calculated across several nodes of the C-GVC, the present analysis focuses on primary production. Relying on data from Uganda, the coffee attractiveness for various districts and examined its impact on youth participation in coffee was estimated. (See **Annex A2 for detailed methodology).**

A bivariate analysis revealed that, on average, districts where coffee production is relatively more attractive have larger amounts of coffee production. Since the AtCof index comprises soil conditions which render land more fertile for coffee production, this result is expected. Interestingly, the analysis also showed positive correlation between the AtCof index and the average farmer age across districts (Figure 9). In other words, it seems like as a district becomes more attractive for coffee production, the average age of the farmer slightly rises.

There are plausible explanations behind the findings that areas deemed attractive for coffee production also have older coffee farmers. First, coffee is a cash crop, the production of which requires greater investment than other crops. It takes at least three years to recoup any investments in coffee production. Hence, one needs secure land of tenures and/or alternative livelihood sources during the year in between planting and harvesting. In Uganda's sociocultural context, this is a luxury that is the preserve of relatively older and more experienced people. Older individuals are more likely than youths to have accumulated some financial capital to fall back on and/or have long-term decision-making authority over land. Consequently, older people are more likely to take advantage of favourable production conditions to cultivate coffee. Secondly, attractive areas for coffee production would likely also experience greater competition for land and resources, which may crowd-out youth engagement in coffee given the resource access constraints youths often face.

While further investigation is warranted, the findings suggest that increasing the attractiveness of coffee production in any area is a necessary but not a determinant condition for youth engagement in coffee. Rather, complementary interventions addressing the resource constraint issues are critically needed to enhance youth participation in coffee production.

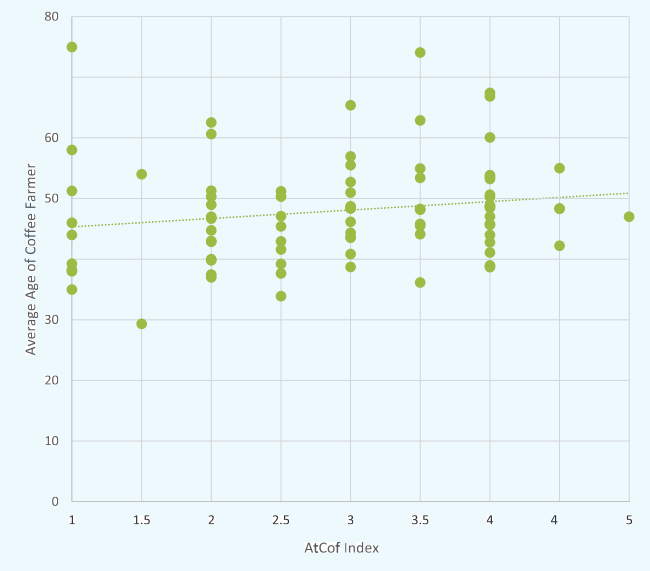
Figure A.8. Coffee attractiveness index in Uganda



Source: Authors' Calculation using LSMS, SPEI, and FAO Data

Figure A.8 illustrates the distribution of the coffee attractiveness index across districts in Uganda. The darker shade represents areas where coffee production is more attractive. In Uganda, in southern and central districts, the production of coffee is more attractive, with an AtCof between 3 and 5.

Figure A.9. Average farmer age and Atcof index



Source: Compiled by Author

A.5. Opportunities for youth engagement in national value chains and the C-GVC

A.5.1. Farming and coffee production

A sustainable coffee sector requires coffee production to expand at a rate that is commensurate with a growing demand. Successfully doing so begins at the farm-level, where there are growing challenges with productivity and yield gaps, and emerging threats from climate change. Unsurprisingly, the farm-level has been the focus of most interventions and presents ample opportunities for engaging youths in diverse ways. First, coffee production, particularly the relatively small-scale level that is prevalent in many CPCs, is labour intensive and not readily amenable to mechanization. The labour demands for coffee, together with rising concerns about an ageing coffee farmer population, opens up opportunities for greater engagement of youths as the next generation of coffee farmers.

Moreover, opportunities for youths in coffee farming also exist in direct service provision. Farm-level services supporting rehabilitation and maintenance of coffee farms, management of storage facilities, systematic application of inputs, particularly for control of pests and diseases and post-harvest storage and handling are all critical areas where youths' energy is needed. In addition, the input gap arising partly from farmers' inability to procure and apply the optimal levels of fertilizer and other relevant inputs at the right quantity and quality due to challenges with information and infrastructure is another area of opportunity for youths. Young people are receptive to adopting good agricultural practices, particularly farming methods that are technology driven (Archer, et al. 2018). If organized, along with financial resources, and equipped with necessary technical knowledge and tools for irrigation, pest management, storage and post-harvest handling, they will be able to provide comprehensive services to farmers in need. Such training and services, along with access to land, could revitalize the coffee workforce, propel youths to invest in coffee as a perennial commodity and enable them to establish their own coffee farms (Anunu 2015).

Producer groups are emerging as important platforms for connecting with and empowering young adults in coffee communities. These groups often partner with the private sector and supplement or complement initiatives in the downstream segments of the coffee value chain. These include involving youths in improving agricultural practices in coffee farming, offering financial support for higher education, training and skill building across a range of careers, including in extension or cooperative systems, as well as improving entrepreneurship and leadership capacities for business development. The Young Coffee Farmers Programmes started by the FNC in Colombia is one such example, which is focused on building capacity development of general agricultural practices knowledge to produce high quality coffee (Next Generation Coffee 2022).

In addition to such external programmes, producer groups are making efforts to embed and institutionalize approaches to bridge the intergenerational gaps that influences attitudes towards coffee. This helps foster partnerships between the older and young generations to continue coffee farming and promote coffee production as a sustainable business. Furthermore, initiatives with coffee producer groups are aimed at improving understanding of the communities and context to inform the design of the programmes. This may involve data collection on productivity, costs, land sizes etc. along the farming component of the supply chain to better identify opportunities and solutions for youths to engage in coffee farming systems. These solutions involve training in several aspects of coffee production, including alternative farming practices, to increase income from coffee, post-harvest production methods, understanding factors that influence prices and better utilization of coffee by-products (Zambrano and Miguel 2020). These focused training programmes position youths to adopt modern technological practices from production to post harvest handling.

Box A.3: Cameroon - Private sector-led programme of new generation of coffee and cocoa farmers

The programme is led by the Interprofessional Cocoa and Coffee Council (CICC), the private sector association representing farmers, exporters, processors, and factories/buyers. The objective of the programme is to ensure the sustainability of coffee and cocoa industry in Cameroon through rejuvenation of the workforce. In partnership with the Ministry of Agriculture and village youth communities, the New Generation programme supports the upskilling of young men and women on farming techniques and technologies. The main criteria to participate is to own three hectares of land suitable for coffee or cocoa farming and be motivated to become the new farmers to receive close extension services and necessary inputs over three years. Post-harvest operations, commercialization and agricultural entrepreneurship are also included in the training package.

A.5.2. Environmental services

Concern for the planet's welfare and actions for tackling climate change are among the important issues young people care deeply about in the coffee sector. A common concern among young people is taking ownership for the planet and issues of climate change. It is important to feed their interest and encourage them to seek purpose in their work. Sustainability in the coffee industry remains a consistent problem. Across the C-GVC, there are opportunities for agroforestry on farms, investments in waste mitigation and use of solar or other renewable energy sources at post-harvest processing sites. Young people have a great potential to bring sustainable development changes to the coffee industry and to promote environmentally friendly practices.

Consultations with key coffee stakeholders indicate extensive opportunities for engaging youths in environmental services. Key informants speculated that approximately 25 percent of youths in the coffee industry can be employed in the extension services focused on modernizing and mainstreaming sustainability in coffee farming. Another opportunity for youth engagement is to engage them in dialogues about initiatives that promote adopting sustainability and livelihood initiatives. This would entail taking an evidence-based approach supported by research, data collection and analysis. This aspect of generating sound data may also attract young people, who desire to pursue educational opportunities while actively learning and participating in the coffee industry. For example, in coffee-growing communities in Vietnam, overuse of water and nitrogen are major concerns. This is an excellent opportunity for graduate-level research engagement that contributes to current literature and knowledge.

Other environmental services in which youths can participate include working with local groups to improve soil health and productivity (Lutheran World Relief 2022). Education, capacity building, and skill training are critical for teaching sustainable land management, crop diversification/rotation, conservation tillage and the use of organic fertilizers, to name but a few. Promoting environmental health literacy is another opportunity for youth engagement as it may motivate students to pursue careers in science or take leadership roles to inform decision making.

A.5.3. Coffee and other income opportunities (intercropping, other services)

Growing land scarcity makes it increasingly difficult to secure land that is devoted to coffee alone. As noted, it may take up to three years for coffee producers to secure their first harvest. Encouraging young people to cultivate other crops to sustain them during this waiting period is therefore a good strategy. This strategy has been utilized by entities such as HRNS in their approach to engage youths in the coffee sector. Intercropping offers opportunities to navigate challenges with land access and promote efficient land use. Young people with limited access to land can be encouraged to intercrop coffee on existing farms.

Intercropping has been employed for a long period of time and provides many benefits to coffee growers. Studies show that intercropping on coffee farms may improve soil fertility and provide greater yield stability, regulate water stress by keeping crops humid, reduce carbon emissions from coffee production, and increase farm revenue. A study conducted in Uganda, Rwanda, Burundi and the Democratic Republic of Congo found that intercropping coffee and bananas increased total revenue per unit area by more than 50 percent in comparison to a monocrop (CGIAR 2016). The study noted that the bananas provided shade coverage for coffee crops and the increased productivity of the coffee-banana intercropping reduced the carbon footprint from the farm. Similarly, in El Salvador, shade trees grown in coffee plantations are estimated to provide firewood for smallholder households equal to one month of income from all members of a household. In Nicaragua, 60 percent of farmers grow at least half of the food they eat and intercrop coffee with corn, beans and bananas (Harelimana, et al. 2018). This intercropping system produce organic coffee, which through its premium prices results in increased farm revenue and household food security.

Nonetheless, the benefits of intercropping can only be realized through its adoption. Young people are more willing to take risks and use new technologies, and are hence well positioned to adopt and educate farmers on these best practices to diversify their incomes and make agriculture in general more productive.

A.5.4. Opportunities in trade, transformation, distribution, and retailing

In addition to the documented constraints youths face in acquiring land for agricultural purposes, key informants further identified trade, transformation, distribution and retailing as the nodes of the value chain where youths have the greatest opportunities. Diversification via coffee transformation, processing to improve quality, cupping and café culture are growing opportunities mentioned by key informants.

Cupping is the process of applying sensory characteristics to develop and describe the flavour profile of coffee. Performed daily at most roasters, cupping is considered a baseline quality control exercise to assess accurate flavour profiles, consistency in roasts and relative quality of major lots of coffee (containers) prior to trade. Despite their importance in the coffee supply chain, cuppers are in short supply, especially in developing countries. Training to produce qualified cuppers in CPCs in Africa and Asia is still a daunting challenge. There is increasing demand for basic courses on coffee cupping and selection of high-quality coffee designed for young producers and roasters in these countries. General agronomic knowledge coupled with experiential learning opportunities on coffee roasting curves, coffee processing installations, laboratories specializing in coffee quality and cupping etc., are all essential to achieve improvements in coffee production and industrialization processes within organizations and enhance incorporation of young people in the coffee sector.

Information technology and its effective utilization is a critical aspect of successful specialty coffee marketing. It is needed not only to create and sustain business linkages, but also to deploy social media with podcasts, video streaming of cupping and coffee processing, sustainability stories and 'terroir' information, all of which become valuable marketing platforms or instruments for promoting and selling higher volumes of differentiated coffee (Setiana and Khaerani 2020). CPCs with a younger population will be in a better position to develop greater human capital and

capacity to apply available information technology for diversification of export markets and more direct involvement in the marketplace. This is an area that is evolving rapidly, and youths are anticipated to play an increasingly important role in coffee marketing in the near future.

Opportunities for young people can be found, among other things, in the intelligent use of social networks, which can help sell coffee without too many marketing costs. It is also true that the transfer of technologies can be more facilitated through social networks. There is demographic growth in certain African countries, which proves that the market for domestic coffee consumption has a future."

Eric Tchuenkam, National Office of Coffee and Cacao, Cameroon

Trade shows, workshops and tastings: As forums for dialogues and exchange of ideas, and for developing interpersonal relationships and trust, coffee trade shows serve as valuable opportunities for building sustainable trading relationships between all representatives: growers, importers, roasters and retailers. These trade shows are supported by educational sessions to give valuable insights and knowledge to new producers about the complexities of the coffee industry. Market information and intelligence is also offered to help producers understand potential buyer requirements through various formats including panel discussions and one-on-one sessions. This is an excellent avenue for facilitating greater youth participation in the coffee industry as these marketing events may provide entrepreneurial impetus to those who are contemplating the coffee sector for prospective careers.

Furthermore, young people who acquire requisite coffee knowledge and skills training may serve as educators and marketing agents in such high-profile trade shows, workshops and tasting events. In fact, peer-to-peer educational programmes are proven to be the most effective and appreciated among youth populations. Leveraging existing youth organizations and their capacity to reach youths in remote areas may prove to be more impactful and sustainable.

Emerging coffee machine market: Innovations, new product development and new format launches, along with consumer demand, are spurring evolutions in the coffee industry. Expanded choices and increased sales of coffee machines, along with growth of related services utilized in the food service sectors (hotels, restaurants, cafes) as well as offices, are now in vogue. The coffee machine market is rapidly growing despite the negative impacts of the pandemic that caused challenges with manufacturing activities and the supply chains as well. As the commercial infrastructures revive with hybrid/remote working options, this market will continue to grow. Emergence of the foodservice industry as a key end user and a surging number of offices equipped with kitchen spaces will also foster the sales of sophisticated coffee machines in the next decade.

The high convenience (less time and effort) factor and growing consumer awareness on novel flavours, changing consumer tastes and busy work schedules etc. are giving rise to demand for coffee and coffee-based beverages among millennials and Gen Z populations. As a small electrical appliance, these coffee machines effectively cater to this demand to produce instant high-quality coffee beverages that can be served in restaurants, cafes, work cafeterias and at home-settings. It is not surprising that many coffee companies are capitalizing on these trends and their accompanying profitability by investing in range of technologies, equipment and innovations such as 'coffee pods' to offer 'on-demand' and better-tasting coffee. With rapid technological advancements, product innovations and small- and medium-sized companies increasing their market presence by securing new contracts and tapping into new markets, all of these factors combined are conducive to opening up new employment opportunities for the younger generation in the growing coffee machine markets.

A.5.5. Social enterprises and responsible investment, sourcing and consumption

Certified coffees are defined as those that incorporate at least one aspect of sustainability, including farming in a good-quality environment with eco-friendly practices, providing economic viability for farmers and promoting social equity among farmers and workers (Giovannucci and Ponte 2005). This enables coffee stakeholders to safeguard the environment, protect human and social rights, and deliver superior, traceable products to customers. Third-party auditors are hired to verify if appropriate measures for coffee production are followed for various certifications such as Organic, Fairtrade, Rainforest Alliance, 4C etc. While acquiring such certifications is a costly affair for producers and buyers, they do it in the anticipation that these certifications may fetch premium prices that can offset these costs, especially for large companies in wealthier nations. This is usually not the case for smaller firms in developing countries that lack the supporting infrastructure, and the high annual costs for maintaining these certifications.

Recently there has been a surge of consumer demand for certification/social responsibility in the coffee industry, particularly among youths. Sales of certified coffees have been bolstered by effective marketing to younger consumers regarding their benefits to both producers and the environment. Many of the leading food service corporations now serve organic coffee in selected markets and several multinational companies offer roasted organic coffee for sale in supermarkets, making organic coffee one of the fastest growing market segments in the specialty coffee subsector. Consumer trends in the popular press indicate the demand for coffees that are certified Fairtrade organic. Other environmental requirements for certifications etc. will continue to grow and coffee producers will continue to utilize such certifications to potentially ensure stable market prices and reduce price volatility.

The costs associated with acquiring and maintaining certifications are among the biggest challenges faced by producers who seek to add these premiums, while balancing benefits to growers, the environment, and the demands of the marketplace. Moreover, there are not enough trained auditors or accredited certification bodies in the emerging coffee producing countries to offer such certifications, thus offering further employment opportunities for young graduates to consider a career in the specialty coffee certification industry.

The emphasis on sustainability among quality-conscious members of the coffee industry, particularly specialty coffee, is more pronounced as increasing numbers of roasters and importers develop their businesses through direct linkages with growers at origin for the purpose of creating long-term trading relationships. Under this growing demand for 'sustainability', there are increased linkages and greater communication between growers, millers, grinders, roasters, exporters and importers. Producers are increasingly working in partnership with the industry at all points in the C-GVC, forming direct linkages with the buyers. This can result in the empowerment of producers, higher revenues and sustainability in the various nodes of the chain. Increased transparency, traceability and quality that encompasses sustainability all collectively 'humanize' coffee and link producers to the consumers they serve. This is a niche but steadily growing area that youths are increasingly attracted to and one that provides opportunities to participate in a productive way to promote sustainability in the C-GVC.

A.5.6. Gender transformation

Youth entrepreneurship in coffee, whether by men or women, is impeded by the gap in access and control over resources owned by the previous generation. However, research conducted by Ozmette (2007) shows that there is a difference between young men and women in achieving important values, such as sense of accomplishment, happiness, family and education. Young men are more likely to succeed compared to young women and there is a value difference between the young male and the young female generations that influences their position in coffee communities.

Women are heavily involved in coffee production activities, while men tend to receive more training in sustainable coffee practices, inputs, income and other benefits derived from coffee sales. This unequal distribution is the cause of many inefficiencies in the C-GVC and impedes the development of the coffee sector in general and production in particular. Most women in coffee-producing communities are generally underpaid, undervalued and marginalized. Consequently, their contributions to household incomes are also limited, leading to a negative impact on the quantity and quality of coffee production (Ozmette 2007).

Leading global development agencies and the coffee industry leaders agree that addressing gender inequalities in all agriculture value chains is key to improving human development and well-being and is very essential for the sustainable development of coffee sector (The World Bank, FAO, and IFAD 2009). There is an opportunity to further develop and widely disseminate approaches for coffee-producing communities to encourage and capitalize on improved gender equity. In the last decade, special efforts have been made within the coffee industry to address gender equity and women's empowerment. In communities where women participate in decision-making and have access to resources that allow them to contribute fully to the development of their households and communities, women create a better future for themselves, their families and the coffee industry. That said, more targeted efforts that are widespread and systemic, such as modifying existing policies and projects to become more gender informed and private sector programmes that promote equitable investments for women, are needed. Coffee industries will need guidance and pathways to support such systemic, efforts throughout the C-GVC. The industry will not only greatly benefit from improved gender equity but also contribute to more resilient coffee supply chains (Anunu 2015).

PART II
SECTION B

Fostering youth employment in agriculture and across the C-GVC

Key findings

- **The private sector** has recognized the importance of investing in youths for the future of coffee as many companies in trade and processing have designed their support strategy.
- **Public entities** also participate in engaging youths in the C-GVC, at varying degrees. For example, almost all governments in CPCs have policies and programmes targeting the development of agriculture in general. Financial support to these country programmes will make a lasting impact.
- **Youth skills development:** Areas of intervention by key actors from the private sector and NGOs are concentrated on training to help youth acquire skills for coffee production or agri-business development
- **Attracting youth to coffee**: The second category of interventions focused on attracting youths to coffee or encouraging them to remain in their family coffee businesses. Several projects sought to improve the prospects of rural youths and address the negative perceptions and attitudes that youths develop to rural life and work in agriculture, specifically coffee.
- **Literate youths returning to rural areas** are key entry points for coffee entrepreneurship strategy.
- **Access to productive assets, inputs, and markets**: This category of interventions comprises helping youths access productive assets including land, finance and equipment. Also included in this section are projects providing youths with access to markets and to inputs.
- **Youth access to finance**: Several interventions integrate financing youth-owned business start-ups in their programming.
- Most of these **youth programmes target coffee production** and to a lesser extent the other opportunities offered by the whole C-GVC.
- There is a **lack of coordination across projects** and they are often donor driven, focusing on those suppliers and their families already integrated in the C-GVC.
- The **geographic focus** of youth programmes and type of interventions needs to align with where youth opportunities are needed most and different approaches must be developed at the landscape, country or region levels.

B.1. Programmes and practices supporting youths in the C-GVC

A sustainable C-GVC needs youths, and ambitious youths in CPCs need coffee. Stakeholders in the C-GVC, both private and public, have understood this, and over the last decade and a half, these same stakeholders have implemented projects and interventions to increase the number of youths involved in the coffee sector. In this section, some of these programmes/policies/interventions are reviewed, investigating their scope, and where possible, their strengths and weaknesses. The projects are classified by geographic regions, funding, implementing organization type, and project objectives or foci to identify trends and to learn about their current and past investments to generate more youth engagement in the C-GVC.

B.2. Key stakeholders

Over 100 stakeholders were reviewed and classified by type (private sector, public sector and civil society) and services provided (skill development and training, coffee attractiveness, and access to productive assets, inputs and markets). Among the private sector stakeholders studied are companies in the roasting industry, coffee cooperatives and trade associations. The public sector includes both domestic institutions (e.g. local and national governments, and extension services) as well as international organizations and development agencies (e.g. FAO, GIZ and USAID). The last category consists of civil society actors including NGOs, foundations, and philanthropic organizations (e.g., HIVOS, Lutheran World Relief, and Hanns R. Neumann Stiftung). As noted below, some foundations are closely tied to private companies heavily invested in coffee. Also oftentimes, a single intervention was supported by organizations of more than one type.

The private sector has recognized the importance of investing in youths for the future of coffee. Coffee companies such as Starbucks, Nestlé, Lavazza and illy are investing in youths and have recognized that generational change (of land ownership and decision making) can create sustainability and procurement issues in some CPCs.

Through key informant interviews, several private sector stakeholders mentioned education as the key pathway to train youths to reduce cost, increase yield, and reduce risk. The private sector stakeholders interviewed included representatives from Lavazza, Illy, Colombian Coffee Growers Association, Kayunga Nile Coffee Farmer's Cooperative, Jada Coffee and Arturos Coffee.

[9] Please refer to section 2 of this report on the methodology used in selecting these actors.

[10] See the complete list in Appendix XYZ

Box B.1: Engaging young people beyond production: corporate and individual-led initiatives

In 2017, the Lavazza Group launched a training programme entitled "A Cup of Learning". The programme aims to support young people, notably those from disadvantaged backgrounds, to seek employment opportunities along several parts of the C-GVC. One component of the programme focuses on the sensory analysis of coffee, and the processing and evaluation techniques of green coffee. A second component focuses on the logistics behind "Being a Barista". To date, the programme has benefitted individuals across nine countries: Italy, the Dominican Republic, India, Albania, Haiti, Brazil, Cuba, Peru and the United Kingdom. The training is administered by Lavazza Training Centres, which are large training centres focusing on training courses for a wide array of people ranging from baristas to consumers (Lavazza Group 2017).

In 1999, Illy established the Università del Caffè, a centre promoting coffee quality through training, research and innovation. One of Illy's key youth initiatives is the Master's degree in Coffee Economics and Science. The programme was inaugurated in 2010 and is run in collaboration with the University of Trieste, the University of Udine, and the University of Wageningen, among other academic institutions. The programme aims to "offer graduates who are interested in working in the coffee world – and more generally in the agri-food sector – a suitable multidisciplinary preparation along the entire production chain, from cultivation to hospitality and retail, including logistics, trading and the industrial process." (Illy 2015)

Another initiative along similar lines, is the Umami Area Association, founded by Dr Andrej Godina in 2015. The Association organizes training events across the world, one of which is named the "Umami Barista Camp." which take place in CPCs such as Brazil, Vietnam and Malawi. Under this initiative, hundreds of coffee industry actors are brought on the coffee farm to receive training on coffee quality. Other courses include those on processing methods, harvesting, cup tasting, and quality control.

Public entities also participate in engaging youths in the C-GVC at varying degrees. For example, almost all governments in CPCs have policies and programmes targeting the development of agriculture in general. Some governments show interest in youth engagement to maintain future coffee production for export as a source of foreign currency, among other things. One category of public stakeholders in CPCs consists of extension services deploying and disseminating practices and knowledge, particularly where information technology systems are absent. International organizations such as FAO and development agencies in coffee importing countries such as USAID, SDC and GIZ are also classified in this report as public stakeholders. Many of these agencies have demonstrated particular interest in programmes to support the rural youth population of CPCs and root causes of migration.

The final category of stakeholders in youth intervention in the C-GVC is civil society, which includes NGOs, foundations and philanthropic organizations. Many such organizations include improving the youth livelihoods among their main objectives or mission. For others focused on sustainability, youths have been identified as a key element to maintaining and growing the C-GVC. The foundations that are closely tied to private companies in the C-GVC stand to benefit from expanded youth engagement by ensuring a steady supply of future coffee producers, qualified baristas and a customer base with knowledge of coffee production that is willing to pay for quality and sustainability-sourced coffee. The stakeholders interviewed include representatives from Hanns R. Neumann Stiftung (HRNS) Foundation, Slow Food Coffee Coalition, the Committee on Sustainability Assessment (COSA), Sustainable Food Lab, Young Farmers Champions Network Uganda, Rwanda Youth in Agribusiness Forum, and Young Farmer's Federation of Uganda.

Box B.2: Selected public interventions in CPCs

The Government of Colombia funds several initiatives administrated by the FNC, such as the National Coffee Fund that provides a purchase guarantee, R&D, extension services, and marketing of the Colombian coffee brand. Through the Ministry of Agriculture and Rural Development, the government and FNC have established and committed to a strategic plan for the coffee sector focused on sustainability which includes youth engagement.

In Honduras, the National Coffee Council (CONACAFE) has worked to create the National Young Coffee Sector Plan.

In Mexico, the government programme "young people building the future" provides scholarships to youths in different value chains, including coffee, to equip them with the skills needed to become field technicians or baristas.

In Papua New Guinea, the Coffee Industry Corporation (CIC) has developed strategies that target youths through its cooperative movement, integration of coffee-specific skill development in the primary school curriculum, and the Incorporated Land Group certification process.

In Indonesia, the government has implemented policies to provide equipment to farmer groups through price discounts or reimbursements. The government is also training actors in the coffee sector on quality, entrepreneurship, cupping, roasting, brewing, blending and coffee shop management with funding from the ICO Special Fund. The government seeks to engage youths in digital technology, through empowerment activities, and appointment of 'Ambassadors for Millennial Farmers and Agricultural Development'.

The Coffee Board of India has implemented several education-focused initiatives for young entrepreneurs, children of coffee workers, and children of coffee farming families. These include a 12-month quality management course, mentoring through its coffee incubator, a five-day coffee technology course to inspire youths to engage in the coffee value chain, financial educational support for the children of coffee farm labourers, and a programme to encourage the children of coffee farming families to stay in farming.

B.3. Areas of interventions

B.3.1. Skill development and training

By far the most common youth intervention activity across all types of actors reviewed focused on supporting youths to acquire skills for coffee production, business, and/or life skills.

Projects focused on teaching youths skills for coffee production were found across all regions and were the most common interventions. The training involves land management skills, good agricultural practices, innovations to improve quality and production, and on-farm processing. Examples include Capucas Coffee Academy in Honduras, Formación de Jóvenes en Buenas Prácticas Agrícolas in Nicaragua, Coffee School of Ocotal in Nicaragua, NESCAFÉ Plan in the Philippines, Honduras and Colombia, Young Coffee Entrepreneurs/Nueva Generación Cafetera in Colombia, Coffee Agronomy Training in Uganda, Consortium for enhancing University Responsiveness to Agribusiness Development (CURAD) in Uganda, CAFE Project in Ethiopia, Sustainable Coffee Programme in Indonesia, coffee curriculum in Papua New Guinea and 4S@Scale Programme in Uganda and Kenya, and Casa da Criança e do Jovem Amparense in Brazil. The approach of integrating coffee-specific training in the formal primary education setting mentioned by Illy Coffee, Coffee Industry Corporation of Papua New Guinea and others aims to teach coffee skills and techniques, from farm management to processing, to help family production and inspire youths to grow an interest and involvement in the C-GVC from a young age.

"The school children are taught the very basics of coffee at an early stage and if they leave school, they can cultivate, market, or [be] involve[d] in small scale businesses such as coffee shops,"

- Reuben W. Sengere, Programme Manager - Marketing & Partnerships, Coffee Industry Corporation Ltd.

In addition to training for on-farm coffee production, several projects train youths with the skills needed for the service sector, such as to become baristas. Many of the examples presented herein teach youths the diverse ways to prepare coffee as well as coffee properties, extraction methods, roasting, grinding, and cupping. Examples of such programmes are A Cup of Learning offered by Lavazza, the Università del Caffè supported by the Ernesto Illy Foundation, New Generation Coffee Camp in Colombia, and Barista House in Uganda. The 'Young people building the future' (Jóvenes Construyendo el Futuro) programme in Mexico incorporates youths in different parts of the C-GVC through scholarships, including field technicians and baristas in coffee shops.

While youths are still underrepresented in the C-GVC, several key informants identified roasting, distribution, marketing and the service and hospitality sectors as the parts of the C-GVC where youths are becoming more involved. The Technical Park of Coffee Innovation TECNiCAFE in Colombia is an example of a training centre in which youths can learn processing and coffee-related skills including teaching Q processing.

The Master's Degree in Coffee Economics and Science in Italy and the financial aid for youths from CPCs supported by the Ernesto Illy Foundation are two examples of formal degree-granting education. Norlan Altamirano is a graduate of the Master's programme from Nicaragua. Prior to studying in Italy, he grew up in a remote coffee growing community. He completed his primary education by walking a daily six kilometres to a school built by the Seeds for Progress Foundation and received a scholarship from the same organization to complete his secondary education.

Training on business skills guides youths on how to design and run a coffee business. Examples of actors who provide these services include the Fortalezas project in Colombia supported by the Jacobs Foundation, the Youth Champion Programme Uganda, and Nueva Generación Cafetera in Colombia. The Iniciativa por los Jóvenes in Colombia, supported by Nestlé, addresses the challenge of fewer youths wanting to continue growing coffee on their family farms. In Colombia, the Coffee Kids project, supported by Hanns R. Neumann Stitfung and many private sector partners, provides business skills, funding and mentoring to young producers (ages 14 to 30) with the goal of empowering them to move beyond coffee farming to owning a coffee business that is stable, sustainable and financially successful enough to support a good life for a family.

Box B.3: The Hanns R. Neumann Stiftung (HRNS) Foundation - a global civil society stakeholder

--- "Because Coffee Farmers Deserve Prosperity"

HRNS was founded in 2005 with the main focus of livelihood improvement in tropical rural environments, youth projects and nature and the environment. Since 2010, HRNS has been incorporating youths into the C-GVC and encouraging them to explore coffee cultivation as an economically viable livelihood activity. HRNS has achieved this by developing social and technical capacities in farming practices, supporting youths in identifying and pursuing job opportunities and engaging them in soft skills and entrepreneurship training. This enables them to use both on- and of-farm activities to develop themselves professionally and earn their living. To date, HRNS has worked with over 14,000 youths in Brazil, Colombia, Ethiopia, Guatemala, Honduras, Indonesia, Uganda, and Tanzania in youth-focused projects.

HRNS youth initiatives include Generaciones in the Trifinio region bordering Guatemala, Honduras and El Salvador, Coffee Camp in Honduras, Youth Development Project (YDP) in Central Uganda, TeamUp in Uganda, Coffee Kids in Colombia, Guatemala, Honduras, and Tanzania, and SAfA in Ethiopia.

Sources: The Power of Youth in Coffee (Tomchek 2021), 2018 Report: (Archer, et al. 2018), YDP Uganda: (Jacobs Foundation 2020), TeamUp Uganda in 60 seconds: (HRNS 2021)

11 The impact of the Master's degree is not only realized in CPCs such as the case with Norlan Altamirano, but also in coffee importing countries. Bianca Maschio is a young graduate of the Master's degree working in quality control for a coffee importing business in Italy. She values the vast knowledge her older colleagues contribute and they in turn appreciate the innovative thinking, new ideas and technologies she brings in her role.

Several actors are training youths on life skills to prepare them for employment opportunities in and outside the coffee value chain. Together, Lavazza and the Centre for Child Rights and Corporate Social Responsibility implemented a young worker support programme at a supplier factory in China. The programme sought to address the high turnover of youth workers by providing workshops to youths and supervisors who manage the young factory workers. Workers under 25 years of age were targeted for the training to inspire them to embrace a positive outlook towards the coffee industry. The Generations project in the Northern Triangle of Central America (Honduras, Guatemala and El Salvador) included vocational guidance and life skills for youths in coffee growing communities to become agents of change. The FAO has implemented the Junior Farmer Field and Life Schools methodology in over 20 countries. While not specific to coffee, this project recognizes that traditional education often falls short in preparing youths to obtain the few employment opportunities available.

Private sector organizations and civil society foundations are the leading supporters and implementers of youth-focused coffee training interventions identified in this study. However, it should be noted that while public sector extensions services may not provide this training, they do play an important role in disseminating awareness of these training opportunities. Additionally, since the mandate of coffee trade associations (categorized as private sector) includes communicating coffee best practices and know-how, it is not surprising that the private sector is the leading category of actors that provides these youth-focused services.

B.3.2. Attracting youths to coffee

The second category of interventions focused around attracting youths to coffee or encouraging them to remain in their family coffee businesses. Several projects have sought to improve the prospects of rural youths and address negative perceptions and attitudes that youths develop to rural life and work in agriculture, specifically coffee:

The FNC has engaged youths through several projects to improve the culture of coffee growers, show that coffee is 'cool', and address the issues that keep youths from wanting to remain on the farm. The Programa Jóvenes Agricultores started in 1998 to support youths staying in coffee communities. Coffee camps provide youths with opportunities to receive training and socialize with other youths from coffee growing communities to nurture an appreciation for coffee culture and values. National meetings (Encuentros de Jóvenes Cafeteros) with industry delegates help youth voices and perspectives to be heard by the industry leaders and present opportunities for joint action plans. The Kaweri Youth Development Project in Uganda supported by HRNS seeks to change negative attitudes towards agriculture to promote opportunities in agriculture, and in Brazil the Casa da Criança e do Jovem Amparense seeks to reduce negative perceptions of farming while offering vocational training and sports.

Opportunities and infrastructure in urbanized areas compared to rural coffee growing regions are also a challenge against encouraging youths to remain on the farm. The Seeds for Progress Foundation in Nicaragua and Guatemala supports rural schools to improve educational opportunities in rural communities. Often, young adults with infants or youths work as migrant coffee pickers during harvest. Tchibo Coffee has designed projects with Coffee Care Association in Guatemala to provide care and education for children of migrant coffee pickers who are under 13 years of age during the coffee harvest season. Lavazza and Save the Children are also working to protect children's rights in the coffee sourcing sector in Vietnam.

Another way to make coffee attractive to youths is to demonstrate that coffee production is profitable. Honduras is a great example of how economic opportunities will and do attract youths. Over the past decade, the average age of coffee growers fell from 56 to 46 years of age, fuelled by the rise of specialty coffee (Zambrano and Miguel 2020). Younger farmers were attracted to coffee as specialty coffee was seen a profitable investment.

In addition to the abovementioned projects, FNC is also working to help farming families, including youths, to diversify their income sources. Many coffee growing regions in Colombia present opportunities for eco-tourism and bird watching businesses. In Uganda, another source of income for youths is from the Youth Livelihood Programme implemented by the Ugandan government which offers contracts to youths to supply seedlings to farmers. The Mareu Youth Group in Tanzania helps youths reduce risk, diversify their income and invest in coffee through internal saving. Manos Campesinas in Guatemala is a fair-trade certified cooperative that seeks to demonstrate that farming is profitable by showing youths how to improve their parents' farms.

To demonstrate to youths that agriculture in general and coffee in particular is profitable, Farouk Ssemwanga from the HRNS field office in Uganda, suggests a strategy that combines growing coffee with annual crops such as tomatoes or maize which support young farmers until coffee reaches its maximum productivity (4-5 years).

> **"If you want them to participate in agriculture, you have to start them on seasonal crops so they can realize there is money in the soil. So, after realizing that they can get money from the soil, that's when you can transition them step by step slowly to perennial crops like coffee"**
>
> **- Farouk Ssemwanga from the HRNS field office in Uganda**

B.3.3. Access to productive assets, inputs, and markets

The third and final category of interventions involves helping youths access productive assets including land, finance and equipment. Also included in this section are projects providing youths with access to markets and to inputs.

11 Norlan's Story - Seeds for Progress Foundation" available at https://www.youtube.com/watch?v=MXbkqw8detw

12 For more information on Junior Farmer Fields and Life Schools see https://www.fao.org/rural-employment/work-areas/youth-employment/skills-development/en/

Land

Despite access to credit and land being among the most cited barrier to youth involvement in coffee production, less than 10 percent of interventions considered in this report addressed this important barrier. Arturo Colindres, a coffee producer and cooperative leader in Honduras, cited access to land and credit as the largest barriers to youth involvement. He was able to acquire land for coffee production as a young adult only by purchasing the land from a grandparent and paying for it over several years. Mr Colindres' story was common among coffee farmers.

Efforts by coffee producing associations and governments seeking to incentivize landholders to sign over portions of their land to children were found in several countries including Colombia, Rwanda and Uganda. Both the private and public sector have implemented projects to encourage generational transfer of land suitable for coffee production. Also, in Colombia, Nespresso has worked with the government to support older farmers to invest premiums into a pension fund that will allow them to retire and transfer land to younger farmers. Under this public-private partnership scheme, the Government of Colombia (under the Beneficios Económicos Periódicos voluntary retirement saving programme), local cooperatives and the FNC support older farmers with an additional 20 percent contribution to their retirement savings to facilitate their retirement and transfer of land to younger farmers.

The FNC Innovative Models – Youth Coffee Growers programme, which began before 2010, has sought to mobilize and promote access to productive assets, particularly for young coffee growers. Together with the Inter-American Development Bank, the programme legally formed joint societies called Business Coffee Units (Unidades Cafeteras Empresariales), that received titles to public land for coffee production. The programme also included technical assistance for youths that owned the business. The success of the various groups that have benefited from this programme has varied as it depended, among other things, on the ability of the group members to remain united in decision making.

Finance

Several interventions incorporate financing youth-owned business start-ups in their programming. In Central America, Hanns R. Neumann Stiftung supported the Coffee Kids and Origin Sustainability Projects that included access to finance as well as training for business start-ups or sustainable coffee production for youths in rural coffee communities. In Uganda, the Edge Trading Limited includes access to funds along with business skills for youths to launch coffee-related businesses such as coffee nursery bed operations, composite/organic fertilizer production and coffee service provision such as post-harvest handling.

The "Coffee global value chain (C-GVC) Analysis: Opportunities for Youth Employment in Uganda" by the FAO recommends that the Agriculture Credit Facility supports access to credit through targeted initiatives. In Honduras, CONACAFE includes a special coffee fund and in India the Pradhan Mantri Dhan Yojana (PMJDY) government initiative provides financial services to individuals previous unreached by the formal banking system.

Box B.4: Coffee & Cocoa Young Entrepreneurs' Programme (JECCA) in Gabon

The programme aims to revamp coffee and cocoa production through the integration of young people living in rural areas and address the challenge of the ageing coffee and cocoa farmer population. Selected youths who own land receive financial support to establish their coffee or cocoa farms. The financial assistance ends after the first harvest. Launched in 2018, the programme sponsored 17 young coffee farmers and 283 cocoa farmers until the outbreak of the Covid-19 pandemic that slowed down the process. The second programme covers activities along the C-GVC. The CAISTAB (Coffee and Cocoa Authority) provides financial assistance through capitalization to other groups of young people who have created SMEs to provide farm maintenance services, including weeding, spraying, and to the SMEs in the market outlet (coffee shops). CAISTAB is looking for substantial funding to expand the two programmes that are attracting youths in the coffee and cocoa value chain.

Markets

Several intervention programmes include supporting youths to access markets, in addition to other services. In Uganda, the coffee value addition common user facility CURAD (described herein), Youth Farmer's Federation of Uganda and the Young Farmers Champions Network all include support to markets for the high-quality coffee that youths seek to sell domestically or export. Also in Uganda, Hanns R. Neumann Stiftung (HRNS) supports the Building Coffee Farmers Alliances providing a 'participator, bottom-up' approach focused on business improvement, from coffee production to marketing, that includes farmer access to markets.

In Colombia, the FNC provides a purchase guarantee to all farmers, including youths. In Guatemala, the FAO and HRNS are promoting training on specialty coffee and market linkages seeking to create a network with coffee shops. The Next Generation Coffee project in Kenya and Tanzania supported by the Löfbergs Group includes direct trade and marketing linkages.

Growing opportunities for accessing niche markets for small youth-led producers are also occurring especially in connection with new digital solutions (blockchains) and online marketing platforms.

Inputs/Equipment

Additionally, when asked what assets or resources are needed to take advantage of opportunities for youths in the C-GVC, key informants indicated that equipment for processing, pulping, drying, fermenting, and cupping are needed for youths to improve coffee production and quality. Some of this equipment can be made available by coffee business incubators and services could be addressed by mobile laboratories, such as Taza Mobile in Colombia.

As mentioned above, the Youth Livelihood Programme in Uganda

13 https://www.nationalgeographic.com/science/article/partner-content-securing-livelihood-for-generations-of-coffee-farmers).

14 Programme des Jeunes Entrepreneurs Café & Cacao (JECCA)

supplies youth-produced seedlings to farmers. Similarly, in Cameroon, "New Generations" aims to rejuvenate the coffee sector with renewal of coffee plants. In Yemen, Lavazza Foundation's I Primi project identified the needs of coffee growers, including a nursery with large production capacity, water basin for access to water, and constructed a processing centre.

Entrepreneurship, business incubation, and online platforms

Some actors in the C-GVC provide a 'one-stop' infrastructure where youths can receive more than one type of service. The multi-stakeholder association of value chain actors, Global Coffee Platform, is an example of an intervention that brings together actors with a common vision. In the case of Uganda, a collective action initiative has begun for youths in coffee to apply Good Agricultural Practices to double yields and increase coffee farmer income. The initiative looks to mobilize 150 youth coffee service providers educated on agronomic methods to reach 30,000 farmers. Online platforms not only convene actors with common goals, but can also be used to improve transparency throughout the C-GVC.

The CURAD Incubator in Uganda is a model project for providing youth entrepreneurs access to equipment, quality certification, technical mentorship, business skills training, branding logistics, and export linkages. By using the CURAD facility, youths can launch and grow their coffee businesses to the point they can prove they are bankable and access finance to purchase equipment. CURAD also hosts an Annual National Agribusiness Challenge with the overall winner receiving additional business start-up funds. The business skills that are taught at CURAD are not limited to a workshop or classroom alone. Instead, CURAD is an example of a project that provides access to equipment, markets, and guides youth entrepreneurs through the business start-up process. To date, over 50 youth-managed brands have been developed and certified through the CURAD facility.

B.4. Lessons learnt and gaps from review of youth-focused programmes

There is a heavy focus on interventions on primary production. Given the barriers to access land, finance and youths' interest in value added processing and marketing, more resources should be dedicated to exposing youths to opportunities further downstream the C-GVC, where they have a comparative advantage. By way of example, the initial investment by the founder of Jada Coffee in Uganda would not have been sufficient to acquire the land and seedlings she needed to begin a coffee farming business. However, her investment, along with the business knowledge and experience in using social media as a marketing tool, was enough to successfully launch her business (See Box B.5).

Lack of evidence of coordination across projects. Without access to the detailed project planning documents for each project, the authors of this report are unable to determine with certainty the level of coordination and planning that went into each project. However, from the documents reviewed and key actors interviewed, there appears to be a lack of coordination among projects, particularly in skill training. Several partners in the same country are implementing similar projects. Coordinated efforts can build partnerships that better address issues, leverage efforts and increase impact. Furthermore, for meaningful and long-lasting impacts, youths must be involved in the strategy, planning and coordination.

Box B.5: Closing the gap in coffee entrepreneurship – profile of a young female entrepreneur in coffee

"I attended international coffee conventions, but I never saw Uganda represented. I used my platform to promote Ugandan coffee. I would give them free TV spots to talk about the coffee business. Eventually, I realized I could start my own business. I eventually took the risk to move to my own company, where I would be the sole responsible person."

- Jacklene Arinda ("Madam CEO"), JADA Coffee Uganda

From being Ms Tourism for the Ankole district of Uganda as a college student, Ms Arinda rose to CEO positions in Uganda's tourism industry, then to radio and television, which gave her opportunities to travel overseas and attend coffee trade shows. She noticed then that, although Uganda's coffee was of a high quality, its presentation and advertisement in consuming countries of the West was poor or lacking. It was at that moment that Ms Arinda (or "Madam CEO", as she is currently known) decided to put her management skills and her own savings of about 7-8 million Ugandan Shillings (approximately $2,200) to use and started Jada Coffee. Ms Arinda used the connections she had established in the corporate world, as well as her social media presence to promote her new business.

Ms Arinda controls the supply chain by teaming with an experienced coffee dealer (Mr Gerald Katabazi) for roasting and packaging. She buys coffee beans directly from selected farmers who receive training from the company on the best practices for farming and processing coffee. This ensures the high quality of the beans received. Ms Arinda started small using delivery motorcycles. Eventually, the demand increased and consequently the production. To satisfy all segments of the market, the company offers a range of packaging (250 grams, 500 grams, 1kg, etc.). Ms Arinda hires young people to market and sell JADA Coffee products and also believes that there is a huge potential domestic market for coffee consumption. However, she points out the serious marketing gap. There is also a lack of coffee consumption services, like baristas, and since the quality of coffee depends on baristas and roasters, this is also an impediment to expanding the domestic market.

Sources: Interview with Ms Jacklene Arinda and Business Focus Article, May 4, 2021. 'Madam CEO' Quit Her Fat Job to Grow Jada Coffee Brand, Now Eyeing US Market, (Business Focus 2021).

"Ensure the young people [are] part of the design of the programme and project. [Listen to] the young coffee voice[s] and proposals. Give them the opportunities to [be] leader [of the] process, project, and programme"

Nelson Omar Funez, Secretary General of the Honduran National Coffee Council (CONACAFE).

There is a heavy emphasis on skill training. The impacts of training can disappear in two to three years because of turnover, lack of follow up, or lack of the resources needed to implement the skills gained during training. Furthermore, programme evaluation studies (e.g. Fox and Kaul 2018) have found that skills training alone may lead to displacement of older workers, amounting to no net job creation. For intervention programmes to be sustainable, investment is needed in local organizations to serve as repositories of processes and training. Instead of focussing exclusively on skills for employment, there should be a focus on projects like the CURAD business incubator which train and equip entrepreneurs to be self-employed and begin businesses. If the projects only focus on training youths to be employees, training could lead to youths taking the jobs that older people would have otherwise taken. Life skills and job-specific training should ensure a growing demand for the skills being developed. Hence, training programmes must constantly re-examine if the skills being taught are in alignment with current and future labour market demand. It is also worth noting that skills training alone is inadequate to ensure youths' meaningful engagement in coffee (Fox and Kaul 2018) unless complemented with start-up capital, coaching and/or expansion of job opportunities where the acquired skills can be applied.

The geographic focus of youth programmes and type of interventions needs to align with where youth opportunities are needed most. Of the interventions reviewed, the majority (60 percent) were found in South America where the total youth population is anticipated to decline in the next decades. Less than 35 percent of the interventions reviewed were in SSA and South Asia where the youth population is anticipated to grow. Investment in youth-focused projects should align with the geographic regions that will see growing youth populations.

Moreover, young people are not a homogenous group. They differ in education and skills, resource access, gender and geography. Youth engagement in C-GVC is thus influenced by the relevance (interest) and accessibility of value chain opportunities given youths' own resource endowment, including education and skills, gender, land, family and community support and access to capital. These assets often determine the segment as well as the type of activities youth gravitate towards, along the value chain. An asset-rich young person, for example, will be better able to engage in commercial on-farm production; a young person who is educated but does not have other tangible assets (such as capital) may be more attracted to service opportunities along the value chain (e.g. ICT-enabled market discovery services). Hence, initiatives focused on empowering youths (skills, education, access to land, decision-making authority, social and financial capital etc) should segment and tailor interventions to the needs and constraints of the heterogenous youth population. Youth interventions should carefully analyse the requirements of C-GVC entry points to ensure that the characteristics of each youth segment are appropriate for the needs of that particular job.

Box B.6: Ethiopian Coffee Training Centre

An interesting new model is the recently established Coffee Training Centre (CTC) in Addis Ababa aiming to improve the Ethiopian coffee global value chain (C-GVC) by upgrading the training experience in Ethiopia for all the coffee professionals.

CTC is a centre of excellence for coffee that includes green coffee quality checks and control, cupping, coffee roasting and blending, coffee brewing and coffee packaging for the benefit of the development of the C-GVC in the country. The CTC is located in the premises of the Ethiopian Coffee and Tea Authority (ECTA), and its set-up was finalized in June 2021 by UNIDO in strict collaboration with ECTA, with funds received from the Italian Agency for Development Cooperation (AICS).

The CTC vision is to offer a wide range of training courses and to provide coffee related services, for addressing the incubation of new coffee professions, thus creating a new coffee entrepreneurship landscape in Ethiopia. Professionals already working in the coffee sector and people approaching the coffee sector for the first time who are interested in a professional career, as well as "coffee lovers", will all be trained on how to shape a vibrant coffee business environment.

Ultimately, the CTC will also work as a platform, enabling the development of intensive partnerships with local and global stakeholders. The partnership strategy refers to the detailed modalities of agreements between or among actors that have stakes with CTC, specifying the interest and roles, in order to help integrate the values of networking, cooperation, and integration of different value adding activities.

PART II
SECTION C

What it takes to get the Next-Gen into coffee – opportunities, challenges and policy options

Key findings

- Young people need skills, space and productive and financial resources to meaningfully contribute to a more resilient and sustainable C-GVC
- It is imperative to include youths in policy dialogue and decision-making processes.
- Aggregating youths on the basis of their areas of activity in individual countries (producers, service providers, roasting or distribution) to facilitate capacity building and knowledge transfer.
- Attracting youth to coffee: The second category of interventions to focus on attracting youths to coffee or encouraging them to remain in their family coffee businesses. Several projects sought to improve the prospects of rural youths and address the negative perceptions and attitudes that youths develop to rural life and work in agriculture, specifically coffee.
- The ICO shall strengthen its linkages and engagement with youth organizations in the C-GVC (from farm to cup) and facilitate engagement with the work of the Coffee Public-Private Task Force.
- Carrying out a skills assessment and upskilling youth in coffee with a focus on their potential role as agents of change, supporting the implementation of sustainability programmes and compliance with regulations and voluntary standards.
- Engaging with national, regional and international public and private funding institutions (IFIs) to mobilize financial support to youths seeking to establish or expand existing coffee farms or coffee related businesses such as young coffee and cocoa farmers programmes in Cameroon and Gabon.
- Promoting value addition in CPCs with the expansion of opportunities for youth engagement in agri-business and in innovation.
- Promoting coffee consumption within the Next-Gen is also a key factor to engage young people in the coffee sector.

To enhance youth engagement and effective contributions to the C-GVC, a multi-prong investment is needed in key areas to foster a youth-inclusive agricultural productivity growth and human capital development that would, among other things, develop the skills and innovative capacity of youths, enhance youth voices in policy dialogue and implementation, and facilitate their access to productive and financial resources. Below are a few recommendations based on insights from the literature review and stakeholder consultations.

C.1. Including youths in policy dialogue and decision-making processes

Engaging youths as equal partners in project design, decision making and implementation can be an effective way to ensure that youth-focused interventions are consistent with their interests and talents. During the plenary session of the UN Food System Pre-Summit, youth representatives stated, "Nothing about us, without us" (cit. Yugratna Srivastava), calling for greater and meaningful engagement of young people in decisions that affect them. Accordingly, it is imperative that young people and their elected representatives are given the rightful space and opportunities during intergovernmental processes and other relevant platforms. To this end, it is recommended that the ICC:

- Create a dedicated space for youth representatives to actively and meaningfully participate in discussions and decisions that may impact them. The ICC could create a seat for youth representatives to represent their position and requests for improving youth participation in the C-GVC. A similar exercise is being carried out by FAO through the World Food Forum, where young people will be offered a seat at the FAO Council.
- Invite youth representatives to join the ICO-led Coffee Public Private Task Force, in an effort to engage, support and define suitable and effective solutions for and with young people.
- Advocate for a youth-inclusive organizational culture among coffee federations and private coffee corporations that fosters long-term engagement and resourcing of youths.
- Partner with global, regional and local youth organizations and engagement platforms (e.g. AIESEC, Slow Food Coffee Coalition, World Food Forum, UN Major Group for Children and Youth, among others) to increase access for young people in a direct and effective manner.

C.2. Upskilling youths in coffee

A sustainable and resilient coffee sector of the future will be more knowledge- and technology-intensive and demand a wider range of technical, business and soft skills (problem solving, organizing, planning, and working in teams) than what is currently offered for youths in CPCs. Despite being the most educated generation, the education level of most youths in CPCs is below secondary education and most lack the required industry-specific knowledge to effectively contribute or take advantage of emerging opportunities in the coffee sector. Consequently, investments in education and skills development remain a key cornerstone to any efforts aimed at enhancing productive youth engagement in the coffee sector. Insights from stakeholder consultations highlight the following actions for upgrading the skills of the youth labour force.

- Establishing skills training programmes that equip youths with relevant skills and industry-specific knowledge and best practices to take up careers in the coffee sector (e.g. farmers, roasters, baristas, cuppers) and/or provide productivity-enhancing services to coffee producers. For example, youths can be trained to educate farmers on efficient and eco-friendly farming techniques including proper ways to use productivity-enhancing inputs such as fertilizers and pesticides, irrigation techniques and best practices for washing and drying coffee beans to optimize quality. These training programmes must be embedded in local organizations or local training hubs that can adapt it to communities' sociocultural context and act as repositories for continual deployment and sustainability of such interventions that go beyond the duration of donor-funded projects.

- Actively engaging with educational institutions (e.g. TVET) in CPCs to influence curriculum reforms towards models that foster the acquisition of digital literacy, soft skills and technical skills relevant to the coffee industry.

- Leveraging coffee producer associations as platforms for mentoring youth and peer-to-peer engagements that foster intergenerational and intragenerational learning.

- Building online knowledge hubs to facilitate exchange of ideas, technologies and innovations with and among youths. Such hubs should be complemented with youth-friendly dissemination mechanisms (e.g. mobile apps, social media platforms) to effectively and meaningfully engage youths.

C.3. Expanding youth access to productive resources (land, finance, digital technologies)

The two greatest constraints to young people's active participation in the C-GVC systems are land and finance. Youths (particularly young women) in many parts of the coffee-growing zone are increasingly unable to inherit land or acquire enough land to make farming a viable business. Also, digital technology is widely known to have broad appeal among youths and to be a key transformative tool for agriculture. Despite its widespread diffusion, they remain inaccessible to many of the youths in coffee growing communities especially in rural areas, where they are either non-existent or too expensive to access. If youths are going to remain in coffee-growing areas, overall transformation of the rural landscape towards improved access to digital technology and social amenities is needed. To this end, the following measures are recommended:

- Promoting youth access to land through schemes such as those that lobby traditional leaders to allocate land to youth, rehabilitate marginal lands for distribution to young people, use incentive schemes, including retirement packages for older community members to facilitate intergenerational transfer of land/or directly support young people with loans to access land (FAO 2014).

- Creating dedicated funds to support youths seeking to establish or expand existing coffee farms or coffee-related businesses. The fund should be coupled with non-financial support such as coaching and mentoring to enhance their effectiveness.

- Advocating for policies that encourage private financing of agriculture through crowd-sourcing, and development of youth-friendly financial products including subsidized interest rates and shared infrastructure through business incubators (FAO 2014).

- Creating incubation and acceleration programmes, matched with adequate financial mechanisms to spur both innovative and sustainable ventures in the coffee sector. Youth-led start-ups have proven track records of creating more jobs for youths globally, particularly in the African context.

- Supporting policies that expand access to affordable and consumer-friendly digital technology (e.g. those which require low literacy and skills to operate and offer interactive voice response functionality in local languages) in CPCs as an enabler for youth involvement in coffee.

C.4. Promoting value addition in CPCs to expand opportunities for youth engagement in C-GVC

Most of the coffee produced in CPCs of the global south are exported as green beans. There are great prospects in CPCs for value addition along the C-GVC through product upgrading (better quality and convenience), functional upgrading (more processing), and process upgrading (higher efficiency) (CDR 2020). However, a number of mitigating factors, including higher import tariffs on processed coffee, poor infrastructure, and an enabling business environment, often limits CPCs' ability to access lucrative opportunities in the downstream segment of the C-GVC. Hence, as shown in this analysis, youths in CPCs have limited opportunities to engage in coffee beyond the farm.

To reverse this pattern and promote greater youth engagement, the following measures are recommended:

- Advocating for removal of trade barriers, especially tariff escalations that significantly reduce CPCs opportunities to add value to coffee through processing and manufacturing.
- Assisting young entrepreneurs to acquire new low cost mini roasteries and create new small-scale but profitable business opportunities especially in the specialty coffee sector.
- Leveraging coffee producer associations as platforms for mentoring youth and peer-to-peer engagements that foster intergenerational and intragenerational learning.
- Lobbying governments in CPCs to invest in physical infrastructure to improve the supply of reliable and low-cost energy, digital technology and road networks in coffee growing communities.

C.5. Investing in actionable research, monitoring, evaluation and learning, and robust extension systems to make the coffee sector responsive to evolving needs of youth and emerging threats.

The coffee sector will increasingly require new knowledge and technology to successfully adapt to current and emerging threats facing the sector. The sector's sustenance will depend on its ability to build an innovative environment that anticipates, rapidly responds and/or flexibly adapts to prevent, mitigate and/or recover from evolving threats and shocks.

Cultivating such an environment requires the following actions:

- Investments in research and development, and complementary robust extension services that promote efficient use of current resources and support integration of indigenous knowledge systems with modern science to develop innovative technologies (e.g. climate adaptation strategies) that are adaptable to local context.
- Mainstream monitoring, evaluation and learning in all aspects of youth programming to measure progress and impact of youth integration in the C-GVC and ensure that interventions are responsive to the evolving needs and interests of youths. Youths can be trained in programme monitoring and evaluation and be used to document crucial information needed for periodical evaluation reporting.
- Engaging research institutions as knowledge partners to collect coffee specific data on youth engagement. As shown in this report, lack of data on youth engagement limits rigorous analysis aimed at understanding the nuanced factors shaping youth engagement in the coffee sector.

Table C.1 - Summary of recommendations proposed in Report

Policy Recommendation	Key Actions	Key Actor	Time Frame	Investment Required
I. Include youth in policy dialogue and decision-making processes	I.1 To create a dedicated space for youth representatives to actively and meaningfully participate in discussions and decisions that may impact them	National Governments, International Organization, Private Sector, NGOs	Short	Low
	I.2 To invite youth representatives to join the ICO-led Coffee Public Private Task Force/Technical Workstreams	ICO	Medium	Low
	I.3 To advocate for a youth-inclusive organizational culture among coffee federations/associations	Coffee Associations, ICO	Medium	Low
	I.4 To partner with global, regional and local youth organizations and engagement platforms	Youth Organizations, National Governments, International Organization, ICO	Long	Low
II. Upgrade the skills of youth in the C-GVC	II.1 To establish skills upgrading programmes that equip youth with relevant skill and industry-specific knowledge and promote sustainability and circular economy	National Governments, Civil Society Organizations, Private Sector (traders/roasters)	Long	High
	II.2 To actively engage with educational institutions (including TVET) in CPCs to influence curriculum reform	National Governments, Civil Society Organizations, Private Sector (traders/roasters)	Medium	Medium
	II.3 To leverage coffee producer associations as platforms for mentoring youth	Private Sector, Civil Society Organizations, Development Partners	Medium	Medium
	II.4 To build online knowledge hubs to facilitate exchange of ideas, technologies and innovations with and among youth	Private Sector, Civil Society Organizations, Development Partners, ICO	Short	Medium
III. Expand youth access to productive resources (land, finance, digital technologies)	III.1 To promote youth access to land through schemes such as those that lobby traditional leaders to allocate land to youth	National/Local Governments, Youth/community Groups	Medium	High
	III.2 To establish dedicated funds to support youth seeking to establish or expand existing coffee farms or coffee related businesses	Private Sector, Civil Society Organizations, IFIs, local financial institutions	Short	HIgh
	III.3 To advocate for policies that encourage private financing of agriculture through crowd-sourcing	Private Sector, Civil Society Organizations, IFIs, local financial institutions	Medium	Low
	III.4 To create incubation and acceleration programmes, matched with adequate financial mechanisms to spur both innovative and sustainable ventures in the coffee sector	Private Sector, Civil Society Organizations	Medium	High
	III.5 To develop policies that expand access to affordable and user-friendly digital technology	Private Sector, Civil Society Organizations	Long	Low
IV. Promote value addition in CPCs to expand opportunities for youth engagement in C-GVC	IV.1 To advocate for removal of trade barriers	International Organizations (WTO), Local Governments	Long	Low
	IV.2 To assist young entrepreneurs to acquire/access new low cost technology (dryers, packaging, mini-roasteries...)	Private Sector, Civil Society Organization, Development partners, International Organizations, IFIs, Regional/Local financial intitutions	Short	Medium
	IV.3 To engage and lobby governments in CPCs to invest in physical infrastructure and circular solutions to improve the supply of reliable and low-cost energy	National/Local Governments, Civil Society Organizations, IFIs, Regional/Local financial intitutions	Long	Low
V. Invest in actionable research, monitoring, evaluation & learning, and extension systems to make the coffee sector responsive to evolving needs of youth and emerging threats	V.1 To foster investments in research & development and complementary extension services	Research Professionals, Private Sector, Civil Society Organizations, development partners	Medium	High
	V.2 To mainstream, monitor, evaluate and enhance learning in all aspects of youth programming to measure progress and impact of youth integration in the coffee value chain	Private Sector, Civil Society Organization, ICO/CPPTF, developemnt partners	Medium	HIgh
	V.3 To engage academic and research institutions as knowledge partners to collect coffee specific data on youth engagement.	Research Professionals, Private Sector, Civil Society Organization, development partners	Long	HIgh

Priority Legend

High	Medium	Low


13.07
Your Story
Coffee
Music
Travel
Happy
Coffee Brand
Liked by Youth and 2 others

PART III
SECTION D

Market overview 2020/21: a year of recovery

Key findings

- The ICO Composite Indicator Price (I-CIP) started coffee year 2020/21 at 106.27 US cents/lb, before reaching a season low of 103.30 US cents/lb on 21 October 2020 and averaging 105.85 US cents/lb for October 2020. Subsequently, the I-CIP increased every month to end the coffee year at an average 170.02 US cents/lb in September 2021, a 22.0 percent year-on-year rise.
- Coffee prices a recorded a substantial increase during coffee year 2020/21. The ICO Composite Indicator Price (I-CIP) started the coffee year with a monthly average of 105.85 US cents/lb in October 2020 to reach 170.02 US cents/lb in September 2021. Coffee year 2020/21 has been qualified as year of coffee price recovery. The average of I-CIP for coffee year 2020/21 is 130.50 US cents/lb, representing 21.7 percent compared with US cents 107.25 US cents/lb in coffee year 2019/20.
- Prices for all group indicators have recorded similar upward trends in 2020/21. The Brazilian Naturals were the best performing, gaining 83 percent, rising from an average 100.37 US cents/lb in October 2020 to an average 183.72 in September 2021. The Colombian Milds gained 55.8 percent over the course of coffee year 2020/21, increasing from an average 154.28 US cents/lb in October 2020 to an average 240.38 US cents/lb in September 2021. During the same period, Other Milds recorded a 48.3 percent increase from 152.06 US cents/lb in October 2020 to 225.54 cents/lb in September 2021. The Robustas group indicator grew by 53 percent from 68.36 US cents/lb in October 2020 to 104.6 US cents/lb in September 2021.
- Prices in futures markets followed the same trend over coffee year 2020/21. The monthly average of the 2nd and 3rd positions for the New York Futures market that reflects the market for Arabicas increased by 72.8 percent from 110.70 US cents/lb in October 2020 to 191.30 US cents/lb in September 2021. The monthly average of the 2nd and 3rd position for the London Futures market that reflects Robusta coffee rose by 60.5 percent from 59.14 US cents/lb in October 2020 to 94.91 US cents/lb.
- Coffee prices experienced several spikes of high volatility during coffee year 2020/21. However, on average, price volatility remains in the same range compared to the previous coffee year.
- Exports of all forms of coffee increased by 1.6 percent to 129.4 million 60-kg bags in coffee year 2020/21. It is a relatively slower rate of recovery as compared with the 4.5 percent decrease in coffee year 2019/20, the sharpest drop since 1994, when the global exports of all forms of coffee fell by 9.4 percent.
- Green coffee remains the dominant form in which coffee is exported throughout the world, accounting for 90.6 percent (117.3 million 60-kg bags) of all forms of coffee in coffee year 2020/21. Exports of processed coffee (roasted and soluble) totalled 12.2 million bags representing 9.4 percent.
- In coffee year 2020/21, production of coffee increased by 1.1 percent to 170.8 million bags, a recovery from 0.8 percent decrease in coffee year 2019/20. The expansion came in the face of Covid-19 travel restrictions that affected the movements of migratory coffee pickers/farmers through many of the coffee origins, and low coffee prices over the first half of the coffee year 2020/21, which negatively affected the ability to attract the pickers and hence output.
- Coffee consumption of the world increased by 1.0 percent to 165.4 million bags in coffee year 2020/21, which followed a 2.2 percent decrease in the previous year when the world had just encountered Covid-19 and the resulting pandemic was beginning to ravage its way through the global economy, resulting in the second global recession of the second millennia in 2020. As the global economy bounced back, expanding by 6.1 percent in 2021, and the world's population began to adjust to the Covid-19 policy of restrictions of movement and social-distancing, the pattern of coffee consumption also adjusted and increased.

D.1. Coffee prices

I-CIP Prices:

International coffee prices refer to the ICO Composite Indicator Price (I-CIP). In coffee year 2020/21, prices started the year at 106.27 US cents/lb, reaching a season low of 103.30 US cents/lb on 21 October 2020. The I-CIP averaged 105.85 US cents/lb in October 2020 before making continuous, incremental gains every month and increasing to an average 121.59 US cent/lb in April 2021. In May 2021, a shift in consumer demand took place, as recovery from the Covid-19 pandemic increased consumer confidence as key lockdown measures were eased both in producing and importing countries. This shift led accelerated growth in I-CIP throughout the remainder of coffee year 2020/21, pushing it to an average 170.02 US cents/lb by September 2021. Lower inventories of certified stocks and tightening supplies added to the upward pressures on the I-CIP, which averaged 130.75 US cents/lb for coffee year 2020/21.

The I-CIP grew by 60.6 percent from October 2020 to September 2021, with the highest monthly jump of 10.8 percent, from an average 121.59 US cents/lb to an average 134.77 US cents/lb.

The I-CIP for coffee year 2020/21 averaged 130.75 US cents/lb whilst in 2019/20, it averaged 107.18 US cents/lb, compared to an average 100.57 US cents/lb for the coffee year 2018/19 and an average 111.54 US cents/lb in 2017/18. The year-on-year growth rate of the I-CIP from coffee year 2019/20 to 2020/21 stands at 22.0 percent. The highest day-on-day increase occurred from 21 July to 22 July 2021 as the I-CIP grew 8.4 percent when news of a major frost sweeping through the main coffee growing region of Brazil emerged. This sparked fears that a wide range of the crop would freeze, therefore limiting the production.

Growth:

Prices for all group indicators rose during the coffee year 2020/2021. The Brazilian Naturals were the best performing, gaining 83.0 percent, rising from an average 100.37 US cents/lb in October 2020 to an average 183.72 in September 2021. A 14.2 percent monthly rise was recorded in April-May, the biggest movement for the year, when the prices increased from an average 123.33 US cents/lb to an average 140.85 US cents/lb, for the Brazilian Naturals due to renewed concern over production estimates for the 2021/22 crop .

The noted shift in the rate of increase of the average I-CIP in May 2021 was felt throughout the different indicator groups, as the Other Milds grew by 11.0 percent from an average 167.93 US cents/lb in April 2021 to an average 186.46 US cents/lb in May 2021. The Colombian Milds showed a similar growth rate for the same period, rising by 10.0 percent from an average 180.91 US cents/lb to an average 198.99 US cents/lb, the Robustas grew 6.8 percent during the same period to an average 79.68 US cents/lb. However, the Robustas had the biggest single monthly growth rate among all Group Indicators, jumping to an average 94.47 US cents/lb in July 2021 from an average of 84.83 US cents/lb in June 2021, an increase of 11.4 percent, on the emerging news of severe frost in Brazil and resulting potential shift in demand.

The Colombian Milds gained 55.8 percent over the course of coffee year 2020/21, increasing from an average 154.28 US cents/lb in October 2020 to an average 240.38 US cents/lb in September 2021. Whilst the Other Milds performed the best amongst all the Indicator Groups in coffee year 2019/20, rising 31.2 percent, making the smallest gain in coffee year 2020/21, jumping by

Figure D.1: ICO Composite Indicator Daily Prices

Source: ICO Figures Compiled by Author

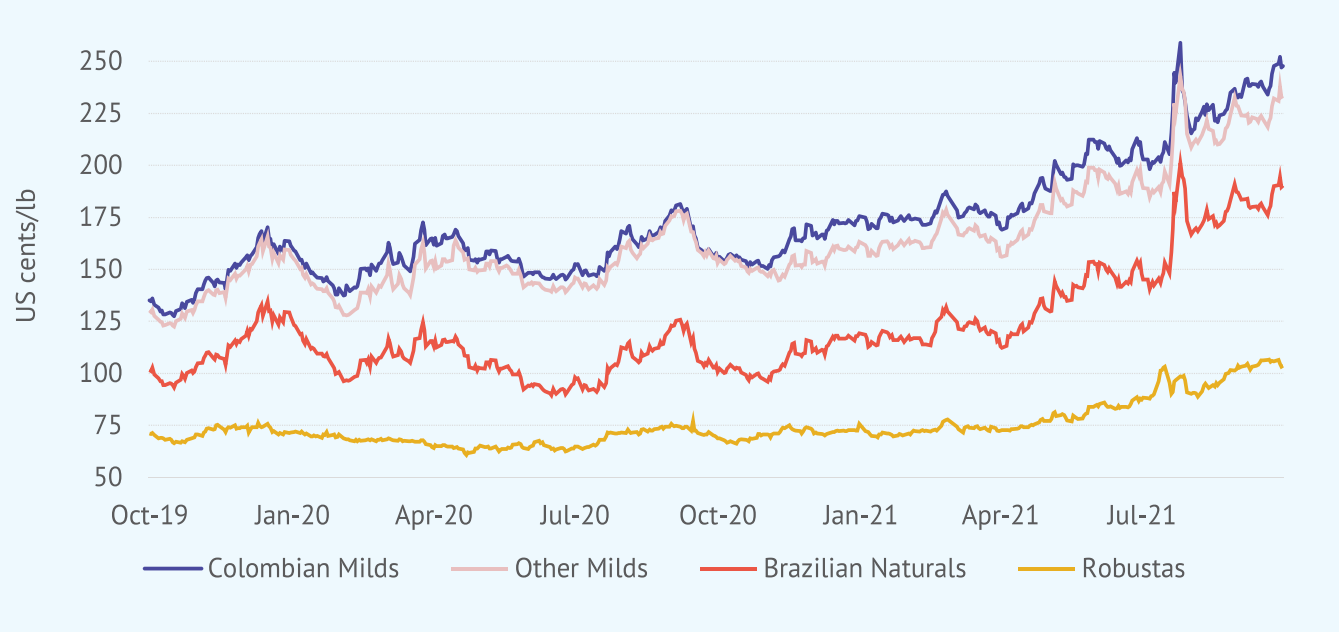
48.3 percent to an average 225.54 US cents/lb in September 2021 from an average 152.06 US cents/lb in October 2020. Lastly, whilst Robustas grew 6.0 percent in the 2019/20 coffee year, they performed much better in the 2020/21 coffee year, where they grew 53.0 percent, from an average 68.36 US cents/lb in October 2020 to an average 104.60 US cents/lb in September 2021.

Price volatility in spot and futures coffee markets:

During coffee year 2020/21, coffee prices experienced several spikes and high volatility (variability). The I-CIP ranged between 103.30 and 178.90 US cents/lb on a day-to-day basis and the futures price of Arabica ranged between 106.22 and 207.80 US cents/lb. The 2nd and 3rd positions average of the London futures market ranged between 56.99 and 97.11 US cents/lb, reaching its lowest point on 13 October 2020 and its highest point on 21 September 2021.

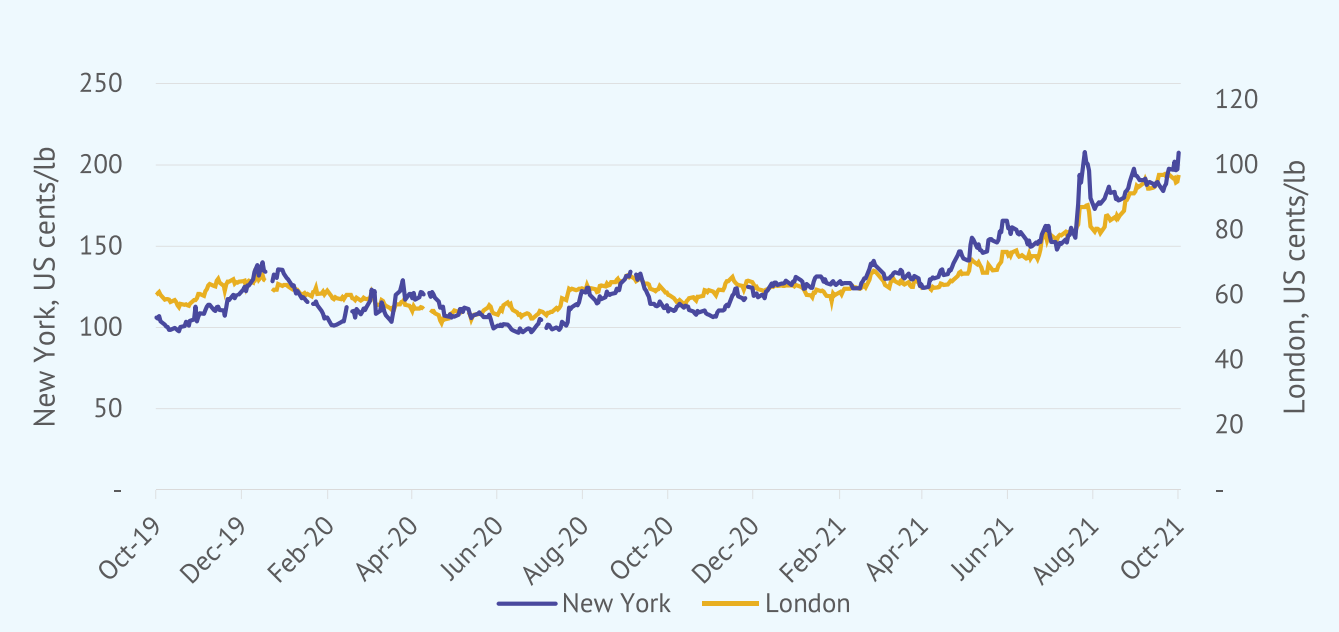
The I-CIP and Arabica futures price both reached their highest level on 26 July 2021. The average annual volatility for the I-CIP was 8.8 percent, whilst it was 11.3 percent at the New York futures. However, the group presenting the highest volatility was the Brazilian Naturals, at 11.7 percent during coffee year 2020/21 .

Figure D.2: ICO Group Indicator Daily Prices



Source: ICO Figures Compiled by Author

Figure D.3: Average of 2nd and 3rd position of ICE futures



Source: ICO Figures Compiled by Author

Arbitrage:

Throughout coffee year 2020/21, arbitrage between the London and New York futures markets grew steadily from 51.56 US cents/lb in October 2020 to 96.38 US cents/lb in September 2021. Arbitrage between the London and New York futures market for the 2020/21 coffee year was an average 74.19 US cents/lb, a 38.1 percent increase from coffee year 2019/20, where it averaged 53.73 US cents/lb. Increased pressure on the Arabica futures market due to fears of a constricted supply increased the divide between the two.

Certified stocks:

The New York Board of Trade (NYBOT) certified stocks in October 2020 were at 1.30 million 60-kg bags, the lowest point in the 2020/21 coffee year. Arabica stocks gradually recovered to 2.26 million bags in September 2021, closing the coffee year on an average of 1.95 million bags for the 2020/21 coffee year. However, the London International Financial Futures and Options Exchange (LIFFE) certified stocks remained more stable throughout the coffee 2020/21 coffee year, averaging 2.37 million bags and peaking in May 2021 at 2.67 million bags.

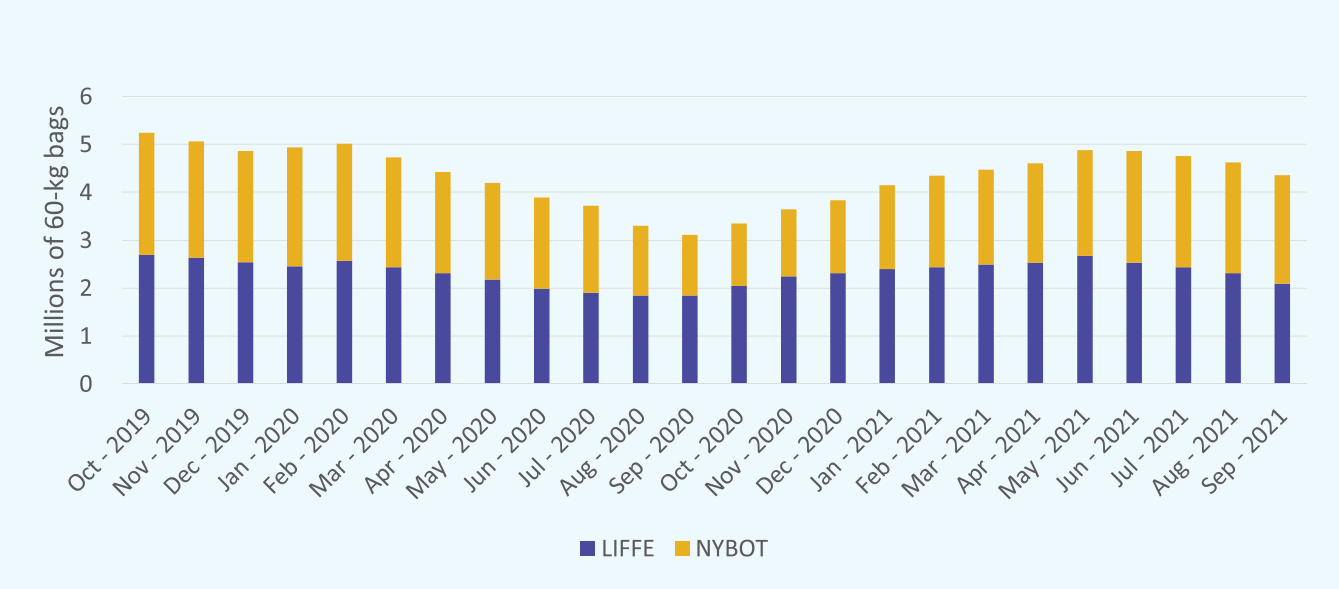
Figure D.4: Rolling 30-day volatility of the ICO Composite Indicator Price

Source: ICO Figures Compiled by Author

Figure D.5: Arbitrage between New York and London futures markets

Source: ICO Figures Compiled by Author

Figure D.6: ICE certified stocks



Source: ICO Figures Compiled by Author

D.2. Production

Total coffee production – world and regions

In coffee year 2020/21, coffee production increased by 1.1 percent to 170.8 million bags, a recovery from the 0.8 percent decrease observed in coffee year 2019/20. The expansion came in the face of Covid-19 travel restrictions that affected the movements of migratory coffee pickers/farmers throughout the coffee producing world, and low coffee prices over the first half of the coffee year 2020/21 when most of the world's coffee is harvested, which negatively affected the ability to attract the pickers and hence output.

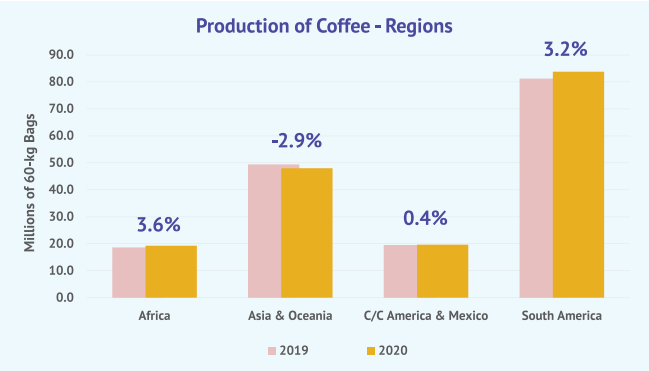
South America largely led the expansion in output in coffee year 2020/21, together with Arfica, overcoming the decrease in Asia & Oceania. South America accounted for 49 percent of the total production with 83.8 million bags, while Africa's share of the total was 11 percent at 19.3 million bags. Despite Central America having been hit by hurricanes Eta and Iota earlier in coffee year 2020/21, with Honduras and Nicaragua being the worst affected, production in the Caribbean/Central America & Mexico grew in coffee year 2020/21 by 0.4 percent, contributing 19.7 million bags of green beans to overall global production.

Arabica has a majority share of the global coffee bean production, accounting for 59.2 percent in coffee year 2020/21, at 101.2 million bags, which also holds true for three out of the four coffee producing regions. South America is the largest producer of Arabica with an output of 64 million bags, holding a 76.4 percent share of the region's total coffee production, while Asia & Oceania is the largest producer of Robusta, with 41.5 million bags produced in coffee year 202/21. In terms of share of their total production, the Caribbean/Central America & Mexico has the largest share of Arabica at 98.4 percent, while Asia & Oceania has the lowest at 13.6 percent.

Total coffee production – regions and countries

Dis-aggregating the production data reveals that Brazil was the main driver of South America's 3.2 percent expansion in coffee year 2020/21. The starting point of the Covid-19 lockdowns began in the first quarter of 2020, which coincided with the start of Brazil's harvest season. The ICO classifies Brazil as an April-March crop year producer. Related restrictions, mobility and social distancing led to decreased seasonal labour availability and a lower number of workers being able to work at the same time/location. The immediate impact on Brazil's harvest was reduced productivity and enforced elongation of the harvest season for coffee year 2020/21. It was reported that by 7 July 2021, productivity was down 12 percentage points compared to the same period the previous year. However, ultimately, Brazil was able to post a 5.6 percent increase in total production in coffee year 2020/21 at 65.5 million bags, due to it being the "on-season" for its Arabica and good weather conditions leading up to the harvest.

Figure D.7: Exports of all forms of coffee–regions, millions of 60-kg bags'



Source: ICO Figures Compiled by Author

The widely reported frost in the heartland of Brazil's coffee belt in July [on the morning of 20 July the minimum temperature in Minas Gerais was reported as minus 1.2 Celsius by the Brazilian National Meteorology Institute (Inmet)] did not affect the supply for coffee year 2020/21.

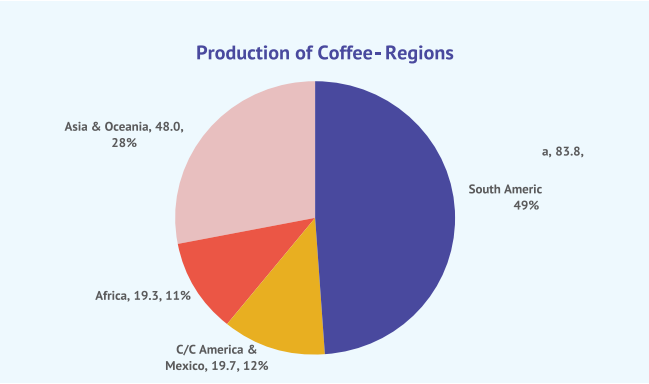
Other producers in South America, (Colombia, Costa Rica and Ecuador), however, did not have the benefit of the biennial "on-season" like Brazil to off-set the negative impact of Covid-19 related restrictions on their harvest activities and, ultimately, their coffee outputs. In Colombia, the 45-day national protest and excessive rain in May–June were additional factors that negatively affected their production, which fell by 5.0 percent to 13.4 million bags. Meanwhile in Ecuador, long-term decline was the additional factor that contributed to the 7.6 percent drop in output, which totalled 503,000 bags.

In the Caribbean/Central America & Mexico, the losses suffered by the Dominican Republic, El Salvador and Nicaragua were overcome by the gains made by Guatemala and Honduras, resulting in the marginal 0.4 percent rise for the region in coffee year 2020/21. In Honduras, the coffee harvest was not greatly affected by hurricanes Eta and Iota, nor in fact by the Covid-19 pandemic. Honduras remained one of very few coffee producing nations not to introduce any forms of restrictions in response to the pandemic. Nicaragua's production fell by 19.6 percent, the biggest drop within the region, which is attributed to the country's dire economic situation that prevented proper management of the coffee trees and area under coffee. Nicaragua's economy has been shrinking by an average 3.0 percent between 2018 and 2020. The 2.4 million bags produced in coffee year 2020/21 is the lowest since the production of 2.1 million bags in coffee year 2015/16 for Nicaragua.

Asia & Oceania was the only region to suffer from falling production in coffee year 2020/21, decreasing by 2.9 percent, mainly attributed to Vietnam and its 7.5 percent drop in output. Reversing fell to 28.2 million bags in coffee year 2020/21 from 30.5 million bags in coffee year 2019/20, the lowest level since 27.8 million bags in 2016/17. Poor farm management due to a prolonged period of low coffee prices negatively affecting farmers' abilities to practice good husbandry, and below average rainfall and above average temperatures during the dry season affecting the yield, are the two main reasons for the decrease in production. At the opposite end of the spectrum, of the major producing countries, India was finally able to increase its production of coffee after two consecutive years of falling output. In coffee year 2020/21, India's output was 5.6 million bags, the highest since the 5.8 million bags recorded in 2017/18. Good weather conditions with the right amount of rain in the right months, were the reasons for the growth in production in coffee year 2020/21, reversing the situation that led to the decrease in the two previous coffee years.

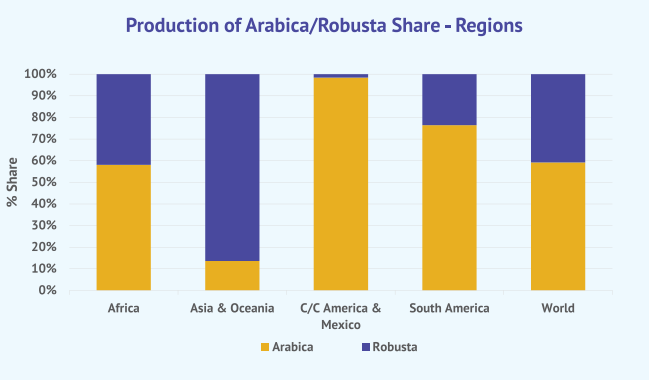
Africa's coffee production expanded by 3.6 percent in coffee year 2020/21, increasing to 19.3 million bags form 18.7 million bags in the previous year. Of the top five producers (Cote d'Ivoire, Ethiopia, Kenya, Tanzania and Uganda) four saw their outputs increase, with Uganda growing the most at 21.7 percent. The remarkable growth rate of Uganda can be attributed to the Uganda Coffee Roadmap, which was launched in 2017 with an aim to increase coffee production to 20 million bags and triple the incomes of farmers by 2030 through a combination of increasing productivity and expansion in area under coffee. As reported in the 2019/20 Annual Report of Uganda Coffee Development Authority, yield per hectare of Robusta coffee increased to 1,245kg/ha in coffee year 2019/20 from 600kg/ha in coffee year 2014/15, while they were 1,168kg/ha and 500kg/ha, respectively for Arabica. Cote d'Ivoire was the only major producing country to have suffered a reduction in output, falling by 44.8 percent, attributed to many smallholders exercising a cost-benefit analysis in view of the input cost/prices and the potential volume of harvest, and actively choosing not to pick the berries.

Figure D.8: Production of coffee – regions, million 60-kg bags & percent share (%)



Source: ICO Figures Compiled by Author

Figure D.9: Production of Arabica/Robusta share – regions, percent share (%)

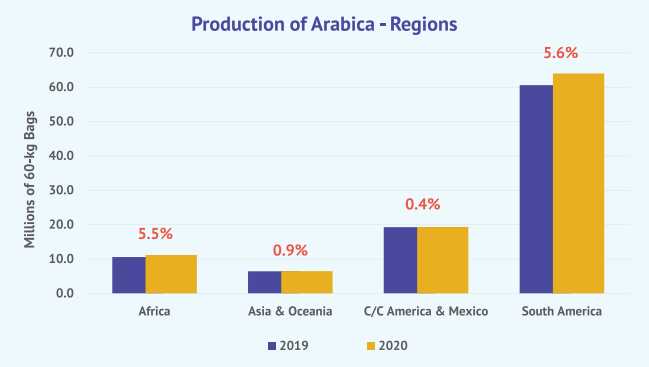


Source: ICO Figures Compiled by Author

15 Farmer's Weekly, 14 July 2020 - Covid-19 delays 2020 coffee harvest as prices weaken

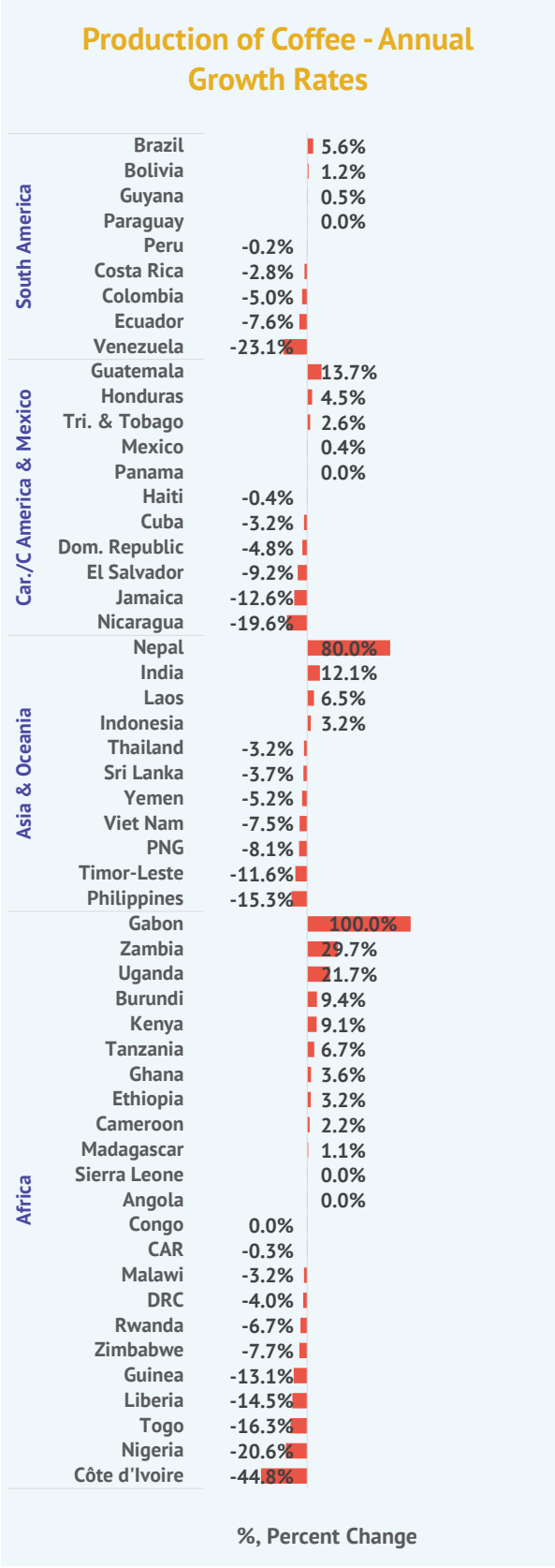
16 Daily Coffee News, 27 April 2020 – How COVID-19 May Affect the Chain as Brazil Heads Into Harvest

Figure D.10 : Production of Arabica–regions, million 60-kg bags



Source: ICO Figures Compiled by Author

Figure D.11: Production of coffee – countries, growth rates (%)



Source: ICO Figures Compiled by Author

Arabica coffee production

In coffee year 2020/21, 101.2 million bags of Arabica were produced, with all coffee producing regions expanding their output. South America's production increased the most at 5.6 percent, followed by Africa at 5.5 percent. As a result, South America's Arabica production was 64 million bags, accounting for 63 percent of the world total, while Africa's share was 11 percent with 11.2 million bags produced in coffee year 2020/21.

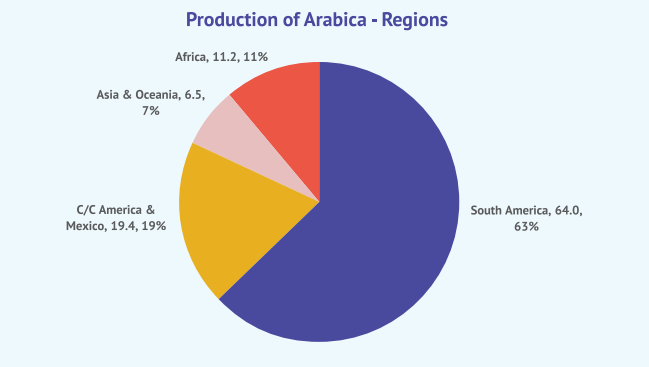
South America's 5.4 percent increase in Arabica production in coffee year 2020/21 was mainly due to the 10.4 percent expansion in Brazil, which was benefitting from its biennial "on-season" for Arabica. This completely masked the 5.0 percent fall in the output from the second biggest Arabica producer in the world, Colombia, and the decreases of Costa Rica (2.8 percent) and Ecuador (7.6 percent), the 11th and 22nd biggest producers, respectively.

Ethiopia, Kenya and Uganda were the three main regions responsible for Africa's 5.5 percent rise in Arabica production, with their combined increase of output accounting for 547,000 bags out of the region's total 589,000 bags growth in coffee year 2020/21. Ethiopia is the largest producer in Africa, and also the third largest producer of Arabica in the world.

Indonesia and India are the largest and the second largest producers of Arabica in Asia & Oceania, which saw 3.2 percent and 12.1 percent increases in coffee year 2020/21, respectively. Vietnam is the third largest Arabica producer in Asia & Oceania, which places it as the 12th largest in the world.

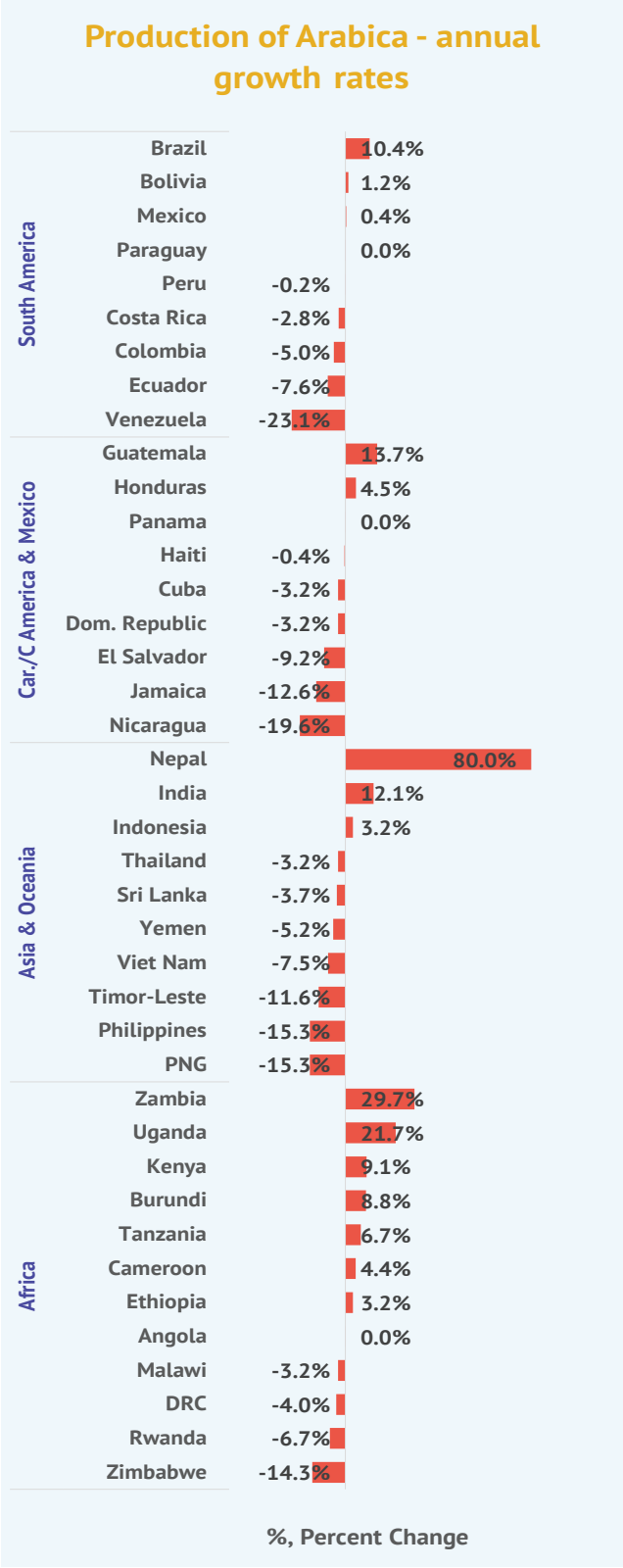
Honduras and Guatemala are the fourth and fifth biggest producers of Arabica in the world, respectively, and the only producers to have had their output increase in coffee year 2020/21.

Figure D.12 : Production of Arabica – regions, '000 60-kg bags& percent Share (%)



Source: ICO Figures Compiled by Author

Figure D.13: Production of Arabica – countries, growth rates (%)



Source: ICO Figures Compiled by Author

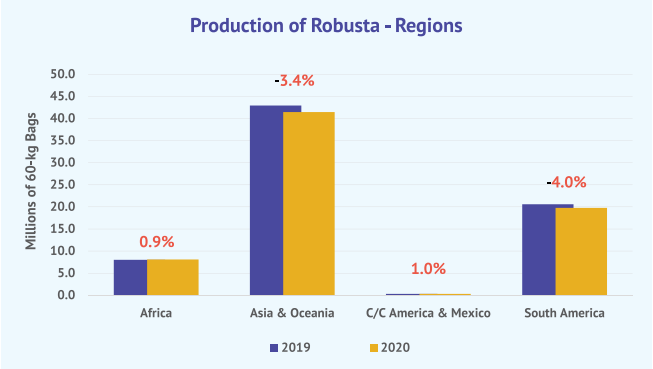
Robusta coffee production

In coffee year 2020/21, 69.7 million bags of Robusta were produced in the world, a 3.1 percent fall, and accounted for 40.8 percent of the total coffee output. Asia & Oceania are the biggest producers of Robusta, accounting for 60 percent of the world's output at 41.5 million bags, followed by South America with 28 percent share and 19.8 million bags in coffee year 2020/21, and were the only regions to have their production of Robusta fall.

The fall in Robusta production in Asia & Oceania was due to the 7.5 percent drop in output from Vietnam, the largest producer of Robusta in the world, while Brazil and its 4.0 percent decrease was the main reason for South America's 4.0 percent decrease in coffee year 2020/21.

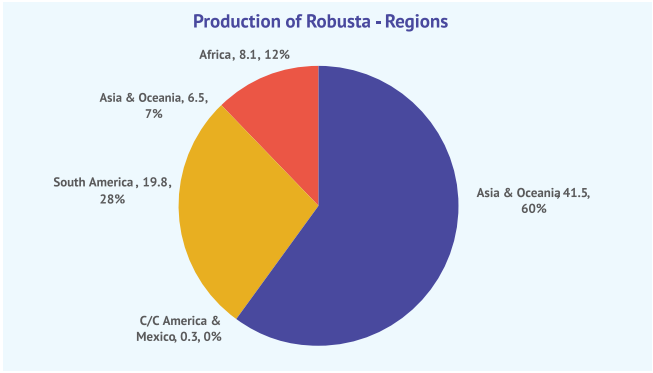
Uganda was the largest producer of Robusta in Africa, and the fourth largest producer in the world in coffee year 2020/21, with a 21.7 percent expansion to 5.4 million bags.

Figure D.14 : Production of Robusta – regions, million 60-kg bags



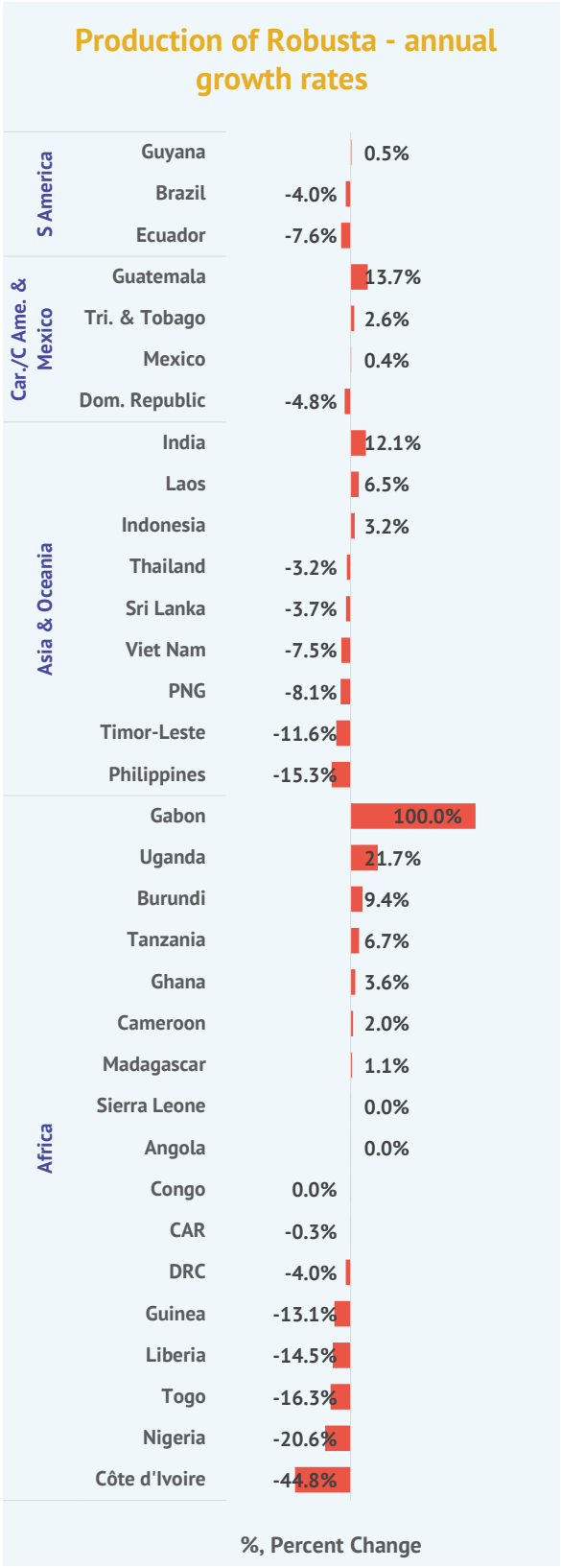
Source: ICO Figures Compiled by Author

Figure D.15 : Production of Robusta – regions, million 60-kg bags & percent share (%)



Source: ICO Figures Compiled by Author

Figure D.16: Production of Robusta – countries, growth rates (%)



Source: ICO Figures Compiled by Author

D.3. Exports

D.3.1. Export by form of coffee

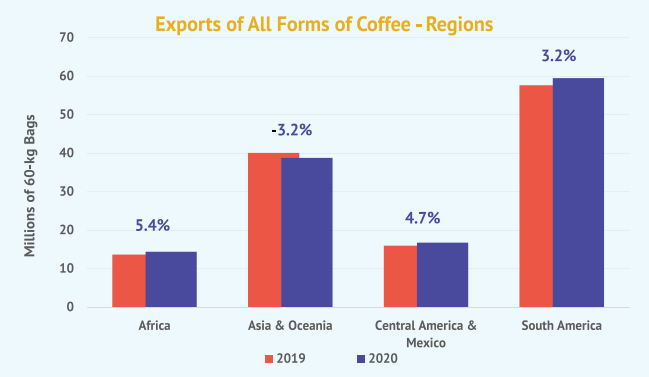
In coffee year 2020/21, exports of all forms of coffee increased by 1.6 percent to 129.4 million 60-kg bags. It is a relatively slower rate of recovery as compared with the 4.5 percent fall in coffee year 2019/20, the sharpest drop since 1994, when the global exports of all forms of coffee decreased by 9.4 percent. The recovery was spread across nearly all the coffee producing regions, with the exception of Asia & Oceania. In fact, it is the third consecutive year of negative growth for Asia & Oceania. 2020/21, with Honduras and Nicaragua being the worst affected, production in the Caribbean/Central America & Mexico grew in coffee year 2020/21 by 0.4 percent, contributing 19.7 million bags of green beans to overall global production.

Dis-aggregating the exports data reveals the diverse growth rates of exporting countries and identifies the main drivers of the respective regions' overall growth rates. The negative growth rate of Asia & Oceania was mainly due to Vietnam, the region's largest producer and exporter, offsetting the expansions of India, Nepal, Thailand and Timor-Leste.

In Africa, the largest increase and decrease for the year were recorded by Ghana and Nigeria, two of the smaller producers in the region. Due to their relative size of exports, the annual variations in their growth rates are naturally subject to greater range of movements and the 141 percent increase and 89 percent decrease for Ghana and Nigeria in coffee year 2020/21, respectively, are simple statistical anomalies. Uganda was the main source of Africa's 5.4 percent jump in exports, attributed to increased production from first time producing trees (see D.4 Production), and the drop in exports from Vietnam which favoured exports from Uganda.

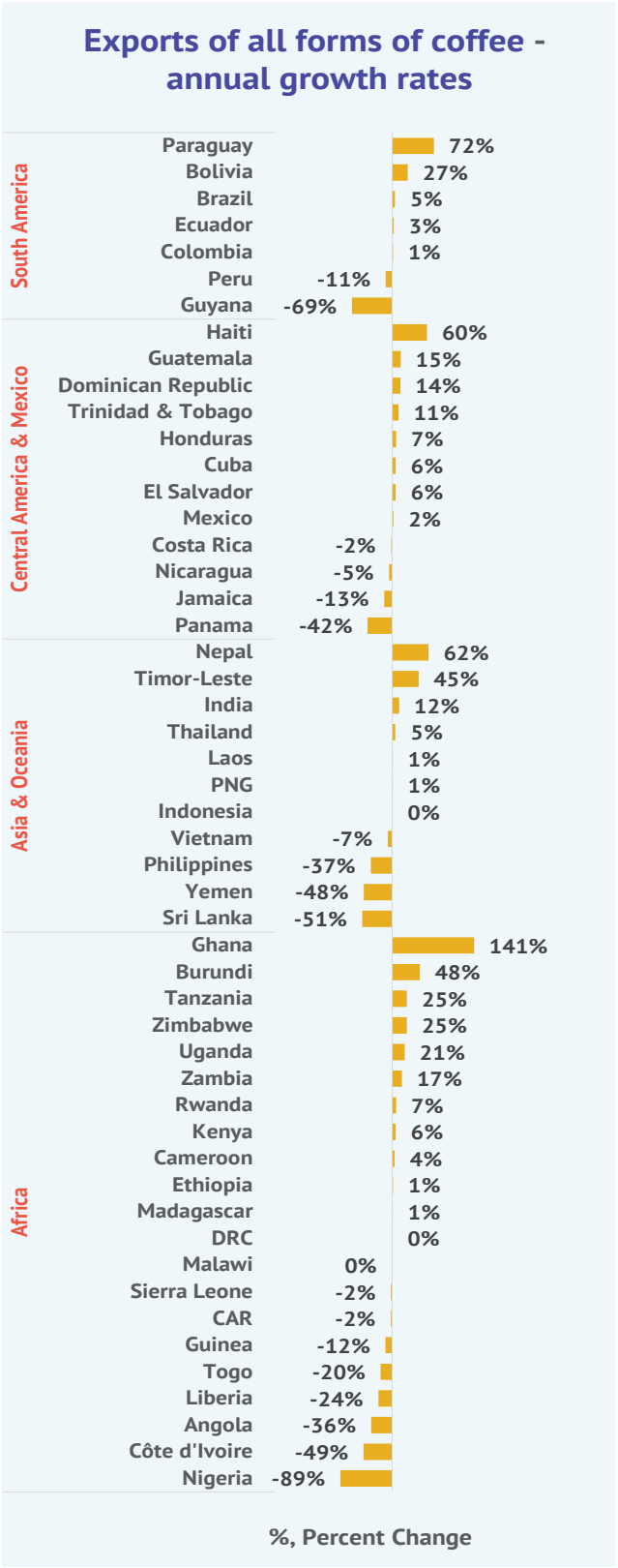
In South America, Paraguay and Guyana were the best and worst performers, respectively, while Brazil was the main reason for the region's 3.2 percent expansion. Moreover, coffee year 2020/21 was

Figure D.17: Exports of all forms of coffee–regions, millions of 60-kg bags



Source: ICO Figures Compiled by Author

Figure D.18: Exports of all forms of coffee – countries, growth rates (%)



Source: ICO Figures Compiled by Author

also the best year for Brazil in its export history, exporting 43.0 million bags of coffee. Colombia's exports increased by 1.5 percent in coffee year 2020/21, however in the first seven months of coffee year 2020/21 exports were growing at 8.5 percent, suggesting that coffee year 2020/21 may become the best year in Colombia's coffee history in regard to export volume, beating the current high of 13.5 million bags recorded in coffee year 2018/19. Nevertheless, social unrest in May and June 2021 led to many highways and ports being either blocked or only partially accessible throughout these months, leading to sharp drops in exports, especially in May 2021. In fact, in May 2021 exports of 355,671 bags were the lowest level for Colombia since September 1988.

In the Caribbean/Central America & Mexico, the recoveries of El Salvador, Guatemala and Honduras from the impact of tropical storms Iota and Eta are clearly visible, although Nicaragua's exports fell by 5% in coffee year 2020/21 .

D.3.2. Exports by destination

Europe was the most important export destination for all forms of coffee in coffee year 2020/21 for all exporting regions, accounting for an average 46 percent within a 38-53 percent range. This was followed by North America and Asia & Oceania, the second and third most important destinations, with average shares of 22 percent and 21 percent, respectively.

The prominence of Europe as the leading export destination is a reflection of its status as the largest consuming region in the world, coupled with a simple fact that it is also a non-producing region. Africa was the only exporting region where Europe had accounted for over half of the total exports, 53 percent. Geographical proximity and historic ties were additional reasons for the latter's prominence.

North America is the main recipient of exports from the Caribbean/ Central America & Mexico's and South America, mainly because of their geographical proximity and the match between the main type of coffee produced and main form of coffee consumed. Arabica is the main type of coffee produced in the two exporting regions, accounting for 81.5 percent of total green bean production in coffee year 2020/21, while 93 percent of all green beans exported into North America were Arabica, for the same period. In fact, 92 percent of all coffee consumed in the United States of America, the biggest market in North America, was not instant, but rather in the raw form of Arabica.

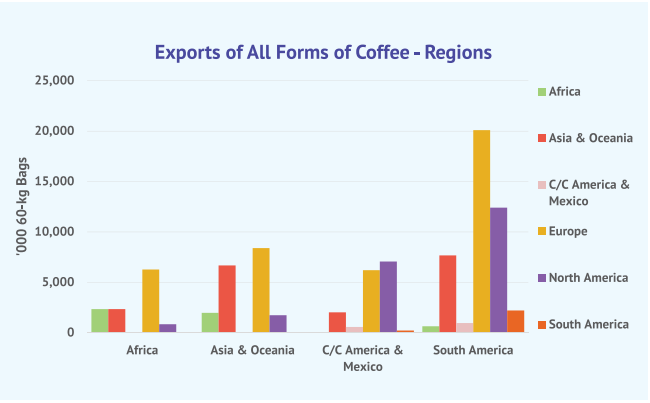
Despite accounting for 59.9 percent of the world's population in 2020, Asia & Pacific was only the third most important destination for all exporting regions. The immaturity of the local market for coffee and the existence of a domestic supply are the two main reasons for the lack of its prominence as a destination for coffee exports. In China and India, two of the most populous nations in the world with a combined population of 2.8 billion in 2020, tea is the most popular hot beverage. In 2018, 1.91 million tons of tea were consumed in China, equivalent to 31.8 million 60-kg bags, and 1.12 million tons or 18.7 million 60-kg bags were consumed in India in 2020. Nevertheless, it was a significant destination of exports of Asia & Pacific, accounting for 35 percent of the exports, 16 percentage points above the next nearest region, Africa, where it accounted for 20 percent of its own exports.

It is worth noting that intra-regional trading plays a very minor role for the Caribbean/Central America & Mexico and South America, accounting for 4 and 5 percent of the total exports, respectively. This is mainly due to the fact that of the eight countries in the Central America & Mexico region and 13 South American countries, seven and eight countries, respectively, are coffee producers that are largely self-sufficient. There are 13 countries and a number of overseas territories that make up the Caribbean, with a combined population of 218 million, of which six are coffee producers. Thus, the presence of a domestic supply and the very small coffee market precludes the Caribbean as a potential export destination for coffee either from within or outside the region.

D.3.3. Exports of coffee by different forms

Green beans are the dominant form in which coffee is exported throughout the world, accounting for 90.6 percent (117.1 million bags) of all forms of coffee exports in coffee year 2020/21. This is a slight improvement over the 90.2 percent share held in coffee year 2019/2020. Processed coffee (roasted and soluble) held 9.4 percent (12.2 million bags) share of the total exports, down 0.5 percentage points over the share held in 2019/20.

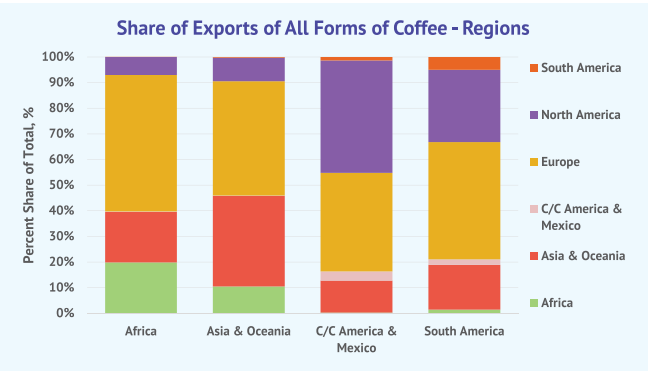
Figure D.19: Exports of all forms of coffee – regions, '000 60-kg bags*



***Unknown or unspecified destinations have been excluded**

Source: ICO Figures Compiled by Author

Figure D.20: Share of exports of all forms of coffee – regions, percent share of total (%)



Source: ICO Figures Compiled by Author

17 Daxue Consulting - The Chinese beverage market: How health trends shape drink preferences, 9 March 2021

18 Statista - Consumption volume of tea in India FY 2015-2021

The dominance of green beans in global coffee exports reflects the coffee sector's technological gap in exporting countries, where coffee is still overwhelmingly traded in bulk as a commodity and not as a value added consumer product.

This technological immaturity is further reflected in the simple fact that the world's leading brands and technological breakthroughs made in the coffee industry are the product of companies from non-producing countries.

Regionally, there are noticeable differences in the composition of exports, with Asia & Pacific positioned further up the C-GVC as compared with the global average or other regions. The share of processed coffee (roasted and soluble) stands at 13.4 percent (5.2 million bags), while it is only 2.3 percent (0.33 million bags) for Africa.

Exports of green beans are highly concentrated, with the top 10 countries accounting for 90.1 percent of the total exports in coffee year 2020/21, while the top three top exporters accounted for 64.1 percent of the total. For processed coffee, the concentration is even higher, with 90.9 percent of exports accounted for by just the top six countries.

It is noticeable that of the top 10 countries that export green beans, five (Honduras, Uganda, Ethiopia, Peru and Guatemala) do not feature within the top 10 countries for processed coffee. These five countries are also the least developed economies (measured in terms of gross domestic product per capita) among the top 10 green beans exporters, reflecting the immaturity of the countries' coffee industry.

D.3.4 - Exports of Arabic and Robusta – green beans

In coffee year 2020/21, a total 75.9 million bags of Arabica green beans were exported, holding a 64.8 percent share of the total green bean exports. South America and the Caribbean/Central America & Mexico were the two main origins of Arabica exports, shipping 50 million bags and 15.2 million bags, with 65.9 percent and 20 percent shares, respectively, of the total.

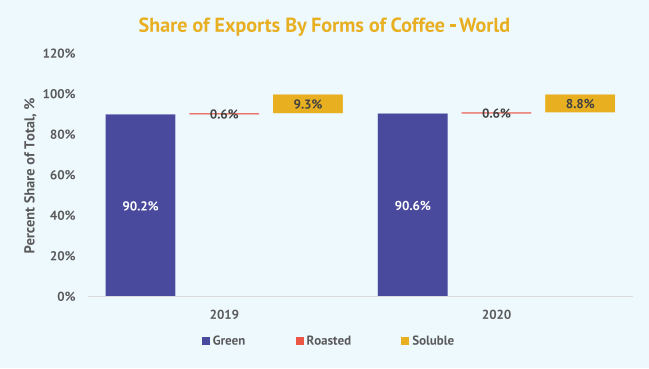
In Asia & Oceania and Africa, Robustas held sway over the green bean exports, the two regions being the first and second largest exporters of Robusta, respectively. In coffee year 2020/21, Asia & Oceania exported 29.7 million bags of Robusta green beans, while Africa sold 7.4 million bags overseas. The two regions combined held 90 percent share of the total Robusta green beans exports in coffee year 2020/21.

The volume of exports and the respective dominance of type of green beans between the Americas (South America and Caribbean/ Central America & Mexico) and the rest of the coffee producing world are a simple reflection of the respective local production decisions. In the latter regions, production of Robustas is preferred.

Exports of Arabica green beans are highly concentrated, with just three producers accounting for 69.4 percent of the total. While there is a clear breakdown of the Arabica/Robusta exports between the Americas and the rest of the coffee producing world, Ethiopia and Vietnam are among the top 10 exporters of Arabica green beans, accounting for 5.2 percent and 1.5 percent of the total in coffee year 2020/21. The concentration within Robusta is even higher than within Arabica, with the top three countries accounting for 78 percent of the total Robusta green bean exports in coffee year 2020/21.

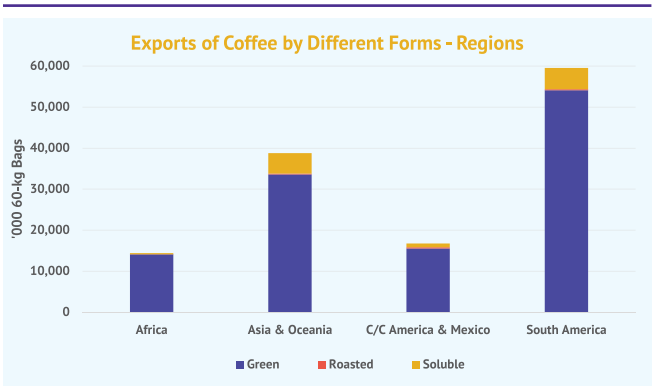
Reflecting its position as the largest export destination for all forms of coffee and consumer of coffee, Europe is the single most important destination for both Arabica and Robusta green beans. The region accounted for 45.8 percent and 53.1 percent share of the world's Arabica and Robusta exports in coffee year 2020/21, respectively. The second and third position for the destination of Arabica green beans were North America and Asia & Oceania, respectively. However, despite the relative size of the overall coffee market, North America was not the second most important destination for exports of Robusta green beans. Asia & Oceania held the second position for Robusta, while Africa came third, relegating North America to fourth position. The preference for instant coffee and the existence of large manufacturing capacities (including 3-in-1 mix in Asia & Oceania) within the two latter regions, which use more Robusta, explains the relatively bigger volume of Robusta shipped to them as compared with the volume headed to North America.

Figure D.21: Share of exports by forms of coffee – world, percent share of total (%)



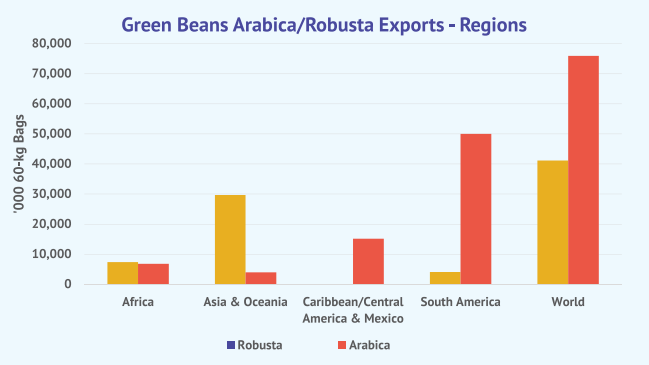
Source: ICO Figures Compiled by Author

Figure D.22: Exports of coffee by different forms – regions, '000 60-kg bags



Source: ICO Figures Compiled by Author

Figure D.23: Arabica/Robusta green bean exports – regions, '000 60-kg bags



Source: ICO Figures Compiled by Author

D.4. Consumption

Total coffee consumption – world and regions

World coffee consumption increased 1.0 percent to 165.4 million bags in coffee year 2020/21, following a 2.2 percent decrease in the previous year when the world had just encountered Covid-19 and the resulting pandemic was beginning to ravage its way through the global economy. In the April 2022 issue of the International Monetary Fund's (IMF) World Economic Outlook, it was confirmed that the world economy shrunk in 2020, with the gross domestic product plunging by 3.1 percent. This contraction of the world economy had a higher impact than previous years, namely the 0.1 percent fall in 2019, which the IMF had dubbed back then as the "Great Recession".

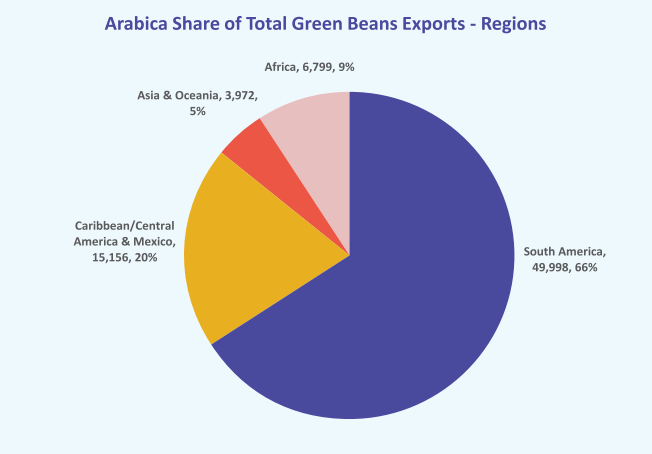
As the global economy bounced back, expanding by 6.1 percent in 2021, and the world's population began to adjust to the Covid-19 policy of restrictions of movement and social-distancing, the pattern of coffee consumption also adjusted and increased. The "out-of-home" coffee consumption had fallen significantly in 2020, visible in the 11.3 percent fall in the total revenue of the Starbucks Corporation, a chain of coffee shops, in the financial year ending September 2020 as compared with the average 7.6 percent increase of the previous three financial years. Sales of Nestlé S.A., a manufacturer of consumer products and soluble coffee/coffee systems, on the other hand, grew by 6.1 percent, representing retail/at-home coffee consumption, while coffee roaster JDE Peet's saw its revenue fall, but by a relatively lower rate (compared to the Starbuck's Corporation) of 4.2 percent, in 2020.

Not all regions saw their consumption increase. Europe, the largest consuming region with a 32 percent market share of global consumption, suffered from a 3.6 percent fall in coffee year 2020/21, at 52.0 million bags, while North America's market shrunk by 0.9 percent. Asia & Oceania and Africa had the two fastest growth rates, with their coffee consumption increasing by 9.1 percent and 3.1 percent, respectively. Changes to coffee consumption patterns, with increasing retail/at-home consumption versus plummeting out-of-home consumption, coupled with the expanding global economy, led to the overall increase in coffee consumption. However, the different trajectories of coffee consumption in Europe and North America and Asia & Oceania and Africa are due to the respective degree of market maturity.

Europe and North America are mature markets in coffee consumption, with a relatively stable population, especially in Europe, limiting the potential for expansion of coffee consumption. The long-term growth rates for the two regions are below that of the world, while the coffee consumption per capita in coffee year 2020/21 is 4.1 kg and 4.9 kg, respectively, for Europe and North America, significantly higher than that of the world at 1.3 kg.

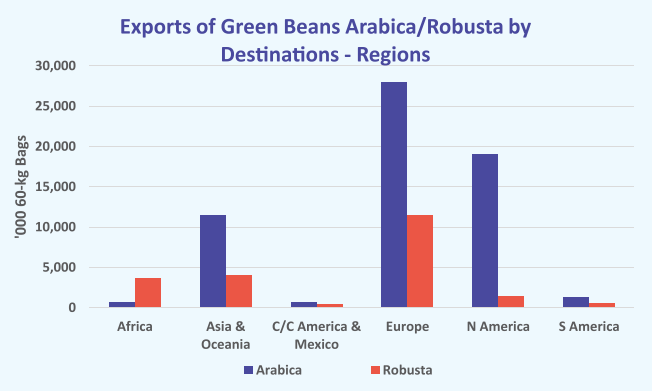
Africa and Asia & Oceania, on the other-hand are two growing markets, with expanding populations and thus potential for growth in coffee consumption through increased market penetration and a growing base. These two regions have a long-term growth rate significantly above that of the rest of the world, while the consumption per capita remained at 0.5kg each for Africa and Asia & Oceania in coffee year 2020/21.

Figure D.24: Arabica share of total green bean exports – regions, '000 60-kg bags & percent share (%)



Source: ICO Figures Compiled by Author

Figure D.25: Exports of Arabica/Robusta green beans by destinations – regions, '000 60-kg bags*



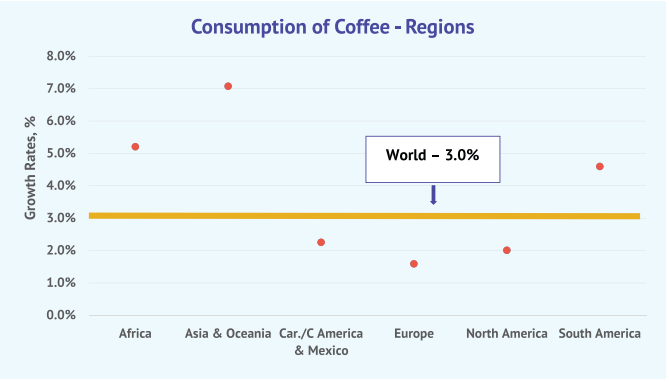
***Excluding all unspecified destinations**

Source: ICO Figures Compiled by Author

Coffee consumption – countries

The continued shrinking coffee consumption in Europe and North America can be pinpointed with the dis-aggregation of the regions' consumption data, which shows the Russian Federation leading the way with a 7.4 percent fall in coffee year 2020/21. Not all the countries within the two regions saw their consumption fall. Switzerland's consumption increased by 22.2 percent, the second highest growth rate for the major individual consuming countries. The USA is the largest single consuming country in the world, although the European Union is the largest consuming bloc. Brazil is the biggest consumer of coffee among the exporting countries, and the second biggest in the world.

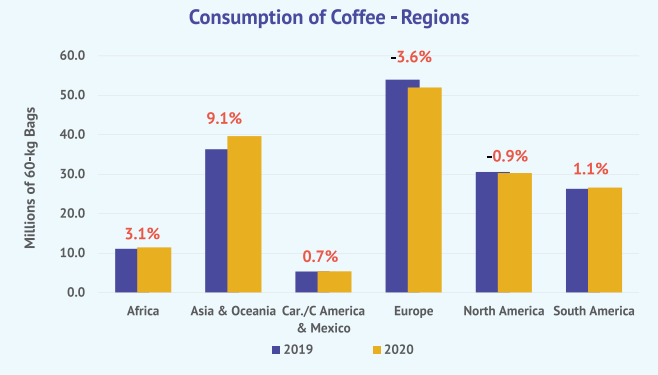
Figure D.28: Consumption of coffee – world & regions, growth rates (%)*



*Long-term annual average growth rate measured for coffee year 1990/91-2018/19

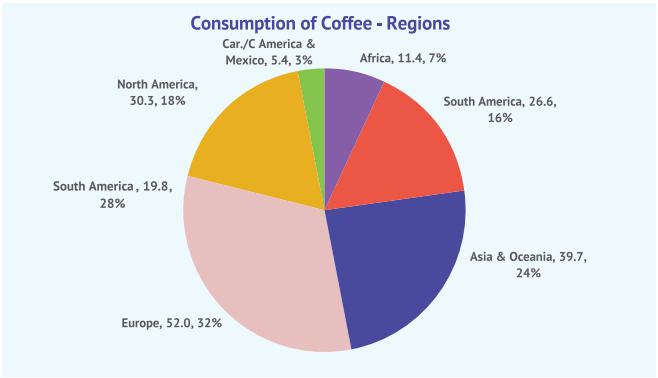
Source: ICO Figures Compiled by Author

Figure D.26: Consumption of coffee – regions, million 60-kg bags



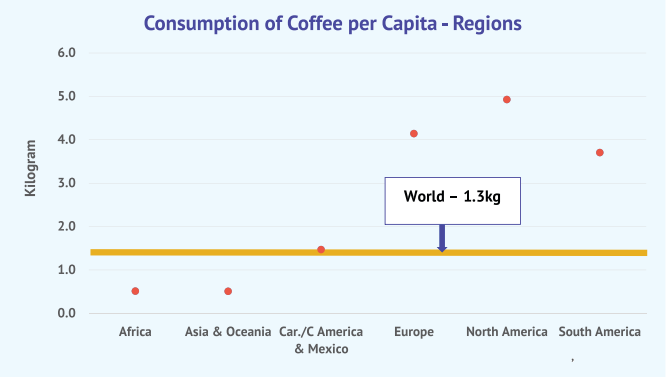
Source: ICO Figures Compiled by Author

Figure D.27: Consumption of coffee – regions, million 60-kg bags & percent share (%)



Source: ICO Figures Compiled by Author

Figure D.29: Consumption of coffee per capita – regions, kilogram



Source: ICO Figures Compiled by Author

Figure D.30: Consumption of coffee – countries, growth rates (%)

Source: ICO Figures Compiled by Author

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ANNEXES

A1. Interviews and online survey respondents

The ICO gives its sincere thanks to the below interview subjects:

Alessandro Bucci, Director of Coffee Procurement, Illy Coffee

Andrej Godina, Authorized SCA trainer, Specialty Coffee Association

Andres Romero, Project Specialist, Federación Nacional de Cafeteros de Colombia

Apollo Segawa, EXECUTIVE DIRECTOR, Consortium for enhancing University Responsiveness to Agribusiness Development Limited (CURAD)

Bianca Maschio, Quality Lab Assistant, Sandalj Trading Company

Christina Archer, Associate, Sustainable Food Lab,

Christoph Saenger, Associate Director for Industry, Commerce and Agribusiness, European Bank for Reconstruction and Development

Daniele Giovannucci, President, Committee on Sustainability Assessment (COSA)

Emanuele Dughera, Slow Food Coffee Coalition Coordinator, Slow Food Italia

Farouk Ssemwanga, Youth Coordinator, Hanns R. Neumann Stiftung – HRNS

Francesca Pellis, Coffee Procurement and Sustainability, Illy Coffee

Ileana Grandelis, Rural Employment Officer, FAO

Jacklene Arinda, Chief Executive Officer, JADA Coffee Uganda

Jakov Bozovic, COO & Managing Partner, The Major Oak

Jean Marie Vinney Rwiriza, Director General , Rwanda Youth in Agribusiness Forum (RYAF)

Jonathan Tamale, Project Coordinator, Kayunga Nile Coffee Farmers' Cooperative Society Limited

Khamutima Tumwebaze, Founder and Executive Director/CEO, Young Farmers Champions Network (YOFCHAN)/Kigezi Coffee International Limited

Luca Turello, Agronomist, Illy Coffee

Mario Cerutti, Chief Institutional Relations & Sustainability Officer, Lavazza

Marzia Pafumi, Youth Engagement Specialist, FAO

Matteo Landi, Managing Partner, Allmende Consulting

Michael Opitz, Director, Hanns R. Neumann Stiftung – HRNS

Natan Jacquemin, Owner, NĀM

Norlan Altamirano, Field Technician, Mercon Coffee Group

Olivier Muvandimwe, Programme Manager, Rwanda Youth in Agribusiness Forum (RYAF)

Yenny Velásquez, Director of Public-Private Partnerships, Federación Nacional de Cafeteros de Colombia

The ICO also recognizes the valuable contributions made by the following online survey respondents:

Alfredo Nuno, Director, Global FSC and H. Alsacia, SCTC, Mexico

Amos Kasigi, Managing Director/Chairman, The Edge Trading Limited/Uganda Quality Coffee Traders and Processors Association

Andrés Romero, Especialista en Proyectos – Magister, Federación Nacional de Cafeteros de Colombia

Christopher Wunderlich, Director, Agrofuturo Global, USA

Denis Seudieu, Chief Economist, International Coffee Organization

Eric Tchuenkam, Associate director of statistics, Cameroon National Office of Coffee and Cacao

Gerardo Patacconi, Head of Operations, International Coffee Organization

Hermann Yanka Nana, Head of Department, Cameroon National Office of Coffee and Cacao

Jorge Figueroa , Especialista , MIDAGRI, Peru

Kabiito Denis, CEO, Young Farmer's Federation of Uganda

Ndjewe Ndomba Ismaãl, Executive Secretary, Africa and Madagascar Robusta Coffee Agency (ACRAM) Gabon

Nelson Omar Funez, Secretary General, Honduran National Coffee Council

Santiago Arguello Campos, General Coordinator of Agriculture, Mexican Secretary of Agriculture and Rural Development

Takashi Sakurai, Deputy Director, Food Manufacture Division Ministry of Agriculture, Forestry and Fisheries, Japan

Tumwebaze Khamutima, Chief Executive Officer, Kigezi Coffee International Limited Uganda

A2. AtCof index methodology and variable description

The attractiveness of coffee production has been assessed across several districts of Uganda. To calculate the index, respective variables were ranked on a 5-point scale, with 5 being most attractive and 1 least attractive. By way of example, a district is ranked higher if the distance to the nearest market or population centre is shorter, productivity and potential yields are relatively high and lands are titled. The AtCof is the median ranking across all variables considered, calculated at the district level. In the case of Uganda, a value of 5 indicates that, relative to all other districts, a given district has the highest coffee production attractiveness. The following variables were used to build the index.

Data Description

A large number of the variables are extracted from the World Bank's LSMS. These household surveys are implemented by national statistical offices in collaboration with the World Bank. They heavily focus on agriculture and provide information on plot sizes, titling and harvested crops among others.

The following variables were extracted from LSMS to create the index:

1. Market access

As an indicator of market access, variables from the survey were used, measuring distance to market, $Dist_i^M$ and distance to nearest population centre, $Dist_i^C$ These variables are good indicators of how easy it is to sell coffee. Access to large population centres provides improved opportunities for farmers to sell their crops.

2. Land Productivity (Coffee yields)

Two measures of Land Productivity are used. The first is the number of kilograms of coffee per square metre, TFP_i^1 The second is the value of coffee beans per square metre. In the raw data the latter is measured in Uganda shillings , TFP_i^2.

3. Land tenure security (Share of parcels with titles, $Title_i^C$)

During stakeholder consultations, the issue of land possession came up as a key obstacle to youth integration in coffee production. Unsecure land rights, where people can be displaced from their farms, can make coffee farming rather unattractive. Therefore, to calculate the index, the share of the district's farmers who hold formal land titles was used.

4. Climate conditions

Climate conditions were also cited as a potential obstacle to youth involvement in agriculture. Climate change has brought about droughts and extreme flooding that may make coffee farming more challenging. Hence, two variables were included to account for this. First, a drought index, $SPEI_i^C$, was included in our analysis. Generated by the Climatology and Climate Services Laboratory, the Standardized Precipitation-Evapotranspiration Index is a multiscale drought index based on climatic data. Second, we included an indicator of soil conditions, $Gaez_i^C$, in index calculation. The Global Agro-Ecological Zones (GAEZ) provides information on the maximum potential yield farms can achieve given the soil conditions and technology used, based on an Agricultural Suitability Index. Specifically, the potential yields are calculated using soil moisture conditions, radiation, temperature, pest, disease, and climate conditions.

As such, $AtCof_i^C = f(Dist_i^M, Dist_i^C, TFP_i^1, TFP_i^2, Title_i^C, SPEI_i^C, Gaez_i^C)$.

A3. Table summarizing youth interventions reviewed in the study

Name of Youth Initiative / Funding and Implementing Partners	Description
4S@Scale Programme Hivos, ECOM. Supported by the Dutch Ministry of Foreign Affairs	Implemented from 2014-2019, 4S@Scale's approach hinged on four focus areas: diversify farmers' income to cushion them against erratic coffee prices, use bio-digester technology to improve quality of yields, engender good agricultural practices that are not harmful to the environment and lastly, promote inclusion of women and youths in the coffee supply chain.
A Cup of Learning Lavazza	A coffee training programme established by Lavazza in 2017, with the direct participation of Lavazza Training Centre experts, focused on beneficiaries in search of new opportunities in the coffee market. A Cup of Learning offers different training programmes: barismo, From Plant to Cup, Coffee Sensory Analysis, Bar management, & Espresso equipment.
Agricultural Credit Facility (ACF) Ugandan Government	A government agricultural and youth support initiative to avail credit to youths in Uganda.
AIC-CCRI Centre for Entrepreneurship Development India Coffee Board, Atal Innovation Mission of the Niti Aayog, and Government of India	Incubation services including mentors to young coffee entrepreneurs. Also, pre-incubation services and virtual services. Currently serving 34 incubatees.
Ambassadors for Millennial Farmers and Agricultural Development Government of Indonesia	Appointed ambassadors support young farmers and motivate a new generation of farmers.
Asociación Programa Amigos de los Niños Children International, USAID	Training for work and job placement of young people at risk. The project provides training in the classroom, internships and coordination with vocational technical institutes, as well as life skills and support to enter the workforce in Honduras.
Bachelors Certification in coffee ANACAFE, FUNCAFE Guatemala	Provision of further education courses for youths in coffee related topics, to build capacity in ag farm management, quality, GAP.
Barista House Barista House Ltd.	Family-owned business that offers youths training courses on barista skills to help employ youths in Uganda.
Building Coffee Farmers Alliances Hanns R. Neumann Stiftung, Uganda Coffee Farmers Alliance (UCFA)	A bottom-up approach that is fully participatory, business oriented and integrated from production to marketing. The project is geared toward a step-by-step improvement of coffee production and of farmer access to services and to coffee markets.
Business and Agriculture Training Pret A Manger, Cenfrocafe and local colleges	In Peru, working with Twin Trading, supplier Cenfrocafe and local colleges developed a new educational programme that combines business and agricultural theory with practical training, further supported with the provision of seed funding.
Cacao Movil (Mobile Cocoa - Mobile Phone application) Lutheran World Relief	This application is free for download in Spanish and has been distributed to more than 4,000 farmers in Central America as of Summer 2018. There are versions for Haitian creole and for Peruvian users. This app includes real-time updates on market prices and weather alerts.
CAFE Project Hanns R. Neumann Stiftung, Austrian Development Agency and International Coffee Partners. A first phase of the project was co-financed by Lavazza Foundation and the Löfbergs Family Foundation.	Focuses on step-by-step improvement of farm production and management as well as access to key services and markets. Technical and commercial aspects have been covered to enhance the agricultural performance and competitiveness of farming households. This project is promoting a participatory and practical approach of farmer training through Farmer Field School (FFS).

Name of Youth Initiative / Funding and Implementing Partners	Description
Capacity Building of Youth in Coffee Technology and Quality India Coffee Board	A 12-month Post-Graduate Programme in Coffee Quality Management, which already has 142 graduates working in the sector including obtaining further certifications as quality professionals.
Capucas Coffee Academy Cooperativa Cafetalera Capucas Limitada (COCAFAL),	The “Capucas" coffee academy trains producers and their children on coffee quality so that they know the basic techniques for coffee preparation and quality control. They have also set up distance learning for university courses in Honduras.
Challenge Grants Root Capital, Cooperatives El Polo and El Gorrión	Challenge Grants of $20,000 used to boost youth participation. Advisors work with youth groups to develop a community project and accompanying them with the training they need to bring that project to fruition.
Child's Rights in the Coffee Sourcing Sector Lavazza & Save the Children, Dak Lak DOLISA, CRD	The purpose of this project is to improve the lives of children in coffee sourcing areas by ensuring that children are empowered and enjoy their rights, in a supportive environment.
Coffee Agronomy Training Hanns R. Neumann Stiftung, Benckiser Stiftung Zukunft (Alfred Landecker Foundation)	30,000 smallholder farmers are successively trained through an intensive training programme. It is designed so that they can implement the learned practices directly on their farms. Farmers are taught agricultural know-how through exchange, observation, practical exercises and experiments. The goal is to increase yields by 50 percent.
Coffee Camp HRNS, Honduras Coffee Institute (IHCAFÉ), BID LAB, World Vision, Fundación Etea and Curoc University	A multistakeholder initiative that brings together local institutions and the coffee community in Honduras. The aim is to guide youths in developing a network of young coffee entrepreneurs.
Coffee Industry Corporation Strategic Plan Papua New Guinea Coffee Industry Corporation	Offers coffee curriculum in schools and includes youths in cooperatives.
Coffee Kids Hanns R. Neumann Stitfung, InterAmerican Coffee, Tim Hortons, Becamo, International Coffee Partners	The initiative is supporting the Youth Committee of UNIOCAFE, a second-tier producer association, to sell a youth coffee to the specialty market. Provides training, mentoring, and financing for youths to start their own business in rural coffee communities.
Coffee Kids Colombia Hanns R. Neumann Stitfung/Coffee Kids, Various Private Sector Partners (Coffee businesses, roasters, and shops)	Provides training, mentoring, and financing for youths to start their own business in rural coffee communities. Provides business skills, funding and mentoring to young producers (ages 14 to 30) with the goal of empowering them to turn “coffee farming" into "coffee businesses" that are stable, sustainable and financially successful enough to support a good life for a family.
Coffee Quality Training Coffee Quality Training	As part of the project Promoting Domestic Coffee Consumption, capacity building for both coffee producers and processors including standards, marketing, roasting, barista, and more.
Coffee School of Ocotal INATEC, Escuela Nacional de café, UTZ, ECOM, Swiss cooperation	The Coffee School of Ocotal, Nicaragua, was created in 2003, as an initiative of the Mayor of Ocotal, to provide vocational training to young people, generate job opportunities, and develop business initiatives in the coffee sector.
Coffee v Gangs Kenco, FUNDES	One of the causes of the gang problem is a lack of opportunity and alternatives. Coffee vs Gangs aims to equip young people with the skills and support to become successful future coffee entrepreneurs.

Name of Youth Initiative / Funding and Implementing Partners	Description
Coffee Youth Teams Large exporting companies	Young people are assisted to form groups, given equipment, trained in agronomy and financial literacy, and mentored to become field agronomists and service providers to rejuvenation of coffee farms in Uganda.
Consortium for Enhancing University Responsiveness to Agribusiness Development Limited (CURAD) and the Food Technology and Business Incubation Centre (FTBIC) Makerere University, the National Union of Coffee Agribusinesses and Farm Enterprises Limited (NUCAFE), & National Agricultural Research Organization (NARO), University of Copenhagen (UC) and NIRAS International	Incubation centres and research facilities at Makerere University that offer opportunities for youth-led businesses to experiment and expand. They increase job opportunities in coffee farming, business and service provision.
Coping with COVID-19: Voices of young agripreneurs FAO, Rwanda Youth in Agribusiness Forum (RYAF), Uganda Young Farmers ChampionsNetwork (YOFCHAN), Conseil National de la Jeunesse du Senégal (CNJS), Red Nacional de Jovenes Rurales de Guatemala, and the East African Farmer Federation at sub-regional level	A FAO youth engagement initiative aiming to understand the impact of the outbreak on the businesses of young rural people and identified youth-led solutions to cope with the crisis.
Cup of Excellence with Young Entrepreneurs Keurig Dr Pepper, Save the Children	Work with over 500 young women and men in the "Cup of Excellence with Young Entrepreneurs" project, teaching life skills as well as how to run a successful coffee farm in Nicaragua.
Deforestation-free coffee Lavazza Foundation, GCF, GEF, MAAE of Ecuador, MAG of Ecuador, and UNDP	Aiming to strengthen existing government initiatives to address deforestation in the Amazon basin, the Government of Ecuador uses funds allocated by the Green Climate Fund (GCF) and the Global Environment Facility (GEF).
Desarrollo Rural y Seguridad Nutricional para jóvenes y sus familias caficultoras BMZ, LAZ, FNC	Improved food security and GAPs in coffee for 240 young farmers and their families.
Diploma in Cocoa Management Programme Lutheran World Relief, Universidad de Oriente	Locally known as UN–VO - this programme offered at the Universidad de Oriente integrates training in cocoa cultivation, business management and life skills, like decision making, problem solving and critical thinking.
Direct Trade Verified Sustainable Coffee Programme Farmer Brothers and Lutheran World Relief, LWR, Aldea Global	Improved food security and income for 350 farm families who receive technical support on improved coffee production practices by training youths to be field outreach workers.
Education and Caring for Children in Coffee Cultivation areas of Guatemala Tchibo, Save the Children	Provision of care and education for children aged under 13 years of migrant coffee pickers during the coffee harvest season. This protects them from child labour and allows them to return to their schools in due time after the harvest season. In addition, the project supports local schools with additional educational opportunities, such as teacher training and parenting workshops.
Education of coffee farm labourers India Coffee Board	Financial incentive for children of coffee farm labourers to pursue professional courses and graduate programmes. From 2017-2021 assisting 21,901 students.
Efficient irrigation systems to help Brazilian coffee growers optimize water use Lavazza Foundation, xFarm, University of São Paolo	With the main objective of optimizing irrigation use for coffee cultivation, the foundation launched a research and development project in collaboration with xFarm and the University of Sao Paolo.

Name of Youth Initiative / Funding and Implementing Partners	Description
Brazilian coffee growers optimize water use Lavazza Foundation, xFarm, University of São Paolo	foundation launched a research and development project in collaboration with xFarm and the University of Sao Paolo.
Empowering Women (and youth) Coffee Farmers Coca-Cola Foundation, Technoserve, FNC.	Improved access for 11,000 women and their teenage children to extension services to improve farm management. Also included 1,600 youths in decision making training.
Encuentros de Jóvenes cafeteros/Young Coffee Farmers Event FNC, Comité Departamental de Cafeteros de Cundinamarca	FNC and industry delegates meet with youths to understand their perspectivesand develop joint action plans on the issues such as education, participation in community decision making, land access, innovation and technology.
Farmer Future Programme Nespresso, Cooperative Aguadas, Cooperative Norte de Caldas, Cooperative Andes, Cooperativa Alto Occidente, Cafeexport, Fairtrade International, Colombian Government, FNC	This programme provides the first pension scheme for coffee smallholders. It helps to facilitate the generational transfer of farms from parents to hildren, ensuring opportunity for young people in coffee producing regions.
Força Café HRNS do Brasil, International Coffee Partners, Lavazza Foundation, S&D Coffee and Tea, KFW DEG, Fundação Banco do Brasil, Tim Hortons, and the Interamerican Development Bank	This project empowers smallholder farmers in coffee growing regions of MinasGerais to better manage their farms by supporting the organization of transparent associations or cooperatives
Formación de jóvenes en buenas prácticas agrícolas CLAC, Escuela del Café del INATEC y del Proyecto Insigne de Agricultura Familiar del IICA, & Nicaraguan Fairtrade producers association	Training of youths on GAP and organic coffee production that looks to empower and capacitate youths to improve productivity and quality of coffee with a focus on socioeconomic sustainability and climate. There are eight modules offered over three days in Nicaragua.
Fortalezas Jacobs Foundation, Fundación SES, Comité de Cafeteros del Cauca	Support to 360 young coffee farmers to build skills in order to increase their employment opportunities in Colombia.
Generations: Closing the generation gap between youth and adults in rural communities Tim Hortons & International Coffee Partners (ICP), HRNS, IDB, Fundación SES, municipalities, farmer organizations	The Generations project supports youths with vocational guidance, life skills, technical and entrepreneurial development training, and job placement or self-employment support. Throughout the entire process, rural youth leadership and empowerment is promoted and strengthened in Guatemala, Honduras, and El Salvador.
I Primi: the project of the first Lavazza Foundation	This project conducted a national survey of coffee growers in Yemen, designed a nursey with large production capacity, implemented the first water basin to provide access to water, constructed a processing centre.
Iniciativa por los jóvenes Nescafé, Solidaridad	This initiative provides entrepreneurial training for young coffee growers to learn and develop skills necessary for agro-business. This programme is a part of the Nescafe Plan.
Job Training Kyagalanyi, Ibero and Kawacom,	Training programmes aimed at youths, the graduates of which are retained as permanent employees. They are committed to supporting job creation and providing opportunity for young people.
Jóvenes con pasión por la tierra FNC, Comité de Cafeteros del Cauca	Work to incentivize parents to sign over portion of land for them to start own farm and have access to credit. Generate self-employment alternatives, through viable, sustainable production and administration models aimed at youths.

Name of Youth Initiative / Funding and Implementing Partners	Description
Jóvenes Sembradores de Paz Comité de Cafeteros del Cauca, Fundación Humanismo y Democracia (AECI)	Purchase of 1026 hectares of abandoned land to give to young farmers and create new opportunities for coffee production (part of the Joven Agricultor Programme).
Junior Farmer Field and Life Schools (JFFLS) FAO	Trains vulnerable rural youths in the agricultural, business and life skills needed to earn a decent living, and to become more productive and active members of their communities in over 20 countries.
Kaapi Shastra India Coffee Board	Five-day, coffee technology orientation programmes provide a rich exposure to potential coffee entrepreneurs to explore emerging opportunities that have trained 2,610 youths since 2003.
Kaweri Youth Development Project Hanns R. Neumann Stiftung, NKG Kaweri Coffee Plantation	The main objective of this programme is to change the negative perception of rural youths in Uganda towards agriculture by training and exposing them to improved and innovative agricultural practices combined with a gender household approach, which promotes equal opportunities for young women and men. The project has established two agricultural training centres (ATCs) that can host 30 youths each, annually.
KG Farm projects: Casa da Criança e do Jovem Amparense Neuman Kaffee Grupee, HRNS, SENAR MG, NKG Fazenda da Lagoa Coffee Plantation	Casa da Criança youth centre offers vocational training and support, as well as cultural and sports-based activities for youths in the community. It also tries to reduce the prejudices around being a farmer by showing the advantages of growing coffee professionally including modern farming techniques, coffee cupping expertise, and managing a coffee business.
Let's Talk Coffee ® Colombia Sustainable Harvest ® Supply Chain, Coocentral cooperative	In 2015, more than 80 people travelled from all over Colombia to Garzon, Huila for the country's first ever Let's Talk Coffee ® Regional. This is a way to unite producers and institute trainings to help make them stronger suppliers. This three-day event provides farmer trainings and discussion of the most pressing challenges in the coffee industry.
Machinery and Equipment for coffee enterprises Ministry of Industry Republic of Indonesia	Access to processing equipment to farmer groups including discounts and reimbursement.
Magdalena for Coffee Youth 4C, Melitta Europa GmbH & Co. KG and Deutsche Investitions - und Entwicklungsgesellschaft mbH (DEG), FNC	Engaging young people into securing the future of coffee production in Colombia. Magdalena was the region in Colombia selected for the implementation of a three-year 4C sustainability project that aims to improve sustainable agricultural management of Colombian coffee growers and market uptake in Europe to contribute to long-term economic and ecologic viability of smallholder farms, thus increasing the attractiveness of the sector for young adults.
Manos Campesinas Manos Campesinas,	A Fairtrade-certified cooperative that looks to demonstrate that farming can be possible and profitable. They are designing a pilot project for young people, showing how they can improve their parents' farm through better practices and diversification of crops in Guatemala.
Mareu Youth Group HRNS	Youths are taught to diversify their income, minimize risk, and generate funds to invest in coffee over the long-term by participating in professional development learning about how internal savings would benefit their producer organization.
Master's Degree in Coffee Economics and Science illycaffè, University of Trieste, the University of Udine, and the University of Wageningen, among other academic institution	Aims to offer graduates who are interested in working in the coffee world - and more generally in the agri-food sector - a suitable multidisciplinary preparation along the entire production chain, from cultivation to hospitality and retail, including logistics, trading, and the industrial process.

Name of Youth Initiative / Funding and Implementing Partners	Description
Mejoramiento de las estructuras institucionales políticas y socio – económicas con la participación de jóvenes IAF, ASOCAP, CAFICENTRO	Improved and strengthened the organizational, political and socio-economic structures of grassroots organizations by developing generational handover roadmaps with nine producer groups, entrepreneurship capacity building for youths and producer groups, improved coffee production projects in Colombia.
Mobile Coffee Booth Inspire Africa Coffee	Young people are employed to drive the booth around Kampala and serve coffee and other snacks from the back of a van.
Modelos Innovadores - Jóvenes Caficultores FNC	The FNC promotes generational relief and entrepreneurship by providing access to land and other productive factors for young agricultural workers. Aims to reduce out-migration of young people in coffee-producing zones.
National Young Coffee Sector Plan Honduras National Coffee Council (CONACAFE)	Strategic plan to support youth engagement in coffee sector.
NESCAFÉ Plan Nestlé,	NESCAFÉ is committed to helping coffee farmers improve the quantity and quality of their coffee yield in a manner that is sustainable for the long-term, and profitable to both the farmers and Nestlé. This partnership demonstrates a fundamental business strategy of Creating Shared Value (CSV).
Nescafé Youth Initiative Nescafé, Fundación Co. Honducafe, Organización Internacional de Juventus, and national government	This programme provides 80 hours of training for young people interested in coffee and entrepreneurship. Young men and women learn basic knowledge of coffee production, good agricultural practices and product quality, but also digital skills, business acumen and valuable self-confidence.
Nespresso AAA Nespresso, FNC, Aguadas Coffee Growers Association, Fairtrade, Government (Min Labour)	Additional 20 percent contribution to coffee farmers' voluntary retirement saving in Colombia's Beneficios Económicos Periódicos. The scheme seeks to reduce the need for older farmers to continue working and incentivize intergenerational transfer of productive assets.
New Generation Coffee Camp Government of Antioquia	The New Generation Coffee camp in Antioquia, Colombia, brings 1,000 young coffee farmers (aged 20-30) together for three days of education, coffee exploration, and community building. The camp offers young coffee farmers a chance to improve the quality of their coffees by learning about processing methods, fermentation, and how to cup, but it also gives campers a chance to socialize with other young coffee farmers. They also learn about how to promote their farms by building brand identity, using social media, and understanding what happens to coffee after it leaves the farm. They also get hands-on lessons in barista skills.
New Generation Programme (Cameroon) Cameroon Interprofessional Cocoa and Coffee Council (CICC)	Capacity building in farming techniques and technologies.
Next Generation Coffee Kenya Löfbergs Group (aka Next Generation Coffee)	Working with farmers in Othaya cooperative in the Nyeri province in Kenya, this programme's objective was to support farmers to raise productivity and quality, and to improve their income. Direct trade has improved their finances, and teaching in field schools and scholarships has improved both knowledge and interest for coffee farming amongst the next generation.
Next Generation Coffee Tanzania Löfbergs Group (aka Next Generation Coffee), International Coffee Partners	Next Generation Coffee focuses on aspects like organizational and business development, marketing and service linkages, climate smart agriculture and gender equality, which strengthens the possibilities for the next generation coffee farmers.

Name of Youth Initiative / Funding and Implementing Partners	Description
Nueva Generación Cafetalera Hanns R. Stiftung, FAO	This programme began in 2018 under the framework of the FAO and sought to promote specialty coffee as a way to improve personal growth and create labour opportunities. This programme is built on the experiences of a similar programme executed in Colombia since 2012. Young people were also invited to participate in a Coffee Camp.
Nueva Generación Cafetera Government of Antioquia, COMFAMA, Comité de Cafeteros de Antioquia, Cooperativas de caficultores de Antioquia, Salgar, Occidente de Antioquia y Cooperativa Andes	Capacity building in life and business skills, and new developments in the coffee industry, using technology to share experience for improved farm management, and foster feeling of inclusion for youths.
Origin Sustainability Project Hanns R. Stiftung & Gaviña Gourmet Coffee	Providing technical and operations assistance, as well as access to credit, to 100 coffee farmers and young people in Casillas to improve quality, crop yields, and sustainability practices in the region.
Partnering for Innovation/AgriJoven USAID (Feed the Future), Mercy Corps	Through AgriJoven, more than 500 Guatemalan young people have formed savings and loan groups and are trained on new agricultural technologies and innovations that increase agricultural production. The members then use a portion of their group savings to purchase agricultural innovations for their farms and share the technology as they all work on their plots (not only coffee).
Pépinières d'entreprises agricoles Tunisian Government	Specific to agricultural-related education and for young agri-entrepreneurs, the Tunisian government-run incubation centres have developed, and are presently organizing, a series of trainings online in order to ensure continuous support to their young agricultural students. This programme was introduced in response to the setbacks caused by Covid-19.
Pradhan Mantri Dhan Yojana (PMJDY) Indian Government	This government initiative launched in 2006 to provide financial services and products to individuals who do not have access or possibilities to open a bank account or saving schemes.
Programa Jóvenes Agricultores FNC	Award winning programme started in 1998 to support youths staying in coffee communities though the creation of viable alternatives and improved livelihoods. Also created the ASOJAV network.
Promoting decent rural employment opportunities in the coffee sector of Guatemala Food and Agriculture Organization of the United Nations (FAO), HRNS	Promoting training on specialty coffee, and market linkage. Creating network with coffee shops as market outlet.
Protecting children in coffee-producing communities in Olapa, Guatemala, from harmful work Save the Children, COOSAJO	Reducing harmful labour of children in coffee through improved and diversified livelihoods for 200 families, education, and community protection networks. Training to improve coffee production, including training to adolescents on business skills, and mentoring.
Restoring Degraded Coffee Landscapes Hanns R. Neumann Stiftung, International Climate Initiative (IKI), Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU), Unique forestry and land use GmbH, & Lavazza (funding)	This project aims to help restore degraded landscapes and to develop relevant and scalable business models to improve the livelihoods of coffee farmers in Ethiopia.
Seeds for Progress Foundation illy, Seeds for Progress Foundation	Supporting rural schools, builds new ones and trains teachers. This initiative offers easier access and quality education to young people which improves social and economic sustainability.

Name of Youth Initiative / Funding and Implementing Partners	Description
Skills to Succeed for Young Entrepreneurs' Save the Children	In Nicaragua, over 500 young women and men have been trained through Farmer Field Schools on traditional topics such as water management, GAPs and coffee quality, financial literacy and business skills. Complemented with access to credit, technical support and information on markets.
Solidaridad Practice for Change Coffee Resilience Programme (PfC Coffee) Ministry of Foreign Affairs of the Kingdom of Netherlands, Solidaridad (Practice for Change)	This programme is committed to harnessing the creativity and energy of youths toward developing and sustaining the agriculture sector. It achieves this by addressing inequalities and barriers to inclusivity of women and youthsin agricultural production and decent jobs. It aims to bridge the economic and social gaps, create employment opportunities, and uplift the living standards of local communities.
Stiftungsallianz für Afrika (SAfA) Max and Ingeburg Herz Stiftung, Kühne - Stiftung (KS), Rossmann Stiftung, & HannsR. Neumann Stiftung (HRNS), Deutsche Stiftung Weltbevölkerung (DSW)	SAfA aims to contribute to poverty reduction and the mitigation of root causes of migration by creating attractive prospects for the rapidly growing young population in Sub-Saharan Africa, both in rural and in urban areas in Ethiopia.
Support for youth in coffee communities Neuman Kaffee Grupee, HRNS, Finca Puebla, AUGE, ICATEP vocational institute	Rural youths from the communities Santa Rita and El Porvenir are being supported to overcome social, economic and employment-related challenges. They receive vocational training, life skills, scholarships, and support to set up own businesses.
Support to next generation of farmers Starbucks, FNC, USAI“	Young farmers were given recycled Starbucks laptops, and trained to use business skills for farm management, also given GAPs training. This partnership hopes to connect farmers with trained agronomists and technical assistance.
Support to next generation of farmers Starbucks, IDB, Cooperative Los Andes, Grameen Foundation	Network of 40 field outreach workers (20 are youths) to support good agricultural practices (GAP) and collect field data in Colombia.
Sustainable Coffee as a Family Business HIVOS, SCP	A toolkit to motivate and assist coffee roasters and traders and their practitioners to apply an inclusive approach to develop better functioning coffee chains benefitting both men and women of different age groups equally. It provides practical approaches and tools for all stages in value chain interventions, with case studies of how they have been applied in practice in Nicaragua and Peru.
Sustainable Coffee Programme Hanns R. Neumann Stiftung, J.M. Smucker Company, Jacobs Douwe Egberts, International Coffee Partners (ICP), The Swedish International Development Agency (SIDA), & the Initiative for coffee & climate (c&c)	This programme aims to improve the livelihoods of smallholder coffee farmers by increasing their productivity, profitability and climate resilience in Southern Sumatra, Indonesia
Tanzania Programme Hanns R. Neumann Stiftung, a number of public and private partners	The country programme follows a holistic approach to improve the livelihoods of 25,000 smallholder coffee farmers and their families. The work includes organizational development, advocacy and policy influencing, marketing and service linkages, production and quality enhancement, Climate Smart Agriculture, and gender and youth.
Teaching Coffee Trading Great Lakes Coffee and Ibero	Training youths to operate as field agronomists to provide training, advice and inspection, and as agents to collect coffee from farmers.
TeamUp Hanns R. Neumann Stiftung, German Federal Ministry for Economic Cooperation and Development (BMZ), Deutsche Stiftung Weltbevölkerung, & Siemens Stiftung	TeamUp aims to improve the prospects of youths in rural areas of East Africa by integrating economic, social, sanitary, pedagogical and infrastructural components to address the complex challenges and needs of over 50,000 rural youths aged 15 to 30. They collaborate to turn farming into a profitable business.

Name of Youth Initiative / Funding and Implementing Partners	Description
TECNiCAFE Government of Cauca, Supracafé, FNC, Multiscan, and the Association of Women Coffee Growers of the Cauca (AMUCC).	A public - private partnership that serves as a technology incubator, experimental farm, and research centre. It develops ways for producers to regain the long-lost value of coffee production. TECNiCAFE also functions as a training centre for the coffee industry. This centre teaches Q processing.
The Coffee Oasis Youth Development Programme The Coffee Oasis	This programme offers youths and young adults (ages 13-25) case management, mentoring, and job training. The Coffee Oasis aims to restore communities through compassionate youth programmes and coffee business as a local café and roastery.
The SAFE Platform Hivos, World Coffee Research (WCR), Mexican Ministry of Agriculture SAGARPA), COSA, and IDB.	This programme is an alliance to support coffee and cacao smallholder farmers through climate-smart agricultural practices. Farmers in Chiapas and Oaxaca will be given access to cutting-edge science, technology, and training. Funding will come from the Inter-American Development Bank (IDB). This project will pilot WCR verified seed nurseries and provide 2000 Mexican farmers with disease-free and resistant seeds to prevent outbreaks like the coffee leaf rust outbreak from 2012.
The Youth Café Career Development Programme The Youth Café	Focus on building holistic, individualized, experiential learning programmes that create behavioural change in the long term. Seeking to provide a meaningful career and sustained well-being for every youth, anywhere in Africa. There are two-pronged trainings offered: (1) Formal sector skills training and (2) Informal sector skills training.
THRIVE Generating Economic Opportunities World Vision	Building on the success of the GEO project, Thrive will generate jobs and increase household incomes, eliminating the need for parents and youths to migrate to urban areas or the United States in order to make a liveable income (not only focusing on coffee) in Honduras.
Tripla A (A.A.A) Lavazza, Rete Italiana di Cultura Popolare	Seeks to offer young people a solid training and work placement path to provide by providing skills training in Italy.
Ugandan Youth for Coffee - Developing Farmer Prosperity Through R&R Global Coffee Platform (GCP)	The challenge of low yields and productivity drives the new GCP Collective Action Initiative, including development, rehabilitation and rejuvenation (R&R) tool kit based on a tested step-wise coffee agronomy enhancement model. It is rolled out to 30,000 farmers through 150 youth private coffee service providers educated on R&R. The expected impact on the initial 1.5 million treated trees is a 70-100 percent increase of yield per tree within two years after the treatment. Through this, the initiative expects to contribute to closing the living income gap of traditional coffee growers, and to generally improve livelihoods in Uganda's coffee producing communities by creating employment opportunities for young men and women.
Umami Area Association Camps and Courses Umami Area Association	Training events including camps for baristas and quality production on farm.
Universidad en el Campo Government of Caldas, Universidad de Caldas, FNC Comité de Cafeteros de Caldas, Comité de Cafeteros de Risaralda	Further education in rural areas provides certificates for courses relevant locally for agriculture. The goal of this programme is to allow students to ensure and promote the quality of agroindustry and the management of agriculture and natural resources.
Verdad y Vida Lavazza Foundation	Participants are trained to learn about coffee growing and productive techniques such as diversification and productive use of resources.
Virtual AU Youth Consultation Series on African Youth Collective Response to Covid-19 African Union (AU)	An initiative to involve young people in Covid-19 consultations and responses. The series aims to inform and amplify youth-led initiatives, including from rural youths and particularly those involved in agriculture, and unite youths' collective responses.

Name of Youth Initiative / Funding and Implementing Partners	Description
Working with coffee communities Catholic Relief Services	Training sons and daughters of local coffee producers on cupping with ANACAFE, and Pre-Q and Q Grade cupper courses. Also supporting a coffee quality baseline with 500 farmers, participating in a Savings and internal lending group, and using their savings to purchase coffees to resell.
Young Coffee Entrepreneurs/Next Coffee Generation Löfbergs Lila, FNC	Improve the livelihood opportunities for young coffee growers through training, establishing 390 sustainable and profitable coffee farms, improved coffee quality, and food security.
Young Coffee Growers, Sowers of the Future Community Coffee Company	The Community Coffee Company has had a long relationship with the Colombian communities of Toledo and Labateca, where coffee beans for the company are grown. The project provided the communities with 1,000 coffee plants on 18 new hectares of family farmland. Students were given seeds and training on how to grow, fertilize, dry and care for a quality coffee bean harvest. The programme is intended to help families pass on coffee-growing traditions to their children and provide young growers with the support they need to earn a living. The programme also teaches values like self-esteem, the importance of social and economic human development and how to consider the bigger picture of the international market of which they are a part. Also promoting gender equality by encouraging girls to get involved as coffee growers.
Young people building the future (Jóvenes Construyendo el Futuro) Mexican	This programme in Mexico incorporates, through a scholarship, youths in different parts of the coffee value chain, including field technicians and baristas in coffee shops.
Young Worker Support Programme for Lavazza Suppliers in China Lavazza, Centre for Child Rights and Corporate Social Responsibility	Workshops, trainings, and observations were provided for young workers in Chinese factories to support young workers.
Youth Champion Programme FAO, Minister of Agriculture, Animal Industry and Fisheries (MAAIF)	A consolidation of youth support activities for youths to inspire other youths to work in Agriculture in Uganda.
Youth Development Project Jacobs Foundation & Hanns R. Neumann Stiftung, Implemented by HRNS	As youths develop a negative attitude to agriculture, this development approach supports youths in overcoming the challenges of being a young subsistence farmer and becoming more commercially skilled and engaged. It brought young people to Youth Farmer Field Schools to learn about agriculture, acquire life skills and promote entrepreneurial spirit in a participatory and experiential way.
Youth Livelihood Programme (YLP) Ugandan Government (MAAIF), MTIC/Uganda Cooperative Alliance, MoFPED, Ministry of Education and Sports, Ministry of Science, Technology and Innovation, Ministry of Information, Communication and Technology and Innovation	Government offers contracts to youths to supply seedlings to farmers and ensure capacity building in business skills, through training and facilitation.

SCOPE OF WORK

The ICO, established under the International Coffee Agreement 1962, is the only intergovernmental organization for coffee, bringing together exporting and importing governments to tackle the challenges facing the world coffee sector through international cooperation.

It provides a unique forum for dialogue among governments, the private sector, development partners, civil society and all coffee stakeholders to tackle the challenges and nurture opportunities for the world coffee sector.

The ICO collects and compiles independent official statistics on coffee production, trade and consumption, supports the development and funding of technical cooperation projects and public-private partnerships, and promotes sustainability and coffee consumption. It facilitates coffee's contribution to the achievement of the United Nations Sustainable Development Goals (UN SDGs) to increase the resilience of local communities and coffee farmers, in particular smallholders, and enable them to benefit from coffee production and trade, which can in turn contribute to poverty eradication by providing a living income for families. ICO Member governments represent 94 percent of world coffee production and 63 percent of world coffee consumption, based on membership of the Organization as of 31 December 2021 when this publication was drafted.

Disclaimer

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INTERNATIONAL
COFFEE
ORGANIZATION

222 Gray's Inn Road
London
WC1X 8HB
United Kingdom

Tel: +44 (0)20 7612 0600
Email: info@ico.org

www.ico.org

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