INTERNATIONAL JOURNAL OF RESEARCH IN COMPUTER APPLICATION & MANAGEMENT

IJRCM

A Monthly Double-Blind Peer Reviewed (Refereed/Juried) Open Access International e-Journal - Included in the International Serial Directories

Indexed & Listed at:

Ulrich's Periodicals Directory ©, ProQuest, U.S.A., EBSCO Publishing, U.S.A., Cabell's Directories of Publishing Opportunities, U.S.A., Google Scholar, Indian Citation Index (ICI), J-Gage, India [link of the same is duly available at Inflibnet of University Grants Commission (U.G.C.)], Index Copernicus Publishers Panel, Poland with IC Value of 5.09 (2012) & number of libraries all around the world.

Circulated all over the world & Google has verified that scholars of more than **5896 Cities** in **193 countries/territories** are visiting our journal on regular basis.

Ground Floor, Building No. 1041-C-1, Devi Bhawan Bazar, JAGADHRI – 135 003, Yamunanagar, Haryana, INDIA

http://ijrcm.org.in/

CONTENTS

CALL FOR MANUSCRIPTS

We invite unpublished novel, original, empirical and high quality research work pertaining to the recent developments & practices in the areas of Computer Science & Applications; Commerce; Business; Finance; Marketing; Human Resource Management; General Management; Banking; Economics; Tourism Administration & Management; Education; Law; Library & Information Science; Defence & Strategic Studies; Electronic Science; Corporate Governance; Industrial Relations; and emerging paradigms in allied subjects like Accounting; Accounting Information Systems; Accounting Theory & Practice; Auditing; Behavioral Accounting; Behavioral Economics; Corporate Finance; Cost Accounting; Econometrics; Economic Development; Economic History; Financial Institutions & Markets; Financial Services; Fiscal Policy; Government & Non Profit Accounting; Industrial Organization; International Economics & Trade; International Finance; Macro Economics; Micro Economics; Rural Economics; Co-operation; Demography: Development Planning; Development Studies; Applied Economics; Development Economics; Business Economics; Monetary Policy; Public Policy Economics; Real Estate; Regional Economics; Political Science; Continuing Education; Labour Welfare; Philosophy; Psychology; Sociology; Tax Accounting; Advertising & Promotion Management; Management Information Systems (MIS); Business Law; Public Responsibility & Ethics; Communication; Direct Marketing; E-Commerce; Global Business; Health Care Administration; Labour Relations & Human Resource Management; Marketing Research; Marketing Theory & Applications; Non-Profit Organizations; Office Administration/Management; Operations Research/Statistics; Organizational Behavior & Theory; Organizational Development; Production/Operations; International Relations; Human Rights & Duties; Public Administration; Population Studies; Purchasing/Materials Management; Retailing; Sales/Selling; Services; Small Business Entrepreneurship; Strategic Management Policy; Technology/Innovation; Tourism & Hospitality; Transportation Distribution; Algorithms; Artificial Intelligence; Compilers & Translation; Computer Aided Design (CAD); Computer Aided Manufacturing; Computer Graphics; Computer Organization & Architecture; Database Structures & Systems; Discrete Structures; Internet; Management Information Systems; Modeling & Simulation; Neural Systems/Neural Networks; Numerical Analysis/Scientific Computing; Object Oriented Programming; Operating Systems; Programming Languages; Robotics; Symbolic & Formal Logic; Web Design and emerging paradigms in allied subjects.

Anybody can submit the **soft copy** of unpublished novel; original; empirical and high quality **research work/manuscript** ***anytime*** in ***M.S. Word format*** after preparing the same as per our **GUIDELINES FOR SUBMISSION**; at our email address i.e. infoijrcm@gmail.com or online by clicking the link **online submission** as given on our website (***FOR ONLINE SUBMISSION, CLICK HERE***).

GUIDELINES FOR SUBMISSION OF MANUSCRIPT

1. **COVERING LETTER FOR SUBMISSION:**

DATED: _____

THE EDITOR

IJRCM

Subject: **SUBMISSION OF MANUSCRIPT IN THE AREA OF _____.**

(e.g. Finance/Mkt./HRM/General Mgt./Engineering/Economics/Computer/IT/ Education/Psychology/Law/Math/other, please specify)

DEAR SIR/MADAM

Please find my submission of manuscript titled '_____' for likely publication in one of your journals.

I hereby affirm that the contents of this manuscript are original. Furthermore, it has neither been published anywhere in any language fully or partly, nor it is under review for publication elsewhere.

I affirm that all the co-authors of this manuscript have seen the submitted version of the manuscript and have agreed to inclusion of their names as co-authors.

Also, if my/our manuscript is accepted, I agree to comply with the formalities as given on the website of the journal. The Journal has discretion to publish our contribution in any of its journals.

NAME OF CORRESPONDING AUTHOR	:
Designation/Post*	:
Institution/College/University with full address & Pin Code	:
Residential address with Pin Code	:
Mobile Number (s) with country ISD code	:
Is WhatsApp or Viber active on your above noted Mobile Number (Yes/No)	:
Landline Number (s) with country ISD code	:
E-mail Address	:
Alternate E-mail Address	:
Nationality	:

* i.e. Alumnus (Male Alumni), Alumna (Female Alumni), Student, Research Scholar (M. Phil), Research Scholar (Ph. D.), JRF, Research Assistant, Assistant Lecturer, Lecturer, Senior Lecturer, Junior Assistant Professor, Assistant Professor, Senior Assistant Professor, Co-ordinator, Reader, Associate Professor, Professor, Head, Vice-Principal, Dy. Director, Principal, Director, Dean, President, Vice Chancellor, Industry Designation **etc**. ***The qualification of author is not acceptable for the purpose***.

NOTES:

a) The whole manuscript has to be in ***ONE MS WORD FILE*** only, which will start from the covering letter, inside the manuscript. ***pdf. version is liable to be rejected without any consideration***.

b) The sender is required to mention the following in the **SUBJECT COLUMN of the mail**:

New Manuscript for Review in the area of (e.g. Finance/Marketing/HRM/General Mgt./Engineering/Economics/Computer/IT/ Education/Psychology/Law/Math/other, please specify)

c) There is no need to give any text in the body of the mail, except the cases where the author wishes to give any **specific message** w.r.t. to the manuscript.

d) The total size of the file containing the manuscript is expected to be below **1000 KB**.

e) Only the **Abstract will not be considered for review** and the author is required to submit the **complete manuscript** in the first instance.

f) ***The journal gives acknowledgement w.r.t. the receipt of every email within twenty-four hours*** and in case of non-receipt of acknowledgment from the journal, w.r.t. the submission of the manuscript, within two days of its submission, the corresponding author is required to demand for the same by sending a separate mail to the journal.

g) The author (s) name or details should not appear anywhere on the body of the manuscript, except on the covering letter and the cover page of the manuscript, in the manner as mentioned in the guidelines.

2. **MANUSCRIPT TITLE:** The title of the paper should be typed in **bold letters**, **centered** and **fully capitalised**.
3. **AUTHOR NAME (S) & AFFILIATIONS:** Author (s) **name**, **designation**, **affiliation** (s), **address**, **mobile/landline number** (s), and **email/alternate email address** should be given underneath the title.
4. **ACKNOWLEDGMENTS:** Acknowledgements can be given to reviewers, guides, funding institutions, etc., if any.
5. **ABSTRACT:** Abstract should be in **fully Italic printing**, ranging between **150** to **300 words**. The abstract must be informative and elucidating the background, aims, methods, results & conclusion in a **SINGLE PARA**. ***Abbreviations must be mentioned in full***.
6. **KEYWORDS:** Abstract must be followed by a list of keywords, subject to the maximum of **five**. These should be arranged in alphabetic order separated by commas and full stop at the end. All words of the keywords, including the first one should be in small letters, except special words e.g. name of the Countries, abbreviations etc.
7. **JEL CODE:** Provide the appropriate Journal of Economic Literature Classification System code (s). JEL codes are available at www.aea-web.org/econlit/jelCodes.php. However, mentioning of JEL Code is not mandatory.
8. **MANUSCRIPT:** Manuscript must be in ***BRITISH ENGLISH*** prepared on a standard A4 size ***PORTRAIT SETTING PAPER***. *It should be free from any errors i.e.* ***grammatical***, ***spelling*** *or* ***punctuation.*** *It must be thoroughly edited at your end*.
9. **HEADINGS:** All the headings must be bold-faced, aligned left and fully capitalised. Leave a blank line before each heading.
10. **SUB-HEADINGS:** All the sub-headings must be bold-faced, aligned left and fully capitalised.
11. **MAIN TEXT:**

THE MAIN TEXT SHOULD FOLLOW THE FOLLOWING SEQUENCE:

INTRODUCTION

REVIEW OF LITERATURE

NEED/IMPORTANCE OF THE STUDY

STATEMENT OF THE PROBLEM

OBJECTIVES

HYPOTHESIS (ES)

RESEARCH METHODOLOGY

RESULTS & DISCUSSION

FINDINGS

RECOMMENDATIONS/SUGGESTIONS

CONCLUSIONS

LIMITATIONS

SCOPE FOR FURTHER RESEARCH

REFERENCES

APPENDIX/ANNEXURE

The manuscript should preferably be in ***2000 to 5000 WORDS***, But the limits can vary depending on the nature of the manuscript.

12. **FIGURES & TABLES:** These should be simple, crystal **CLEAR**, **centered**, **separately numbered** & self-explained, and the **titles must be above the table/figure**. **Sources of data should be mentioned below the table/figure**. *It should be ensured that the tables/figures are referred to from the main text*.

13. **EQUATIONS/FORMULAE:** These should be consecutively numbered in parenthesis, left aligned with equation/formulae number placed at the right. The equation editor provided with standard versions of Microsoft Word may be utilised. If any other equation editor is utilised, author must confirm that these equations may be viewed and edited in versions of Microsoft Office that does not have the editor.

14. **ACRONYMS:** These should not be used in the abstract. The use of acronyms is elsewhere is acceptable. Acronyms should be defined on its first use in each section e.g. Reserve Bank of India (RBI). Acronyms should be redefined on first use in subsequent sections.

15. **REFERENCES:** The list of all references should be alphabetically arranged. ***The author (s) should mention only the actually utilised references in the preparation of manuscript*** and they may follow Harvard Style of Referencing. **Also check to ensure that everything that you are including in the reference section is duly cited in the paper**. The author (s) are supposed to follow the references as per the following:

- All works cited in the text (including sources for tables and figures) should be listed alphabetically.
- Use (**ed.**) for one editor, and (**ed.s)** for multiple editors.
- When listing two or more works by one author, use --- (20xx), such as after Kohl (1997), use --- (2001), etc., in chronologically ascending order.
- Indicate (opening and closing) page numbers for articles in journals and for chapters in books.
- The title of books and journals should be in italic printing. Double quotation marks are used for titles of journal articles, book chapters, dissertations, reports, working papers, unpublished material, etc.
- For titles in a language other than English, provide an English translation in parenthesis.
- ***Headers, footers, endnotes*** *and* ***footnotes*** *should* ***not be used*** *in the document.* However, **you can mention short notes to elucidate some specific point**, which may be placed in number orders before the references.

PLEASE USE THE FOLLOWING FOR STYLE AND PUNCTUATION IN REFERENCES:

BOOKS

- Bowersox, Donald J., Closs, David J., (1996), "Logistical Management." Tata McGraw, Hill, New Delhi.
- Hunker, H.L. and A.J. Wright (1963), "Factors of Industrial Location in Ohio" Ohio State University, Nigeria.

CONTRIBUTIONS TO BOOKS

- Sharma T., Kwatra, G. (2008) Effectiveness of Social Advertising: A Study of Selected Campaigns, Corporate Social Responsibility, Edited by David Crowther & Nicholas Capaldi, Ashgate Research Companion to Corporate Social Responsibility, Chapter 15, pp 287-303.

JOURNAL AND OTHER ARTICLES

- Schemenner, R.W., Huber, J.C. and Cook, R.L. (1987), "Geographic Differences and the Location of New Manufacturing Facilities," Journal of Urban Economics, Vol. 21, No. 1, pp. 83-104.

CONFERENCE PAPERS

- Garg, Sambhav (2011): "Business Ethics" Paper presented at the Annual International Conference for the All India Management Association, New Delhi, India, 19–23

UNPUBLISHED DISSERTATIONS

- Kumar S. (2011): "Customer Value: A Comparative Study of Rural and Urban Customers," Thesis, Kurukshetra University, Kurukshetra.

ONLINE RESOURCES

- Always indicate the date that the source was accessed, as online resources are frequently updated or removed.

WEBSITES

- Garg, Bhavet (2011): Towards a New Gas Policy, Political Weekly, Viewed on January 01, 2012 http://epw.in/user/viewabstract.jsp

ASSESSMENT OF CHALLENGES AND OPPORTUNITIES OF VALUE ADDITION IN SIDAMA COFFEE VALUE CHAIN: THE CASE OF DALE DISTRICT, SOUTHERN ETHIOPIA

HIWOT ABAYNEH AYELE
LECTURER
SCHOOL OF ENVIRONMENT
GENDER & DEVELOPMENT STUDIES
HAWASSA UNIVERSITY
HAWASSA

YITNA TESFAYE
LECTURER
SCHOOL OF ENVIRONMENT
GENDER & DEVELOPMENT STUDIES
HAWASSA UNIVERSITY
HAWASSA

YAYNABEBA ABAYNEH
LECTURER
SCHOOL OF ENVIRONMENT
GENDER & DEVELOPMENT STUDIES
HAWASSA UNIVERSITY
HAWASSA

WORKALEMAHU TASEW
LECTURER
SCHOOL OF ENVIRONMENT
GENDER & DEVELOPMENT STUDIES
HAWASSA UNIVERSITY
HAWASSA

ABSTRACT

Coffee has a great social, cultural and livelihoods importance for the majority of Ethiopian population and to the national economy as well. This paper focuses on assessment of challenges and opportunities of value addition in sidama coffee value chain. Key Informant Interview (KII), Focus Group Discussion (FGD) and surveys were conduct to collect qualitative and quantitative data from key stakeholders in the coffee value chain. Qualitative data analysis methods and statistical analytic techniques were used to analyze the data. The survey result identified land, disease and climate change as the three major constraints for coffee value addition. In contrary, the three major opportunities identified were demand for coffee, extension services & government policy. These results were further complemented by findings of the FGD and KII which identified dependence on rain-fed agriculture, disease, and lack of expert in the coffee sector as the major constraints and availability of trainings, increase in the price of coffee, the availability of Awada research center as opportunities. Disease was identified as the major constraint in the process of value addition, which calls the focus of research centers on releasing new varieties and tackle the problem. In addition, the dissemination of modern input technologies should be focused to increase productivity. Effort should also be made to strengthen farmers' cooperative and encourage collective action of farmers to lower transaction costs to access inputs.

KEYWORDS
coffee, value chain, value addition, sidama.

JEL CODE
Q13.

1. INTRODUCTION

1.1 BACKGROUND OF THE STUDY

Coffee is the most important agricultural commodity in Ethiopia, both economically and socially. It is one of the most important export crops. (EEA, 2000). It is grown in many parts of Ethiopian. However, the major producing areas are Sidama, Kefa, Wallaga, Iluabbabora, and Hararghe which taken together account for more than 85 percent of national production. According to Mekonen (2009) the total area under coffee production is 0.6 million hectares; and more than 90% of the total production comes from small-scale subsistent farmers who have neither the capacity nor the access to use agricultural inputs.

Coffee has a great social, cultural and livelihoods importance for the majority of Ethiopian population and to the national economy as well. Ethiopians drink nearly 50% of the coffee they produce, and it is tied to complex and strong socio-cultural settings. The country produces more than 30% of the total coffee production in Sub-Saharan Africa. Besides its cultural importance, coffee has been a significant source of export earning to the country. In the year 2012/13 it had 24.2% share in the total export revenue the country generated (NBE, 2014). About 25 % of the total population is dependent on production, processing, distribution and export of coffee (Mekonen, 2009). It also accounts for more than 25 % of GDP, about 40 % of the total export earnings, absorbs around 25% of employment opportunity for both rural and urban dwellers and 10% of the total government revenue (MOA 2008 as cited on Dessalegn, 2009). Coffee, being a leading cash crop in Ethiopia, has a high potential of enhancing the purchasing power of the small holding farmers.

In the country most of the produce is coming from smallholder producers however, they are not gaining much from value addition. Coffee value chain can be seen through three sectors each with different economic and competitive dynamics that are relevant for African policy makers. The first sector is green coffee production i.e. raw coffee beans are the seeds of the coffee cherry and with a varieties of Arabica or Robusta. The second sector is instant coffee production, it is capital intensive activity to manufacture powder or granules and the resulting high levels of minimum efficient scale and the high levels of investment marketing and branding of incumbent. The last one is roast and ground coffee production. In 2009 this sector is much larger than the instant coffee market at $26 bn of value added (ACET, 2011).

Key opportunities to capture value for African countries are: increase the value of green coffee, increasing volume, exploiting high value niche markets and creation of a "coffee hub". Opportunities in processing are production of instant coffee, toll processing of roast and ground coffee, domestic demand creation and promoting coffee origins (ACET, 2011).

In regard to value addition certification and traceability have become major new requirements in the global food trade (Swinnen, 2007), with such certification schemes often implemented to add value to a product (Jena et al., 2012). By guaranteeing the product origin, fair prices to producers, ethical standards of production and processing, environmental sustainability in production, and safety and quality safeguards for a product, international buyers and consumers are often willing to pay extra for a product. Conversely, adhering to those new requirements can be costly. In the global coffee sector, it is estimated that around 16 percent of current coffee production is certified. This share should reach over 25 percent by 2015 (Panhuysen and Van Reenen, 2012 as stated by mintene, 2014).

1.2 STATEMENT OF THE PROBLEM

Ethiopia is the world's 5thand Africa's leading producer of coffee. The country produces 480 thousand tons or 5.6% of world production. It is also the world's 10th coffee exporting country, exporting 198,706 metric ton in 2012/13. Coffee is the leading commodity in generating foreign exchange for the country i.e. 24.2% in 2012/13 (Alemseged and Yeabsira, 2014).

In addition to contributing for foreign exchange coffee sub sector has been characterized by a bunch of opportunities and constraints. Opportunities of coffee industry include favorable policy environment, unique character of coffee quality, birth place of coffee and strong local coffee culture & availability of different varieties of coffee and potential for volume and quality expansion. Besides these most of the cooperatives are getting accesses to different certification schemes. According to Grote et al., 2009 and Wissel et al., 2010 certification is a means to add value to a product. Despite the above opportunities mentioned and others there are a number of challenges related to coffee business. Some of the challenges are inconsistency in quality supply, weak logistic services, weak public private partnership, and weak market information system (Alemseged and Yeabsira, 2014).

Having the above mentioned challenges the participation of smallholder coffee farmers and cooperatives in coffee value addition activities has been limited. Commonly smallholder coffee farmers and cooperatives perform activities like coffee harvesting, sorting, washing, and drying tasks. Besides, the whole chain is facing bottlenecks in using quality inputs and technologies, adulteration, awareness on quality of coffee, and breakups in maintaining trust & commitment among cooperative members. These all contributes negatively for value addition.

The existing opportunities related to value addition of coffee should be identified and the smallholder producers, processors and other value chain actors should capitalize on them. Even though coffee is contributing a lot for income generation of the farmers there are different constraints which prevent the smallholders' farmers from adding value to their product and benefit from participating in the international market. Therefore, this study is designed to deal with the existing information gap on opportunities and constraints of coffee value addition.

1.3. RESEARCH QUESTIONS

1. Who are the actors, what roles do they play & what type of linkages exist among actors in the coffee value chain?
2. What are the opportunities in value addition for smallholder producers & processors?
3. What are the challenges in value addition for smallholder producers & processors?

1.4. OBJECTIVES OF THE STUDY

GENERAL OBJECTIVE

The general objective of this study is to investigate the challenges and opportunities related with value addition in coffee value chain.

SPECIFIC OBJECTIVES

The specific objectives of this study are:

1. To assess opportunities in value addition for small holder producers & processors
2. To asses challenges in value addition for small holder producers & processors

1.5. SIGNIFICANCE OF THE STUDY

The output of this study will be very important for both policy makers and individual implementers who involve in coffee value chain in the study area for planning purpose and other policy issues. On top of this, it can be used as a base for researchers to further study the bottlenecks in value addition in Ethiopian coffee value chain.

2. RESEARCH METHODOLOGY

The study was conducted in coffee production potential area, Dale District Sidama Zone, Southern Nations Nationalities and People's Regional State.

The study was undertaken on coffee producers and processors in Dale district. Key-informant interviews and focus group discussions were held with representatives of major stallholders in the value chain. Most quantitative data were collected directly from producers and processors through survey.

Cross sectional survey was made and two stage sampling procedure was followed. Accordingly, three kebeles were selected from 36 kebeles found in the district purposively based on their coffee production capacity and agro-ecological representation. In the second stage 182 producer households were selected proportional to the size of total population. The size of Sample was determined by using the formulas provided by Cochran (1967) and adjusted for finite population proportion as indicated by Glenn (2013).

Since coffee producer in the three kebeles were assumed to have homogenous attributes in coffee production the variability were assumed to be 15% and sample size was calculated to 196 household (N_0=$(1.96)^2(0.85x0.15)/(0.05)^2$=196) accordingly 182 adjusted sample size estimated by applying finite population correction using 2,486 total population of three kebeles and proportionately samples were taken from each kebeles. (n=196/1+ (196-1)/2,487=182). The individual coffee producer household were selected using, systematic random sampling technique from the list of producers provided by each kebele. In the case of processors 10% was taken and individuals were selected randomly using systematic random sampling method.

Primary data was collected by interviewing techniques using pretested questioner. Collected data was analyzed by using descriptive statistics, econometric analysis and financial ratios.

Descriptive & Inferential statistics: In this study, descriptive and inferential statistics will be found to be important, for the purpose of discussion and comparison of some important variables of the sample.The descriptive analysis will be made by using mean, minimum, and maximum values of sample units while the inferential statistics was made by using chi-square and F-test.

VALUE CHAIN MAPPING

The value chain mapping was used to review distinct value adding functions, which link the production of a commodity (coffee in our case) to its final destination. These ranges of activities include input supply, coffee production, trading, and processing and exporting. For each function, service & facilitation in the chain there are actors who undertake the respective roles. The study was separately identify specific activities/ functions of value addition and the responsible actors undertaking them. The inter-relationships within their segment and with other actors; the value they add to the product; and the constraints and opportunities in the sector in general and the actors face in particular will be analyzed.

For a variety of reasons, a more streamlined and/or participatory form of value chain analysis is preferred, whereby use focus groups and key informant interviews with value chain representatives is emphasized. Focus group discussions with value chain representatives are a cost effective means of sharing experiences and ideas among different kinds of enterprises and institutions operating within the same value chain.

A value chain map presenting all the major actors in the coffee value chain was developed in pictorial form. It comprises information on the different supply channels that transform the product and the different markets or market segments to which products were sold.

SWOT analysis: The SWOT analysis was made to identify constraints and opportunities value chain actors face during value addition. It was done using structured interview guides, focus group discussion and key informant interview with value chain actors.

Narration and triangulation: were used to analyze qualitative data to support the descriptive and SWOT analysis. The qualitative data includes focus group discussion and key-informant interview.

3. RESULT AND DISCUSSION

This section describes the major findings of the study.

3.1. SOCIO-DEMOGRAPHIC CHARACTERISTICS

As it can be verified from the table, 95 % of the sample households were male. With regard to marital status, 89% of total sample respondents are married.

TABLE A: DEMOGRAPHIC CHARACTERISTIC OF SAMPLE COFFEE PRODUCERS

		Kebele						Total Mean and N%	χ^2 /F-value
		QaliteSimita		Chume		BeraTedicho			
		Mean	N %	Mean	N %	Mean	N %		
Age of the Producer		40		47		42		43	4.501***
Sex of the Producer	**Female**		1.1%		4.5%		5.0%	10.5%	4.120*
	Male		29.6%		29.6%		30.2%	89.5%	
Marital Status of the Producer	**Married**		30.0%		28.3%		30.6%	89.0%	10.143*
	Single		0.0%		0.6%		1.1%	1.6%	
	Divorced		0.6%		0.0%		0.0%	0.5%	
	Widowed		0.6%		5.0%		3.3%	8.8%	
Formal level of Education of the Producer		6		6		7		6	1.640
Family size of the producer		5		5		5		5	0.729
Coffee farming Experience		12.69		14.18		23.5		17	26.628***

Source: Own survey result, 2016

N=sample size, *** and * significant at less than 1% and 10% significance level, respectively

The educational background of the sample household heads is believed to be an important feature that determines the readiness of household heads to accept new ideas and innovations. The mean age of the sample households was 42. The one-way ANOVA, F test, revealed that there is difference at 1% level of significance on mean age of farmers among KAs. The data indicates that average family size in each household is 5 members.

The average years of farming experience in coffee production for total sampled household were 17 years. The years of experience show a statistically significant difference at 1% level among the study KAs.

3.2. VALUE CHAIN MAPPING

The actors in value chain can be classified in to three levels based on the roles they play in the value chain (KIT and IIRR, 2010). Accordingly a comprehensive description of each actor in the coffee value chain is presented below.

3.2.1. Value Chain Main Actors

These are the chain actors who directly deal with the products. In our case includes input suppliers, smallholder coffee farmers, local traders coffee farmers cooperative, private coffee processors and share company, coffee union, local and international coffee buyers.

INPUT SUPPLIERS

These are the first actors in the coffee value chain. They play a great role in supplying inputs for smallholder coffee producing farmers. The input suppliers in the woreda includes agriculture office, model farmers, Jimma Agricultural Research Center - Awada sub- center, smallholder farmers, cooperatives and Sidama Coffee Farmers cooperatives union.

In the woreda smallholder coffee producers' use different types of inputs for coffee production, harvesting and processing. These include improved coffee seeds, seedlings, organic fertilizer, coffee shade tree seedlings, small farm tools, alcohol and cotton.

SMALLHOLDER COFFEE FARMERS

In Dale woreda there are 36,236 smallholder coffee farmers, out of which 34,149 are male farmers. The average coffee productivity per hectare in the woreda is 11.62 quintal (Agriculture office, 2016). Their main activity is coffee production and selling coffee bean, seed and seedling to cooperatives, share companies and private processors.

COFFEE FARMERS' COOPERATIVES

There are 18 coffee farmers cooperatives in the woreda out of which 13 are functional. The main activity of the cooperatives include buying coffee from farmers, washing, hulling the coffee, drying, coffee quality controlling like moisture testing, packing, transportation, supplying washed coffee to union, paying premium price and dividends for producers. They used to participate in development work like construction of road, electricity, school (Agriculture office, 2016).

PRIVATE PROCESSORS

They are among the traders of coffee in the woreda and there are 15 licensed private coffee processors in the woreda out of which only 5 are functional. Their main role in the coffee value chain include collecting coffee beans from farmers and perform value adding activities of washing, hulling, drying, storing, and transport to regional coffee grading center.

SHARE COMPANIES

These are enterprises owned by more than one individual shareholders which are established and licensed to perform coffee processing and marketing business activities. There are 18 share company's out of which 11 are functional. They are also engaged in similar value adding activities like private processors.

SIDAMA COFFEE FARMERS COOPERATIVES UNION

Sidama Coffee Farmers Cooperatives Union (SCFCU) was established in 2001 and when the data for this study was collected it has 51 member Coffee Farmers Cooperatives, which have over 87,000 smallholder coffee farmers. The 18 coffee cooperatives found in the study area also perform their activities under this union. The union provides credit service for cooperatives, play market facilitation role, promotion, transportation and storage. In addition it checks whether it meets the certification given for the cooperatives.

3.2.2. Value Chain Supporters

WOREDA AGRICULTURE AND NATURAL RESOURCE DEVELOPMENT OFFICE

The Woreda Agriculture and Natural resource development (WANRDO) office plays a great role in supporting and creating enabling environment for coffee value chain actors. It provides different services like extension service, material supply and capacity building to coffee growers. Their stakeholders are coffee producers, private traders, cooperatives, research centers and consumers.

According to the data from the office the total area covered by coffee tree in the woreda is 14,327.71 ha, out of which 12,468.21ha was productive while 1859.5ha was non productive. In 2016 the total red cherry production of the woreda was 22,489,000kg and average productivity was 11.62 quintal per hectare (KII, 2016).

WOREDA MARKETING AND COOPERATIVE DEVELOPMENT OFFICE

It is primarily mandated to lead and support the establishment of different primary and secondary level producer and marketing cooperatives, including coffee farmers cooperatives. It is also responsible to provide capacity building services to cooperatives.

TRADE AND INDUSTRY OFFICE

It is responsible for licensing eligible private traders, renewing licenses, issuing certificate letter indicating the amount of coffee traded legally and other trade regulation activities and controlling illegal coffee trade.

JIMMA AGRICULTURAL RESEARCH CENTER -AWADA SUB CENTER (JRC)

JRC primarily focuses on conducting research activities on coffee and releases improved coffee varieties. JRC has been the main supplier of improved coffee seeds and seedlings at national level for many since its establishment. It is also established to further extend these activities in Sidama area. In this sub center so far four new coffee varieties were introduced and now it is working to introduce additional eleven new varieties. Besides these, it is also provides technical and awareness creation activities to local producers on coffee production method, including coffee management like shading for coffee, breeding and selecting coffee variety in collaboration with the WANRDO.

3.2.3. Value Chain Influencers

GOVERNMENT ENTITIES

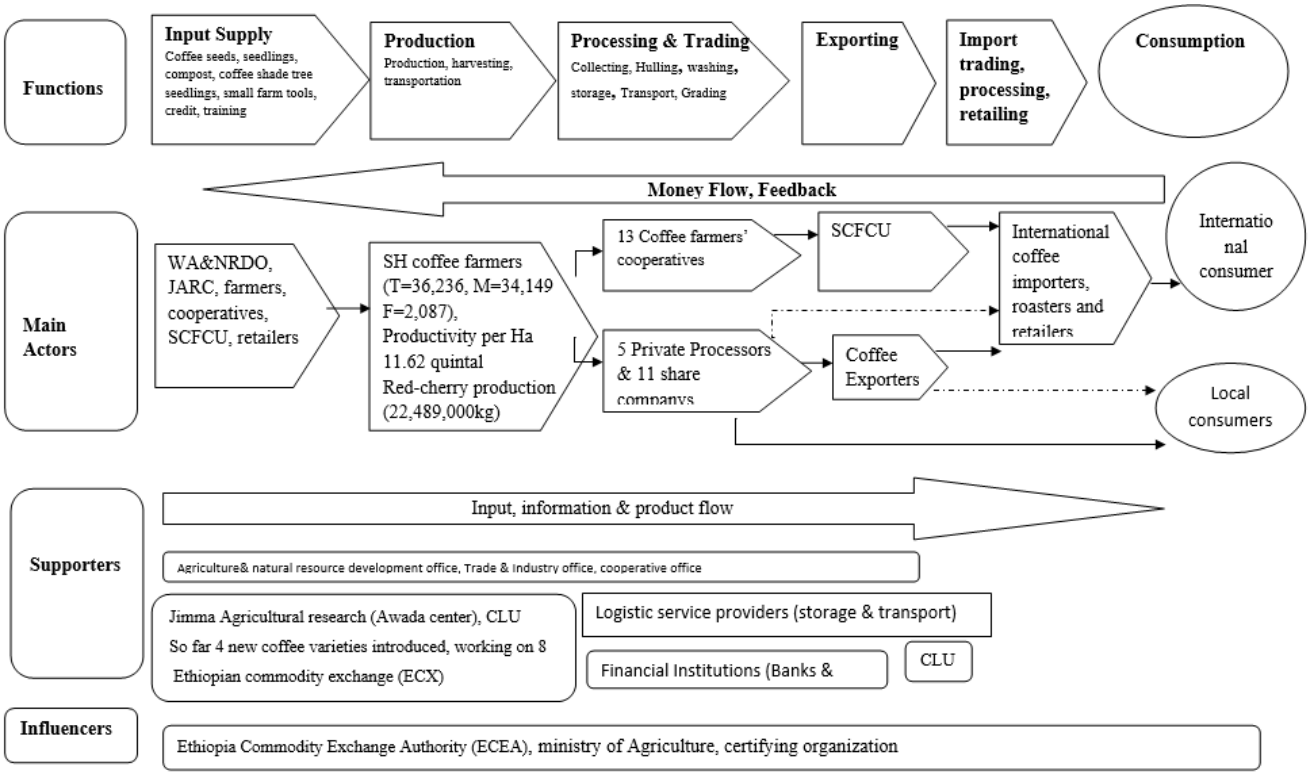
Coffee plays a significant socio-economic role for the country and thus it has been closely controlled by the state through various institutional reforms. The Ministry of Agriculture and Natural Resource Development is one of the higher level state organizations which has a power to determine the places and conditions of coffee transaction and quality control, inspect and grant certificate of quality, and issue certificate of competency to persons engaged in coffee export business (Coffee Quality Control and Marketing Proclamation No. 602/2008). The Ethiopia Commodity Exchange Authority (ECEA) is another regulatory body involved in the marketing system and oversees the implementation of the ECX rules, extend licenses to its members and audit its performance.

INTERNATIONAL THIRD PART CERTIFICATION BODIES

International third part certification bodies on the other side also constitute the coffee value chain context. In the Ethiopian context, and particularly in the case of cooperatives of Sidama area the certification bodies are, Fair-trade Labeling Organization, UTZ Kapeh Foundation, Rainforest Alliance, Starbucks, and Germany based BCS OKO-GARANTIE GMBH. Though each certification body has its own protocols, procedures and requirements, generally they undertaking compliance assessment and certification of producer organization guaranteeing other international buyer that a coffee from these certified producer organizations is produced as per some set standards and certification attributes.

COFFEE VALUE CHAIN MAPPING

FIG. 1: SIDAMA COFFEE VALUE CHAIN MAP



The cooperatives purchase coffee as it is primarily produced and sold by most of the coffee producers in the study area. The duration of their purchasing ranges from October to May. In 2012/3, 53% of the sampled coffee producers marketed coffee through the cooperatives. This figure increased to 58.3% in 2013/4.

The study identifies that, 66.7% of the total respondents' sale coffee through the cooperatives. Among users of the cooperatives, 27% of the respondents use cooperatives to sale their coffee by assuming that cooperatives provide them genuine measurement (no cheating in the weight) of the coffee. Other users, 33.2% of the respondents use cooperatives due to imagining an advantage of patronage refund from cooperatives. Both genuine measurement and patronage refund considered as essential arguments to use cooperatives by 37.7% of the respondents. Genuine measurement and introduction of desirable competition were pointed out by 16% of the respondents. The consistent numbers for patronage refund and introduction of desirable competition were 3.7% and 8.4% respectively. Cooperatives provide other services to the farmers besides supplying farm inputs, purchasing farm produces and extending credit. In the study areas, coffee marketing cooperatives gave coffee washing machine, sacks, and other services. As indicated in Table 2, 46.2% of the sample respondents were beneficiary from these cooperatives services. From the users of cooperatives to sale their coffee 70% of the respondents' get different service provided by the cooperatives, while 24.6 % of the non-users of the cooperatives as marketing agent get different cooperative services. There is statistically significant difference between cooperative users and non-users in getting these services. The significant χ^2 test indicates that more of the sample farmers who used the cooperative as their marketing agents were beneficiary from the services.

3.3. CHALLENGES AND OPPORTUNITIES COFFEE VALUE CHAIN ACTORS

3.3.1. Major challenges of coffee value chain actors

SMALLHOLDER COFFEE PRODUCERS

According to focus group discussion result, coffee production is difficult and costly business because it needs intensive labor. In the area, a laborer should be paid 3 birr/hole in order to dig one hole for cofafee seedling plantation. Whereas the selling price of coffee is low even it is not possible to cover cost of production and compensate the producers. Because of this, some farmers are replacing coffee tree by different crops like *Khat*.

The coffee production in the area is completely follows rain-feed agriculture. Therefore, when there is irregularity on the rainfall pattern like that of 2007 EC the production used to fall down. Disease and theft is also the other constraint for producers, which cause a huge loss on the harvest. The common prevailing diseases include CBD, Welt and new disease outbreak. In addition, cheating in weight machine at cooperative market center is also another problem.

The extension service at kebele level is undertaken by one development agent working on all crops. As it is reported by representative from ANRDO, 2016 the ratio of extension agents to producers is 1:500. Because of this agronomic practice are not properly followed. Additionally, coffee producers do not have enough access for some of the required inputs like scissors, cotton, and alcohol. However, these things are very important for proper coffee tree management.

TABLE 1: CONSTRAINTS OF COFFEE PRODUCERS

Constraint	Frequency(n)	Percentage
Disease	180	100
Theft	180	100
HR	29	16
Land	99	54.4
Certification	16	8.8
Price	49	27.1
Capital	72	39.8
Transport	85	47
Infrastructure	119	66.1
Brokers	152	84
Climate	158	87.3
Brand	33	18.3

Source: Authors' own computation (2016)

The major constraints that were raised by the sampled households were disease, climate, theft, and capital. The entire sampled respondents reported that disease and theft are constraints in the study area. When the respondents asked to rank the constraints land was found to be the first followed by climate, disease and theft as shown in the table below.

TABLE 2: CONSTRAINTS OF COFFEE PRODUCERS RANKED

Constraint	Frequency(n)	Percentage Rank
Land	48	27 1st
Climate	45	25.3 2nd
Disease	37	16 3rd
Theft	23	12.9 4th
Capital	17	9.3 5th
Infrastructure	4	2.2 6th
Broker	2	1.1 7th
Training	1	0.6 8th
Human resource	1	0.6 8th

Source: Authors' own computation (2016)

3.3.2. Coffee Processors

The major coffee processors in the study area were primary coffee cooperatives, private processors and share company. The major challenges faced by traders according to (FGD, 2016) were discussed below.

The quality of coffee that is supplied by the cooperative members has different problems. This includes mixing coffee with foreign material, with coffee that stayed more than 24hours after harvesting and mixing coffee coming from other districts. The processing operations is also continue to be hampered by infrastructure constraints, especially with regard to access to clean water and good transportation system. The quality of coffee depends on the water used for fermenting and washing. Coffee processors have different market centers that are near to consumers in the village however when it is raining, it is difficult for the truck to bring the collected coffee to the processing cite on time.

Absence of coffee quality expert in each coffee processing site is among the constraints. There is only one coffee quality expert for 39 kebeles (51 hulling machine) Because of lack of quality expert they are using market linkage expert after short training about quality of coffee but the result is not sufficient. In reality they are a key player in determining the quality of coffee since they are responsible for measuring moisture, loading packing and the like.

Poor infrastructure facility that makes transportation difficult and thus quality of coffee beans is deteriorating. The profit for producers is low because of high cost of labor, transportation and the system of exporting. Transportation cost is becoming very high because the truck used to stay a number of days waiting for a queue. Some of the reasons for the truck to stay at ECX for a long are absence of electric power, waiting for grading etc, The payment for a truck per day is 1000birr because of this rather than transporting coffee to ECX the trucks prefer to transport wood to Nazeret. But ECX is reporting that they can serve 60 trucks per day but in reality, only 15-20 trucks were served. The price of Sidama coffee is falling down among the other reasons one is electric power fluctuation.

Poor farming practice of the producers is becoming one of the challenges in the district. Those producers who use the proper agronomic practice package are producing 157-160 kg per ha and those who fail to use are producing 30 to 40 kg per ha. Some producers are planting coffee with *khat* and it takes all the minerals from the soil and results floating beans.

On the side of processing firms, the sites were not studied before planting the coffee processing machine. Waste materials */legage/* is entering to the water and the rivers are polluted. It is becoming difficult to find clear water for livestock and domestic use. If it is possible to bring technology to control pollution from coffee washing, it will be best.

The capacities of the machineries are very limited because they are very obsolete. If one cooperative purchase 50,000 kg then for processing it takes one or two days. At those times, the sites must announce for producers not to harvest coffee beans since it will be difficult for them to process it. Therefore; those who have already harvested will fail to sell or they will sell it another time by mixing it with the new one and this will reduce the quality of coffee (FGD, 2016).

All the sampled processors reported that disease, theft and brokers are the major challenge they were facing. Disease ranked first followed by brokers.

AGRICULTURE AND NATURAL RESOURCE DEVELOPMENT OFFICE

The major challenges according to FGD & KII were discussed below:-

Poor access to transportation services for extension agents. They do not have enough transportation facilities for providing technical support for producers. They reported that the ratio of extension agents to Motorbike is one to thirteen ration (1:13). In addition, there is also lack of human power especially related to the sector that specializes in coffee quality management. The crop experts are responsible for any technical advice related to coffee tree. Even there is only one coffee quality expert for all coffee processors.

Shortage of budget to supply different inputs for producers is also another challenge for the office. Each year the office has a limited budget to buy and supply different inputs like scissors, cotton, and alcohol for coffee growers.

There is no incentive for producers based on quality supplied; brokers are used to cheat producers, ownership of coffee i.e. Coffee is under the control of the male household so the wife and children used to steal and sell coffee, this contributes for the expansion of illegal coffee trade and the size of the land holding is also small.

3.2.4 Awada Research center

According to key informant interview, the followings are the major constraints:-

The nature of the crop: For other crops like *chat,* it is possible to harvest three times per year but because of perennial nature of coffee tree the harvesting time is once per year. The other is by its nature coffee tree needs more care.

Production and productivity in Sidama zone is decreasing because of management problem. In the study area, most of producers are not willing to remove old trees which are less productive and replace them by the new once. There are different challenging diseases like CBD, Welt and new disease outbreak which are causing a huge loss to the producers.

There is no incentive for those who are producing quality coffee beans; the price is equal for all producers who are supplying different quality coffee beans. These discourage producers from producing high quality coffee.

3.3.3. Major opportunities of coffee value addition

AGRICULTURE AND NATURAL RESOURCE DEVELOPMENT OFFICE

The major opportunities of Sidama coffee as it is reported by the office of agriculture during interview and focus group discussion, 2016 are: The agro climate of the area is very convenient to coffee production. Coffee is cash crops in the area because of these producers are committed in producing coffee. The economy of the district is highly dependent on coffee. Therefore, at the time of harvest and processing everyone is alert and busy to support the sector. The other opportunity is the increased in demand of coffee especially starting from last three years the demand for coffee is increasing in local market. Availability of market centers of processors in each kebeles that simplify transportation of producers.

COFFEE PRODUCERS

Coffee producers describe different opportunities and the major once are: Availability of different training for producers, the price of coffee is increasing, the availability of Awada research center (FGD, 2016)

The survey result showed Demand for coffee, extension services, training and government policy was reported as an opportunity by the entire sampled households. Certification, human resource and brand were reported by 91.2%, 84% and 81.7% households respectively.

TABLE 3: OPPORTUNITIES OF COFFEE PRODUCERS

Opportunity	n	Percentage
Training	180	100
Demand for coffee	180	100
Extension service	180	100
Government policy	180	100
HR	152	84
Land	82	45.3
Certification	165	91.2
Price	132	72.9
Capital	109	60.2
Transport	96	53
Infrastructure	61	33.9
Brokers	29	16
Climate	23	12.7
Brand	147	81.7
Training	180	100

Source: Authors' own computation (2016)

When the respondents asked to rank the opportunities demand for coffee was found to be the first followed by extension service and government policy as shown in the table below.

TABLE 4: OPPORTUNITIES OF COFFEE PRODUCERS RANKED

Opportunity	n	Percentage Ranked
Demand for coffee	48	27 1st
Extension service	38	21 2nd
Government policy	38	21 2nd
Human resource	20	11 4th
Climate	16	9 5th
Coffee price	6	3.3 6th
Infrastructure	6	3.3 6th
Training	4	2.2 7th
Capital	4	2.2 7th

Source: Authors' own computation (2016)

4. CONCLUSION AND RECOMMENDATIONS

4.1 CONCLUSION

The finding of this study shows the major challenges for coffee value addition were disease, climate, theft, and capital, thus research centers should focus on releasing new varieties, which resist the prevailing disease. Agriculture office should assign quality control expert to improve the quality of coffee and get better price.

A respective government institution has to work on the production of input facilities and harvesting technologies so that the export standards are met. Different stockholders should participate on the provision of farm tools like scissor and Quality expert to support extension agents and cooperatives

The major opportunities are availability of genetic diversity, convenient agro-climatic zone, indigenous knowledge, and known coffee brand at both local and international market.

4.2. RECOMMENDATIONS

On the basis of the results of this study, the following policy implications are drawn so as to suggest for the future intervention strategies aimed at the promotion of coffee production and marketing in the study area in particular and in the country in general.

- Effort should also be made to strengthen farmers' cooperative and encourage collective action of farmers to lower transaction costs to access inputs. Cooperatives can be very successful in dealing with both information asymmetry and in attaining competitive edge. They do this through collective action, pooling resources and lowering the unit cost of transaction.
- Providing an enabling environment for micro finance organizations is critical for delivering financial services to the producers and processors who are in need of cash.
- A respective government institution has to work on the production of input facilities and harvesting technologies so that the export standards are met.

REFERENCES

1. Alemseged Assefa andYeabsira Zewdu, 2014.Coffee export business in Ethiopia: Business start-up and operational manual. ECEA, Addis Ababa. 112p.
2. Dessalegn G. 2009. The performance of coffee marketing in south west Ethiopia: the case of bench maji zone. M.Sc Thesis, Department of Agricultural Economics, Haramaya University, Haramaya, Ethiopia
3. ECEA (Ethiopian Coffee Exporters Association) 2013. Ethiopia's coffee export performance report 2013. Addis Ababa, Ethiopia
4. EEA (The Ethiopian Economic Association) 2000. Annual Report on the Ethiopian Economy. The 2000 Ethiopian Economic Association Report, Addis Abeba, Ethiopia
5. Glenn D. Israel, 2013. Determining sample size, The Institute of Food and Agricultural Sciences (IFAS) University of Florida (UF) Gainesville, FL 32611.
6. Grote. U. 2009. Environmental Labeling. Protected Geographical Indications and the Interests of Developing Countries, The Estey Centre Journal of International Law and Trade Policy 10(1). pp. 94-110.
7. Jena P. R. Bezawit B.C. Stellmacher T. and Grote U. 2012. The impact of coffee certification on small-scale producers' livelihoods:a case study from the Jimma Zone, Ethiopia. Agricultural Economics 43: 429–440.
8. Mekonen HailemichaelSalla. 2009. Influence of genotype, location and processing methods on the quality of coffee (coffe aarabica l.). MSc. Thesis. Hawassa University, Hawassa, Ethiopia. 105 p.
9. Minten B. Tamru S. Kuma.T. and Nyark.Y. 2014. Structure and performance of Ethiopia's coffee export sector, IFPRI, Working paper 66, 2014.
10. NBE 2014. Annual Report 2012/13. Available online at: http://www.nbe.gov.et/publications/annualreport.html.
11. Wissel, S., A.Berghöfer,R.Jordan, S. Oldfield andT. Stellmacher 2010.Certification and Labelling. In: TEEB - The Economics of Ecosystems and Biodiversity for Local and Regional Policy Makers. United Nations Environment Programme: 161-171.

REQUEST FOR FEEDBACK

Dear Readers

At the very outset, International Journal of Research in Computer Application & Management (IJRCM) acknowledges & appreciates your efforts in showing interest in our present issue under your kind perusal.

I would like to request you to supply your critical comments and suggestions about the material published in this issue, as well as on the journal as a whole, on our e-mail **infoijrcm@gmail.com** for further improvements in the interest of research.

If you have any queries, please feel free to contact us on our e-mail **infoijrcm@gmail.com**.

I am sure that your feedback and deliberations would make future issues better – a result of our joint effort.

Looking forward to an appropriate consideration.

With sincere regards

Thanking you profoundly

Academically yours

Sd/-
Co-ordinator

DISCLAIMER

The information and opinions presented in the Journal reflect the views of the authors and not of the Journal or its Editorial Board or the Publishers/Editors. Publication does not constitute endorsement by the journal. Neither the Journal nor its publishers/Editors/Editorial Board nor anyone else involved in creating, producing or delivering the journal or the materials contained therein, assumes any liability or responsibility for the accuracy, completeness, or usefulness of any information provided in the journal, nor shall they be liable for any direct, indirect, incidental, special, consequential or punitive damages arising out of the use of information/material contained in the journal. The journal, neither its publishers/Editors/ Editorial Board, nor any other party involved in the preparation of material contained in the journal represents or warrants that the information contained herein is in every respect accurate or complete, and they are not responsible for any errors or omissions or for the results obtained from the use of such material. Readers are encouraged to confirm the information contained herein with other sources. The responsibility of the contents and the opinions expressed in this journal are exclusively of the author (s) concerned.

ABOUT THE JOURNAL

In this age of Commerce, Economics, Computer, I.T. & Management and cut throat competition, a group of intellectuals felt the need to have some platform, where young and budding managers and academicians could express their views and discuss the problems among their peers. This journal was conceived with this noble intention in view. This journal has been introduced to give an opportunity for expressing refined and innovative ideas in this field. It is our humble endeavour to provide a springboard to the upcoming specialists and give a chance to know about the latest in the sphere of research and knowledge. We have taken a small step and we hope that with the active co-operation of like-minded scholars, we shall be able to serve the society with our humble efforts.

Our Other Journals