

VALUE ADDED AGRICULTURE: AN ANALYSIS OF ECONOMIC RELATIONS IN THE COFFEE VALUE CHAIN IN THE NORTH WEST REGION OF CAMEROON**Peter NGEK SHILLIE¹****Mary Juliet BIME EGWU²****Abstract**

This study analyses profitability with respect to value added in the coffee value chain in the North West Region of Cameroon. As objective, this study examined the economic relations at different stages of the coffee value chain. Thus, the study analysed the prices, costs, margins and profit sharing at different stages in the coffee value chain in the North West Region of Cameroon. Purposive sampling technique was used to select 40 respondents from two divisions (Mezam and Bui) who formed the study sample. Analysis employed the Cost-Return and Benefit-Cost technique to measure profitability at selected stages (coffee producers/farmers, coffee processors, coffee exporters and coffee retailers) in the value chain. Results showed that the cost of production of dry parchment, green bean, powder coffee and brewed coffee was Franc Financial Community of Africa - FCFA103,027/ha, FCFA 2,933.7/kg, FCFA 1,043.12/kg and FCFA 7,335/kg respectively with Net Profits of FCFA 15,192, CFA 1,566.3, FCFA 528.88 and FCFA 4,665 respectively. Furthermore, Benefit-Cost ratio analysis revealed that the coffee value chain is a profitable sector with Benefit-Cost values of 1.1, 1.5, 1.5 and 1.6 respectively for coffee producers/farmers, coffee processors, coffee exporters and coffee retailers. Though profitable, the study uncovered that coffee producer who apparently at the beginning of the value chain doing most of the job received the least benefit when compared with other actors. This study provided evidence that retailers were most benefited in the value chain compared to coffee producers, processors and coffee exporters. The study recommends that for a profitable coffee business within the study area, the government, coffee cooperatives and all the actors along the value chain should work in close collaboration.

Key words: Profitability, Coffee Value Chain, Benefit Cost Analysis, Cost Return, Coffee, Cameroon

1. Introduction and Problem

Agricultural value chains are seemingly gaining more attention across the world, apparently due to the need to minimize post-harvest losses, increase food availability and promote the profit motive behind agribusiness activities. Cameroon, a developing economy with agriculture being the backbone activity has embraced activities with the aim of ensuring value added in agriculture. According to Giri, (2006), for economic reasons, *Coffea Arabica* and *Coffea Robusta* are the two main

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species of coffee grown worldwide. As observed, in the western highlands of Cameroon, *Coffea Arabica* is widely grown.

Coffee production across the world is a big agro-industrial activity, estimated to be a source of livelihood to over 25million small holder farmers, with daily consumption estimated at 2.25 billion cups (Ponte, 2002). This implies that if well exploited, stakeholders in the coffee value chain can have their livelihoods improved especially those in the developing world.

In Cameroon, International Coffee Organization (ICO), (2017) estimates that the domestic coffee value chain provides close to 4million jobs. Further, ICO (2017) notes that within the coffee value chain in Cameroon, small holder farmers are the poorest especially post 1990 with the liberalization of the coffee sub sector in Cameroon. Apparently, the coffee sector liberalization move was aimed at professionalizing and creating more market opportunities for coffee farmers (Wessen, and Oehmke, 2001), an objective which has not been attained as a decline in production has been registered over the years (ICO, 2017).

Seemingly, Cameroon's rich biodiversity and the good climate for coffee production have not been fully exploited for coffee production. This accounts for why production volumes have been stagnating and even declining over the years ICO (2017). There is no doubt that several issues notably aging farms, lack of interest from farmers, the cutting down of coffee trees substituting them with cocoa and other cash crops, lack of access to capital amongst others are plaguing the coffee sub sector in Cameroon. Despite the existing challenges, there still exist avenues for growth if investment is carefully done. Apparently, most actors in the coffee value chain in Cameroon have failed to see the potential profits they will achieved if they produce high quality coffee demanded in the world market. Given the huge number of jobs available in the coffee value chain in Cameroon, it is important that profitability analysis of investing in the coffee sector be reassessed and information on its profitability made available. This may inform public opinion and motivate investments as such revamping the coffee sector in Cameroon.

In Cameroon as is the case across the world, the coffee sector has both private and public sector participants. The International Trade Center (ITC) (2009) observes that in Cameroon, statistics suggest that approximately three million people (about 423,000 households involving about 2,961,000 people) are benefiting from the coffee value chain activities (production, milling, marketing, processing and distribution, quality control and phytosanitary treatment, and ancillary services, notably transport, port handling and transit). Further, ITC (2009) argues that the contribution of the coffee value chain to job creation is significant with production activity accounting for 94.6% of the jobs created in the sector, compared to factory work with only 2.4%, marketing with 2.4%, processing and distribution with 0.2%, quality control and plant health treatment with 0.2% and ancillary services (transport, loading and unloading, and transit) with 0.2%.

The coffee sector in Cameroon is made up of actors of both the private and public sector. Private sector coffee activities are overseen by the Cocoa and Coffee Inter-professional Board (CICC), which provides assistance on issues relating to

development, marketing, financing and taxation The CICC is comprised of associations (Farmers, Exporters, Processors and Factories/Buyers) and according to ICO, (2017), there are 13 associations duly recorded in the register of the CICC partitioned as follows: 2 in the East region, 4 in the North-West region, 2 in the Littoral region and 5 in the West region.

In the North West Region, NWCA is the key player in the coffee sector. In terms of production and marketing of Arabica coffee, NWCA has often been ranked amongst the first three in the country. It is a peasant farmer-organization comprising over 35,000 registered members situated all over the North West Region of Cameroon. Its members are represented by the general assembly made up of 45 members drawn from the base Cooperative Primary Marketing Society (CPMS) from where they form the Secondary Cooperatives (Area Cooperative Unions) and eventually the apex North West Cooperative Association Ltd (NWCA Ltd). There is also the Board of Directors (BOD) made up of 11 members and a supervisory committee made up of 5 members who act as “watch dogs” (NWCA Archives).

The public sector comprises of the National Cocoa and Coffee Board(NCCB) and other government involvement such as the Ministry of Scientific Research and Innovation which carries out research into enhanced varieties, the Ministry of Agriculture and Rural Development mainly responsible for organizing extension services concerning agricultural techniques and projects that focus on the production and distribution of plant material, and the Ministry of Trade, responsible for regulating trade operations.

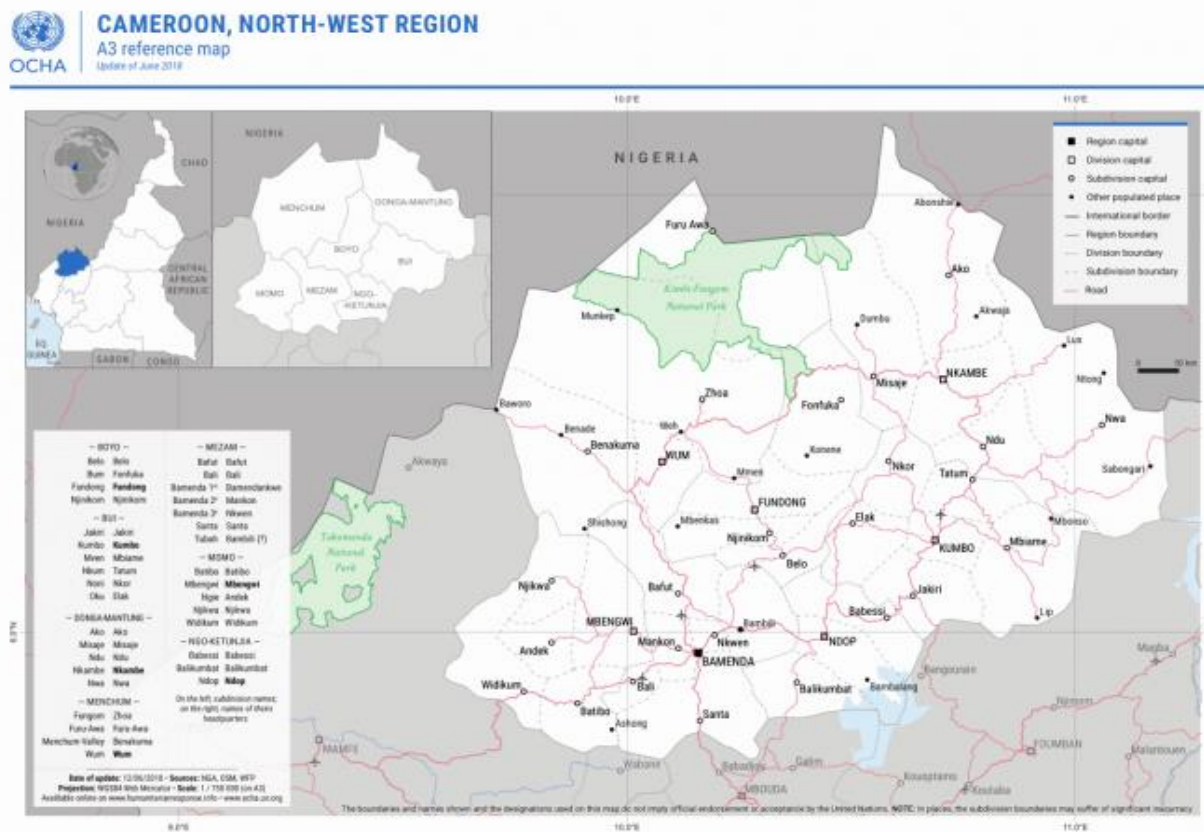
Given the situation of coffee farming in Cameroon, it is hoped that this study will provide insights that may help farmers, investors and policy makers in varied ways. For example, farmer and those interested in investing in the coffee value chain may be able to understand the likely profitability at the different stages so as to best decide which stage they may invest in. Further, given the high orientation of the Cameroonian economy on agriculture, policy makers may consider intensifying support towards coffee farming as a way of boosting earning and improving livelihood of citizens engaged in coffee farming in the North West Region of Cameroon.

Against this background, this study focuses on examining the economic relations functioning at different stages of the coffee value chain. Thus, the study seeks to analyze the prices, costs, margins and profit sharing at different stages in the coffee value chain in the North West Region of Cameroon.

1.2. Study Area

This study was carried out in the North West Region of Cameroon, particularly in the Mezam and Bui divisions. The region covers a surface of 17300km². The North West Region is found in the Western highlands of Cameroon and it lies between latitude 5o 40’ and 7o, to the north of the equator, and between longitude 9o45’ and 11o 10’, to the east of the meridian. It is bordered on its southwest by the South West Region, to the south by the west region, to the east by the Adamawa region and to the North by the Federal Republic of Nigeria. Like other regions in Cameroon, the North West Region is made up of seven administrative divisions Bui: Ndonga-Matung, Menchum, Mezam, Momo, Boyo and Ngoketunjia. The economy of the region is

predominantly rooted in agriculture. The map below shows a detail picture of the North West Region of Cameroon.



Source: <https://reliefweb.int/map/cameroon/cameroon-north-west-region-a3-reference-map>
 Accessed July 17 2020

2. Literature Review

2.1. Value Chain/Value Added Agriculture

Several scholarly works have exemplified the value chain concept. According Porter (1985), a value chain describes the activities an organization performs and links them to the organizations competitive position. Porter (1985) thus argues that value chain analysis describes the activities within and around an organization and relates them to an analysis of the competitive strength of the organization.

To USDA (2015), value-added agriculture is “the physical segregation of an agricultural commodity or product in a manner that results in the enhancement of the value of that commodity or product.” This implies that the changes resulting from value adding activities will result in an expansion of the customer base for the agricultural commodity as such increasing revenue generation potential of the commodity which is spread across the chain actors.

Others have also viewed the concept of value chain purely from the economics of production and a consumer preferences. For example, Coltrain, Barton, and Boland (2000) and Amanor-Boadu (2003) arguing that value added initiatives cannot replace efficient production. They also argue that the maximization of a farm's internal efficiencies, an assessment of technical and economic feasibility should be first considered and ensured before engaging in value addition initiatives.

In the viewpoint of Lu and Dudensing (2015) value added agriculture entails performing traditional activities, engaging in vertical integration, and adopting production practices that change the raw product characteristics. This study builds on this definition as well as others to examine the economic relations existing as a result of value added at the different stages of the coffee value chain in the North West Region of Cameroon.

As observed by Shillie, Bime, Balgah, and Wiysherinyuy (2019) studying profitability in small holder maize farming in Tubah North West Region of Cameroon, the situation of farmers is not the best as production cost is continuously increasing. As indigenous farming dominates small holder farming in Cameroon, Njomo, Arnolds and Shillie (2019) upholds that enhancing the indigenous knowledge systems of small holder will bring about significant gains as postharvest losses will be minimized. Building on these studies, this study examines economic relations in value added agriculture in coffee farming in the North West Region of Cameroon where indigenous knowledge system is at the center of activities notably farm production.

2.2. The Cost-return Value Added Agriculture Nexus

The cost-return value added agriculture nexus is multifaceted. Apparently, decision making will vary at the different stages thus bringing about variations in benefits among value added agriculture chain actors. According to Aw, Chen, and Roberts, (2001) in small holder farming systems, decisions are influenced by profit expectation, utility maximization and risk aversion. Apparently, these factors will influence production decisions in coffee farming in the North West Region of Cameroon.

As is the case with other commodities, the economic relations at the different stages of the coffee value chain will highly be determined by the level of customer value added. Coltrain, Barton, and Boland. (2000). Thus, higher customer value added will result in higher returns. Unfortunately, small holder farming systems appear to pay little attention to value added due to several challenges plaguing smallholder farmers (Nguiffo & SonkoueWatio, 2015; Achancho, 2013). Further, ICO (2017) notes that coffee production in Cameroon is in a decline due to ageing coffee trees insufficient access to inputs among others. This implies that production quality is low and thus negatively affecting returns for farmers.

For sure, direct marketing is a major way that producers can add value and derive more returns from their efforts (Siebert, Jones, & Sporleder. 1997; Coltrain, Barton, and Boland. 2000). Unfortunately, the coffee farmers in Cameroon with their small holding farms have not been able derive benefits from direct marketing even with the liberalization of the coffee sector (Wessen, and Oehmke, 2001), largely due

to the fact that coffee is largely produce for exportation. For this reason, prices of coffee beans have been largely determined by the buyers at the detriment of the farmers. A similar situation seems to exist even at the level of the cooperatives when they sell in the world market.

Coffee shops appear to be the lone actors in the coffee value chain creating value for known customers. According to Born (2001), when customers perceive that a business is creating high quality value for them, profits will be high as the customers will be able to pay higher prices for the high-quality value created. Unfortunately, coffee producers and exporters in Cameroon are highly challenged in this situation as they turn to compete in the international market with coffee from other parts of the world. However, since every business activity is viewed as a value chain, then actors in the coffee value chain need accept the reality and gear activities at creating higher value for customers so as to be competitive and make more financial gains.

Sustaining coffee supply and value chains demands that, end to end value chains should function as cost effective systems significantly impacting positively on rural livelihoods (Nguyen & Sarker, 2018). As noted by Crowdera and Reganold (2015), sustainable farms are those that bring about higher economic gains averagely 27% to owners thanks to higher yields and price premium of sustainable products. Apparently, these may be achieved through innovation that helps value chain actors adapt to changes in the market, explore new ideas and network/develop alliances.

Given the varied literal reviewed above, this study focuses on examining the economic relations at different stages of the coffee value chain. Thus, the study analyzed the prices, costs, margins, and profit sharing at different stages in the coffee value chain in the North West Region of Cameroon.

3. Methodology

This study adopts a quantitative research design. The purposive sampling technique making use of multi-stage procedure was employed in selecting study participants. First stage was the purposeful selection of Bui and Mezam Division as the Divisions within the North West Region where all actors within the coffee value chain where found. The next stages involved the identification and selection of study participants to constitute the study sample. A sample of 40 consisting of 30 coffee producers, 2 processing firms (NWCA(Kola Coffee) and Bime Coffee -the main processing firms found in the region so all were retained), 3 exporters (NWCA(Kola Coffee), Bime Coffee and OLAM) and 5 coffee shops were selected and retained for this study. The analysis in this study focused on data collected in the 2018/2019 coffee farming season. Using questionnaires and interview guides, primary data was collected. Secondary data was through desk review of reports and other documented literal works.

The cost-return analysis, and the benefit-cost analysis was used to estimate profitability of the coffee business at different stages in the value chain in the study area. The cost-return analysis used is derived as follows:

$$TC=TVC+TFC \dots\dots\dots (1)$$

From cost equation 1, the average cost equation and the total variable cost equations were derived as:

$$AC=TC/Q \dots\dots\dots (2)$$

$$TVC=\sum\gamma Xi \dots\dots\dots (3)$$

To estimate revenue at different stages of value added, the total revenue and the average revenue equation used were:

$$TR=\sum PiQ \dots\dots\dots (4)$$

$$AR=TR/Q \dots\dots\dots (5)$$

Gross margin was estimated from the total revenue and total variable cost equation. This resulted in the gross margin equation as seen below:

$$GM=TR-TVC \dots\dots\dots (6)$$

From the gross margin equation, total fixed cost was factored in and net income estimated for the respective actors. The net income estimation equation used was:

$$NI=(TR-TVC)-TFC \text{ or } GM-TFC \dots\dots\dots (7)$$

It is worth noting that NI is the net income, TR is the total revenue, GM is the Gross Margin, AR is the average revenue, TVC is total variable cost, TC is the total cost, AC is the average cost, P is unit price of output, Q is total output, X is variable input, γ is unit price of input X and TFC is total fixed cost.

Further, the benefit-cost analysis utilized was derived thus B/C Ratio= TR/TC

In this study, total revenue was denoted by gross income and total cost was the summation of all the Fixed Cost and Variable cost. Building on Dreze and Stern (1987), the benefit-cost analysis will help in informing decision such that where:

B/C ratio is greater than 1, the farm business is considered to be profitable

B/C ratio is less than 1, the farm business is considered to be unprofitable

B/C ratio is equal to 1, the farm business is at breakeven point

5. Results and Discussions

Part A: Results

Profitability analysis was done at the four major levels of the coffee value chain, namely, coffee producer, coffee processor, coffee exporter and coffee retailer. The results were presented separately to ease comparison. Prior to doing profitability analysis, a statistical situation on coffee production in Cameroon for the past 10 years was briefly discussed.

5.1. An Overview of Coffee Production, Consumption and Exportation in Cameroon

According to OLAM (2017), coffee farming is typically small holder farm sizes ranging from 0.25 hectares to 3 hectares. Further, OLAM (2017) upholds that given the small farm sizes, production is predominantly organic especially in the North West Region of Cameroon. Similarly, Exportsnews (2020) indicates that the North West Region is the leading coffee production region in Cameroon especially for Robusta coffee with production being highly organic.

Secondary data generated from the International Coffee Organisation (2020) for the production period spanning 2009/10 to 2018/19, coffee production in Cameroon has been fluctuating, with the 2018/19 farming season recording the lowest production. The table below shows the summary statistics on production, consumption, and exportation for the last 10years.

Table 1: Coffee Production, Consumption and Exportation for The Period Spanning 2009/10 To 2018/19 In Cameroon

Farming Season	Production	Domestic Consumption	Exportation
2009/10	902	69	833
2010/11	527	68	459
2011/12	669	70	599
2012/13	371	72	299
2013/14	404	73	330
2014/15	483	75	408
2015/16	391	76	315
2016/17	292	77	215
2017/18	370	78	292
2018/19	270	78	192

Source: ICO (2020)

Note : Figures are in thousand bags. Each back equal 60 kgs.

As observed from the table above, domestic consumption is far below exportation. This implies that coffee is cultivated with the exportation motive. Building on the fact that production is rudimentary, with aging farms and the non-use of fertilizers, production volumes are bound to be low as such lowering productivity and profitability especially for farmers.

5.2. Profitability Analysis of Production Stage-Fresh Cherry and Dry Parchment

Data collected from coffee producers was analysed to show the different cost associated with fresh cherry and dry parchment production. Also, the Benefit cost analysis was done, and the results were captured as seen in the table below:

Table 2: Cost and Benefit Analysis – Fresh Cherry and Dry Parchment Production

Cost Analysis		Benefit Analysis	
Cost Type	Mean Values (N=30)	Elements	Mean Values (N=30)
Harvesting labour costs	24,964.80	TVC	98,085
Cultural practices labour costs	11,962.30	TFC	4,942
Manuring cost	4,160.80	Total revenue (TR)	118,219
Plant protection and other costs	46,075	Average revenue (AR)	746.6
Pulping labour costs (pulping, washing and drying)	10,922.10	Gross margin (GM=TR-TVC)	20,134
Total variable cost of production (TVC)	98,085	Net profit/income (NI=GM-TFC)	15,192
Total fixed cost (TFC)	4,942	B/C ratio (TR/TC)	1.1
Total cost of production of dry parchment (TC)	103,027		
Average cost of production (AC)(Q=215)	746.6		

Note: 1. Currency (nominal) used in analysis FCFA
 2. FCFA = Franc Financial Community of Africa
 3. Analysis as per hectare.

In calculating the estimated cost of fresh cherry and dry parchment production, the only fixed cost considered was the cost of a hand pulper. Due to the fact that ripening occurs at different times, harvesting is quite troublesome and requires repetitive plucking which contributed to 48% of the total cost of production. Manuring cost (8%), plant protection (21%) and labour cost for other cultural practices (23%) like weeding and pruning. It is worth mentioning that production is purely organic, and the aging farms significantly reduce yields.

As observed from table 2, the variable cost of fresh cherry production was FCFA 98,085 per ha. The total revenue from parchment was FCFA 118,219 per ha. Hence, it is clear that the gross margin was FCFA 20,134 per ha. After deducting the fixed cost (FCFA 4,942), the net profit from a hectare of coffee was estimated as FCFA 15,192. Similarly, Benefit Cost ratio was calculated as 1.1, which indicated that coffee farming was just a fairly profitable business at this stage.

5.3. Profitability Analysis at Processing Stage

At the end of farm activities come processing of coffee into roasted coffee powder. At this stage both fixed and variable costs were analysed. Certification cost was considered to be the only fixed cost incurred. Cost and benefits figures per kilogram of roasted coffee as revealed from data are presented in the table below:

Table 3: Cost and Benefit Analysis-Production of Roasted Coffee Powder Per Kg

Cost Analysis		Benefit Analysis	
Cost Type	Mean Values (N=2)	Elements	Mean Values (N=2)
Input cost of dry parchment	550	TVC	911.3
Electricity cost	19.1	TFC	2,022.40
Fuel cost	49.8	Total revenue (TR)	4,500
Hulling labour cost	46.7	Average revenue (AR)	4,500
Hand sorting labour cost	25	Gross margin (GM=TR-TVC)	3,588.70
Roasting labour cost	53.9	Net profit/income (NI=GM-TFC)	1,566.3
Packaging cost (material and labour)	29.5	B/C ratio (TR/TC)	1.5
Transportation cost	137.3		
Total variable cost (TVC)	911.3		
Total fixed cost (TFC)	2,022.40		
Total cost of production (TC)	2,933.7		
Average cost of production (AC)	2,933.70		

Note: 1. Currency (Nominal) used in analysis FCFA
 2. FCFA = Franc Financial Community of Africa
 3. Analysis done per kilogram

Input cost of dry parchment was the cost price at which the processors buy coffee from producers which was estimated at FCFA 33,000 per 60 kg bag implying FCFA 550/kg. It is worth mentioning here that this applies to the good grade as the low-quality grades are purchased from producers at a far lower price.

The estimated fixed and variable cost of producing a kg of roasted bean was FCFA 2,022.4 and FCFA 911.3, respectively. Hence the production cost was FCFA 2,933.7 per kg. With gross return FCFA 4500 per kg roasted beans or powder coffee, the gross margin was calculated as FCFA3, 588.7. Subtracting the fixed cost, net profit was estimated as FCFA 1,566.3. Likewise, BC ratio was estimated at 1.5 which indicates that coffee processing is a profitable business.

5.4. Profitability Analysis-Coffee Retailing

Five coffee retailers were selected, and data collected from them and used in estimating the cost and benefit of their activity within the coffee value chain. The five retailers were the highly visible retailers who own well known and highly rated coffee drinking shops in Bamenda. Results were summarized as seen below:

Table 4: Cost and Benefit Analysis-Retailing Per Kg of Roasted Powdered Coffee

Cost Analysis		Benefit Analysis	
Cost Type	Mean Values (N=5)	Elements	Mean Values (N=5)
Input cost of roasted coffee	4000	TVC	5,935
Cost of consumables (sugar, honey, filters)	1935	TFC	1400
Total variable costs (TVC)	5935	Total revenue (TR) (150per cup*80cups)	12,000
Total fixed cost (TFC)	1400	Average revenue (AR)	7,335
Total cost of production (TC)	7335	Gross margin (GM=TR-TVC)	6,065
Average cost of production (AC)	7335	Net profit/income (NI=GM-TFC)	4,665
		B/C ratio (TR/TC)	1.6

Note: 1. Currency (Nominal) used in analysis FCFA
 2. FCFA = Franc Financial Community of Africa
 3. Analysis done per kilogram

The estimated fixed and variable cost of retailing a kg of roasted coffee powder was FCFA 1,400 and FCFA 5,935 respectively. Hence the production cost was FCFA 7,335 per kg. With gross return FCFA 12,000 per kg brewed coffee, the gross margin was calculated as FCFA 6,065. Subtracting the fixed cost, net profit was estimated as FCFA 4,665. BC ratio was estimated as 1.6 which indicates that coffee retailing is a very profitable business.

5.5. Profitability analysis - coffee exportation stage

In estimating the cost incurred by coffee exporters, 3 coffee exporters were selected in the study area. Both fixed and variable costs were analysed. Certification cost was considered to be the only fixed cost incurred. Results for exportation of green bean are summarized as in table 5 below:

Table 5: Cost and Benefit Analysis – Per kg Exportation of Coffee

Cost Analysis		Benefit Analysis	
Cost Type	Mean Values (N=3)	Elements	Mean Values (N=3)
Cost of green coffee beans	900	TVC	995.27
Transportation cost	85	TFC	47.85
Exportation fees	10.27	Total Revenue (TR)	1,572
Total variable cost (TVC)	995.27	Average Revenue (AR)	1,572
Total fixed cost (TFC)	47.85	Gross margin (GM=TR-TVC)	576.73
Total cost of production (TC)	1,043.12	Net profit/income (NI=GM-TFC)	528.88
Average cost of production (AC)	1.043.12	B/C ratio (TR/TC)	1.5

Note: 1. Currency (Nominal) used in analysis FCFA
 2. FCFA = Franc Financial Community of Africa
 3. Analysis done per kilogram

From the table above, the estimated fixed and variable cost of exporting a kg of green coffee bean was FCFA 47.85 and FCFA 995.27 respectively. Hence the exporting cost was FCFA 1,043.12 per kg. With gross return FCFA 1,572 per kg, the gross margin was calculated as FCFA 576.73. Subtracting the fixed cost, net profit was estimated as FCFA 528.88. Likewise, BC ratio was estimated at 1.5 which indicates that coffee exportation is also profitable business.

Part B: Discussions

Value added agriculture as practiced across the world may be viewed as a potential stimulus for accelerating economic growth and development in developing countries considering the huge potentials of the agricultural industry in job creation. The coffee sector in Cameroon as highlighted in scholarly works has impacted positively on livelihoods creating jobs to millions of Cameroonians (ITC, 2009).

However, as is the case with other crops in Cameroon, access to support services to intensify production continuous to be a huge challenge (Nguiffo & SonkoueWatio, 2015; Achancho, 2013) with the results being low yields and poor returns on investment. This is visible in results as though all value chain actors in the coffee value chain are making profits, coffee producers (who are small holder farmers), at the beginning of the chain make less profits when compared to coffee retailers. It is worth mentioning that most of the coffee farmers expressed their satisfaction with the income generated from selling their total output of coffee on the basis that they have no other options, an indication that they are not happy with gains derived from their farming efforts.

Despite the favourable climate for coffee production, yields per hectare are still low. Farmers attributed this to lack of access to farm inputs, the ageing nature of the coffee farms and general lack of motivation due to the low prices offered for Fresh Cherry and Dry Parchment produced. Also, it should be noted that coffee producers

indicated that the prices at which they sell their products was not determined by them. It can thus be argued that to improve on farm income, coffee farmers should be supported to access inputs like fertilizers as well as have more access to market information which will help them in determining their prices. As uncovered by this study, yields are low reason being that the farmers do not differentiate between revenue and profits. Also, it is interesting to note that coffee farming systems are highly based on indigenous knowledge systems that are challenged by several issues notably its non-enhancement with western techniques. Other studies (Shillie, Bime, Balgah, & Wiysherinyuy 2019; Njomo, Arnolds & Shillie 2019) in other crops have noted low margins, low productivity, with high postharvest losses in indigenous farming systems in the North West Region of Cameroon.

At the processing stage and exportation, only NWCA (Kola Coffee), Bime Coffee and OLAM are the main actors in the North West Region. Thus, they are enjoying market dominance. With low cost of green beans and certification cost as main fixed cost factor, actors at the exportation stage enjoy some significant gains. However, as noted by the exporters, there is a great challenge of quality which often plays negatively on the value of Cameroon coffee in the world market, thus reducing the gains.

Furthermore, given the minimal cost necessary to engage in coffee retailing and the huge benefits likely to be derived from it as observed in this study, promoting youth engagement will significantly create jobs as such positively contributing to economic growth and development. It is worth noting that the profitability of coffee retailing could be associated to customer value creation for as noted by Coltrain, Barton, and Boland. (2000), and Born (2001), perceived value added by customers is a critical to profitability. Apparently, the services rendered by coffee retailers may be viewed as innovative activities aimed at satisfying a direct customer need and thus yielding profits more when compared to the coffee producers who themselves hardly even drink coffee.

6. Conclusion

This study focused on doing a profitability analysis of four major actors (coffee producer, coffee processor, coffee exporter and coffee retailer) in the coffee value chain in the North West Region of Cameroon. Cost of production per unit of dry parchment, exported green bean, roasted coffee and brewed coffee was estimated as FCFA 103,027/ha, FCFA 2,933.7, FCFA 1,043.12 and FCFA 7,335/kg respectively. Similarly, their net profits were FCFA 15,192, FCFA 1,566.3, FCFA 528.88, and FCFA 4,665 respectively for coffee producers, coffee processors, coffee exporters and coffee retailers. Benefit Cost analysis of these major players showed that coffee value chain is a profitable business with BC ratio 1.1, 1.5, 1.5 and 1.6 respectively at the levels of coffee producer, coffee processor, exporter, and retailer. Furthermore, the study uncovered that coffee retailers were getting most benefiting the value chain compared to coffee producers, processors, and exporters. Results revealed clearly that despite great efforts (contribution) made by the primary actors they receive the least share in terms of benefit in the chain.

Several factors as uncovered by this study may be responsible for variation in economic gains made by actors. At the level of producers (farmers) issues like ageing coffee trees, small farm sizes, lack of access to inputs and the inability of farmers to bargain prices make them have minimal returns on their efforts. Further, at the level of the exporters, it would appear that the quality of Cameroon coffee in the world market is less competitive when compared with coffee from other parts of the world. For retailers who make the great profits, the study noted that the cost of running a coffee shop was very low and thus economic gains are higher.

6.1. Recommendations

For a successful and profitable coffee subsector business in the study area, the study recommends that the government, public and private stakeholders, donor organizations and all actors in the subsector should work in close collaboration with one another so as to achieve better gains for their efforts. This may principally include support (primarily on extension services, trainings, and farm inputs) to farmers and the development of mechanisms for standardization to ensure high quality beans that command high prices in the international market.

6.2. Limitations of this study

It should not be assumed that a single study can fully address the entire coffee value chain. This study principally concentrated in two divisions (Mezam and Bui divisions) in the North-West Region of Cameroon. Hence, there exists limitation that the price, cost and margin of production, processing and trading in other divisions may be different. Also, the economic analysis was limited only to four major actors: producers, processors, exporters and coffee retail points or shops, an indication that some value chain actors were not involved and hence their opinions not captured in this study. These four actors were selected primarily because they are the known actors whose activities are strictly oriented at coffee value added.

6.3. Future Scope of Research

Given the huge potentials of the coffee value chain, this study suggest that research should be conducted to develop a framework to maximize benefits from coffee production, marketing and commercialization in the western highlands of Cameroon considering that the ecological conditions are suitable for the crop. Such a study if conducted may inform policy members and serve as a reference for revamping the coffee sub sector in Cameroon.

Notification: This research received no external funding. The authors declare no conflict of interest. The rules of publication ethics and research ethics were followed. The study was subjected to plagiarism control.

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