

# **COFFEE ECONOMIC VIABILITY STUDY**



# ***Study Objectives***

- Identification and piloting of key criteria to determine the **cost of production** and **profitability & living income** among coffee farmers.
- Agreed among Kenyan coffee stakeholders(Kenya National Coffee Platform – “Sauti ya Kahawa”)
- To be used as a national standard for farm economy assessments and inform further areas of action.

# ***Economic Viability***

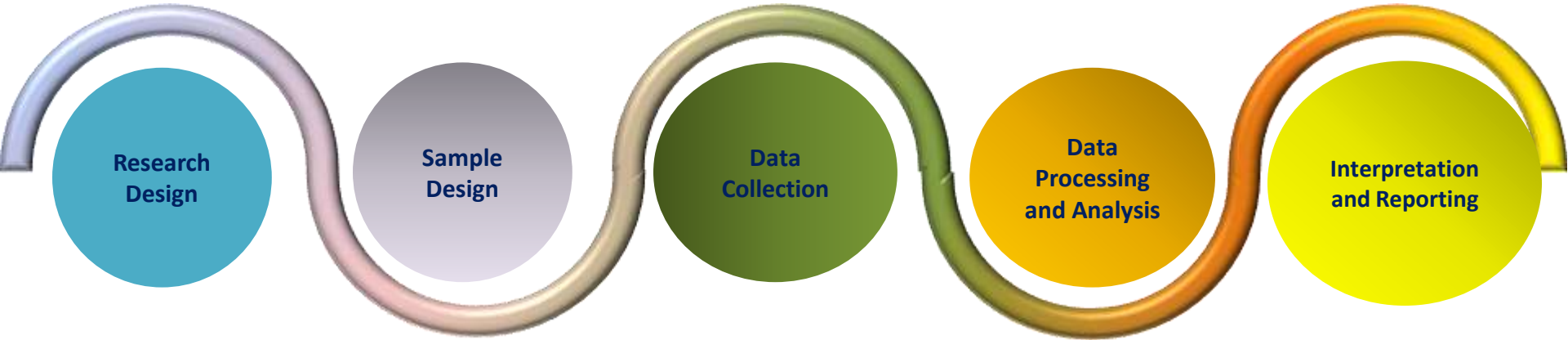
## **Estate Farmer Economic Viability**

Economic viability in the case of an estate farmer refers 11.16% risk free rate (one Year Treasury Bill) plus annual average inflation rate of 5% plus a return tax of 30%, all this summing up to around 22%. This to mean that economic viability of this farmer shall be a Return on Investment of above 22%.

## **Smallholder Farmer Economic Viability**

Economic viability in the case of a smallholder farmer refers to the ability and capacity of a farm to 'make a living'. This shall be influenced by ability over time of the farmer to apply good agriculture practices that enable them to continually produce above their cost of production and enable the farmer earn at least the living wages as given by Anker and Anker (2015).

# Methodology



Research was based on AFFA data on production. 65% composed of Farmer Co-operatives that was further broken down into wet mills from where the 65% sample shall be drawn. The sample used 3 criteria, sampling error being 5% and 95% confidence level meaning that 95 out of 100 samples will have the true population value within the range of our precision.

A sample space of 540 was generated across the 16 coffee growing counties of Kenya.

The sampled estates, smallholders and wet mills were selected randomly in the respective counties.

A total of 495 respondents were interviewed the different counties in coffee growing areas.

Field trips made where in-depth interviews were conducted and questionnaires administered .

Data collection methods were to be done through interviewers; in person or through the calls, observations, documents and records review.

The data was entered, edited and analyzed using Microsoft Excel and is presented in various forms such as graphs, tables, pie charts and others in this report.

Results from 482 respondents used to generate the report

Qualitative analysis supplemented the quantitative research done

The report is organized into sections, where each section presents the analysis of the baseline data relating to various aspects of interest.

## ***Tools Used***

- Questionnaires

- Case studies

- Review of primary records

# *Results*

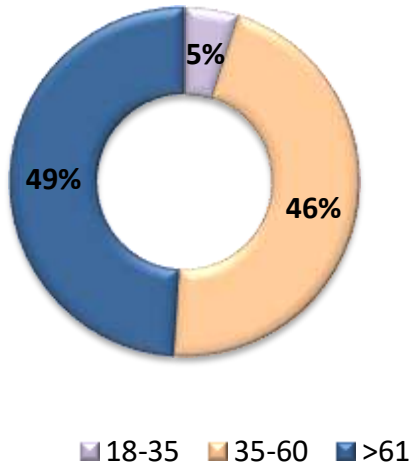
- Demographics
- Productivity
- Cost of production
- Revenue
- Breakeven
- Economic viability
- Wet mill economics

# ***Assumptions***

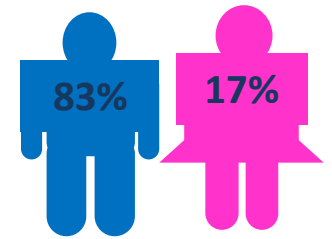
- Conversion of cherry to clean(green) is 7:1
- The average smallholder farmers has 250 coffee trees on about 1/2 acre
- Exchange rate is Kshs.100 to 1 USD
- Milling loss is 27% across different parchment types
- Regulatory framework is stable and predictable
- No drastic climatic changes
- Cost of finance assumed to be 14% per annum
- One year treasury bill rate is 11.16% for October 2016(start of coffee year)
- Annualised inflation rate of 5% per annum
- Income tax at 30%

# Demographics

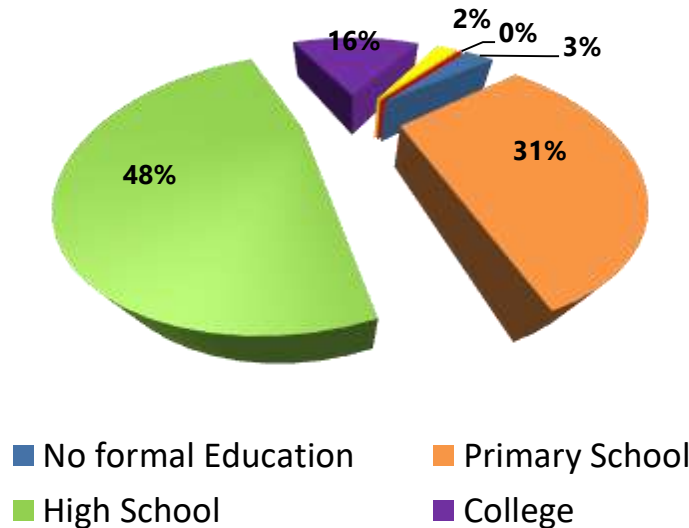
## Age Analysis



## Gender Analysis

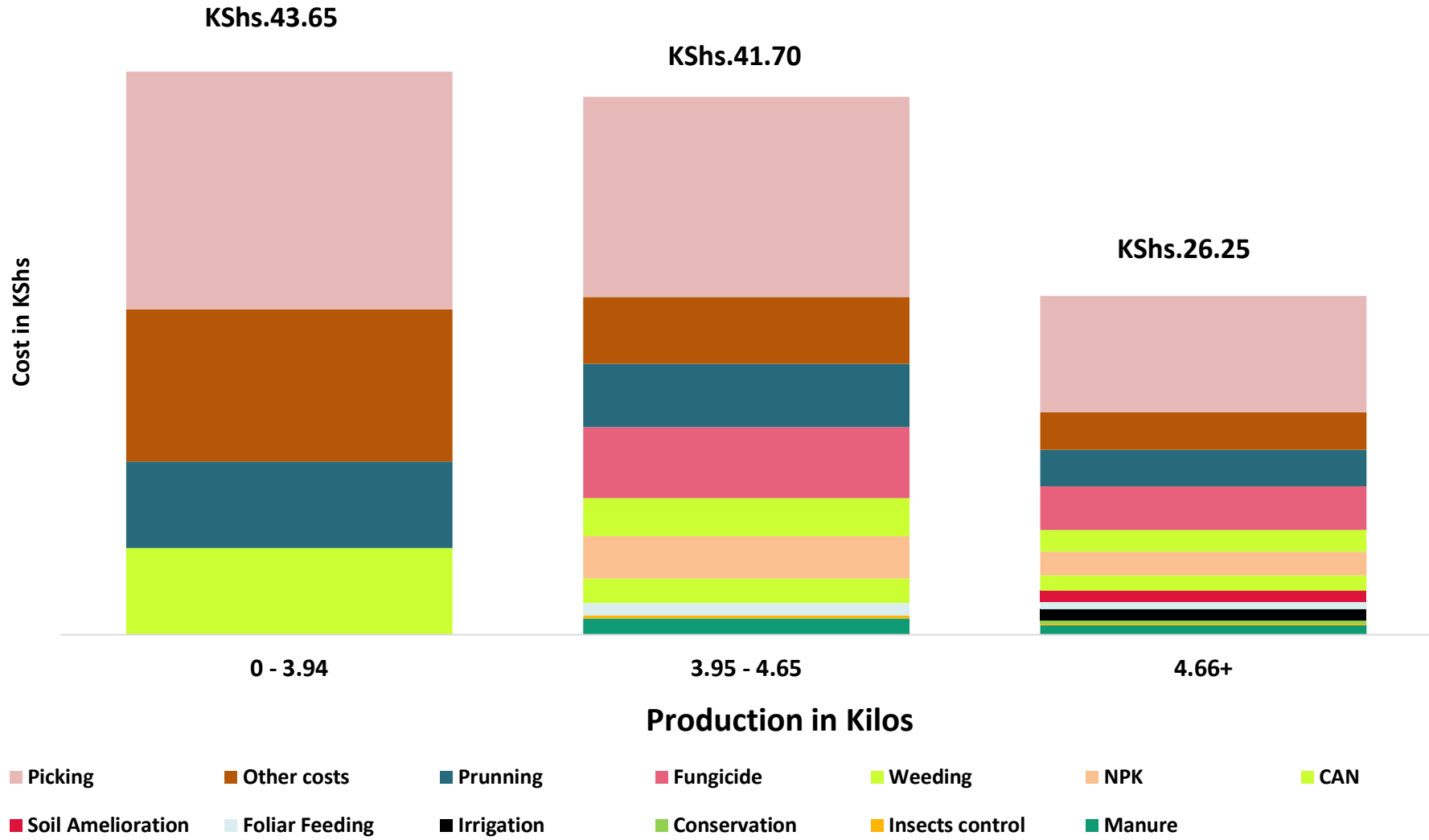


## Education Levels



- Out of the 363 smallholder farmers sampled, about 177 are above 60years(government retirement age) which represents about 49%.
- Only 5% of smallholders farmers sampled are less than 35years(youth)
- Most of the farmers interviewed (66%) have attained basic education(secondary school level).

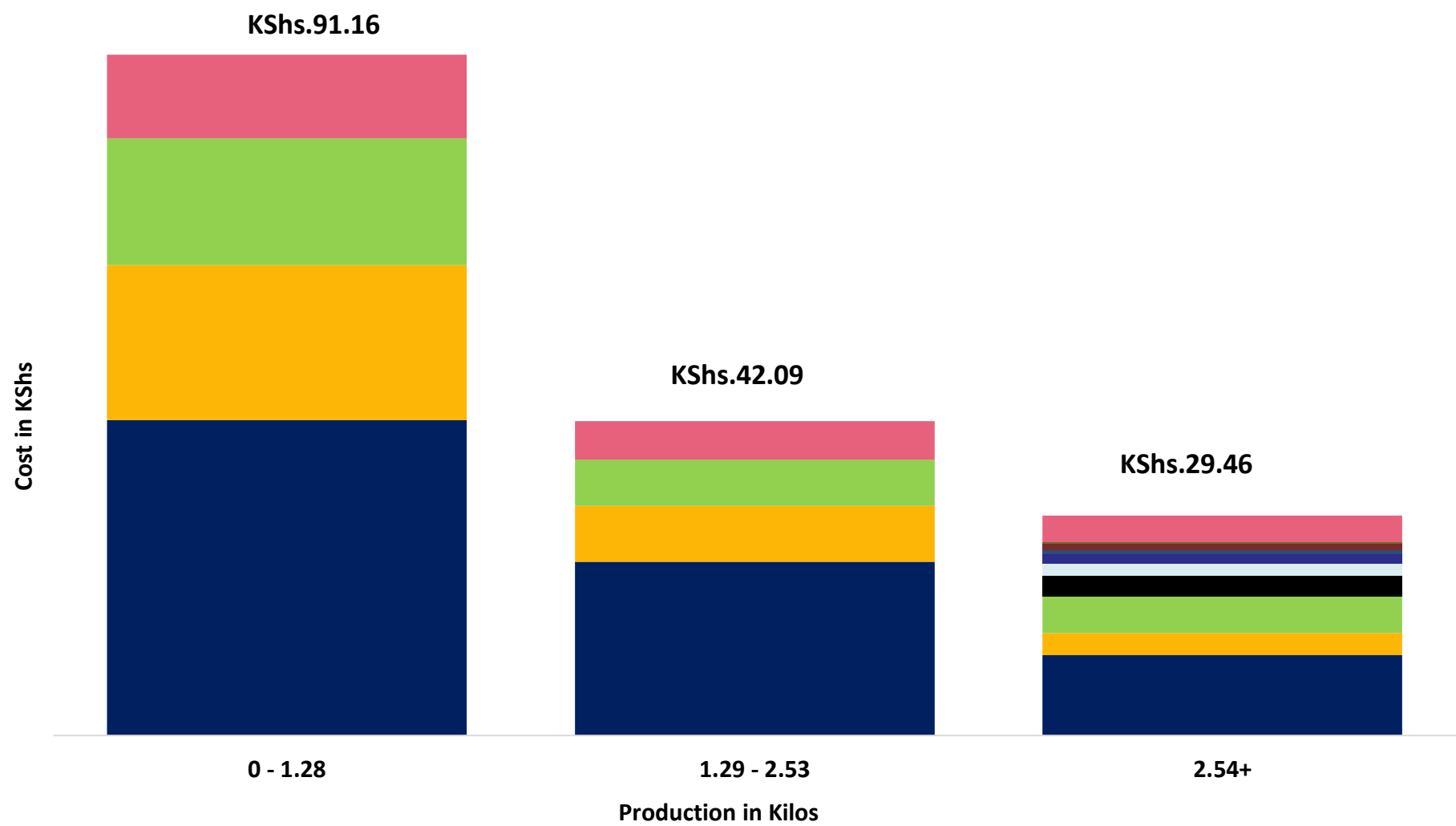
# Costs structure per kg Vs. Production levels of the Estate Farmer



- Cost of factors of production that are not strictly coffee related are held constant e.g. cost of land
- Farmers have been farming coffee for a while thus establishment costs are not factored in



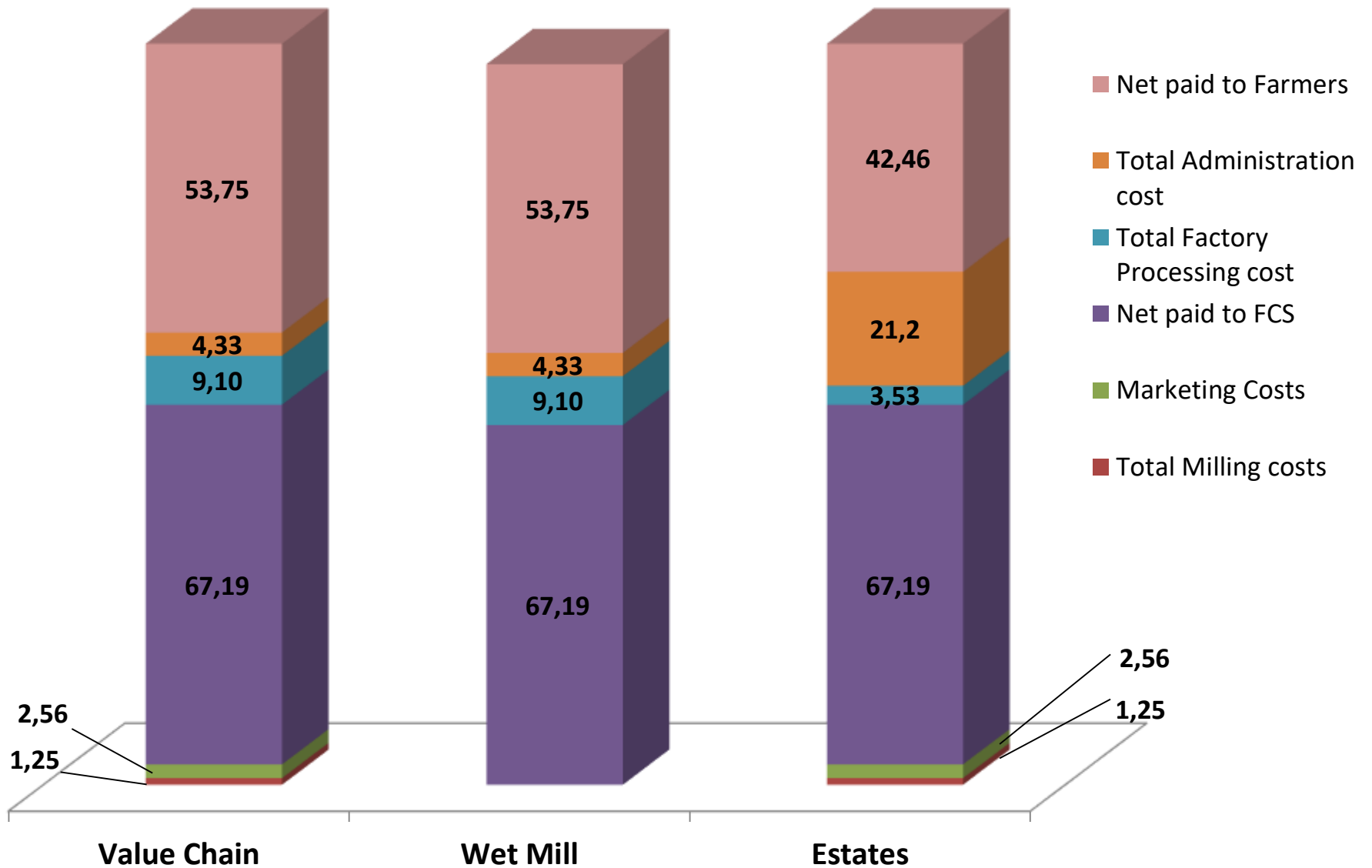
# Costs structure per kg Vs. Production levels of the Smallholder Farmers



- Picking
- Weeding
- Pruning
- Fungicide
- CAN
- NPK
- Manure
- Foliar Feeding
- Insect Control
- Financing Costs

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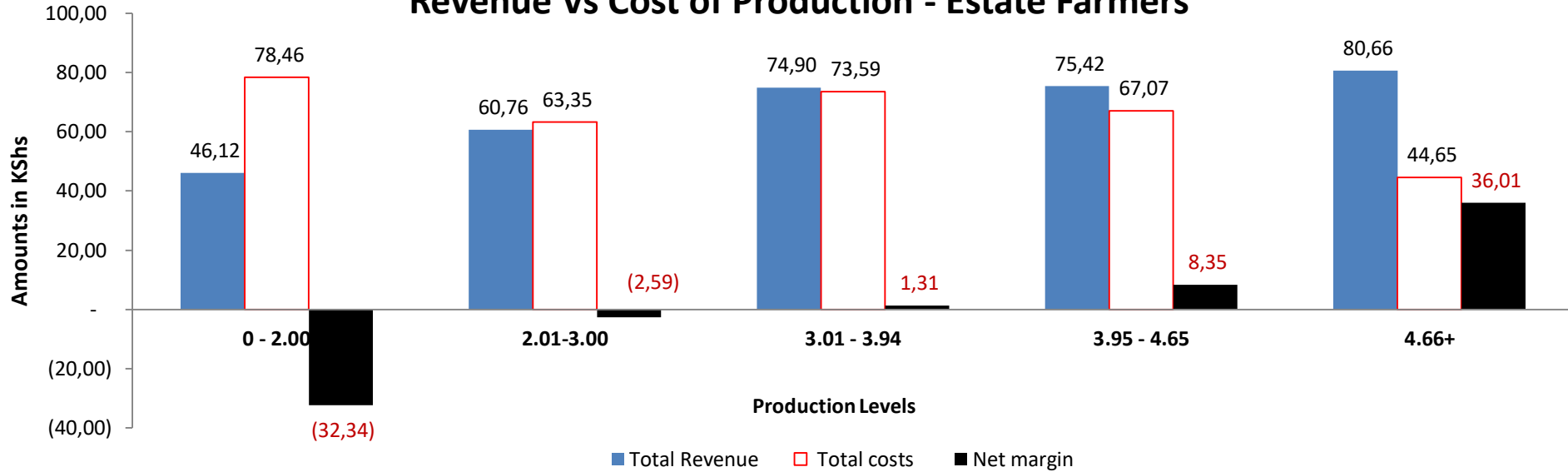
# Revenue Breakdown( KShs per Kg Cherry)



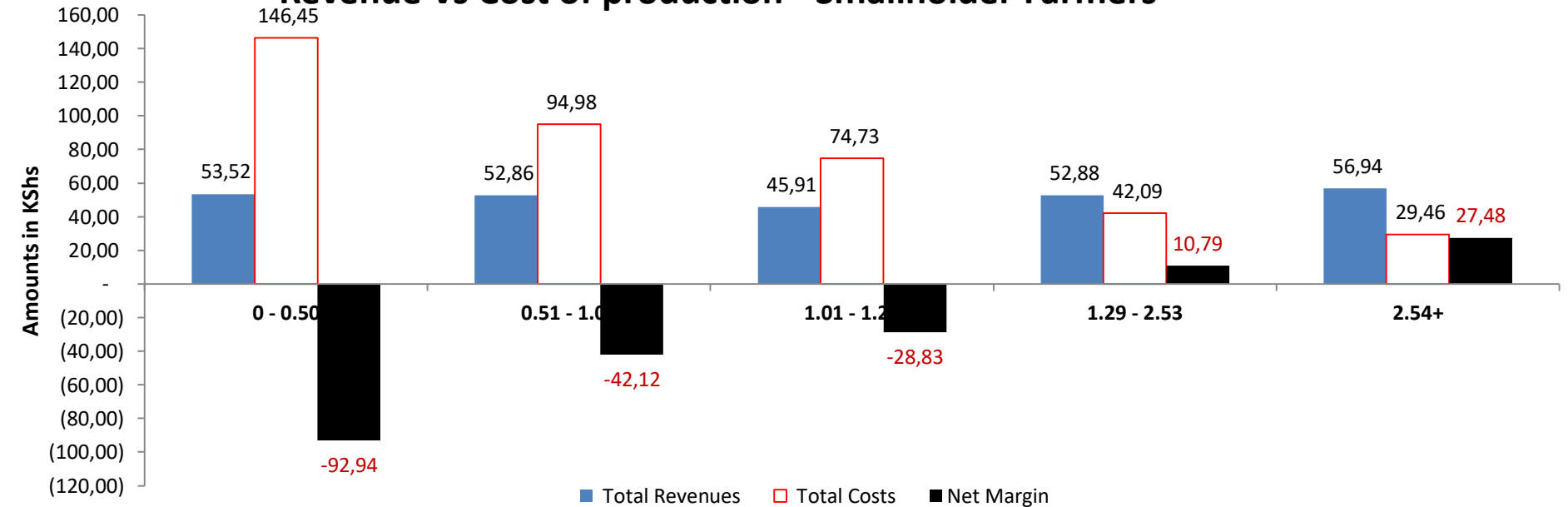
Revenue Breakdown based on 2016/17 national average price of \$ 4.97 per kilo of clean coffee which is about KShs.71 ex auction.

# Revenue and Cost of Production

## Revenue Vs Cost of Production - Estate Farmers

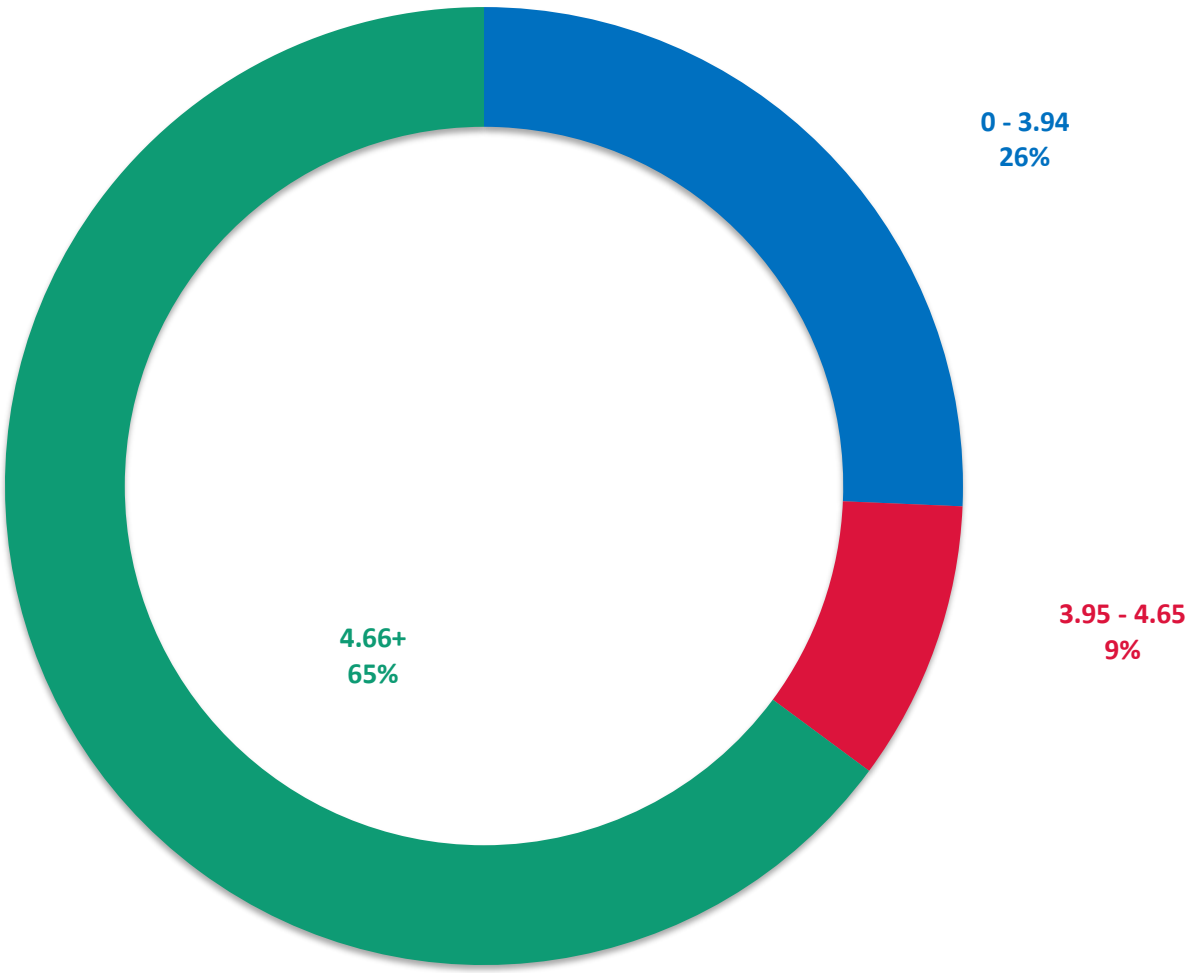


## Revenue Vs Cost of production - Smallholder Farmers



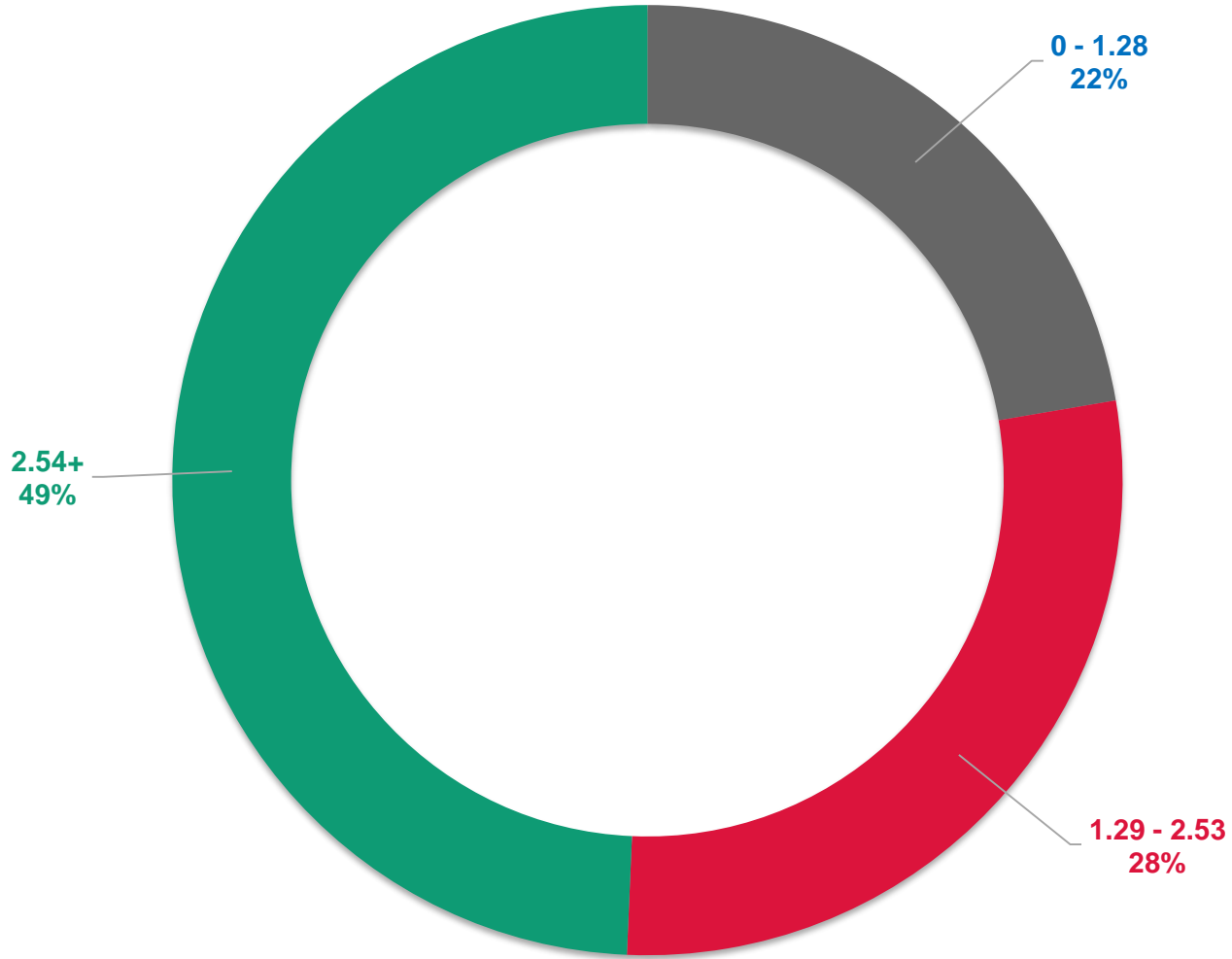
# ***Distribution of Estate Farmers by Production Levels***

*65% are above the economically viable production level*



# ***Distribution of Smallholder Farmers by Production Levels***

***Close to 50% are above economically viable production level***



# ***Study Recommendations***

- **Improved Recording Keeping:** Farmers need to be taken through proper records for them to main their book of accounts. This will help them in decision making and will help then conduct comparative analysis of different projects that they might be having.
- **Better Adoption Rate of Agricultural Extension Advice (GAPs):** Private Public Partnerships (PPP) should be encouraged. The existing ones should be encouraged to use TOTs (Farmer to Farmer) model for the sustainability reasons. Most of the programs hire agronomists to train farmer during the implementing time. This model is very expensive and farmers are not able to maintain it after the program ends. Tools like demo plots to be used more frequently.
- **Climate Change Mitigation and Adaption:** Farmers should be educated on methods of reducing their carbon footprint and climate change adoption techniques in coffee farming.
- **Youth Inclusion:** Youth inclusion in the coffee farming should be given a priority to ensure sustainability.

## ***Study Recommendations...cont'd***

- **Women Inclusion:** Training module and programs that focus on women should be developed and implemented. The coffee farming communities should embrace the household approach while managing the farms.
- **Replacement of Aged Coffee Bushes:** Farmers to be encourage to embrace new varieties and to do new plantings.
- **High Quality Agro-Inputs:** Bulk procurement form the farmers group should be encouraged since most of the counterfeits product are found in the local agro vet shops that has not been approved. The policy makes to ensure that proper checks are done frequently to flash our counterfeits form the market.
- **Proper Cost Apportioning:** salary and other personal expenses that do not relate to the farm should not be charged to the farm reducing the profits and thus rendering coffee farming appear not viable.
- **Farmer Organization Capacity Building:** Capacity building in terms of governance should be given a priority

## *Other Interesting Study Areas*

- Gender and youth integration
- Time value of money to the farmer on the payments
- Supervision by regulatory agencies
- In-depth look at varieties
- Effect of pest and diseases



