EPRC ECONOMIC POLICY RESEARCH CENTRE 30 YEARS ANNIVERSARY

Towards Sustainable Development

POLICY BRIEF

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Issue No. 179, August 2024

Are farmers' incomes in Uganda adequate to contribute to social insurance schemes?

Executive Summary

This brief examines whether on-farm agricultural income in Uganda is adequate for farmers to contribute to a social insurance scheme. The evidence reveals that the total net income for agricultural year 2019/20 from crop and livestock on-farm enterprises was UGX 5.5 trillion. Banana farmers retained the highest income, followed by Coffee, Maize and Sugarcane farmers. Despite the large aggregate on-farm net income, average annual household income (UGX 782,914.3) retained remains small and is highly unstable between seasons. Second, the agricultural income retained increases with the scale of operation (land size and number of cows). Small farmers operating on less than 3 acres retain lower incomes than their counterparts operating on land sizes above 3 acres. Third, farmers between the ages of 31-64 years earn relatively larger incomes than those between the ages of 18-31 years and those above 64 years This evidence has implications on the design of contributory social insurance schemes for farmers, given the differences in income size, timing and composition.

Background

Globally, the nature and size of farmers' income remains a major challenge to expanding social insurance (SI) coverage in developing countries (Sato et al., 2022). Farmers, unlike salaried workers are not entitled to a co-contributory social insurance arrangement by the nature of business and employment occupation they are engaged in. Likewise, farmers may not meet monthly contributions due to the seasonal nature of their economic activities (Allieu and Ocampo 2019; ILO and FAO 2021). This brief provides information on income earnings from selected agricultural enterprises namely Coffee, Banana, Sugarcane, Maize, dairy, cotton, Tea, Cocoa and Beans. These are among the priority commodities of the National Development Plan (NDP III) and are widely grown for both cash and food security by the majority of households in Uganda. Information on net agricultural earnings can help policymakers to better formulate plans which types of social insurance (SI) coverage interventions are necessary to protect farmers.

Existing literature (e.g. Sato et al., 2022; and ILO, 2021) points out that assessing the contributory capacity of farmers needs to consider the following attributes and aspects namely types of sub-sectors (e.g. fishers, farmers, herders etc.), gender, age groups (life cycle), geographical location and the frequency and regularity at which income is earned (seasonality). The aspects above help to come up with innovations and contribution rates that are appropriate while extending social insurance coverage to the farmers.

Data sources

This brief uses the nationally representative Uganda National Panel Survey (UNPS) dataset (specifically 2019/20 wave),

collected by Uganda Bureau of Statistics (UBoS) to examine incomes dynamics of farmers that grow and sale agricultural products from both the crop and livestock enterprises. The UNPS survey captures detailed and seasonal based information relevant to the computation of total value of agricultural sales (from crop and livestock enterprises) and the total cost of production (i.e. variable costs, fixed costs, depreciation costs etc.) used to produce agricultural output. The UNPS is conducted annually at the national level in two visits per wave to capture agricultural outcomes in Uganda's two cropping seasons. Therefore, each household is interviewed twice a year in visits approximately six months apart.

Findings

Income levels and socio-economic characteristics of farmers

Results in Table 1 shows that male farmers earned more than double their female counterparts. By the end of agricultural year (2019/2020), male headed households earned UGX 597,000 compared to UGX 242,000 earned by females. Male agricultural entrepreneurs dominate cash crop production and possess larger land sizes for agricultural activities. On the other hand, female agricultural entrepreneurs tend to engage in food crops for household food security. In addition, their scale of agricultural operation is small due to the small land sizes for growing commercial crops.

Table 1: Household median crop earnings by selected household characteristics (2019/2020)

	Season 1 (July-December 2018)	Season 2 (January- June 2019)	Annual (2019/2020)
Sex			
Male	337,500	320,000	597,000
Female	155,000	136,000	242,000
Residence			
Rural	245,000	240,000	425,000
Urban	297,000	320,000	448,000
Age group			
18 to 30	212,000	166,000	401,500
31 to 64	267,000	280,000	470,000
Above 64	185,000	176,000	312,000

Source: Author's computation based on UNPS 2019/20

Considering the age, evidence in Table 1 reveals that agricultural entrepreneurs aged between 31-64 years would be the most appropriate to target for mandatory social insurance registration and contribution. Table 1 reveals that agricultural entrepreneurs in the age bracket 31-64 years registered higher earning than those in lower age bracket (18-30years), and the older farmers (above 64 years). This evidence has targeting implications for social insurance coverage in Uganda. According to Durán-Valverde et al., (2013), instituting mandatory registration and contribution of social contributions by all self-employed workers is the most proactive- strategy for extending coverage among self-employed workers. For instance, Cape Verde reformed its social security law in 2009 to allow for mandatory registration and contributions. However, Uganda may not institute mandatory contribution for all farmers without subsidizing contributions from the national budget. This is because earnings from farmers are low. As such, the country may expand social insurance coverage considering a mix of voluntary and mandatory contributions options for the agriculture sector. This arrangement has already been undertaken by many Latin American countries with large independent self-employed workers.

Household earnings from key agricultural commodities

In this section, the household net earning by selected NDP III priority crop enterprises (coffee, maize, beans, banana, dairy, sugarcane, Cotton, Tea, cocoa) is presented. This helps to understand which agricultural value chains presents the largest opportunities for contributory social insurance.

Total household earnings by main crops

Table 2 below shows the total net household earnings by crop enterprise. The aggregated household net earnings from sale of agricultural enterprises was approximately UGX 5.5 trillion during the agricultural year 2019/20 (Table 2). A further disaggregation reveals that farmers engaged in banana farming generated the highest earnings (UGX 1.7 trillion), followed by coffee (940.1 billion) and Maize (541.5 billion) in 2019/20. An analysis of agricultural earnings by season reveals that income from agricultural enterprises is irregular and seasonal and can fluctuate from one season to another. For instance, earning from the crop enterprises dropped by about 13 percent from approximately UGX 2 trillion in season 1 (July-December 2018) to UGX 1.7 trillion in season 2 (January-June 2019). The decline in earnings was largely due to a drastic drop in coffee, cotton and cocoa earnings between both seasons.

Table 2: Total household net earnings by crop enterprise (UGX, Billion) (2019/20)

Crop enterprise	Season 1	Season 2	Annual
Banana	816.7	840.8	1,657.5
Coffee	606.4	333.7	940.1
Maize	243.9	297.6	541.5
Sugarcane#	138.9	87.9	226.8
Beans	72.5	61.2	133.7

Crop enterprise	Season 1	Season 2	Annual
Cotton	58.5	16.3	74.7
Tea	90.3	135.9	226.2
Cocoa	10.7	7.1	17.8
Dairy cows			584
Other crops	539.9	538.7	1,078.6
Total earning	2,037.9	1,780.5	**5,480.4**
Average Annual Earning/Household*			**782,914.3**

Source: Author's computation based on UNPS 2019/20

Note: * Assuming total number of agricultural households is approximately 7 million
While sugarcane sale and cost of production data has been analysed on an annual basis following the UNPS data collection arrangement (i.e. data is collected every 6 months in two separate visits a year). Field harvesting of the first sugarcane crop occurs at 18 months while the follow up sugarcane harvests (ratoons) occurs after 16 months.

Further information in Table 2 further reveals that annual household agricultural household earning remain small, averaging UGX 782,914.3. This implies that efforts to mobilise contributory savings off the above total agricultural incomes may consider different contribution rates according to country-specific contexts.

Lessons and implications from country case studies

Several studies (ILO, 2021, Sato et al., 2022) have suggested various mechanisms for contributing to social insurance for farmers:

(i) For example, in Brazil, individual contributors have the freedom to decide their contributions. For instance, the minimum rate of 20 per cent of the minimum monthly salary or a minimum contribution fee set at 11 per cent of their earnings. Therefore, the system provides the flexibility to increase or decrease in contribution percentage at any time. In addition, the rural subsistence farmers in Brazil, categorised as *"specially insured"* contribute 2.1 per cent of the total sales value of their products.

(ii) In the Philippines, self-employed workers not enrolled on any mandatory farmers' scheme pay a flat rate of 9 percent.

(iii) In Costa Rica's, self-employed agricultural workers' contribution rate is set at 19.5 percent of the reference income that reflects the minimum wage for public sector workers.

Different approaches are adopted by different countries, but the ILO (2021) recommends contributory dimensions namely, *consider quarterly or annual rather than monthly incomes; set uniform contribution rates; set contribution categories based on earnings and contribution categories based on proxy measures*. However, before the decision, a thorough examination of the merits and demerits of each is necessary (*ibid*).

The biannual household earnings by crop and scale of operation

Table 3 shows that the earning increases with the scale of agricultural operation (land size). Specifically, farmers operating on 3 acres and above registered high earnings across all the crop enterprises and in both season 1 (July-December 2018) and season 2(January- June 2019). But across both seasons, farmers engaged in the Banana and Coffee production, operating on more than 3 acres, registered comparatively higher and stable earnings than their Maize, Beans and Sugarcane counterparts.

The same trend (Table 4) is also observed in livestock (number of dairy cows). Household earnings from dairy increases with the number of cows farmers keep.

Table 4: Annual median household income from dairy cows (UGX) (2019/20)

Number of Cows	Net Income
<=5	486,000
>5<=10	784,000
>10<=25	1,721,000
>25<=40	3,410,000
>40	6,390,000

Source: Author's computation based on UNPS 2019/20

Table 3: Median biannual household earnings by acreage of operation for a select crop enterprise (UGX,000) (2019/20)

	Acreage	Banana	Coffee	Maize	Sugarcane	Beans
Season 1 (July-December 2018)	<=1 acre	150	80	60	240	49
	>1<=3	280	184	88	800	66
	>3<=5	420	280	174	250	85
	>5<=10	680	600	290	-	285
	>10	944	1,265	100	-	236
Season 2 (January- June 2019)	<=1 acre	170	68	58	75	78
	>1<=3	240	188	135	180	100
	>3<=5	455	213	160	500	145
	>5<=10	540	354	400	7,900	290
	>10	1,570	2,976	140	-	300

Source: Author's computation based on UNPS 2019/20

Implications for contributory social insurance in Uganda

(i) Since farmers' incomes are earned biannually (every 6 months), it means that household monthly incomes remain small.
(ii) This means that the contribution frequency could be based on biannual contributions (during harvest season) rather than monthly contributions.
(iii) Alternatively, contributing farmers can be allowed to pay in advance for many months ahead during the harvest and peak sales season to compensate for savings during the planting and growing seasons (Pellerano and Phe Goursat 2016).

Conclusion and Emerging Policy Actions

(i) Farmers engaged in the Banana enterprise earned the highest income followed by coffee and maize.
(ii) The saved income increases with the scale of operation (land size/ number of cows). Small farmers operating on less than 3 acres retain lower incomes than their counterparts operating on land sizes above 3 acres. Likewise, households with more than 10 cows retain higher income than their counterpart with fewer animals
(iii) Farmers aged between 31-64 earn relatively larger incomes than those aged between 18-31 years and those above 64 years. However, the median household income remains small and is highly unstable between seasons.

Information in this brief suggests that designing contributory social insurance schemes for farmers should take into consideration the following:

(i) Start with farmers in a few selected high-income generating agricultural value chains like banana, coffee, sugarcane, dairy, Tea and maize enterprises that retain a sizeable income.
(ii) These value chains also have organised farmers in cooperatives. Exploring these value chains might be worthwhile.
(iii) Matching contributions from farmers is necessary: Given the low and irregular incomes registered by farmers, encouraging enrolment in social insurance schemes may require subsiding of their contributions for the start to guarantee affordability.

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