SOUTHMOD

Policy note

Simulating agricultural pension in Ghana: Evidence from GHAMOD

Securing the future of Ghanaian farmers

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Findings

- Ghana's current pension policy narrowly focuses on those who produce the nation's premier cash crop (cocoa) which leaves other farmers vulnerable to the insecurities of old age and threatens national food security
- A reform that grants a uniform benefit of 35% of a farmer's monthly agricultural income increases government revenues through eligibility-based pension contributions and indirect taxes
- The proposed reform also increases government expenditures on pension benefits by about GHC 1 billion. This is more than offset by an increase in pension contributions amounting to roughly GHC 1.2 billion
- When pension benefits are spent fully on consumption, revenue from indirect taxes increase by GHC 27.24 million. The reform leads to net estimated savings of GHC 208 million annually (roughly USD 52.6 million)
- When simulated, the reform reduces poverty by around 1.34 percentage points among households with older persons and household inequality by 0.001 Gini

Ghana's agricultural sector employs approximately 42% of the population. It faces several challenges, such as fluctuating economic conditions and climate change, which threaten the country's food security. These challenges are felt most by the informal sector workforce, especially farmers, who cannot accumulate savings to address the insecurities of old age. As reported by the National Pension Regulatory Authority in 2020, the informal economy sector in Ghana constitutes the largest share of the workforce at 71.3%. Yet only 3% of individuals in this sector can access any informal pension. Consequently, 68.3% of active Ghanaian informal workers are poised to lack pension coverage in their later years. This has worrisome implications for Ghanaian farmers and the country's food security.

While a pension policy specifically for cocoa farmers exists, its scope is restricted and does not adequately safeguard the wellbeing of all Ghanaian farmers. Consequently, there is a pressing need for a more comprehensive pension policy to ensure retirement income security for other farmers. A new agricultural pension policy will curb negative economic impacts as it will mitigate old-age poverty, enhance the overall welfare of farmers, improve incentives for the younger population to engage in farming and contribute to longer life expectancy of the elderly in Ghana.

A proposed agricultural pension scheme in Ghana

We simulated a proposed agricultural pension scheme using GHAMOD, a tax-benefit microsimulation model for Ghana that estimates the next-day effects of policy changes. Underpinned by data from the Ghana Living Standards Survey (GLSS), GHAMOD uses individual-level information on incomes and consumption from nationally representative household surveys. We adopt the most recent policy year in the model (2022) as the baseline.

The proposed pension plan is designed to encompass all farmers nationwide. Farmers 18 to 60 years old in the informal sector will allocate 2% of their net agricultural income to this initiative. Contributors should not have any earnings from formal employment. Similarly, farmers aged 60 and above who do not currently receive payment from formal work or agricultural activities are eligible to benefit from the programme. Beneficiaries are to receive 35% of the monthly agrarian income they contributed during their active years. They can either claim the entire amount or redirect it to other savings or personal funds.

New pension scheme increases farmer welfare and government revenues

Table 1 displays the simulated 'morning after' effects of the policy reform on government spending, specific poverty metrics, and the Gini coefficient of inequality. These results are based on a few assumptions necessary to make the analysis, which include: full take-up of the benefit, full compliance with contributory payments, no leakages, and reflecting the immediate impacts of the reform when benefit income received goes directly into consumption. GHAMOD is based on the most recent national survey (GLSS 7), and we use inflation to update monetary values to 2022. We further assume that the old age population of contributors who will eventually receive the benefit will not change or net out (equate the contributory population). Simulated benefits go to the input data's current population share of older retired farmers.

As illustrated in the Table 1 (column 3), the proposed pension reform results in annual savings of around GHC 208 million (roughly USD 52.6 million) for the government, as the estimated revenue from pension contributions and indirect taxes on consumption more than offsets the estimated spending on pension benefits (upper panel, Table 1). The reform also reduces poverty and inequality, as seen in the lower panels of Table 1.

The baseline estimates in column (1) of Table 1 corroborate a World Bank poverty report from 2020 which finds that poverty is endemic to households with older persons. Among these households, the poverty rate is 35%—that is, more than 1 in 3 Ghanaian households with an elderly member suffer from poverty. The poverty rate for these households is nearly 10 percentage points higher than the poverty rate overall. Previous research attributes these disparities to the informal nature of the Ghanaian economy and the insufficiency of existing pension schemes. The proposed reform would narrow this gap, reducing poverty in households with older individuals by 1.34 percentage points and the overall poverty rate by 0.14 percentage points.

Table 1: Estimated 'morning after' effects of the proposed pensions reform on government fiscal position, poverty and inequality

	2022 without reform **(1)**	**2022 with pensions reform** **(2)**	**Difference due to reform** **(3) = (2)-(1)**
Government revenue through (million GHS):			
Indirect taxes	6,334.13	6,361.37	27.24
Pensions contributions	3,806.34	4,997.10	1,190.76
Government expenditure on (million GHS):			
Pensions benefits	1,487.81	2,497.93	1,010.12
Poverty			
Headcount poverty rate:			
all households	24.80	24.46	-0.34pp
households with children	27.93	27.61	-0.32pp
households with older persons	34.72	33.38	-1.34pp
Poverty gap			
all households	9.12	8.98	-0.14pp
Inequality			
Gini coefficient**, 0 – 100	42.14	42.07	-0.07

Notes: *Figures presented are in millions of the national currency. 'pp' represents percentage points.*

Column (1) shows selected budgetary and distributional outcomes with no policy changes in the 2018 policy year, while column (2) shows these estimates with the proposed farmer pension reform. Government expenditures are in millions of GHC, and poverty and inequality estimates are based on household consumption. Column (3) shows the estimated impact of the farmer pension reform, (2)– (1).

*** The Gini coefficient measures the inequality among values of a frequency distribution, such as income levels. A Gini coefficient of 0 reflects perfect equality, where all income or wealth values are the same, while a Gini coefficient of 100 reflects maximal inequality among values. For example, the Gini coefficient will be 0 if everyone has the same income. In contrast, a Gini coefficient of 100 indicates that a single individual has all the income or consumption within a group while all others have none.*

Source: Author's computations using GHAMOD A.1.0

Effective administration of the proposed reform is crucial

The eventual success of a new pension scheme depends on how well it is implemented, as it requires nearly full implementation of benefit disbursements and strong participation by pension contributors. The proposed scheme is revenue-neutral at its outset, even generating surpluses that can be used to cover administrative costs. Going forward, depending on demographics and labour market configuration, this may not always be the case. The government may, however, consult with farmer groups to identify and appoint a third-party fund manager to manage the payouts and investments, which could lead to greater ownership, compliance, fund size, and take-up of the scheme.

There is an additional need to distribute benefits by accurately identifying eligible recipients because the proposed scheme has specific advantages related to good targeting of the elderly farming population. Simulated benefits should expressly be allocated to the intended demographic, alleviating pressure on other ineffective social welfare initiatives for these individuals.

Pension incentives can empower farmers and make agriculture attractive

Rather than the current situation, where only select farmers in cocoa and poultry production come under welfare schemes, Ghana must secure the welfare of all farmers in the country. At the same time, it must address the food security of the country as well. The results shown in Table 1 (column 1) show that a novel, voluntary, and well-targeted agricultural pension scheme for all farmers can be self-sustaining and generate excess revenues through indirect taxes and pension contributions so that the government does not have to finance the scheme. We observe clear 'morning after' effects for poverty and inequality, too, although policymakers should be cautious that microsimulation models do not estimate the second order effects of behavioural changes induced by policy reforms.

Policy recommendations

- Parliament should amend the National Pensions Act to support and incorporate the proposed scheme
- Adopt and implement a new pension scheme which targets all farmers in Ghana
- Implement an identification scheme to target and enrol all farmers
- Launch targeted awareness campaigns by the National Commission for Civic Education and the Ministry of Agriculture on the value of pension participation
- Encourage farmers to join farm-based associations or cooperatives for education and training on pensions

This note is a product of the GHAMOD, the tax-benefit microsimulation model for Ghana. It was initiated at the GHAMOD Retreat in August-September 2023. The retreat was a capacity development initiative and a part of the activities of the SOUTHMOD project.