



Study on the Implementation of a Tax Regime for Agriculture in Rwanda

**Country Experience Review and
Policy Options for Agricultural
Taxation**

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ABBREVIATIONS

COCOBOD	Cocoa Marketing Board
FY	Financial Year
GDP	Gross Domestic Product
GHS	Ghanaian Cedi
HTT	Hard to tax
ILO	International Labour Organization
IMF	International Monetary Fund
KRA	Kenya Revenue Authority
OECD	Organization for Economic Co-operation and Development
PAYE	Pay as you earn
RRA	Rwanda Revenue Authority

EXECUTIVE SUMMARY

This is the first of a two-part study on the feasibility of agricultural income taxes in Rwanda. The report explores the implementation of agriculture taxation policy and the key lessons to be learnt that can inform Rwanda. Each of the four case studies were chosen based on macroeconomic, employment, farming style and economic development selection criteria. The selected case studies are followed by a legal and technical feasibility review. An economic and fiscal impact assessment for Rwanda will be conducted in the second part of the project.

While almost all countries impose agricultural income taxes, there are big differences between how high-income and low-income countries approach their respective tax treatment. High-income countries tax agricultural incomes in the same way as other income, by requiring farmers to complete a standard income-tax declaration. Most farmers in OECD countries receive financial assistance in some way – but this assistance is deployed in the form of subsidized inputs, outputs and deductions, instead of income tax exemptions.

Most low-income countries also wish to tax agriculture income, but their choices are limited by weak institutions, and by the nature of farming in poor areas. Unlike industrialized countries, where farming is capital-intensive and technical, farming in low-income countries is usually a labour-intensive subsistence activity.

Most developing-world farmers are poor – they already lie below a given income-tax threshold, so they are exempt from direct income taxes.² Consequently, many developing countries ignore the farm sector for tax collections, or they exempt farm-based incomes altogether. India is an example of full agriculture tax exemption. However, since agriculture often represents a large segment of a developing country's economy, authorities seek to include some portion of agricultural activity within the tax system.

Country Examples

The study team chose four countries to review: **Ghana, Cameroon, Kenya, and Pakistan**. Among these examples, two countries reflected the developing country “status quo” – where agriculture is largely untaxed, except for certain trade and distribution levies. The remaining two countries, Kenya and Pakistan, provide examples of proactive efforts to include farmers into the tax net.

In Pakistan, a special “Agricultural Income Tax” (AIT) was legislated in 1997. The AIT is collected at the provincial level by each of the country's four major provinces. Part of the tax is based on land-size, and the other part is assessed using agricultural income tax returns. The Pakistani AIT brought farmers into the tax net, but the tax yield changes from year to year, due to political pressure and local politics. In some provinces, revenues were less than one percent of GDP. However, due to the extensive debate

² All farms, whether large or small, bear some tax burden indirectly – either through the VAT, export product taxes, or trading fees, which are discussed later in the report.

and discussion on this topic, the approach to farm income assessment and collection has been well-documented and can be used by Rwanda's authorities to estimate potential incomes and revenues.

Kenya provides an example of shifting attitudes toward agricultural subsidies and taxation. Authorities there have decided that the common practice of farm subsidies and tax-free incomes has not yielded the economic growth previously expected. As a result, input subsidies for pesticides and fertilizer are being curtailed or eliminated, and farmers are being enlisted into the tax net. In 2018, the threshold for farm-based taxable income was lowered from 600 to 108 USD per month. This new threshold is now in-line with most other business activities. The Kenyan Revenue Authority expects to add one-million new taxpayers into the system. The estimate includes 560 thousand tea farmers, 150 thousand coffee growers and 250 thousand sugar-cane farmers who should begin filing and paying income taxes in 2018/19. We note that Kenya's situation is not identical to Rwanda's. Most of these new taxpayers work on plantation-type farms, whereas Rwanda is primarily single-owner farms. Despite the differences, Rwanda authorities have the luxury of observing the tactics and resulting outcome of Kenya's experiment and learning from it.

Ghana and Cameroon provide more typical examples of developing country farm taxation. In Ghana, most farm-related activity is taxed indirectly, by intercepting cocoa exports and imposing wedge between local and world prices. Sales price-controls are determined by the state-owned export-board. Farmers in Cameroon operate largely tax-free, either because their incomes are below the tax-threshold, or because revenue authorities have decided to focus collection efforts elsewhere. Cameroon farm incomes are considered to be "profits" and are taxable by law. However, the assessment of personal income from agriculture or fishing activities is not enforced. At the same time, most inputs to farming are exempt from VAT, allowing individuals who register as farmers to import or purchase seeds, chemicals, and machinery VAT-free. Tax reforms in Cameroon during 2017 have focused primarily upon improved administration, rather than expansion of the tax net.

Agriculture Tax Findings

Currently, the most popular revenue generating activities in low-income countries use indirect methods: typically, fixed fees such as license fees, land fees, and trading fees. These fees can be imposed easily, often at a single location. For example, Rwanda applies a trading license fee to farmers who wish to sell their products commercially. Direct income taxation is much less common in developing countries, due to weak institutions and the high cost of administration. Export taxes or fees are levied upon key cash crops almost universally by developing countries, and local governments typically collect agricultural property taxes to bolster their local fiscal positions.

In countries with direct income taxes, large farms, usually with sales above 100,000 USD annually, are required to file an income tax declaration form, while smaller farmers are mostly taxed through presumptive methods. The presumptive approach can be very simple, based on land-size or size of the farmer's livestock herd. Or it can be more sophisticated, with multiple factors including crop type, market prices, and estimated yields.

Direct measurement and taxation of farmers' incomes in developing countries is rare in most developing countries. The difficulty and unpopularity of agricultural income taxes has led most

politicians to oppose taxing farmers. Farm incomes are effectively exempted either by raising farm income thresholds to high levels (Rwanda, Ghana), or by de facto exempting the entire agriculture sector from the collection of income taxes (India, Cameroon, certain provinces in Pakistan).

However, attitudes are shifting in some countries. The conventional wisdom that farm subsidies and tax exemptions are helpful is being eschewed, since there has been little evidence of clear cause and effect between tax exemptions and farm activity. In these countries, farmers are being included into the tax net, and are expected to contribute into the overall tributary system. Typically, the countries adopting this strategy have strong leaders, who can afford to adopt unpopular policies.

Technology advancements are also helping to undo previously-held conventional wisdoms that farm taxation is too costly and difficult to enforce. Through improved data collection and data sharing, several developing world administrations can now identify household assets and incomes more easily and accurately than before. Internet and mobile communications have reduced the cost of taxpayer identification and outreach as well – even in remote areas. Improved database technology and tax-administration design has relatively low costs for authorities, while enabling tax collectors more timely and accurate assessments of presumptive or actual incomes.

Tax Options for Rwanda

Based on the experiences found in other countries, the study team believes that increased tax collections from the agriculture sector is feasible. A slow and measured approach is prescribed. In Rwanda, no new tax laws need to be adopted. The pre-existing laws can be left in place, while the regulations are altered to broaden the tax net. The first regulation to change is the sales threshold for income taxation. This threshold can be lowered from 12 million francs annually, down to 6 million francs in order to include approximately 15 percent more commercially active farmers into the tax net.

The second regulation is the land-size threshold for farming. The size threshold should be gradually lowered, so that farming entities have an incentive either to increase productivity of their land, or to rent/ lease/ sell the land to others who are more inclined to utilize the area productively.

International literature on farm taxation suggests that flexibility is key, due to the inherently volatile nature of farm activities. Entire annual farm profits can be wiped out by a single adverse event. Therefore, farmers should be allowed more flexibility to either declare their incomes (or losses) directly, or to use simpler presumptive methods for assessment.

A presumptive tax should be constructed as a way to increase tax flexibility. The presumptive tax can be based upon arable land size, historical drop sizes, or a combination of land, crop, and crop type. In Pakistan, these three attributes were found to predict farm revenues quite accurately. The presumptive tax should be slightly higher than declared income taxes, due to uncertainty of income compared to declared income filings.

Rwanda has been working to digitalize property, tax, and administrative records since 2010. This effort can be further leveraged by sharing information between government agencies on family-based land-ownership, agricultural subsidy expenditures, and combined farm yields. As crop yields and farm

incomes are declared, this information can be utilized to more accurately assess farmer incomes across different regions within Rwanda's countryside.

1. REPORT CONTENTS AND OBJECTIVES

The Ministry of Finance and Economic Planning of Rwanda (MINECOFIN) has launched a project aiming to undertake a Feasibility study on the implementation of a tax regime for agriculture in Rwanda (Project or Study thereafter). The Project is being financed by the United Nations Development Programme (UNDP) and being implemented by BKP Economic Advisors GmbH (BKP).

The overall study is primarily desk based, with limited consultations in Kigali. Both qualitative and quantitative analysis feed into the study which comprise two phases:

- Phase 1 – Qualitative analysis: this phase takes a general view at agricultural taxation and also assesses several concrete country examples. The current situation in Rwanda is also analysed and a first assessment of the feasibility of raising further revenue from the agricultural sector in the country is undertaken;
- Phase 2 – Quantitative analysis: this phase attempts to quantify the effect of higher tax revenue generation from agriculture in Rwanda through a CGE model.

An important caveat to this study, which so far affects the outcome of phase 1, stems from the limited availability of data on agricultural taxation. When looking at this topic concrete data was often not available, especially in terms of tax revenue generated through the agricultural sector and in terms of the impact of such taxes on the population. The main reason for lacking data is that imposing taxes on the agricultural sector has not been widely pursued in developing countries. In addition, data generation is often weak in developing countries.

1.1. Report Objectives

The objective of this report is to use country examples of agricultural taxation as illustrations for Rwandan authorities regarding success and failure in different tax regimes. Where possible, the successes and failures are related back to Rwanda's situation.

The report also outlines Rwanda's tax environment and highlights whether any of the country examples can be applied locally in this context. The feasibility of raising tax revenues in Rwanda is reviewed through legal, technical, and operational lenses.

As such, this report also lays the basis for the second phase of the project and the CGE model to be built by identifying feasible options to be considered by the model.

1.2. Outline of the Report

The report is organized as follows: Section 2 explains the high/low income tax dilemma that is faced by most developing countries and shows how these countries have traditionally approached agricultural taxation. This section is viewed from a global angle.

Section 3 provides four case-studies of agricultural taxation in the developing world. Each case study is designed to contain the following information:

-
- Socio-economic profile and general overview of the country;
 - Fiscal profile: description of key revenue sources;
 - Taxation: key tax types overall and in agriculture;
 - Agricultural sector: products, employment, and exports;
 - Agriculture taxation: current practices, controversy, success and failure;
 - Conclusion: key outcomes of tax approach, revenue-yields, political and economic outcomes.

Please note that in each case study, data scarcity makes it difficult to provide comprehensive comparisons across the examples.

Section 4 outlines Rwanda's situation for agriculture in a similar fashion as the case studies.

Section 5 uses the findings from Sections 3 and 4 to identify policy options for Rwanda. The policy options are screened using the following filters:

- Legal feasibility: identify whether policy options would require new legislation or modification of existing legislation;
- Technical and operational feasibility: can policy options can be deployed under Rwanda's current institutional and technical capacity;
- Financial feasibility: if policy options will contribute to raising revenues.

Section 6 briefly concludes with final remarks and discussion of next steps.

2. ECONOMIC BACKGROUND

This section provides some economic concepts relevant to agriculture and taxation. Collecting taxes from the agriculture sector is neither easy nor popular. Not surprisingly, the larger the proportion of agriculture in employment, the less popular these taxes become.

Tax revenues from the agriculture segment are usually a small share of total revenues. Among the case-studies, agriculture revenues were 1% of total tax revenues at the central government level. Revenues are small either because agriculture is a small part of GDP, or because the sector is comprised mostly of low-income households. Although the agriculture sector may be large in developing countries, most households operating in this sector lie below the nation's income tax threshold.

Farmers in developing countries are considered part of the “hard to tax” (HTT) segment.³ They operate in a highly-informal sector, making their incomes difficult to assess. Furthermore, the political economy of taxing agriculture is challenging because most countries consider food-security to be a national priority. This is certainly true in Rwanda.

2.1. Subsistence agriculture and fiscal performance

There is a clear correlation between the size of subsistence agriculture in a given country, the country's income level, and the country's level of tax effort. Table 1 below lists several countries, ranked according to the share of workers in agriculture.

The table shows how low incomes and subsistence farming go hand-in-hand. The poorest countries in this list (Cameroon, Ethiopia, Ghana, Kenya, Rwanda, Tanzania and Uganda) have the highest ratio of farm employment and share of agriculture (AGR) to overall GDP.

Table 1: The Agriculture / Income “Nexus” – High Income Economies have a few, high-income farmers. Low Income have many, low-income farmers. Farming is a backstop activity for families who cannot find work.

	Population (millions)	Number of farmers (Millions)	Agricultural area (Million Hectares)	AGR GDP (%)	AGR Worker (%)	Monthly Income (USD)	Worker / AGR GDP
Ethiopia	117	33.1	36	35.8%	72.7%	183	2.0
Uganda	42	11.6	14	25.8%	71.0%	200	2.8
Tanzania	57	17.8	44	23.4%	66.9%	267	2.9
Rwanda	12	4.0	2	30.9%	63.1%	170	2.0
Cameroon	24	5.1	10	23.1%	62.0%	308	2.7
Kenya	50	??	28	35.0%	61.1%	292	1.7
India	1,339	275	160	15.4%	47.0%	600	3.1
Ghana	29	18.0	14	18.3%	44.0%	387	2.4

³ See for example: James Robert Alm, Jorge Martinez-Vazquez, S. Wallace (ed.) Taxing the Hard-to-tax: Lessons from Theory and Practice (Contributions to Economic Analysis, Volume 268) Emerald Group Publishing Limited, 2005 pp.355 - 359

	Population (millions)	Number of farmers (Millions)	Agricultural area (Million Hectares)	AGR GDP (%)	AGR Worker (%)	Monthly Income (USD)	Worker / AGR GDP
Pakistan	197	24.9	36	24.7%	42.3%	450	1.7
Morocco	36	8.0	30	14.8%	39.1%	717	2.6
Thailand	69	19.4	22	8.2%	31.8%	1,492	3.9
Bolivia	11	1.9	38	13.0%	29.4%	625	2.3
Sri Lanka	21	2.2	4	7.8%	27.0%	1,067	3.5
Peru	32	3.7	24	7.5%	25.8%	1,108	3.4
Turkey	80	3.5	39	6.7%	18.4%	2,242	2.7
Colombia	49	3.5	45	7.4%	17.0%	1,208	2.3
Tunisia	12	2.1	10	9.8%	14.9%	983	1.5
Mexico	129	7.9	107	3.9%	13.4%	1,658	3.4
Poland	38	3.1	14	2.4%	11.5%	2,458	4.8
Belarus	10	0.4	9	8.3%	9.7%	1,575	1.2
Russia	145	6.4	217	4.7%	9.4%	2,317	2.0
Ukraine	45	0.1	42	12.0%	5.8%	725	0.5
Germany	83	1.3	17	0.6%	1.4%	4,200	2.3
USA	326	3.2	373	0.9%	0.7%	4,958	0.8
** New Rwanda methods estimate only 37% in Agriculture as of August 2017.							
^ Monthly income uses purchasing power parity (PPP)							

Most economists ascribe this relationship to the Harris-Todaro theory, where rural farming is a “backstop” activity for families who cannot find formal employment in cities or towns.⁴ If the economy is strong, then rural workers drop their shovels and migrate to cities in search of higher-paying formal employment. Conversely, if the economy is weak, these workers lose their jobs and return to subsistence farming in rural areas.

2.1.1. Agriculture and National Tax Revenues

The next table shows how large agriculture sectors are correlated with low tax revenues. The tax to GDP ratio in Rwanda, for example, was 16.6% in 2016.⁵ Revenues are also low in Pakistan (11%), Ethiopia (11.6%), and Cameroon (14.4%).⁶

Although a high tax ratio should not be an aspiration itself, Table 2 reflects the ability of government agencies to mobilize funds for spending on public goods. Compared to other countries with large agriculture employment, Rwanda’s tax to GDP ratio is relatively high. This suggests that while further collections are possible, authorities should have tempered expectations.

⁴ See JR Harris and MP Todaro, “*Migration, unemployment and development: a two-sector analysis*” - The American Economic Review, 1970.

⁵ Source: <http://www.oecd.org/countries/rwanda/revenue-statistics-africa-rwanda.pdf>.

⁶ Source: OECD Revenue Statistics for Africa. See <https://www.oecd-ilibrary.org/taxation/data/revenue-statistics-in-africa/> for access to all African countries.

2.1.2. Informal Economy and Economic Growth

Several studies show that countries with high informality typically grow more slowly than their formalized counterparts. Hernando de Soto (1982) provides specific examples how informality impedes economic growth. He demonstrates how poorly-defined employment records and missing land ownership deeds prevent access to financial markets and lenders. Because of this, household property cannot be leveraged as collateral to finance small business expansion – the most common type of business finance.

While informality leads to slower growth because small businesses lack access to financing and capital, informality can provide a sort of resiliency to overly-bureaucratic or corrupt government regimes, and therefore supports some growth – even if it is at subsistence level. However, most economists agree that significant economic development hinges on increased formality and property rights.

2.2. Common tax instruments for agriculture

The economic ramifications of selecting different tax instruments is subtle and complex. Ideally, tax instruments are designed to generate a fixed amount of revenue while simultaneously minimizing the associated economic distortions of taxation. Tax compliance is highest when taxpayers perceive the instrument to be “fair” or “equitable” and also when they feel the revenues are being properly utilized.

“Horizontal equity” means that residents with equal incomes should pay an equal amount of tax. “Vertical equity” means that residents with higher ability to pay taxes should contribute more than those with low ability to pay. The economic distortion created by a tax reflects the so-called “deadweight loss” that is caused when prices are forced away from their natural equilibrium. For example, high payroll and income taxes are distortionary because they encourage employers and employees to cooperate informally. Informal employment reduces the tax burden, but it lowers wages

Table 2: Tax to GDP Ratio – Countries who rely upon agriculture the most - have the lowest tax collection ratios

	Tax to GDP Ratio (%)	Share of GDP (%)	Share of Labor Force (%)
Cameroon	14,4%	23,1%	62,0%
Ethiopia	11,6%	35,8%	72,7%
Ghana	17,6%	22,0%	44,0%
Kenya	18,4%	35,0%	61,1%
Rwanda	16,6%	30,9%	63.1%**
Tanzania	12,0%	23,4%	66,9%
Uganda	14,2%	25,8%	71,0%
Morocco	22,3%	14,8%	39,1%
Tunisia	14,9%	9,8%	14,9%
Turkey	24,9%	6,7%	18,4%
India	16,8%	15,4%	47,0%
Pakistan	11,0%	24,7%	42,3%
Sri Lanka	11,6%	7,8%	27,0%
Thailand	17,0%	8,2%	31,8%
Bolivia	27,0%	13,0%	29,4%
Colombia	16,1%	7,4%	17,0%
Peru	18,0%	7,5%	25,8%
Mexico	23,7%	3,9%	13,4%
Belarus	24,2%	8,3%	9,7%
Ukraine	28,1%	12,0%	5,8%
Russia	19,5%	4,7%	9,4%
Germany	44,5%	0,6%	1,4%
Poland	33,8%	2,4%	11,5%
USA	26,0%	0,9%	0,7%

** New Rwanda methods estimate only 37% in Agriculture as of August 2017.

for these workers, and it eliminates the benefits of an official work record, such as unemployment insurance, safety requirements, and access to bank financing.

In the developing world, policymakers and administrators claim they do not have the luxury of designing an ideal tax instrument. Their choice of instrument is predicated upon operational feasibility – i.e., where the money can be identified and collected most easily. This attitude is understandable, but the resulting policies are often outdated in light of rapidly changing technology.

Developing country administrators can now use technology to sidestep weak institutions and to reduce economic distortions. Bribery, which is perhaps the foremost distortion caused by taxes in the developing world, can be eliminated through computerized registration, submission, and auditing of tax declarations. Administrative costs of tax registration and payment that were previously prohibitive - have been reduced to near zero through internet and mobile payment systems.

While these enhancements are available to tax authorities in theory, they remain under-utilized due to financial, institutional, and physical constraints. But as a result, tax policy and administration in the developing world remain entrenched in the pre-digital era, while business, trade and commerce are increasingly disconnecting from the public sector and increasingly able to avoid or evade taxation.

2.2.1. Tax Instruments in Developing Countries

Most developing countries do not have strong institutions and tax administrations, as a result, they resort to indirect methods of taxation (e.g., export boards, transaction fees or license fees), that raise a nominal amount of revenues. For example, Rwanda charges a license fee to farmers who wish to sell their products. But farm incomes are mostly exempt from taxation. Only farms with revenues above 12 million Francs (approximately 13,600 USD) are required to register and pay a tax. Similar stories can be told for most other African countries.

In these countries, broad tax exemptions are frequently used to benefit targeted groups. The tax system is used due to lack of institutions able to serve targeted groups. For example, VAT and import duties are waived for imports of agriculture machinery and supplies. While tax exemptions are inexpensive from an administrative standpoint, they are much costlier as a tax loophole. For example, registered farmers can generate more revenues by operating a “duty-free” import business than actual farming due to the tax exemptions allowed. In India, where agricultural sector is completely exempted from taxation, industrial conglomerates purchase a farm solely to avoid taxation of their profitable business segments.⁷

The study team found that some countries are now re-thinking their approach to agricultural support and taxation. For example, Kenya has abandoned their historical policy of input subsidies and income tax exemptions. Kenyan authorities now include farming supplies as part of the regular value-added

⁷ Source: <https://economictimes.indiatimes.com/wealth/tax/should-agricultural-income-be-taxed/articleshow/60804911.cms>

tax regime, and they have lowered the income tax threshold for farmers from 600 USD per month, down to 108 USD per month – in parity with other occupations.

2.2.2. Tax Instruments in OECD Countries

Farm incomes are taxed in all of the OECD economies reviewed for this report. The most common form of agriculture taxation is simply an *income tax*. In most OECD economies there exist farming subsidies – but the subsidies are applied separately from the tax system. The most common subsidies in OECD countries are market interventions (for example, the USA purchases excess crops, and stores it, in order to bolster crop prices), credit guarantees, and income-smoothing mechanisms for adverse crop seasons. Subsidized credit facilities for the purchase of farm equipment and inputs to production are the most commonly used mechanisms in the OECD. But farm incomes are generally taxed in the same manner as other businesses.

2.2.3 Agriculture Tax Types

Generally, there are three modes of taxation in the agriculture sector:

1. Income taxes on farm-based activities;
2. Presumptive taxes that approximate farm income through physical observation (farm size, turnover volume, crop yields); and
3. Trade or “Cess” taxes and fees on agricultural marketing and trade, usually imposed by local government agencies. Cess taxes are typically earmarked for a specific purpose, to justify the imposition of the tax.

Each of these tax categories has strengths and weaknesses, and peculiarities that face developed or developing countries. The table below provides a comparison between these tax types, under different contexts.

Table 3: Comparison of tax types applied in agriculture

Tax Instrument	Pros	Cons
Tax on Declared Income	Most “fair” tax Farmers only pay tax when they earn income	Difficult to monitor Collection only possible after harvest Highly-complex, due to nature of farming – high debt, high risk activity
Presumptive Tax	Relatively easy to compute Easy to collect	Less accurate than declared income Payments only possible after harvest Incurs tax burden regardless of profit or loss
Export Tax	Strong and regular source of revenue Acceptable for cash crops Most large farms comply with rules	Discourages small and medium scale farmers from developing cash crops, and moving out of poverty cycle
Local “Cess” tax	Easy to compute and collect Primarily done by local authorities	Highly-distortionary Highly-discouraging to professional cash crop development Encourages tax and formal sector evasion
Vehicles / horse / sheep tax	Easy to compute Relatively fair as wealthier farmers with a greater number of animals pay more	Difficult to collect in remote areas

2.2.4 Income Taxes

Declared income tax is the most popular instrument among OECD countries, but it is less prevalent among developing countries due to low revenue yields, low capacity of taxpayers and potentially high administrative costs.

Farm incomes are typically highly-variable due to unpredictable seasonal weather patterns. This makes farm audits more difficult. Farms are also more difficult to audit because farm establishments are typically rural and far away from tax offices. Finally, while basic literacy is a foregone assumption in OECD countries, many subsistence farmers cannot read or write. According to the 2017 Labour Force Survey in Rwanda, between 60-70% of farmers have no formal education at all.

However, as technology improves, the administrative cost of taxing actual income is expected to decline substantially. In particular, tax authorities can leverage data-sharing across multiple-source datasets in order to triangulate output and sales for small and medium-size farms. The study team found this practice in Ghana, where the government regularly cross-verifies data submissions between government agencies. The Rwanda Revenue Authority already utilizes IT methods to help them identify potential taxpayers, and to identify potential income. These methods can also be expanded to farming output, yields, revenues, and estimated incomes – at least for commercial, for-profit operators.

2.2.5 Presumptive Methods to Estimate Income

By design, presumptive income is easier to compute and collect compared to declared income. Presumptive taxes also reduce the so-called “compliance burden” for farmers – they don’t need to keep records or hire accountants to determine their net taxable income.

A World Bank report by Rajaraman (2004) suggests that presumptive taxes collected by local agencies are the best approach to farm taxation in developing countries. His context is India, but the report concepts also apply to Rwanda. Rajaraman suggests that land can be assessed according to its “productivity.” He proposes *crop-specific* calculations that reflect the potential value of different crops, thus yielding a more accurate depiction of expected revenue.

In Rajaraman’s framework, the agriculture levy would use crop type, average sales price, and average yield to impute a farmer’s expected revenue, and then either place a low tax upon total turnover (sales) or place a higher tax rate onto what he calls the “taxable surplus”.

This type of system can be found in smaller countries, such as the island state of Mauritius. Sugar cane and tobacco farmers there can choose between fully-accounting for profits and losses, or they can elect to pay taxes according to pre-defined costs and sales values. In their system, both the sales and the

costs are pre-determined by the government. The official sales price per ton is based upon farm-size, where larger farm sizes are given higher sales values.⁸

Presumptive taxes can also be as simple as single levy based upon farm-land size. Presumptive taxes have the lowest administrative costs since no investigations or risk-based analysis are needed. Tax administration would be a one-time “setup” related to farm ownership, assessment of the *productive area* or cultivated area of the farm, and – if desired – indication of crop type. Once these initial parameters are determined, subsequent years simply update changes to average yield and price.

However, a major problem for presumptive taxation is the inflexibility of the tax compared to risks and variable incomes of farmers. Presumptive taxes are not sensitive to profits or losses, they apply regardless whether of the actual income of the farmer. Those farmers who lie just above the tax-threshold are most at risk from presumptive taxes causing undue harm. In years with draught or other natural events, farmers will face the double-burden of low incomes, and (relatively) high taxes under a presumptive tax scheme. This is a concern for poor households in particular.

Annual Tax Election by Farmers: In most industries where presumptive taxation is used, taxpayers can elect whether to report actual income, or to pay a simplified presumptive tax. But they must stick to their system for multiple-years, usually 3 to 5 years. This prevents taxpayers from “gaming” the tax system and switching between tax regimes when it is most convenient.

But due to the high volatility of farm income year to year, farmers should be allowed to choose the preferred tax method each year. The benefits of tax flexibility to farmers is higher than the expected loss of tax revenues in this case. In particular, it eliminates the risk of taxing households who have not earned any money in a given year.

2.2.6 Effects of Increased formal employment in agriculture

A major side-effect of broadening the tax base is a more formalized economy. Through tax registration, the government can gradually include more residents into the official tax and income tracking system. This allows for more accurate assessments of farm activities, farm incomes, and farming outputs. Collecting and tracking such data becomes increasingly valuable over time.

Improved Data Accuracy: Currently, most agricultural inquiries are conducted using voluntary surveys. These surveys are popular due to their low cost, but they are not necessarily accurate. Middle- and high-income household rarely agree to complete the surveys. The resulting data only reflects low-income households or workers, making the country’s population and economic situation appear worse than it really is. More reliable data can be obtained from farmers when a small tax is due. This allows authorities to accumulate more accurate datasets, and to make more clear and accurate revenue assessments.

⁸ For more information, interested readers can find the Mauritius farm tax guide at:
<http://www.mra.mu/index.php/download-centre/income-tax/29-home/media-centre/191-agriculture>

Access to Credit Markets: A tax on farmers reduces their annual income due to the tax, but paying taxes also proves incomes and property rights – allowing banks to supply credit to formal sector farmers. Having an official record of production or income is typically required by credit agencies.

According to the International Labour Organization (ILO), formalization also leads to better worker conditions and more income smoothing. Formally registered entities can begin contributing into social pension funds, as well as unemployment insurance and other types of income-smoothing mechanisms. Formally employed farm employees who can demonstrate skilled and were employed often leads to higher-skilled employment in the future.

2.2.7 Lowering administration costs through technology

In each of the case-study countries, efforts were made to “modernize” the tax administration system, but few of the countries explicitly designed tax policy to leverage new technology.

As times change, administrative costs can be lower than previously thought. Proper application of technology can make tax reporting less burdensome and can make collection and enforcement less costly to the government, while increasing tax yields.

In previous decades, inspectors must identify and access individual farms in person. This made agriculture taxation expensive due to travel and communication costs.

But today, a combination of computer, satellite, and database expertise can reduce the time and labour costs of estimating farm yields and farm incomes dramatically. Some discussion about how to leverage database technology is provided in the Kenya country review. While all countries are updating their systems, it seems like Kenya is a leading agency in this department.

3 COUNTRY EXAMPLES

The research team conducted several investigations into agriculture-intensive countries in order to uncover experiences that can help Rwanda's policy experts. The case studies were chosen based on these criteria:

- *Macroeconomic*: similar weight of the agricultural sector in the economy;
- *Employment*: large proportion of the population work in agriculture in a largely informal way;
- *Farming style*: majority of farming is for subsistence;
- *Economic development*: the country should not be a highly-developed country, as farmers utilize different technology and have much higher incomes;
- *Taxation*: agriculture is taxed in some way.

The following four countries were selected:

1. Cameroon: a lower middle-income country with a diversified agricultural sector. The share of agricultural employment is close to that in Rwanda at over 60%, predominantly subsistence farmers. The agricultural sector is included in the tax net and the government has tried in recent years to raise additional revenue from the sector in particular through export taxes on agricultural products;
2. Ghana: a lower middle-income country with a reliance upon mineral resources and agriculture. Ghana was included in the study for the following reasons:
 - a. A large agriculture sector (20% of GDP) and close to half of the working population in the farm sector;
 - b. Large subsistence farming and informal activity;
 - c. The government of Ghana has been trying to raise additional tax revenue from the agricultural sector by introducing a corporate tax rate on firms operating in the agri-business field.
3. Kenya: a lower middle-income country and direct neighbour to Rwanda. More than 60% of its workforce engaged in the agriculture sector which contributes approximately 30% to GDP. Kenya was selected because the government has initiated reforms that aim to increase the tax net by lowering the income tax threshold targeting in particular farmers. Kenyan authorities have also decided that support policies to agriculture do not generate sufficient economic gains to justify the tax expenditures, so tax exemptions are being eliminated there.
4. Pakistan: a non-African country with a large farming sector. The country has a long history trying to tax agriculture, with mixed results. Pakistan was chosen because there exists a well-documented history of their agri-tax decisions and the related outcomes, making it a useful case for review by Rwanda.

The study team considered several alternatives, such as South Africa, Botswana, Namibia, Peru, and Mexico. The African countries were not chosen due to higher incomes and dissimilar socio economic characteristics, and the Latin countries were omitted because their institutions were too dissimilar, making it difficult to relate the causes and effects back to Rwanda's situation.

As expected, specific revenue data on agricultural incomes and taxes were rare, and it is unclear whether such data is available at all in most countries. For this reason, the conclusions are predominantly qualitative. A more quantitative assessment will be conducted in Part II of this project.

3.1 Case 1: Cameroon

Cameroon represents the stereotypical “high tax / high exemption” economy. The country has high tax rates but weak collections due to tax evasion and informality. The agriculture sector is subsidized through numerous input exemptions and income is taxable, but not collected for all but the largest farms. Agriculture-based revenues mainly come from export fees on crops.

Government revenues caved in 2015, due to lower oil prices, leading the government to seek IMF credit. To improve their fiscal position, Cameroon’s leaders have expanded the export tax on crops, and is broadening the taxable base through a national Tax ID system. Input subsidies continue in the spirit of fostering agriculture growth.

Box 1: Cameroon – Basic Statistics	
Population	25.1 million
GDP (USD)	34.8 billion
(per-capita)	(1,503)
GDP Agriculture	23.1 % of GDP
Tax/GDP Ratio	14.4% (2016)
Labor Force	16.9 million (65.4% of Pop)
Labor in Agriculture	61.8%
Small-Scale Farming	90% of farms

3.1.1 Economic Background

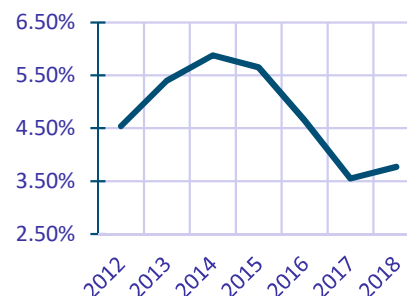
Despite a large industrial sector, agriculture remains the main form of employment, with 61.8% of the workforce working on farms. Service sectors employ 29.5% of the workforce and industry employs 6.5% (see Graph 1⁹). Total exports were 3.55 billion USD in 2017 or 11% of GDP. The top five exports were crude oil, wood products, cocoa and related products, gold and bananas.

Cameroon has been noted for causing a large informal economy through high tax rates and onerous bureaucratic processes. Approximately 80% of small businesses are believed to operate informally, almost all farms are informal.

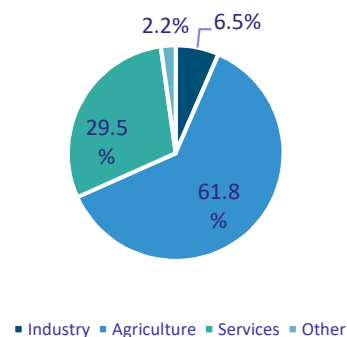
3.1.2 The agricultural sector

Agriculture employs more than 60% of the population and is a low-income activity. About 90% of farmers operate small scale

Graph 1: Cameroon GDP growth



Graph 2: Employment per sector in Cameroon (2017)



⁹ Source: <https://www.indexmundi.com/facts/cameroon/indicator/SL.AGR.EMPL.ZS>;
<https://www.indexmundi.com/facts/cameroon/employment-in-industry>;
<https://www.indexmundi.com/facts/indicators/SL.SRV.EMPL.ZS/compare?country=cm>.

plots.¹⁰ In terms of land use about 20% of its surface is used for agricultural purposes, with 13% actually being arable land (Table 4)¹¹.

Agricultural activities in Cameroon are divided between cash crops (cocoa, coffee, banana, oil palm, sugar cane, rubber tree) and food crops (plantain, maize, cassava, etc.).¹² Key agriculture related exports from the agricultural sector are cocoa beans and products (17.6% of total exports in 2016) and bananas (8.9% of total exports).¹³

Table 4: Land use in Cameroon

Land Use in Cameroon	
Agricultural land	20%
Arable land	13%
Forests and woodlands	78%
Permanent crops	2%
Permanent pastures	4%
Other	3%

Table 5: Agricultural products of Cameroon (2013)

Product	1000 tonnes
Crops	8,716
Fruits - Excluding Wine	5,219
Vegetables	2,335
Meat + (Total)	327
Milk - Excluding Butter	244
Fish, Seafood	141

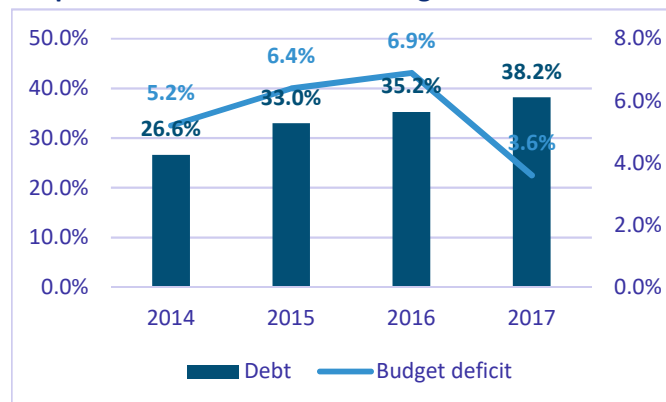
3.1.3 Taxes and revenues

Like Rwanda, Cameroon is grappling with increased budget deficits and public debt. Total public debt has increased threefold since 2010 and stands at 38.2% of GDP. The annual deficit was 6% of GDP in 2015 and 2016 but has recently declined to 3.6% in 2017.

Cameroon recently sought support from the IMF and now operates under the Fund's extended credit facility which was granted in 2017. Measures that are being pushed to include fiscal consolidation, shifting of public debt toward concessional loans, scrutiny of new debt, increased non-oil growth, and improvements to public debt management.¹⁴

Like other case-studies, revenues in Cameroon are low, at 14.4% of GDP.¹⁵ The IMF suggests that Cameroon could reach a tax

Graph 3: Cameroon debt and budget deficit



¹⁰ Source:

https://www.researchgate.net/publication/312257485_Evaluation_of_smallholder_farming_systems_in_the_Western_Highlands_of_Cameroon.

¹¹ Source: <http://www.new-ag.info/en/country/profile.php?a=871>;

<http://cameroon.opendataforafrica.org/hxycnxc/cameroon-agriculture-sheet>.

¹² Source: <http://cameroon.opendataforafrica.org/hxycnxc/cameroon-agriculture-sheet>.

¹³ Source: <https://atlas.media.mit.edu/en/profile/country/cmr/>.

¹⁴ Source: <https://www.imf.org/external/pubs/ft/dsa/pdf/2017/dsacr17185.pdf>.

¹⁵ Source: <http://www.oecd.org/tax/tax-policy/revenue-statistics-africa-cameroon.pdf>.

to GDP ratio of 21%. In their 2018 country report, the IMF claims that revenues could be increased by raising efficiency of tax collection and by reducing tax exemptions.¹⁶

Key revenue sources are the VAT (34%), and “other taxes on goods and services”¹⁷ (26%). See Graph 4 for a comparison chart. Personal income taxes are just 6% of total revenues, and non-tax revenue is relatively small at 2.66% of GDP.¹⁸

In their budget circular on June 2018, the Government outlines efforts to raise revenues by broadening the tax base and enrolling more taxpayers.¹⁹ This includes expanded export taxes on acacia gum, rice, palm oil, pepper, kola nut, millet, sorghum, and Eru; timber exports already incur a 30% tax for environmental protection purposes.²⁰

However, it was noted by reporters (in Business-Cameroon) that the same measures were written into the circular last year, but never implemented. Reporters hypothesized that the statements were made primarily to satisfy stipulations by the IMF to eliminate tax exemptions and to broaden the tax base.

Although almost all private income is taxable by law, personal income taxes (PIT) account for just 6% of total revenues. The tax system does not distinguish between capital gains and earned income – so that all personal income is taxable as earned income. Farming income is taxable according to Cameroon law, even if it is not enforced in that way.

The personal exemption is 500,000 Francs (about 868 USD) annually, after which a 10% income tax is applied. Rates increase rapidly as incomes increase (see Table 6). An additional 10% municipal tax is levied in addition to federal taxes.²¹

Graph 4: Composition of tax revenue in Cameroon - 2016

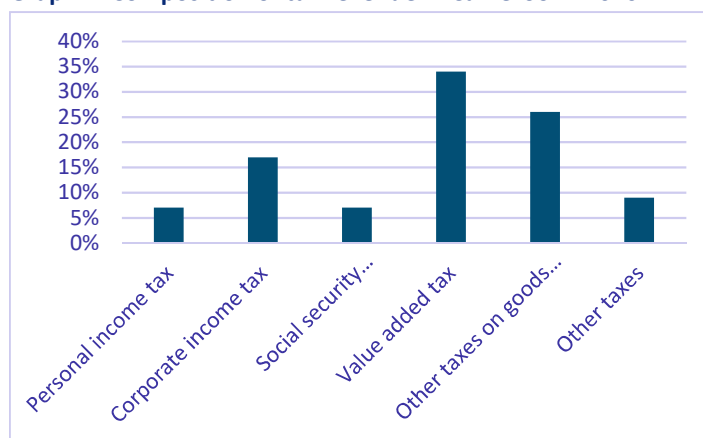


Table 6: Personal Income Tax rates Cameroon

Cameroon Francs	USD	Rate
500,000 - 2,000,000	868 - 3,472	10%
2,000,001 - 3,000,000	3,472,1 - 5,208	15%
3,000,001 - 5,000,000	5,208,1 – 8,680	25%
> 5,000,000	> 8,680	35%

¹⁶ Source: IMF Country Report No. 18/256, August 2018

¹⁷ Other taxes on goods and services includes excises, customs and import duties, taxes on exports, taxes on specific services. The authors believe most of these revenues are related to oil production or export.

¹⁸ Source: <http://www.oecd.org/tax/tax-policy/revenue-statistics-africa-cameroon.pdf>

¹⁹ <https://www.imf.org/en/News/Articles/2018/11/13/pr18420-imf-staff-ends-mission-to-cameroon-on-the-3rd-review-under-the-ecf>

²⁰ Source: <http://www.dgb.cm/news/2187/>; <https://www.businessincameroon.com/taxation/2206-8136-cameroon-to-progressively-cancel-the-indirect-tax-incentives-in-2019>.

²¹ Source: <http://www.impots.cm/uploads/Telechargement/CGD%20doc/GENERAL%20TAX%20CODE%202017.pdf>.

The corporate tax rate 35%, plus an additional 10% municipal tax are levied upon corporations and other business entities. This rate is 13.5 percentage points higher than the world average corporate rate of 22.5%.²² The VAT rate levied on goods and services is 19.25%.

Property taxation was instituted through ordinance 74-1 in 1974. Initially property tax payment was restricted to large cities such as Yaoundé and Duala but has evolved further into towns and villages. In practice property taxes are not levied on farming lands, since most village lands are still overseen by traditional laws and are ruled by chiefdoms.²³

3.1.4 Taxation in the agricultural sector

In 2017, agriculture tax revenues were 7.7 billion Francs – or just 0.4% of total tax revenues. Revenues are primarily from export taxes which are easier to collect at the shipment stage. Table 7 shows tax revenues generated from the agricultural sector in 2017 according to the annual report from the Directorate General for Taxation of Cameroon.²⁴

Table 7: Tax revenues from the agricultural sector in Cameroon (2017)

Type of revenue source	Million FCFA
Total tax revenues	1,940,420
Agricultural tax revenues	7,726
Weight	0,4%
Corporate tax	No data
Personal income tax	No data

3.1.4.1 *Crop Export Taxes*

The customs department imposes the following fees upon agricultural exports in Cameroon:²⁵

- Raw products of animal, vegetal or mining origin are subject to the payment of exports duties at the rate of 2% of their taxable value;

²² See: <https://taxfoundation.org/corporate-income-tax-rates-around-world-2016/> for a list of corporate tax rates in 2016.

²³ Source: https://www.lincolnst.edu/sites/default/files/pubfiles/1612_829_WP09FAC2.pdf.

²⁴ Source of data included in Table 7: Annual report 2017 Directorate of General Taxation.

²⁵ Rates are found in Government Circular N°004 MINFI/DGD of 4 January 2018 regulates export rights and taxes thereon.

- Cash crops (cotton, rubber, rubber products, palm oil, bananas and pineapples) are subject to a 2% exit tax;
- Certain local products are subject to a 5% exit duty: Arabic gum, rice, palm oil, chili, cola nuts, sorghum pepper, a vegetable called Gnetum Africanum (Ero / Okok);
- Cocoa and coffee incur a 10% exit tax;
- Wood and logs are subject to a levy of 30% of their taxable value.

Graph 5: Export tax revenue % of total / total tax revenue



It is noteworthy that the 5% tax on acacia gum, rice, palm oil, hot pepper, cola nuts, millet, sorghum pepper and Eru was introduced in Cameroon's 2018 Finance Act, one of the reasons stated to be to halt operators using these products as a cover for taxable ones, the other to expand the country's tax base.²⁶

These taxes contributed approximately 3% of total tax revenues in 2000 but have since declined to 0.6% of revenues. Causes are believed to include international trade agreements and WTO rules that pressure countries to eliminate export taxes, except in cases of national security or environmental harm (see Graph 5).²⁷

3.1.4.2 Income Taxes

Farm-based incomes are taxable according to the law,²⁸ but tax authorities are not enforcing these laws on farmers. The Directorate General of Taxation pointed in 2017 out that enforcement of farm taxes is costly and unprofitable, because farmlands lie in remote areas without tax service offices.

Similarly, more than 90% of Cameroon farmers already lie below the income tax threshold.²⁹ Most farmers do not know if they should pay taxes or not, because tax collectors are not visiting these areas.³⁰ The exact number of farmers who pay tax area could not be found by the study team.

²⁶ Source: <https://www.businessincameroon.com/public-management/1511-7563-cameroon-to-impose-a-5-tax-on-9-agricultural-products>.

²⁷ Source: <https://stats.oecd.org/Index.aspx?DataSetCode=REVCMR>.

²⁸ Source: General Tax Code 2017.

²⁹ Source: interview with taxpayer manager at the Directorate of General Taxation.

³⁰ Source: <https://www.lavoixdupaysan.net/cameroun-fiscalite-agricole-grande-meconnue/>.

3.1.4.3 Local Taxes on Agriculture

A presumptive tax is levied on cattle at an annual rate of 200 CFA Francs (0.35 USD cents) per head of cattle³¹. The livestock tax is levied based on a verbal or written declaration on the taxable person made by the district chiefs or by agents specially designated for this purpose.³² Some animals are exempt from this small fee, such as breeding animals or “working” animals.

3.1.4.4 Agriculture Subsidies and Exemptions

Cameroon follows the traditional strategy of “supporting” agriculture through tax exemption. All agricultural cooperatives or and farm unions are exempt. These are described by tax law as:

- Co-operative societies engaged in the production, processing, conservation and sale of agricultural and livestock produce, together with associations of such co-operatives;
- Agricultural and pastoral unions, supply and purchase co-operatives;
- Agricultural mutual credit funds.³³

Furthermore, companies involved in agriculture and livestock receive a tax waiver for taxes on wages paid to seasonal agricultural workers.³⁴

Farms and cooperatives can also avoid the 19.25% VAT imposed on regular items as broad exemptions are granted to the agricultural sector (see Box 2 below).

Box 2: List of agro-pastoral equipment and materials exempt from VAT³⁵

1. Seeds and Animal Inputs
2. Fertilizers:
3. Pesticides:
4. Equipment, machinery and equipment for soil preparation and cultivation;
5. Planting materials and equipment;
6. Processing equipment and materials;
7. Irrigation equipment;
8. Packing materials;
9. Small agricultural and livestock equipment;
10. Small fishing equipment.

Companies involved in agriculture, livestock and fisheries also enjoy tax exemptions as follows:

- Exemption from registration fees on transfers of land used for agriculture, stock breeding and fisheries;

³¹ Taxe sur le bétail, Fiscalité et TVA au Cameroun, 2016, P.6.

³² Ohada uniform act on simplified procedures for recovery and enforcement.

³³ Source: General Tax Code 2017.

³⁴ Section 122 of the General tax code 2017 edition.

³⁵ Source: Annex to General Tax Code 2017 page 54-59.

- Exemption from land tax for property belonging to agricultural, stock breeding and fishing companies, and used for these activities, excluding office buildings.³⁶
- Registration fees for loan finance agreements to expand agriculture, stock breeding and fisheries.

3.1.5 Conclusion and lessons for Rwanda

Tax revenue from the agricultural sector in Cameroon is estimated to be 0.4% of the overall tax revenues.

Importance is given to spurring development and growth of the agricultural sector through various incentives to encourage horizontal economic diversification of agricultural products. However, the extent to which tax exemptions can successfully contribute to growth can be questioned. This applies especially when farmers want to move out of subsistence into extensive farming. Benefits and tax exemptions associated with their current status may act as disincentive to extending production to above subsistence levels. In addition, lacking awareness about tax benefits or mechanisms also hamper moving out of subsistence farming.

Measure	Benefits	Costs
Measure 1: taxes on exports.	<ul style="list-style-type: none"> ▪ Relative certainty of income generation. ▪ Low cost of implementation 	<ul style="list-style-type: none"> ▪ Prone to price and revenue volatility; ▪ Can suffocate efficiency of the sector; ▪ May have adverse effects on poverty.
Measure 2: spurring agricultural development through tax exemptions.	<ul style="list-style-type: none"> ▪ Potential for diversification and growth of the agricultural sector; ▪ Potential to reduce poverty if farmers move out of subsistence. 	<ul style="list-style-type: none"> ▪ No accounting for cost of programme (amount of lost revenue); ▪ No evidence that exemptions are working; ▪ Erodes VAT tax base by encouraging “farm registration” as tax avoidance scheme.
Measure 3: Presumptive tax on livestock.	<ul style="list-style-type: none"> ▪ Generates fee revenue for local government. 	<ul style="list-style-type: none"> ▪ Added cost of business for herders, no clear benefit to taxpayers.

³⁶ Section 122 of the General tax code 2017 edition.

3.2 Case 2: Ghana

Ghana has historically avoided taxing agricultural incomes, and instead has relied on an export-board to collect revenue – primarily from cocoa farming. As a result of budget shortfalls, the government has however instated a new Income Tax Act which entered into force in January 2016 which imposes a corporate tax rate on businesses benefitting from tax holidays, including various sectors related to agriculture. The sector however also still receives support in the form of VAT and income tax exemptions. Overall, agriculture levies represent a small share of total revenues.

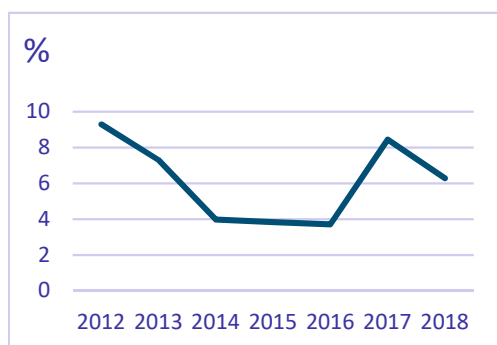
Box 3: Ghana – Basic Statistics	
Population	28.8 million
GDP (USD)	47.3 billion
(per-capita)	(1,814)
GDP	18.3 % of GDP
Agriculture	
Tax/GDP Ratio	17.6%
Labor Force	16.9 million (65.4% of Pop)
Labor in Agriculture	45%
Small-Scale Farming	22% of farms

The government also hopes to improve revenue performance through administrative reforms, such as data-sharing between agencies, and a national taxpayer ID program.

3.2.1 Economic Background

The discovery of oil in Ghana caused sharp growth cycles dominated by world oil prices. While prices were high in 2010-2014, public spending surged, but when oil prices crashed in 2015, Ghana was not prepared, and was forced to accept a concessional bailout from the IMF. The public sector now seeks more stable non-oil revenues, primarily by enrolling more taxpayers.

Graph 6: GDP growth in Ghana³⁷



GDP and employed 41% of the workforce.³⁸ Ghana's labour force is primarily informal. Surveys by the political think tank Friedrich Ebert Stiftung estimate that more than 80% of the labour force works informally.³⁹

³⁷ Source: <https://www.statista.com/statistics/447479/gross-domestic-product-gdp-growth-rate-in-ghana/>.

³⁸ Source:

http://www.statsghana.gov.gh/docfiles/GDP/GDP2018/2017%20Quarter%20and%20annual%202017%20GDP%20publications/Annual_2017_GDP_April%202018%20Edition.pdf; <https://www.statista.com/statistics/447530/employment-by-economic-sector-in-ghana/>.

³⁹ Source: <http://library.fes.de/pdf-files/bueros/ghana/10496.pdf>.

Ghana's exports are gold, cocoa and crude oil. In 2017 gold exports were 41% of total export value, oil exports contributed 20%; and cocoa 17%. Ghana is the second largest cocoa producer and exporter in the world, after Ivory Coast.

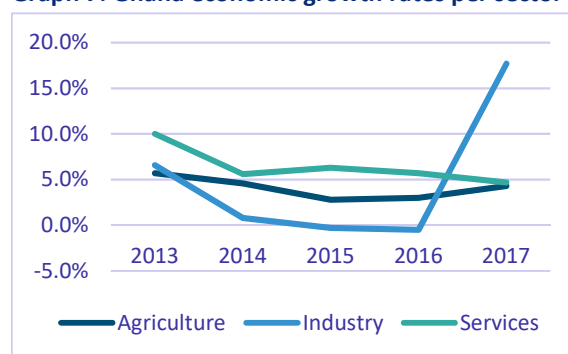
Ghana's government claims to be pursuing a strategy of transformation of the agricultural sector to act as catalyst for job creation. The strategy includes initiatives to increase large-scale mechanisation. But recent growth is driven mainly by further oilfield developments – now generating renewed GDP growth at 8.44% in 2017, which is 103% higher than Ghana's performance in 2016 (see Graph 6).⁴⁰

3.2.2 Agriculture in Ghana

Agricultural growth rates have been relatively stable over the past five years lying on average around 4% (Graph 7⁴¹). According to Ministry of Food and Agriculture statistics of Ghana's total surface of 23.9 million hectares, 57% are agricultural land area. However, only 47.2% are under cultivation, leaving more than half uncultivated.⁴²

While Ghana's agricultural sector still relies on subsistence farming, its predominance has been declining. A recent study by the Bill and Melinda Gates foundation suggests that government efforts to transition the sector from subsistence to commercial farming have paid off. According to the study less than 10% of farms were found to be subsistence oriented, with the share of land held by small-scale farmers (in this case defined as below five hectares) having declined to 22% with medium scale farms (defined as occupying 5-100 ha) making up approximately 32% of farmland.⁴³

Graph 7: Ghana economic growth rates per sector



Ghana's agricultural sector is often described as divided between export oriented and food crops, the former growing strongly and the latter lagging behind.⁴⁴ Crops (rather than livestock or forestry) are the dominant agricultural output, contributing 74.4% to total agricultural GDP (including export crops such as cocoa), followed by forestry (10.4%), livestock (9%), and fisheries (6.2%).⁴⁵ In terms of food crops the five major ones in 2015 were cassava at 17.2 billion metric tons, yam at 7.3 billion metric tons, plantain at 3.6 billion tons, maize at 1.7 billion metric tons, and cocoyam at 1.3 billion metric tons; in terms of industrial crops palm oil constituted an output of 2.5 million metric tons in 2014/2015; cocoa

⁴⁰ Source: [Ibid.](#)

⁴¹ Source: 2018 Budget Highlights, "Putting Ghana Back to Work", PWC, November 2017.

⁴² Source: <https://www.myjoyonline.com/opinion/2018/February-17th/agricultural-financing-and-commercialisation-of-ghanas-agriculture.php>.

⁴³ Source: <https://oxfordbusinessgroup.com/overview/sustainable-solutions-prioritising-efforts-increase-domestic-production-and-lower-dependence-imports>

⁴⁴ Denise Wolter, Ghana – Seizing New Agribusiness Opportunities, OECD, <http://www.oecd.org/dev/41302232.pdf>.

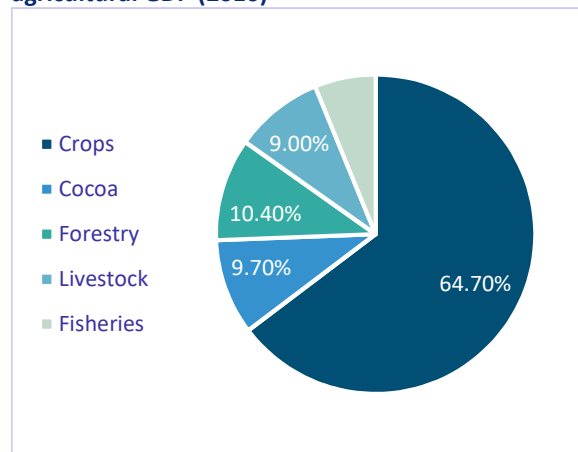
⁴⁵ Agriculture in Ghana, Facts and Figures (2015).

had an output of 0.95 million metric tons in the same period.⁴⁶ Ghana's main agricultural exports are cocoa beans, which made up 17.1% of all exports in 2016, and cashew nuts at 8.9%.⁴⁷

Ghana is the second largest exporter of cocoa worldwide after Ivory Coast, with world market shares of the two countries lying at 20.2% and 38.3% respectively. Cocoa production in Ghana is smallholder based with plot sizes varying between 0.4 and 4.0 hectares and approximately 800,00 smallholder farmers relying on cocoa for their livelihoods. 80% of Ghana's cocoa is exported in its raw form while the other 20% are processed in the form of cocoa butter, cocoa paste and cocoa shells.⁴⁸

Cocoa is Ghana's third largest foreign exchange earner, having had to relinquish second spot to oil only in the beginning of 2018.⁴⁹

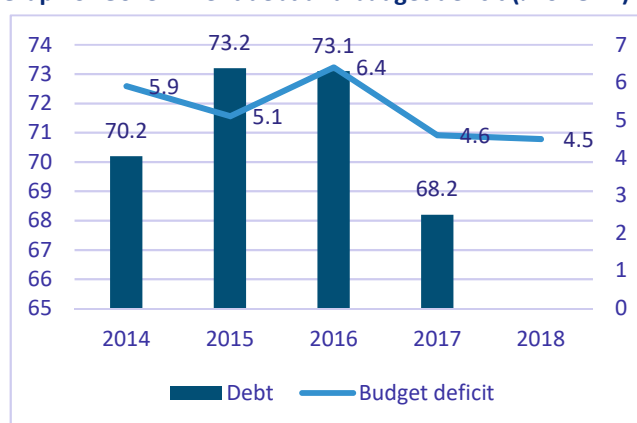
Graph 8: Agricultural sub-sector contribution to agricultural GDP (2016)



3.2.3 Taxes and Revenues

Ghana's tax collections have increased since 2010 from 14.5% to 17.6% of GDP in 2016.⁵¹ This is close to the African average rate of 18.2%.⁵² Tax revenue has increased by 23.7% from 2017 to 2018, thanks to higher oil revenues.⁵³ As a result of problems encountered in extracting tax revenue from the broader economy, the Ministry of Finance has generated tax revenues primarily through relatively easily collected tariffs and duties, as

Graph 9: Government debt and budget deficit (% of GDP)⁵⁰



⁴⁶ Source: Agriculture in Ghana, Facts and Figures (2015), Ministry of Food and Agriculture, Statistics, Research and Information Directorate (SRID), October, 2016.

⁴⁷ Source: https://www.researchgate.net/figure/Agricultural-exports-from-Ghana-2016_tbl2_327160640

⁴⁸ Asare, E., Segarra, E., Nakakeeto, G., Cocoa export tax, producer price of cocoa and exports of Ghana's cocoa, 1990-2011, African Journal of Development and Agricultural Economics, International Scholars Journals, March 2018.

⁴⁹ Source: <https://www.graphic.com.gh/business/business-news/oil-revenue-outstrips-cocoa-as-2nd-biggest-foreign-exchange-earner.html>

⁵⁰ Source: <https://www.pwc.com/gh/en/assets/pdf/2018-budget-highlights.v2.pdf>.

⁵¹ Source: <https://www.pwc.com/gh/en/assets/pdf/2018-budget-highlights.v2.pdf>.

⁵² Source: Ibid.

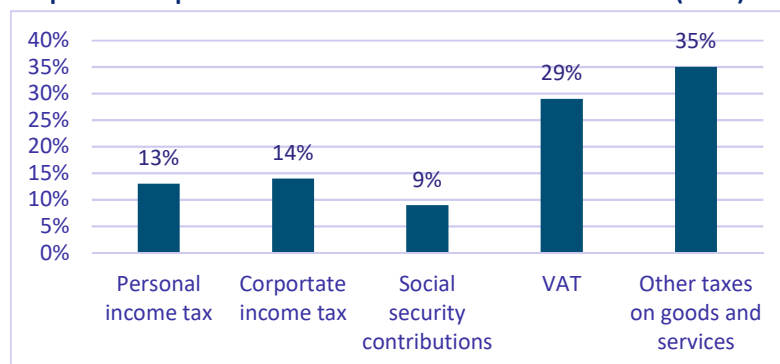
⁵³ Source: <https://www.pwc.com/gh/en/assets/pdf/2018-budget-highlights.v2.pdf>.

can be seen by the weight of VAT (29%) and taxes on goods and services (35%)⁵⁴ in total tax revenues (Graph 10).⁵⁵

Ghana required a USD 920 million credit facility with the IMF in 2015 when oil prices fell. The IMF requires Ghana to lower their deficit by reducing subsidies, shrinking the public sector payrolls, and improving tax collections.⁵⁶

Personal income tax (PIT) is collected on a progressive basis in Ghana. The first 3,132 GHC (approx. 689 USD) earned is tax exempt, but rates increase to 35%, based on income levels. The PIT schedule is shown in Table 8⁵⁷. The maximum corporate tax rate is 25%, with notable exemptions for the agricultural sector.⁵⁸ The value added tax (VAT), rate is 15% and there is a National Health Insurance

Graph 10: Composition of Ghana's tax revenue as % of total (2016)



Levy of 2.5% applied to goods and services made in Ghana, the same as imported goods and services. In addition, a 3% flat rate scheme is charged by retailers and wholesalers.

One of the major problems in Ghana resulting in low tax revenues is the small tax base of the country. Surveys by the Friedrich Ebert Stiftung suggest that more than 80% of the population works informally.⁵⁹ The study also finds that about 35% of informal sector employers pay value-added tax through purchases from formal enterprises, but less than a quarter (23,6%) pay personal income tax.⁶⁰

Similarly, according to the Deputy Minister of Finance, of its total population of 28.8 million

Table 8: Annual personal income tax rates in Ghana

Chargeable Income (GHC)	Rate (%)	Cumulative Chargeable Income (GHC)	Cumulative Chargeable Income (USD)
First 3,132	Free	3.312	689
Next 840	5%	3.972	827
Next 1,200	10%	5.172	1.067
Next 33,720	17,50%	38.892	8.095
Next 81,108	25%	120.000	24.977
> 120.000	35%		

⁵⁴ Taxes on other goods and series comprise the following key items: excises (including petroleum taxes, energy fund levy and road fund levy), customs and import duties, export taxes on cocoa, taxes on specific services (communication and airport taxes).

⁵⁵ Source: <http://www.oecd.org/countries/ghana/revenue-statistics-africa-ghana.pdf>.

⁵⁶ Source: https://www.cia.gov/library/publications/the-world-factbook/geos/print_gh.html.

⁵⁷ Source: <https://gra.gov.gh/index.php/pay-as-you-earn-payee/>

⁵⁸ Source: <https://gra.gov.gh/index.php/income-tax/>

⁵⁹ Source: <http://library.fes.de/pdf-files/bueros/ghana/10496.pdf>.

⁶⁰ Source: <http://library.fes.de/pdf-files/bueros/ghana/10496.pdf> and Business and Financial Times, page 15, 31 October 2018.

people (2017)⁶¹, only about six million are on the tax net; of these only 1.5 million people actually regularly pay taxes, the informal sector making up 200,000 of these.⁶² Other figures suggest that approximately 94% of businesses are informal, contributing only 4% to tax revenue.⁶³ Even if there are discrepancies on the extent of the informal sector, the problem of a large informal sector reducing the tax base is brought to the fore by both. With average monthly earnings in the informal sector lying at 101,02 GHC (approximately 21 USD at current prices)⁶⁴ the scope for generating tax revenue remains limited.

In its 2018 budget the Government announced several measures to raise tax revenues with a particular focus of extending the tax base as opposed to increasing taxes. In particular tax administrative measures have been proposed⁶⁵:

1. Taxpayer registration: The National Identification Authority Act (2006) aims to support the National Identification System and socio-economic data generation, among others to support taxation decisions. An additional National Digital Address system was launched to further support taxpayer identification also from the informal sector. Individuals hence need to register and obtain a Tax Identification Number (TIN). Since compliance with this requirement has been low sanctions are to be applied to improve compliance;
2. Tax payer identification: non-confidential taxpayer data sharing is also to be promoted among regulatory bodies such as Ghana Revenue Authority (GRA), Registrar General's Department, Ghana Investment Promotion Centre, Public Utility Regulatory bodies, local Authorities and financial institutions to ensure as much data as possible is available to tax authorities to minimise tax evasion;
3. Introduction of voluntary disclosure procedures and tax amnesties for defaulting tax payers;
4. Introduction of Alternative Dispute Resolution ("ADR") in resolving tax disputes: to resolve disputes between tax payers and tax administration ADR is supposed to increase certainty on procedures and their interpretation in an impartial way;
5. Introduction of Automatic Exchange of Financial Account Information: this is to facilitate the exchange of information through the use of the Common Reporting Standards in a move to combat in particular offshore tax evasion.

⁶¹ Source:

http://databank.worldbank.org/data/views/reports/reportwidget.aspx?Report_Name=CountryProfile&Id=b450fd57&tbar=y&dd=y&inf=n&zm=n&country=GHA

⁶² Source: GRA urged to remove barriers, ease tax payment, Business and Financial Times, page 3, October 26 2018, <https://thebftonline.com/2018/headlines/gra-urged-to-remove-barriers-ease-tax-payment/>.

⁶³ SOURCE: PEF Organises Stakeholders' Consultation on Tax Reforms in Takoradi, Business and Financial Times, Page 15, October 31 2018, www.thebftonline.com.

⁶⁴ <https://www.ghanaweb.com/GhanaHomePage/business/Economy-remains-largely-informal-GSS-report-confirms-509880>.

⁶⁵ The PWC reports "2018 Budget Highlights, 'Putting Ghana Back to Work'", and "2019 Budget Highlights, 'A Stronger Economy for Jobs and Prosperity'" outline key measures of the 2018 Budget. Source: <https://www.pwc.com/gh/en/assets/pdf/2018-budget-highlights.v2.pdf>; <https://www.pwc.com/gh/en/assets/pdf/2019-budget-highlights.pdf>.

As all of the above initiatives are recent their impact is difficult to assess to date. Efforts to improve tax collection have picked up and are integrated into the GRA's revenue collection strategy; tax compliance enforcement has been prioritised, in particular after grace periods have ceased.⁶⁶ Among others GRA has contracted an international consulting firm, McKinsey, to improve GRA's revenue collection system. However, it appears that tax payer registration (TIN) remains a contentious issue as sanctions to enforce registration have been proposed in the 2019 budget statement.

3.2.4 Taxation in the agricultural sector

While in the past the government of Ghana has focused on generating tax revenues from agriculture mainly through export taxes on cocoa products, recent efforts aimed to raise revenues through reducing tax holidays on corporates operating in the sector. Revenue sources for government through agriculture accrue in the form of export taxes on cocoa, direct income taxes and VAT. The concrete amount of revenue collected from the sector is difficult to assess since figures were not available to the study team.

3.2.4.1 *Income taxation in the agricultural sector*

Personal Income Tax: Although farmers are not explicitly exempt from income taxes, personal income tax collection in the agricultural sector seems to remain limited due to the predominance of informal employment in the sector. Concrete data was however not available to the study team.

Corporate Income Tax: The Income Tax Act, 2015 (Act 896) passed in September 2015 to administer Direct Taxes replaced the Internal Revenue Act, 2000 (Act 592). It entered into force on January 1st, 2016 and introduced a 1% corporate income tax rate during tax holiday periods during which previously no taxes were levied. The following agriculture related businesses benefit from this concession but now have to pay the 1% tax:

- Tree crop farming (10-year concession);
- Livestock farming (5-year concession);
- Cattle farming (5-year concession);
- Agro-processing business (5-year concession);
- Cocoa by-product Business (5-year concession).

After the concession period tax rates vary according to the region in which the business is based: a 25% rate is applied to businesses operating in Accra and Tema; businesses located in other regional capital face an 18.75% rate; businesses located elsewhere have to pay 12.5%; businesses operating in economic free zones face no corporate tax. As a novelty introduced by the 2015 Tax Act, businesses operating in the Northern, Upper East and Upper West Regions face a 25% corporate tax rate after concession periods have ended. The newly introduced tax rate has been criticised as potentially deterring new businesses from setting up in critical sectors such as agro-processing.⁶⁷

⁶⁶ Source: GRA Moves to Expand Revenue Collection, Business and Financial Times, page 3, 13 September 2018.

⁶⁷ Source: <http://citifmonline.com/2016/04/29/imani-alert-governments-tax-regime-hurts/>;
<https://www.pkf.com/publications/tax-guides/ghana-tax-guide/>; <https://agricinghana.com/2017/12/13/tax-incentives->

3.2.4.2 VAT and import duties

Specific exemptions apply to the agricultural sector in terms of VAT, with the following goods being exempt:

- Food produced in Ghana and unprocessed;
- Equipment for agriculture and fishing.

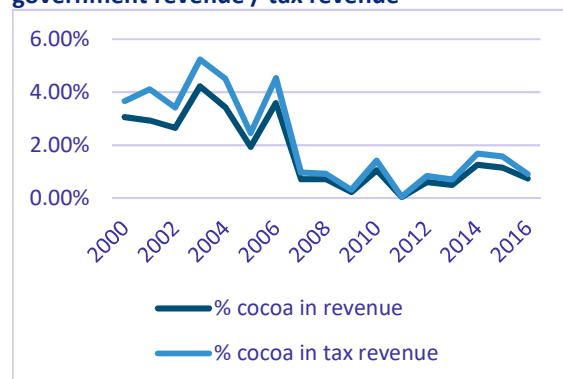
With regards to import duties, the 2015 Customs Act (Act 891) levies a five percent import duty on raw materials; for machinery and equipment this rate increases to between 5% and 35%.⁶⁸

3.2.4.3 Export crop related taxation

In the agricultural sector an export tax is levied on cocoa, which is a key output accounting for 7% of GDP and providing income for about six million people.⁶⁹ The sector is regulated and managed by the Cocoa Marketing Board (COCOBOD). COCOBOD intervenes in the cocoa value chain by providing subsidised inputs and by guaranteeing purchase prices. Through its subsidiary Cocoa Marketing Board (CMC) it manages all exports, the body holding the export monopoly in Ghana.⁷⁰

Taxation on cocoa is implicit with Ghana being the only cocoa producing country with a controlled marketing system. Cocoa producers sell to Licensed Buying Companies which in turn sell to the CMC which holds the cocoa export monopoly and fixes the selling price for cocoa producers. The effective tax on cocoa exports varies and research shows rates ranging from 11.1%⁷¹ to 25-30%⁷² on the freight on board (FOB) price. This allows for direct revenue to government. However, the overall share in tax revenue to government nowadays is relatively small (Graph 11⁷³).

Graph 11: Share of cocoa export taxes in overall government revenue / tax revenue



The COCOBOD system in Ghana has allowed cocoa producers to earn a reputation of a reliable and top-quality cocoa supplier. However, the export tax on cocoa is also perceived as having adverse effects on the farmers as the domestic price of the crop. It is estimated that cocoa yields in Ghana are:

[for-agro-processing-businesses-in-ghana/](https://www.pwc.com/gh/en/assets/pdf/ghana-tax-facts-and-figures-2015.pdf); <https://www.pwc.com/gh/en/assets/pdf/ghana-tax-facts-and-figures-2015.pdf>.

⁶⁸ Source: <https://agricinghana.com/2017/12/13/tax-incentives-for-agro-processing-businesses-in-ghana/>

⁶⁹ Source: http://www.imapac.com/wp-content/uploads/2015/04/23April_0940_Johannes-GP-Jansen-@-AC3-2015.pdf

⁷⁰ Source: http://www.agrodep.org/sites/default/files/annualmeeting/2013IR_Maiga_E.pdf.

⁷¹ Source : <https://www.cocobod.gh/>.

⁷² Source: <https://www.myjoyonline.com/politics/2018/may-20th/taxing-only-cocoa-farmers-is-discriminatory-first-deputy-speaker.php>.

⁷³ Source: <https://stats.oecd.org/Index.aspx?DataSetCode=REVGHA>.

- ~25% below the average of top 10 cocoa-producing nations;
- 30-40% lower than Cote d'Ivoire;
- 50-100% lower than achievable.⁷⁴

Thus the cocoa export tax creates price disincentives since margins to producers are small; this leads to lower crop yields as farmers do not have the resources to renew cocoa trees or switch to higher yield varieties that are more labour intensive.⁷⁵ In addition, the quality advantage of Ghanaian producers which has allowed for a price premium of Ghanaian cocoa is also decreasing which may further lower margins.⁷⁶

Evidence on the poverty impact of cocoa market intervention in Ghana is mixed. Some evidence suggests that poverty among cocoa farmers has been decreasing to a greater extent than for other farmers.⁷⁷ Other sources suggest that price distortions on the cocoa market have adverse effects on poverty with many farmers still living in extreme poverty and without alternative income options. As a result, these farmers continue to sell beans to government at low prices, which also has a deleterious effect on their incentives to invest in and expand the crop base. This also negatively impacts the ability of the crop to generate adequate cash incomes for the farmer to maintain the crop when yields are low due to bad weather, parasites or other.⁷⁸

3.2.4.4 Land taxes

Land taxes in Ghana may traditionally be levied only by land owners and local chiefs. This revenue source is hence not available to central government.

3.2.5 Conclusions and lessons for Rwanda

The example of Ghana has shown various approaches to raising tax revenues. Particularly noteworthy is the attention attributed to increasing the tax base without raising taxes. It is thus primarily inefficiencies in tax collection and tax evasion that are targeted, which if tackled could lead to higher tax revenues with limited adverse effects on poverty.

Measure	Benefit	Cost
Measure 1: increasing the tax base through administrative reform.	<ul style="list-style-type: none"> ▪ Potential to increase tax revenue without increasing taxes; 	<ul style="list-style-type: none"> ▪ Revenue generation potential remains limited as the tax base remains small.

⁷⁴ Source: http://www.imapac.com/wp-content/uploads/2015/04/23April_0940_Johannes-GP-Jansen-@-AC3-2015.pdf.

⁷⁵ Source: http://www.imapac.com/wp-content/uploads/2015/04/23April_0940_Johannes-GP-Jansen-@-AC3-2015.pdf

⁷⁶ Source: http://www.agrodep.org/sites/default/files/annualmeeting/2013IR_Maiga_E.pdf

⁷⁷ Source: <https://www.ghanabusinessnews.com/2015/06/22/the-sad-story-of-ghanas-cocoa-industry-and-the-way-forward/>

⁷⁸ Jansen, G.P. World Bank Ghana Office, Advantages and disadvantages of the Ghanaian Cocoa Sector model, and possible lessons for Asia, Asia Choco Cocoa Congress, 21-23 April 2015, Singapore.

Measure	Benefit	Cost
	<ul style="list-style-type: none"> ▪ The focus being on reducing tax evasion means taxes do not need to be levied on the poor to increase revenues. 	
Measure 2: increasing the tax base through improved exchange of information between government agencies.	<ul style="list-style-type: none"> ▪ Can be a positive tool to increasing tax revenues without increasing taxes; ▪ Can be a relatively cost-effective means of increasing tax revenue. 	<ul style="list-style-type: none"> ▪ Same as above.
Measure 3: tax rebates for start-up agro-processing firms.	<ul style="list-style-type: none"> ▪ Encourages formalisation of agro-processing firms; ▪ Amplify impact of wider agricultural support programmes. 	<ul style="list-style-type: none"> ▪ Same as above.
Measure 4: export taxation.	<ul style="list-style-type: none"> ▪ Relative certainty of income generation; ▪ If coupled with a wider sector regulation allows to impose quality and other standards effectively on a sector. 	<ul style="list-style-type: none"> ▪ Prone to price volatilities on world markets and hence varying revenue generation potential; ▪ Can suffocate efficiency of the sector; ▪ May have adverse effects on poverty.

3.3 Case 3: Kenya

The study team selected Kenya because the government has recently enacted tax measures almost identical to what Rwanda is considering. After years of tax expenditures and support policies for farmers, Kenya has decided to reverse course and begin taxing farms like other businesses.

The government has eliminated agriculture tax exemptions and is including farmers into the broader tax system. This about-face is quite recent, with most revisions adopted in 2018. Therefore, the economic and revenue effects have yet to be seen. As Kenya's neighbour, Rwanda's government has the luxury of observing how such a policy works, without the political risks.

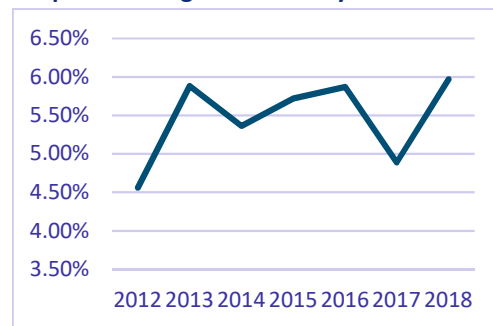
Box 4 Kenya – Basic Statistics	
Population	51.5 million
GDP (USD) (per-capita)	75 billion (1,791)
GDP Agriculture	35 % of GDP
Labour Force	16.9 million (65.4% of Pop)
Labour in Agriculture	61.1%
Small-Scale Farming:	75% of farms

3.3.1 Economic Profile

Although Kenya is four-times larger than Rwanda in terms of population and its GDP is approximately six times that of Rwanda, it has a similar farming profile. GDP has been stable, near 5.5% since 2012 (see Graph 12)⁷⁹. Services such as tourism are now the main contributor to GDP at 47.7%. Farming still accounts for more than one-third of GDP and industry contributes 17.6%.⁸⁰

Total exports in 2016 amounted to 4.7 billion USD or 6.66% of GDP. Main foreign exchange earners were dominated by agricultural products with tea (23.3% of total exports) and cut flowers (14.3%) providing the bulk of it, followed by coffee (4.7%), legumes (3.0%) and titanium ore (2.3%). Total imports in 2016 amounted to 15.8 billion USD implying that Kenya had a negative trade balance of 11.1 billion USD.

Graph 12: GDP growth in Kenya 2012-2018



3.3.2 Agriculture in the Economy

While 61% of Kenya's labour force works in agriculture, surveys suggest that three quarters of Kenyan workers work at least part-time tending to livestock or planting crops for subsistence. As in all other developing economies, most of the farms are small-scale, rain-fed operations, or basic livestock production.

⁷⁹ Source: <https://www.statista.com/statistics/451108/gross-domestic-product-gdp-growth-rate-in-kenya/>

⁸⁰ Source: https://www.indexmundi.com/kenya/gdp_composition_by_sector.html.

The major export crops are tea, coffee, cut-flowers, and vegetables. Kenya commands a relatively large global share of black tea and cut-flower exports. In 2017 national exports reached 5.8 billion USD. These products are produced primarily in Kenya's lush regions, which constitute about 10% of Kenya's total arable land and represent 70% of total commercial or exported agricultural output. The so-called "cash-crop" sector has both small- and large-scale enterprises operating and selling outputs.

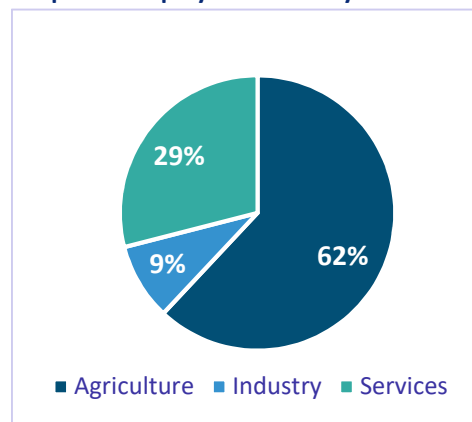
The most important staple food in Kenya is corn (maize), which is also a key ingredient for animal feeds. However, low productivity means that Kenya must import additional maize from the East African Community (EAC), with a significant portion of the imports being realized by informal cross-border trade.

Domestic wheat production is less than a third of the nation's wheat needs, making Kenya a wheat importer also. Rice is the third most important food crop in Kenya. Local production is also weak, leading to moderate rice imports.

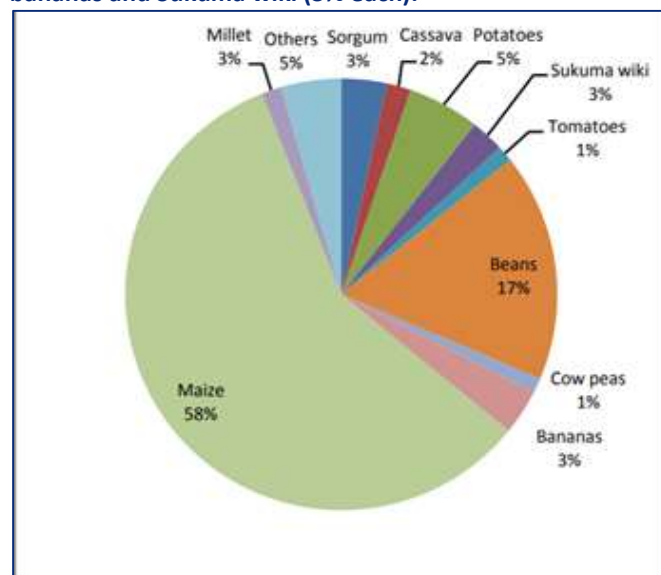
Kenyan cattle producers own about 14 million indigenous (Zebu) cattle and over four million dairy cattle. Demand for animal genetics is most common among the 650,000 small-scale producers who own approximately 80% of the dairy cattle. Growth in demand for consumer-oriented agricultural products is driven by an expanding middle class with higher disposable incomes, increased urbanization, and a growing food service sector.⁸²

Kenya's high-rain areas are approximately ten percent of total arable land, but they produce 70% of commercial and exported agricultural outputs. Productivity is relatively low in all regions due to low-quality infrastructure, institutions, and financing. Since 2013, Kenya has undertaken agricultural reforms designed

Graph 13: Employment in Kenya



Graph 14: Small-Holder Farm Outputs by Type. Small farms mostly produce maize (58%), beans (17%), potatoes (5%), bananas and Sukuma wiki (3% each).⁸¹



⁸¹ Source: United Nations Food and Agriculture Organization (FAO), Smallholder Data Portrait 2015.

http://www.fao.org/fileadmin/templates/esa/smallholders/Concept_Smallholder_Dataportrait_web.pdf

⁸² Based on data from www.export.gov (The U.S. Department of Commerce's International Trade Administration collaborates with 19 U.S. Government agencies).

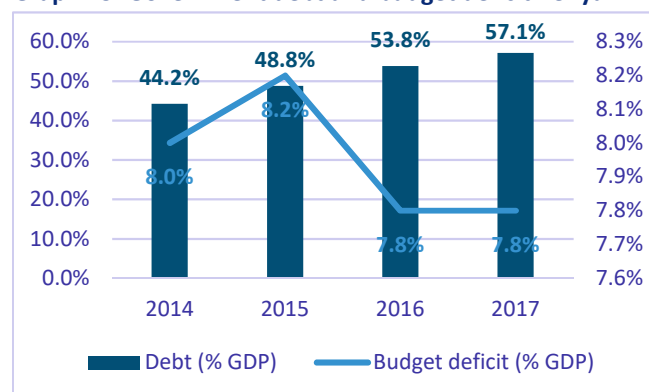
to spur growth in the sector, with mixed results. A new regulatory framework, arising from the consolidation and harmonization of the sectoral laws is currently being implemented.

The average farm size is 1.2 hectares, which represents a combination of large-scale farms (about 25%) and small-scale farms (75%). The Food and Agriculture Organization (FAO) estimated that in 2015 there are approximately 5 million farms in Kenya.

3.3.3 Tax and revenues

In the 2016/2017 budget, Kenya's tax revenues were estimated to be 15.4 billion USD, while expenditures were 24.6 billion USD, leading to a budget deficit of approximately 9.1 billion USD – expected to be covered by development grants, loans, and by government borrowing. Taxes and other revenues represented 19.8% of GDP in 2016, of which 18.1% originated from tax revenue and 1.7% from other sources.⁸³ As can be seen in Graph 15 government debt has been growing steadily during past years with substantial budget deficits lying close to or above 8% of GDP.⁸⁴

Graph 15: Government debt and budget deficit Kenya



The large budget deficit has led to more aggressive tax revenue measures over the past five years including in the agricultural sector. The Kenyan tax authorities themselves have a reputation for strictness.

While Kenya's tax rates are not as high as Cameroon's, the government has a more aggressive tax system by having a lower income threshold, and a faster increase in tax rates between brackets, and also by more aggressive administrative tactics, such as higher penalties and fees associated with non-compliance. But as a result of more aggressive collections and administration, the government enjoys higher tax revenues – 19.8% of GDP (2016), which is more than in any of the case studies reported here. An example of this aggressive system is the Personal Income Tax (PIT) – which is typically collected via the “Pay as You Earn” (PAYE) system. The PIT begins with a monthly

Table 9: Income tax rates and income thresholds in Kenya (Kenyan Shilling and US Dollars)

Kenyan Shilling			US Dollars		
Lower Bound	Upper Bound	Rate	Lower Bound	Upper Bound	Rate
1,408	12,298	10%	\$14	\$109	10%
11,181	23,885	15%	\$109	\$211	15%
21,715	35,472	20%	\$211	\$313	20%
35,473	47,059	25%	\$313	\$415	25%
47,060	-	30%	\$415	-	30%

⁸³ Source: <http://www.oecd.org/tax/tax-policy/revenue-statistics-africa-kenya.pdf>.

⁸⁴ Sources for Graph 15: Debt figures at <https://tradingeconomics.com/kenya/government-debt-to-gdp>; budget deficit figures at <https://tradingeconomics.com/kenya/government-budget>.

exemption of just 14 USD. Tax rates then increase rapidly, up to 30% for incomes above 415 USD.⁸⁵

The Value Added Tax (VAT) base rate in Kenya is 16%, for most products and services, and 0% for a narrow selection of goods, such as fuels and oil. Other taxes include the Corporate Income Tax, which is 30%,⁸⁶ a capital gains tax of 5%, and interest withholding taxes of 15%.⁸⁷ Like Rwanda, Kenya is part of the *East African Community* (EAC) Common External Tariff regime. Customs duties on imports are levied at an average rate of 25%.

3.3.4 Agricultural Taxation in Kenya

Kenya has historically taxed agriculture inputs and outputs – either to raise revenue, or to encourage industrialization – depending upon the prevailing economic trends between 1970-2000. Since 2000, input and output taxes were gradually eliminated and for some time, farming was largely a tax-free enterprise.

However, by 2012, authorities began moving to remove traditional exemptions, including those for agriculture. In June 2012, the Kenya Revenue Authority (KRA) began narrowing the “exempt product list” and removing basic food items from zero rates, up to the standard VAT rate of 16%. By 2016, authorities began removing farm-based income tax exemptions as well, in an effort to broaden the tax base and mobilize revenues.⁸⁸

In 2016, Kenyan tax authorities announced that income from agriculture would no longer be exempt from income taxes, and that all farmers who are “commercial” farmers must begin filing and paying income taxes. The threshold for taxation set in 2016 was approximately 108 USD per month.⁸⁹

While their approach appears heavy-handed, it reflects a growing opinion by government that tax-incentives for farming have not sufficiently spurred investment and growth. Various VAT exemptions for farm inputs and supplies have also been eliminated under the 2016 and 2018 fiscal reforms.

Farming is generally not part of the PAYE, instead, farm incomes are computed separately and paid according to the Kenyan Income Tax Act Chapter 470⁹⁰, which generally classifies farming income as part of “self-employed” or “entrepreneurial” income.

The payment schedule for farmers in Kenya is adjusted to reflect the harvest season, where 75% of expected income taxes are payable after the 9th calendar month, and the final 25% is paid at the end

⁸⁵ One US Dollar equals 103.2 Kenyan Shilling (Ksh) in these examples.

⁸⁶ Special exemptions exist, such as 5% discount for new, profitable companies (5 years), and 15% discount for residential construction companies.

⁸⁷ Source: Deloitte – International Tax Kenya Highlights 2018.

⁸⁸ Source : Ronge, et. al (2005), « *Implicit Taxation of the Agricultural Sector in Kenya*, » Kenya Institute for Public Policy Research and Analysis, Discussion Paper No. 52.

⁸⁹ See “All you wanted to know about taxes”, <https://www.nation.co.ke/business/seedsforgold/All-you-wanted-to-know-about-taxes/2301238-3073948-lugfyz/index.html>

⁹⁰ See subsection 15 (7) of the Revised Edition 2018 Income Tax Law. Published by the National Council for Law Reporting with the Authority of the Attorney-General, www.kenyalaw.org

of the calendar year. Typically, self-employed income is collected each quarter and 25% is paid each time.

Kenya allows some flexibility for computing income, in order to account for investments made in a livestock herd, or into improved crop-growing technology. The detailed rules are listed in subsection 17 of Income Tax Act Chapter 470.

3.3.4.1 *Increased Revenue Estimates*

According to statements from the KRA in 2018, the newly-targeted farmers will account for half of the two million taxpayers that the KRA intends to recruit into the tax system by 2019. The agricultural sector contributes nearly a third of Kenya's economic output. Presently, small-scale farmers do not pay income tax on their earnings and the KRA expects to net 560,000 tea growers, 150,000 coffee farmers and 250,000 sugarcane growers.

"The following taxpayers are being targeted: commercial small-scale farmers whose income puts them in the taxpaying bracket," said KRA in a notice in a recruitment drive that will also target about 2.7 million small businesses that are not registered for tax purposes and about 85,000 landlords not currently paying duties".⁹¹

The KRA imposes harsh penalties upon late payments by all taxpayers, which now includes farmers. The interest rate on late payment of taxes was increased from 1% to 2% per month. In addition, there is a proposed 20% one-time late-payment penalty. Newspaper commentators have suggested that this regime marks the "*return of the punitive penalty and interest regime, it will be time taxpayers give unto Caesar what is Caesar's*".

Some 2018 revenue measures were dropped, such as a new tax-bracket of 35% imposed on incomes above KES 750,000 per month. In the past two years, the government has increased the individual tax bands to account for inflation.⁹²

3.3.4.2 *Removal of VAT Exemptions for Farm Inputs*

According to the tax Amendment Act of 2018, Agricultural Pest Control Products (PCPs) have been deleted from the VAT tax exemption list. Subsequently, all pesticides are now subject to the standard 16% VAT rate. The Agrochemical Association of Kenya (AAK) has opposed the introduction of a 16% VAT on PCPs, saying the new tax would hurt farmers and consumers alike.

The association said the 16% VAT will ultimately mean an increase in the cost of pesticides, which will translate to increased cost of production for farmers and higher prices for foodstuffs. The association

⁹¹ These statements are based upon descriptions from <http://www.nation.co.ke> .

⁹² Some data taken from KPMG East Africa (member firm within the KPMG network of independent member firms affiliated with KPMG International Cooperative ("KPMG International"), a Swiss entity).

urged the government to revert to the old tax regime where VAT on agricultural pest control products was zero-rated (exempt on both inputs and outputs).⁹³

3.3.4.3 Land taxes

Agriculture land taxes were not found by the study team in Kenya. However, Kenyan academics and international economists are proponents of land taxation in order to encourage owners to begin production or to sell / lease the land for more productive purposes.

“This (property tax) has become pertinent given large tracts of idle arable land owned by absentee landlords that go unused, pushing many smaller farmers to move into marginal lands,” was the synopsis of Kenya’s 2018 “Land Taxation Policy” proposal, as state in the 17th edition of the World Bank *Kenya Economic Update*.⁹⁴

No evidence was found so far, however, to suggest that the policy package has been passed by the parliament.⁹⁵

3.3.5 Conclusions and implication for Rwanda

Kenya’s new approach to agriculture reflects the opinion that tax exemptions and incentives have failed to encourage sector growth, and that farming activity is less dependent upon government intervention than upon market forces. As of 2018, farmers with incomes or sales at 108 USD per month must register as taxpayers and begin filing income tax statements to the Kenyan Revenue Authority (KRA). It appears there is no alternative for presumptive taxation at this point.

Rwandan officials may wish to contact the KRA and inquire about the success and challenges so far, as they expand the tax base to include farmers. Or, a potential extension of this project can conduct such an investigation on as technical assistants to the Rwandan government.

Measure	Benefit	Cost
Measure 1: Imposing Personal Income Tax on commercial farmers by lowering the taxable threshold to 108 USD per month.	<ul style="list-style-type: none">▪ Increase tax revenue;▪ Increased formality of commercial agriculture sector.	<ul style="list-style-type: none">▪ Lower net incomes of farmers implying higher poverty rates;▪ High collection costs due to informal nature of agriculture employment and remoteness of farms.

⁹³ Data take from <https://www.capitalfm.co.ke> on November 11, 2018.

⁹⁴ See World Bank, April 2018 – *Kenya Economic Update*.

<http://documents.worldbank.org/curated/en/327691523276540220/pdf/125056-WP-P162368-PUBLIC-KenyaEconomicUpdateFINAL.pdf>

⁹⁵ Source: <https://www.businessdailyafrica.com/economy/Tax-on-idle-land-to-be-introduced/3946234-4391358-yqvtfmz/index.html>; <https://www.nation.co.ke/news/idle-farm-land-owners-penalties/1056-4227528-67cldi/index.html>.

Measure	Benefit	Cost
Measure 2: eliminate tax exemptions for agriculture inputs.	<ul style="list-style-type: none"> ▪ Increase net tax revenues by reducing tax expenditures; ▪ Increase buoyancy of tax system by moving toward a single-rate system with no exemptions. 	<ul style="list-style-type: none"> ▪ Lower fertilizer and pesticide use, potentially leading to lower crop yields; ▪ Higher food prices or lower farm earnings, depending upon whether or not farmers can pass additional costs forward to consumers.
Measure 3: Impose land taxes for fallow lands.	<ul style="list-style-type: none"> ▪ Intended to encourage sale or lease of arable land for increased agriculture; ▪ Small increase of tax revenues. 	<ul style="list-style-type: none"> ▪ Increased tax evasion and avoidance by landholders; ▪ Exacerbate disapproval rate of public sector.

3.4 Case 4: Pakistan

Pakistan has a long history of trying to tax agriculture, with mixed results. While implicit taxation of agricultural incomes has been phased out in Pakistan since the 1980s, it has been replaced by an agricultural income tax (AIT), which was introduced in all four provinces in 1996/97.⁹⁶ There is no federal agriculture income tax, thus in reality, the implementation of agriculture taxes are largely based upon land taxes, rather than a tax levied upon declared agricultural income. Given its relatively long and well documented track record of taxing agriculture, Pakistan constitutes a useful case for review by Rwanda.

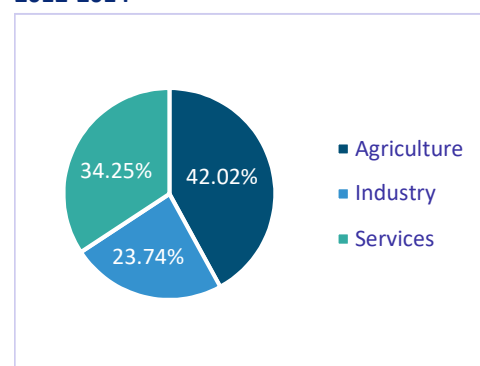
2.2.3. Economic background

Pakistan is a large, low-income country with large segments of the population either living in urban poverty or surviving on subsistence farming. The country is inhabited by 207 million people, with GDP equal to 305 billion USD (at exchange rate), and per capita GDP equal to 1,547 USD (2017) in PPP terms⁹⁷. Poverty has been declining for the past 10 years, from 50.4% in 2005-06 to 24.3% in 2015-16. Urban poverty has improved more than rural poverty. In 2016, agriculture represented 24.4% of GDP, and approximately 42% of overall employment in 2017 (Graph 16⁹⁸).

Box 5: Pakistan – Basic Statistics	
Population	207 million
GDP (USD)	305 billion
(per-capita, PPP)	(1,547)
GDP Agriculture	24.4% of GDP
Labour Force	54.4% part. rate
Labor in Agriculture	42%
Small-Scale Farming:	64.7% of farms

Pakistan has enjoyed robust growth since 2012, with an average 5% percent GDP growth in 2016, 2017, and 5.8% in 2018 which is the fastest growth in 13 years. The agriculture, industry and service sectors grew by 3.81%, 5.80% and 6.43%, respectively.

Graph 16: Employment by sector in Pakistan, 2012-2014



2.2.4. Agricultural profile

Pakistan shows an economy with a large subsistence farming sector, as well as a large commercial farming sector. Agriculture in Pakistan was the laggard compared to other economic areas (industry, services), with 3.81% growth compared to 5% growth overall. However, it exceeded the 2016 growth target of 3.5% and was faster than 2016 growth of 2.1% (Table 10). The growth stemmed from higher crop yields, improved world prices and better availability of certified seeds, pesticides, agriculture credit and

⁹⁶ Source: Source *Special tax treatment of agricultural incomes, July 22, 2013 by Anjum Nasim, IDEAS - Institute of Development and Economic Alternatives, <https://ideaspak.org/people/item/168-special-tax-treatment-of-agricultural-incomes>.

⁹⁷ PPP is Purchasing Power Parity, which adjusts dollar values according to the cost of basic needs. The PPP income at exchange rates is usually much lower than PPP income.

⁹⁸ Source: <https://www.statista.com/statistics/383781/employment-by-economic-sector-in-pakistan/>.

intensive fertilizers offtake. The crops sector improved in 2017 versus 2016, with growth of 3.8% versus 0.9%, respectively.⁹⁹

The country's major agricultural exports are cotton, wheat, rice, sugarcane, fruits, vegetables; milk, beef, mutton, eggs.¹⁰⁰ As a semi-industrialized economy, Pakistan's agriculture sector remains significant both in historical and economic terms. Out of the total land area of 79.6 million hectares, 21.2 million hectares are cultivated; the rest of the territory is rangelands.¹⁰¹

Almost 64% of the population of Pakistan resides in rural areas and earns its livelihood, directly or indirectly, from agricultural activities, for example from crop cultivation, livestock rearing, labour in agriculture, agriculture input supply, transportation of agricultural output to the market etc.¹⁰²

Crop exports are an important source of foreign exchange for the country. Farm exports generate 60% of national export revenues.¹⁰³ The government deploys various subsidy programmes for small and marginalised farmers and works to promote small scale technologies to promote growth in this sector.

Table 10: Growth Rate for Agriculture by Sub-sector (Base=2005-06) (%)

Sector	2012	2013	2014	2015	2016	2017	2018 (P)
Agriculture	3.62	2.68	2.50	2.13	0.15	2.07	3.81
Crops	3.22	1.53	2.64	0.16	-5.27	0.91	3.83
Important Crops	7.87	0.17	7.22	-1.62	-5.86	2.18	3.57
Other Crops	-7.52	5.58	-5.71	2.51	0.40	-2.66	3.33
Cotton Ginning	13.83	-2.90	-1.33	7.24	-22.12	5.58	8.72
Livestock	3.99	3.45	2.48	3.99	3.36	2.99	3.76
Forestry	1.79	6.58	1.88	-12.45	14.31	-2.37	7.17
Fishing	3.77	0.65	0.98	5.75	3.25	1.23	1.63

The Agriculture Census of Pakistan 2010 reveals that only 1.1% of farms command a total area of 21.6%, with each farm larger than 20 hectares. On the other hand, 64.7% of farms account for only 19.2% of total operational holdings, with each farm less than 2 hectares in size. These numbers demonstrate the stark rural inequality in Pakistan.

As per the Agriculture Census of Pakistan, 2010, there were 8.26 million farms in Pakistan with an area of 21.41 million hectares (Table 11).¹⁰⁴

⁹⁹ Source *Pakistan Economic Survey 2017-18. Economic Adviser's Wing Economic Adviser's Wing, Finance Division, Government of Pakistan, Islamabad, www.finance.gov.pk.

¹⁰⁰ CIA – Central Intelligence Agency, <https://www.cia.gov/library/publications/the-world-factbook/geos/pk.html>

¹⁰¹ Source *<https://www.pakissan.com/2018/12/05/impact-of-cpec-on-pakistan-agriculture/>

¹⁰² Source *Agricultural census 2010. Pakistan bureau of statistics, <http://www.pbs.gov.pk/content/agricultural-census-2010-pakistan-report>

¹⁰³ Source *Pakistan Economic Survey 2017-18, http://www.finance.gov.pk/survey/chapters_18/02-Agriculture.pdf

¹⁰⁴ Source: Agricultural Census 2010 - Pakistan Report, http://www.pbs.gov.pk/sites/default/files/aco/publications/agricultural_census2010/table01h.pdf

Table 11: Number of Farmers and Respective Farm Sizes in Pakistan

Farm Size (hectares)	Number of Farms		Farm Area		Cultivated Area		Cultivated Area as % of Farm Area	Average Farm Size	
	Total	%	Total	%	Total	%		Farm Area	Cultivated Area
Total	8.264.480	100	21.412.545		17.249.078	100	81	2,6	2,1
<0.5	2.071.227	25	545.774	3	498.109	3	91	0,3	0,2
0.5-1	1.525.698	18	1.143.737	5	1.065.793	6	93	0,7	0,7
1-2	1.753.985	21	2.431.810	11	2.267.232	13	93	1,4	1,3
2-3	1.131.938	14	2.627.856	12	2.446.192	14	93	2,3	2,2
3-5	915.252	11	3.531.175	16	3.221.065	19	91	3,9	3,5
5-10	562.206	7	3.793.730	18	3.352.054	19	88	6,7	6
10-20	211.198	3	2.723.748	13	2.181.719	13	80	12,9	10,3
20-40	66.927	1	1.678.093	8	1.213.582	7	72	25,1	18,1
40-60	12.643	<1	568.075	3	382.018	2	67	44,9	30,2
> 60	13.457	<1	2.368.524	11	621.336	4	26	176	46,2

2.2.5. Taxes and revenues

Pakistan has a relatively agitated history in terms of government revenue generation having relied on 21 loan agreements with the IMF since 1959.¹⁰⁵ In 2017 total revenues amounted to 46.6 billion USD representing 15.4% of GDP; total government expenditure amounted to 64.5 billion USD. Its debt to GDP ratio has lain at approximately 65% over the past five years with budget deficits ranging between 4.6% to 8.2% over the same period (Graph 17¹⁰⁶).

Pakistan uses a hybrid tax system where the Federal Board of Revenue (FBR) collects taxes on goods and the provinces collect tax on certain services. The FBR has a work force of about 30,000 personnel. This federal body collects Direct Taxes (Income Tax) as well as Indirect Taxes including Sales Tax, Federal Excise Duty and Customs Duty.¹⁰⁷ Total tax collections by the FBR are shown below.

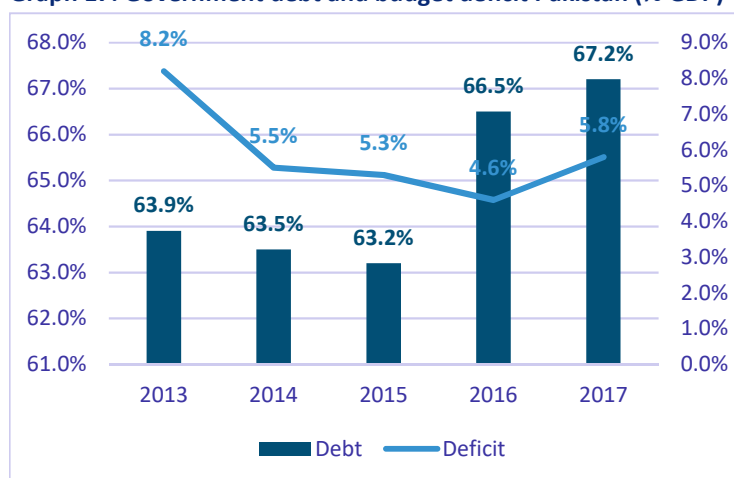
¹⁰⁵ Source: <http://www.cadtm.org/Is-Pakistan-on-the-way-to-living-without-the-IMF>.

¹⁰⁶ Source: Debt figures: <https://tradingeconomics.com/pakistan/government-debt-to-gdp>; budget deficit figures: <https://tradingeconomics.com/pakistan/government-budget>.

¹⁰⁷ Source: <https://www.thenews.com.pk/print/357099-is-pakistan-taxation-model-on-track>

Tax revenue collection in Pakistan both at federal and provincial levels has traditionally been regarded as unsatisfactory. Indirect and withholding taxes are given increasing importance by federal and provincial governments, indicating a failure to tax higher income groups. Federal transfers have been the widespread approach of revenue generation at the sub-national level, substituting provincial and local tax collection. Continuous deficits and insufficient tax capacities have led to an increased reliance on debt and foreign aid for development.¹⁰⁸

Graph 17: Government debt and budget deficit Pakistan (% GDP)



Total FBR revenue is approximately 10% of GDP, one of the lowest in the world. Over the years, the FBR has introduced different approaches to taxation, but until now, the system has always reverted back to the original territorial model. In September 2014, the Ministry of Finance created a “*Tax Reform Commission*” to improve tax effort and collections. Four years later, in October 2018, the Finance Minister announced a new committee designed to implement the suggestions of the original 2014 commission.

In general, the level of tax collection in Pakistan has been growing with FBR tax collection increasing by 8.2% in 2017, compared to a rise of 20.2% in 2016. Various tax incentives and relief measures aiming to spur production the same as investments and exports may have contributed to the slower growth in tax earnings in 2017. Taxes collected by provincial governments also saw strong growth, increasing by 13.6% in 2017 and 37.6% in 2016.

In figurative terms, FBR tax revenues increased from 1,946 billion Rs in 2013 to 3,842 billion Rs in 2017, which constitutes a

Table 12: FBR (Federal) Tax Collections by Tax Type (Million Rupees)

Period	Direct Taxes	Indirect Taxes			Total
		Sales	Excise	Customs	
2007-08	387.862	377.430	92.137	150.663	1.008.092
2008-09	443.548	451.744	117.455	148.403	1.161.150
2009-10	525.977	516.348	124.784	160.273	1.327.382
2010-11	602.451	633.357	137.353	184.853	1.558.014
2011-12	738.424	804.899	122.464	216.906	1.882.693
2012-13	743.409	842.528	120.964	239.460	1.946.361
2013-14	877.255	996.382	138.084	242.810	2.254.531
2014-15	1.033.720	1.087.790	162.248	306.220	2.589.978
2015-16	1.217.474	1.302.371	188.055	404.572	3.112.472
2016-17	1.344.226	1.328.965	197.911	496.772	3.367.874
2017-18	1.536.638	1.491.297	205.877	608.324	3.842.136

¹⁰⁸ Source: <https://southasianvoices.org/direct-taxation-in-agriculture-failure-of-public-policy-in-pakistan/>

growth rate of 73% (see also Table 12¹⁰⁹). As a share of GDP tax revenues grew from 8.7% in 2013 to 10.5% of GDP in 2017.

2.2.6. Agricultural taxation in Pakistan

Ever since the 1980s implicit taxation of agricultural incomes has been phased out in Pakistan and replaced by an agricultural income tax (AIT), which was introduced in all four provinces in 1996/97.¹¹⁰ There is no federal agriculture income tax, thus in reality, the implementation of agriculture taxes are largely based upon land taxes, rather than a tax levied upon declared agricultural income.¹¹¹

In Pakistan agricultural income tax (AIT) is among the primary taxes on agriculture. Constitutionally, Parliament (consisting of the President, the National Assembly and the Senate) is empowered to collect taxes from all sources of income except agriculture while provincial provinces may tax agricultural income.¹¹²

More specifically, agricultural land tax/AIT collection is the responsibility of the provincial boards of revenue (BORs), which historically collected land revenue and also maintained records of land ownership and transfers. The BORs have however weakened and are perceived as inept for performing its traditional role, let alone collecting an income tax.¹¹³

Provincial agricultural taxes are distinct from income taxes levied at the federal level. In Punjab for example agricultural incomes below 100,000 Rs are exempt from taxation and the highest tax rate is 15% for incomes that exceed 300,000Rs. At the federal level, a comparable group with incomes below 400,000 Rs are exempt from taxation with the highest tax rate being 35% for incomes above 6 million Rs.¹¹⁴

While AIT is levied on income from crop farming, the prevalent mode of agricultural taxation in the provinces is, however land tax. Individual farmer income above the exemption ceiling is hence assessed on the basis of at least four information sources:

1. Ownership record of land with National Identity Card (NIC) numbers;
2. Details of crops cultivated during the year, output, yield;
3. Details of inputs used for cultivation with their respective cost; and

¹⁰⁹ Source: Source: <http://www.sbp.org.pk/ecodata/tax.pdf>.

¹¹⁰ Source: Source *Special tax treatment of agricultural incomes, July 22, 2013 by Anjum Nasim, IDEAS - Institute of Development and Economic Alternatives, <https://ideaspak.org/people/item/168-special-tax-treatment-of-agricultural-incomes>.

¹¹¹ Source: <http://www.pide.org.pk/pdf/PDR/2012/Volume4/321-337.pdf>

¹¹² Source: <https://ideaspak.org/images/Publications/Fiscal-Federalism/Agricultural-Income-Tax-Punjab-Missing-Billions.pdf>; <http://pide.org.pk/psde/pdf/AGM28/Anjum%20Nasim.pdf>

¹¹³ Source: <https://ideaspak.org/images/Publications/Fiscal-Federalism/Agricultural-Income-Tax-Punjab-Missing-Billions.pdf>.

¹¹⁴ Source: Special tax treatment of agricultural incomes, July 22, 2013 by Anjum Nasim, IDEAS - Institute of Development and Economic Alternatives, <https://ideaspak.org/people/item/168-special-tax-treatment-of-agricultural-incomes>

4. Farm gate prices of crops.¹¹⁵

As can be seen by the following example, taxes paid on land revenue are much lower than those paid on non-agricultural revenue. In the province of Punjab, the highest tax rate is applied on irrigated orchards at a rate of 300 Rs per acre; irrigated land exceeding 25 acres is taxed at 250 Rs per acre. Farmers owning 50 acres of irrigated land hence have to pay 12,500 Rs as AIT. Land rental in Punjab's agricultural heartland however exceeds 30,000–50,000 Rs per acre, which implies an income of a landowner with 50 acres of at least 1,500,000 Rs. As seen above, the farmer owning 50 acres of land has to pay only 12,500 Rs in taxes. An economic agent earning the same income from a small non-agricultural business would be expected to pay a tax of 147,500 Rs.

Adding to the unequal treatment of agricultural and non-agricultural income for taxation purposes, AIT and land revenue taxes have in certain instances not been adapted to reflect changes in nominal income of farmers and land owners. In Punjab province, where more than 66% of Pakistan's cropped area lies, agricultural land and income tax rates have stayed at the levels set in 2003 and 2000 respectively. The same applies to the province of Sindh, which accounts for 18% of the country's cropped area. Exception to this is Khyber Pakhtunkhwa, which, accounting for 10% of the country's cropped area revised its agricultural taxes in 2014.¹¹⁶ The gap in agricultural and non-agricultural tax rates has been growing over the years as federal government has increased taxes on non-agricultural incomes.¹¹⁷

According to Asim Bashir Khan¹¹⁸ (PhD Scholar at IBA Karachi) both the agriculture income tax and the land revenue tax are inelastic with respect to prices and production. Horizontal inequity is also an issue and an important argument in favour of an agriculture income tax. As seen above, upper income earners owning large farmlands pay lower taxes as a percentage of income than their counterparts in non-agriculture sectors. A homogeneous income tax rate applied across all economic sectors could resolve this imbalance.¹¹⁹

Two structural deficiencies have been identified within agricultural taxation in Pakistan: revenue raised is minimal and declining, and the tax system in the agricultural system is used for tax evasion purposes with even non-agricultural income being declared as agricultural income.¹²⁰ As a result, despite contributing around one-fifth of Pakistan's GDP, less than 1% of provincial taxes and only 0.09% of

¹¹⁵ Source: The Express Tribune, May 16th, 2016, <https://tribune.com.pk/story/1103860/case-for-agriculture-tax/>.

¹¹⁶ Source: Institute of Development and Economic Alternatives Agricultural Taxation in Punjab: The Missing Billions Hanid Mukhtar and Anjum Nasim Working Paper No. 01-16 February 2016, <https://ideaspak.org/images/Publications/Fiscal-Federalism/Agricultural-Income-Tax-Punjab-Missing-Billions.pdf>

¹¹⁷ Source : Special tax treatment of agricultural incomes, July 22, 2013 by Anjum Nasim, IDEAS - Institute of Development and Economic Alternatives, <https://ideaspak.org/people/item/168-special-tax-treatment-of-agricultural-incomes>.

¹¹⁸ Source: <https://southasianvoices.org/direct-taxation-in-agriculture-failure-of-public-policy-in-pakistan/>.

¹¹⁹ Source: <https://tribune.com.pk/story/1103860/case-for-agriculture-tax/>

¹²⁰ Source: <http://web.worldbank.org/archive/website00811/WEB/OTHER/3FBBCB-4.HTM?OpenDocument>

federal taxes originated from agricultural activities.¹²¹ For example, in the province of Punjab¹²², against an estimated potential of 200 billion Rs the Punjab government only collected 1.6 billion Rs in agriculture income tax during the fiscal year 2015-2016.

In addition to the above, tax collection is inhibited by the fact that not everyone with agricultural income necessarily owns the land from which this is derived, and the absence of reliable records on produce and farm gate prices and costs of inputs render the calculation of taxable income difficult. Credible records of landowner tenures, sharecroppers, and tenants would hence be required, the same as a reliable data on produce and farm gate prices and costs.¹²³

Subsidies to the agricultural sector remain substantial, outweighing agriculture income tax by a factor of 24 in 2016. The agriculture sector is hence regarded as under-taxed and over-subsidised, benefitting large farm owners. Since subsidies are paid per unit consumption small farm owners get a lesser share if subsidies as a result of their lesser consumption levels. Fiscal indiscipline is cited as the key reason for this, and the introduction of a fair system of direct taxation for Pakistan's provinces has been identified as a solution, especially for large land owners.¹²⁴

Table 13: Trend analysis of agricultural taxation and subsidies in Pakistan¹²⁵

Agricultural Income Tax (\$ mn)	2013	2014	2015	2016	2017
Punjab	8,1	9,2	9,7	14,8	22
Sindh	4	2,7	5,8	3,3	6,2
Khyber Pakhtunkhwa	0,2	0,2	0,8	0,8	0,8
Balochistan	0	0,005	0,01	0,06	0,1
Grand Total	12,4	12,2	16,3	19	29,2
Provincial Tax Revenues (\$ mn)					
Punjab	1.402	1.751	954	1.440	1.765
Sindh	676	789	932	1.196	1.474
Khyber Pakhtunkhwa	80	125	193	137	174
Balochistan	12	32	28	41	46
Grand Total	2.170	2.697	2.107	2.814	3.459
Agricultural Subsidies (\$ mn)					
Federal	110	124	198	326	346
Provincial (cumulative)	203	127	209	142	171
Cropped area (mn hectares)	22,5	22,56	22,73	22,67	22,67
Agricultural Income Tax					
as % of federal taxes	0,06	0,05	0,06	0,09	0,1

¹²¹ Source: <https://southasianvoices.org/direct-taxation-in-agriculture-failure-of-public-policy-in-pakistan/>

¹²² Punjab is Pakistan's second largest province by area and its most populous province, with an estimated population of 110,012,442 as of 2017.

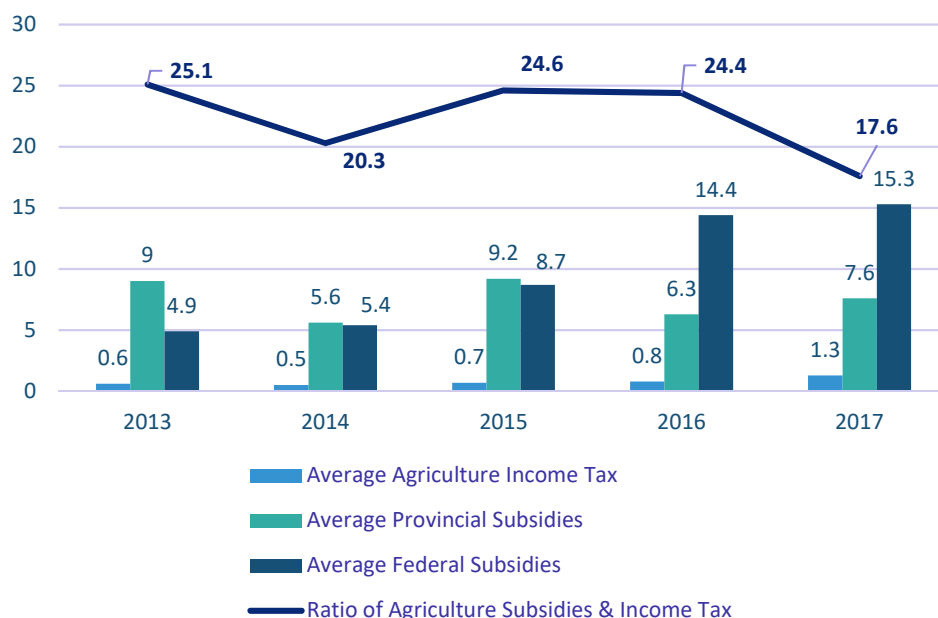
¹²³ Source: <https://southasianvoices.org/direct-taxation-in-agriculture-failure-of-public-policy-in-pakistan/>

¹²⁴ Source: <https://southasianvoices.org/direct-taxation-in-agriculture-failure-of-public-policy-in-pakistan/>.

¹²⁵ Table taken from <https://southasianvoices.org/direct-taxation-in-agriculture-failure-of-public-policy-in-pakistan/>.

as % of provincial taxes	0,57	0,45	0,78	0,67	0,84
average \$ per hectare	0,6	0,5	0,7	0,8	1,3
Agricultural Subsidies					
Federal - \$ per hectare	4,9	5,4	8,7	14,4	15,3
Provincial - \$ per hectare	9	5,6	9,2	6,3	7,6

Graph 18: Agricultural tax and subsidies in Pakistan (\$ per hectare)¹²⁶



2.2.7. Conclusion

The Pakistan case study highlights the political and logistical challenges of applying taxes on the farm sector, as revenues are generally low and the tax is unpopular. As discussed in Section 2, there is a negative correlation between the size of the farm sector and ability to raise tax revenues. Pakistan reinforces this notion, with aggregate tax revenues were 15.4% of GDP in 2017.

The approach of the federal government has been to levy higher taxes on those already in the tax net without targeting those high-income earners who under-report their incomes or manage to remain outside the income tax net.¹²⁷

Pakistan is the only case study where an agriculture income tax has been operating for several years, and where official data was available to examine tax rates and collections carefully. The data shows that revenues are, as usual, quite low. Nevertheless, the Pakistan case study provides Rwandan authorities with an example of how the tax can be designed and executed.

¹²⁶ Source: <https://southasianvoices.org/direct-taxation-in-agriculture-failure-of-public-policy-in-pakistan/>.

¹²⁷ Source: <https://ideaspak.org/stay-informed/debating-ideas/item/168-special-tax-treatment-of-agricultural-incomes>

Measure	Benefit	Cost
Measure 1: Apply agriculture tax at the provincial level.	<ul style="list-style-type: none"> ▪ Increased flexibility on tax approach by location; ▪ Raises local revenue base. 	<ul style="list-style-type: none"> ▪ Disparate tax regimes based on particular province in question; ▪ Low tax collection rates – as province leaders are more easily influenced by farm lobbies.

4 RWANDA IN CONTEXT

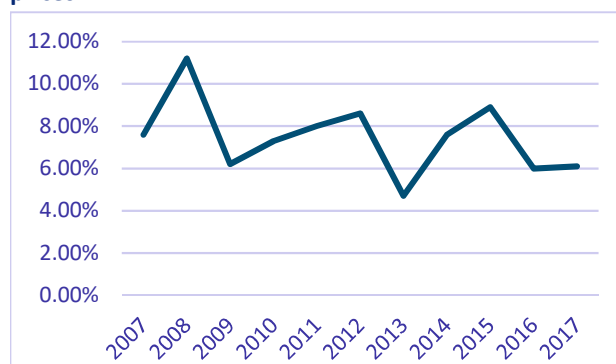
This section outlines the situation in Rwanda serves as a basis for comparison between Rwanda's economy and institutions, versus the country cases outlined in Section 3.

On the surface, Rwanda's economy and agriculture background is similar to the other African countries reviewed. But differences in the economic composition of these countries, as well as the political background may alter the calculus behind a successful revenue mobilization program. Unlike Cameroon and Ghana, Rwanda does not have significant mineral wealth as a backstop, making agriculture revenue mobilization more essential compared to those countries. Rwanda's political and economic situation mirrors that of Kenya more closely, with a strong and stable political situation, and high-paced economic growth. From the perspective of country leaders, stronger revenues are necessary in order to complete a transition into a higher value-added economy.

4.1 Economic Background

Economic growth has been high in Rwanda for the past decade, lying between 4.7% (2013) and 11.2% (2008) (Graph 19¹²⁸). Rwanda's agricultural situation is similar to their African neighbours. Agriculture accounted for 31% of GDP in 2017¹²⁹ and averaged 29.2% over the past five years. Services and industry contributed 46% and 16% respectively in 2017.¹³⁰ As in many developing countries informal employment is high at 73.4% of the workforce.¹³¹

Graph 19: Real GDP growth rate in Rwanda at current prices



The agriculture Sector in Rwanda

Rwanda's agricultural sector is the main income source for most rural Rwandans with 37.5% (or 61%) of the labour force working in the sector in 2017. Rwanda's national statistics agency estimates that 31% of GDP is in agriculture. According to the Integrated Household Living Conditions Survey (EICV) 3, 45.8% of households have less than 0.3 hectare, 37.6% have between 0.3 and 0.9 hectares, and 14.7% have 0.9 and 3 hectares and only 1.9% have above 3 hectares. The main agricultural products grown within agriculture are food crops with 63.9%, forestry with 16.6%, livestock products with 11.1%, and export crops with 7.3% and finally fishing with 1.1% (as per the Graph 20 below).¹³²

¹²⁸ Source: NISR.

¹²⁹ NISR, National Accounts 2017, <http://www.statistics.gov.rw/publication/gdp-national-accounts-2017>.

¹³⁰ NISR, National Accounts 2017, <http://www.statistics.gov.rw/publication/gdp-national-accounts-2017>.

¹³¹ Source: <https://www.theeastafrican.co.ke/news/ea/Kenya-has-highest-informal-jobs-in-Africa-/4552908-2765832-pmcngm/index.html>

¹³² Source: Labour Force Survey Report, august 2017; Formal External Trade in Goods Statistics Report (Q4, 2017).

Depending upon the methodology, 63%¹³³ (or 37.5%) of the labour force are classified as farmers, and subsistence farming is the dominant form of employment there; therefore, most business operators do not register their farm activities for tax purposes, leading to low levels of effectiveness of the tax system. Education levels are – in general – quite low, and education among farmers is extremely low (see Table 13). Farm productivity is also lacking in Rwanda, even compared to the African peers. This can be attributed among others to more difficult farming terrain in the country.

Graph 20: Agricultural Product Mix in Rwanda

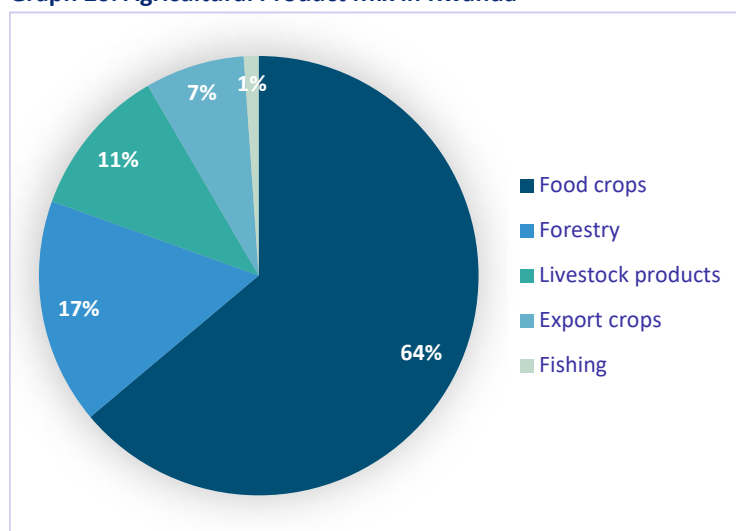


Table 14 suggests that most farmers have no formal education, implying that for most farmers filling out a complex income tax form would be challenging. At the same time, successful farmers must – by definition of being successful – have the ability for mathematics, and for engaging in contract relations with their vendors and their buyers. It is possible that some of these farmers operate within cooperatives, so that a dedicated accountant conducts these operations on the farmers' behalf.

Table 14: Education Level for Farmers and Farm Workers¹³⁴

Level of Educational Attainment	Subsistence Farmers	Commercial Farmers
None	60,8%	70,1%
Primary Education	31,1%	25,9%
Lower-Secondary	3,9%	2,2%
Upper-secondary	3,8%	1,5%
University	0,3%	0,4%

The low level of education suggests that simplified methods of income estimation may be preferred, but it does not mean that presumptive taxes are appropriate for all farmers.

Agricultural producers (farmers) can earn income, individually or jointly, in different ways that makes collection of taxes more difficult. Self-cultivation of owned landholding, cultivation of the land leased or rented from someone else, renting out land to others, and non-agricultural professions, services, businesses are all intertwined within a typical farm business.

Even if land records are authentic and verifiable, it is difficult to verify the extent of landownership of an individual since it may be spread across different locations and registered by different localities.

¹³³ The definition of occupations will be transitioned in Rwanda. Starting in the last quarter of 2017, the Labor Force Survey will use a narrower definition of agricultural workers. That will reduce the share of workers – as defined by the NISR – from 63.1% to 37.5%. This change is expected to create some confusion during the transition period.

¹³⁴ Source: 2018 Rwanda Labor Force Survey.

Landholdings can be cultivated and managed jointly by family members. That is why it is also difficult to determine the income earned by an individual farmer.

Rwanda's challenging terrain and scarce arable land has discouraged government agencies from taxing farms. The vast majority of farms are small, rural incomes are low, and poverty is widespread. Large taxpayers in agriculture are taxed, but they appear to be paying minimal amounts. Government development programs over the last decade have attempted to increase agricultural productivity, alleviate rural poverty, and improve domestic food supplies.

According to Rwanda Agriculture Board the Government of Rwanda has spent respectively 9.3 billion and 11.4 billion Rwandan francs in subsidies for irrigation systems, seeds and for fertilizers during the 2016/17 and 2017/18 fiscal years. However, even though government of Rwanda invests heavily in this sector, the productivity has not yet reached the desired level.

4.2 Taxes and revenues

Rwanda's inland revenues were 1,081 billion Francs (1.27 billion USD) during the 2016/2017 fiscal year, and expenditures were 2,115 billion Francs (2.46 billion USD) in 2017/18 fiscal year. Overall tax collections are low at 15.7% of GDP, of which services contribute 75% to total revenues, and industry contributes 23%.¹³⁵ The large gap between revenues and expenditures is currently filled using a combination of international donor funds and borrowing.

According to budget speech document for FY 2018/19 by the Minister of Finance, the overall budget deficit is projected to be 4.9% of GDP for the FY 2018/19 and is projected to decline to 4.6% of GDP by 2020/21. Compared to the previous fiscal year, the budget increased by 15.5% as a result of increases in domestic revenue mobilisation and external budget support.

Due to strong GDP performance over the past years, tax revenues increased significantly -- by 14% and 9.5% respectively for FY 2017/18 and FY 2018/19.

In addition to impressive economic growth driving increased revenues, different policy and administrative fiscal measures were implemented to boost tax revenues. The government introduced a modern VAT system, they modernized income tax laws to comply with international tax standards, and initiated E-services to allow for electronic submission and payment of taxes. Electronic Billing Machines (EBM) were installed for more convenient payment of VAT dues for registered taxpayers.

¹³⁵ RRA, Tax Statistics in Rwanda Fiscal Year 2015/2016.

Further measures to raise revenues and to improve administration were announced in the FY 2018/19 budget, including: the extension of electronic billing machines for all taxpayers, amendments to excise duties on beer, wines, and liquors as well as to mobile data, and the revision of property tax law increasing property taxes for residential properties.

In Rwanda, the main source of tax revenues is VAT and Pay As You Earn (PAYE) contributing respectively by 33% and 23% and the remaining tax types contribution is 44% (Graph 21).

4.3 Tax revenue generated by the agricultural sector

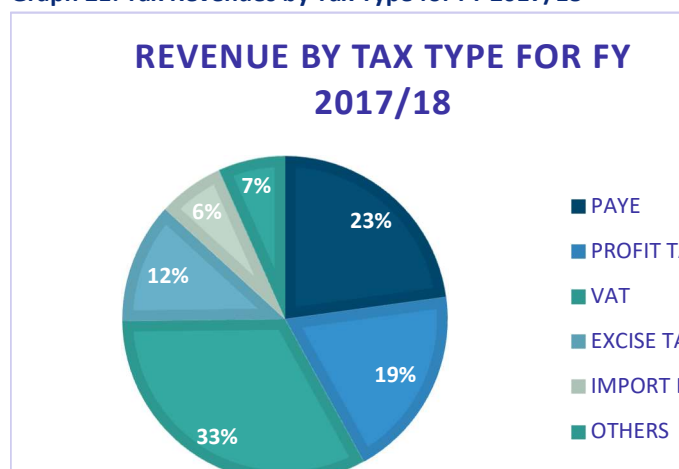
Despite a 31% share of agriculture in GDP, the RRA estimates that direct agriculture contributions are just 1% of total revenues (Graph 22¹³⁶). The standard reason for low tax revenues is the fact that most agriculture practiced in Rwanda is for subsistence. By definition, subsistence farmers lie below the standard income tax threshold of two million Francs per year, so that income tax revenues are small.

Exemptions: However, a more plausible reason for low revenues is that all but the largest farms are exempt from income, property, and VAT taxes. Inputs, such as fertilizer, machinery, and most other business items listed by the Ministry of Agriculture are exempted from input VAT tax.

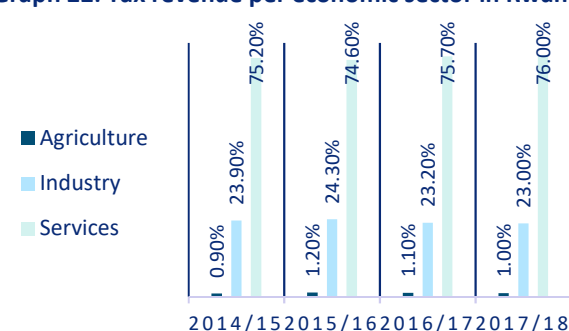
Those foregone revenues from tax exemptions are usually denoted as “tax expenditures”, because they reflect lost tax revenues that would be equivalent to a spending line, when viewed from a budgeting perspective. The cost of VAT exemptions can be high, as farm-registered agents may act as importers for non-farm residents, for the purposes of circumventing the 16% VAT on imported products.

Licensing remains the sole revenue source that is still applied to agriculture. Regardless of the business nature, anyone commencing a profit-oriented activity must purchase a trading license. The license fee consists of a variable amount, depending on the annual turnover, as well as a fixed amount, computed based on the type of business and its location (urban or rural). The amount of the trading tax to be paid

Graph 21: Tax Revenues by Tax Type for FY 2017/18



Graph 22: Tax revenue per economic sector in Rwanda



¹³⁶ Source: RRA Tax Statistics.

ranges from 4,000 to 250,000 RWF per annum. It is unclear so far, how many farms are currently owning trading licenses and are VAT registered.

While this preferential tax treatment for farmers and agricultural products is based on the government's aim to support low-income groups (both smallholder farmers and poor urban households consuming agricultural products), this support comes at the expense of revenues foregone and limited tax effectiveness as far as the agricultural sector is concerned. The de facto exemption of the informal sector further contributes to this.

In a recent study of Economic Sector Performance and Tax Compliance conducted by the Rwanda Revenue Authority (RRA, 2017), tax underperformance within agricultural activities remains low compared to the service and industry sectors. In the same manner as other countries reviewed in this report, the RRA suggested that undertaxed agriculture remains a major obstacle to tax revenue performance. The study claims that a 1 percent increase in agricultural GDP is associated with a 0.8 percent decrease in the volume of tax revenue collections. The study team believes that this is an over-estimation of tax buoyancy for agriculture.

While subsistence workers represent the majority of agriculture sector, more than one-third of farmers are engaged in market-oriented agriculture as their main purpose - as shown in Table 15.

Table 16: Number of taxpayers by business activity

Sector	Number of taxpayers	%
Agriculture	2 376	1,36
Industry	13 141	7,54
Services	158 922	91,10
Total	174 439	100

Box 6: Rwanda Tax Laws for Agriculture

Income Tax:

Law N° 016/2018 of 13/04/2018.

Standard Income Tax Threshold: 2 Million Francs per annum.

Agricultural Income Tax: 12 Million Francs per annum.

Value Added Tax (VAT):

Law N°37/2012 of 09/11/2012

All agriculture and livestock sales are exempt from VAT.

All unprocessed agriculture products are exempt.

Inputs, including fertilizer, pesticides, feeder stock, machinery, and parts are exempted from VAT.¹³⁷

Agriculture exports are zero-rated.

Property Tax:

Law N°9/2011 of 31/12/2011

Land used for agriculture, livestock or forestry purposes shall be exempted if less than two hectares are owned by the taxpayer.

Only land above 2 hectares is included, for taxable agriculture owners (first 2 hectares are exempt from tax).

Trading Licenses:

License fee is based upon annual sales amounts and location of sales (rural/urban).

Fee: 4,000 – 250,000 RWF per year.

Table 15: Worker status in agriculture

Categories of agriculture	Share (%)
Market oriented agriculture as main job	32.7
Subsistence agriculture exclusively	53.1
Participated in subsistence agriculture but have non-agriculture main job	13.8
Market oriented agriculture as secondary job	0.4
Total	100

It is hence not surprising that in an already low overall number of tax payers the agricultural sector constitutes by far the smallest group (Table 16).

¹³⁷ Most processed foods are considered to be “manufactured” items, and are not exempt from VAT. Processed milk remains exempted from VAT collections.)

5 STRATEGIC OPTIONS FOR TAXATION IN RWANDA AND FEASIBILITY ASSESSMENT

Section 5 reviews different options to raise additional funds from agriculture in Rwanda. The section first identifies potential policies based on experience from the case-studies. These potential tax policies are numbered from 1 to 5, as “Tax Policy” (TP) 1—5. Then these options are evaluated based on a matrix of feasibility types:

- **Legal feasibility:** assesses the legal feasibility of each identified policy option. In essence this implies identifying the need for drafting new legislation or modifying existing legislation;
- **Technical and operational feasibility:** determines whether the Rwanda tax system is able to implement the proposed policy option;
- **Financial feasibility:** considers the extent to which each proposed solution will contribute to raising revenue for the Rwanda government. The financial feasibility assessment is a focus for Part II of this project. Only revenue experience from case studies are described here.

The study team believes that expanding the tax base to include farm-based incomes can increase revenues, improve tax buoyancy in the country, and also help to formalize the economy. Any policy should be conducted using a slow and measured approach, to permit time for information to, education of, and adjustment by farmers and agribusinesses.

Results from the case studies suggest that revenues from an agriculture tax are typically small – they were between 0.4% and 1.0% of aggregate revenues in the examples. The large farming constituency also suggests that the tax will be unpopular. The case-reviews for Kenya and Pakistan are the most relevant to Rwanda’s situation, because they focus upon agriculture income taxes over commodity and export taxes. Cameroon and Ghana continue focusing upon input and output taxation to raise revenues, Kenya is currently conducting a tax-expansion, and Pakistan has examples about how farm-based incomes can be identified and estimated.

Kenya has chosen a hard-line towards farmers. They require a full-length ‘standard’ tax-declaration form, required from all farmers with incomes above \$108/month. However, technical presentations by KRA officials, such as Ms. Alice Owuor¹³⁸, suggest that some presumptive tax approaches are used to estimate incomes for businesses, but no presumptive alternative has yet been described in the tax law for farm incomes. Kenyan authorities claim that they will use a mix of simplified tax forms, together with database-driven methods to estimate farm and other business incomes.

Tax administration in Pakistan is more complex because the authority is split between central and local governments. But the tax administration forms for the AIT (Agriculture Income Tax), as well as calculation forms of presumed or “excess income” have been located by the study team and will be provided to the Rwandan MINECOFIN as part of this project.

¹³⁸ Based on presentation slides describing KRAs tax approach during an international conference held in Rome, Italy in 2015.

While Pakistan’s example is not encouraging from a revenue standpoint (around 1% of total revenues), the long history of tax collections and debate provides Rwanda’s policymakers with sample methodologies and tax forms that might be useful to deploy farm taxation in the country.

As stated in Section 3, Rwanda revenue authorities may wish to keep a close watch as the Kenyan tax regime is executed in 2018 and 2019, in order to leverage the “lessons learned” from their close neighbors’ experience in this field.

None of the case-studies combined the words “technology” and “farm taxation” in the same sentence. But most of the countries are working to leverage Information-Technology in order to lower the cost of tax collection and administrative burden, and to increase the compliance rate.

5.1 Agriculture Tax Reform Options for Rwanda

First, the reader should be clear that tax reforms are not *à la carte*, a good tax reform is a package containing different provisions – each provision works to improve fairness and create incentives, so that taxpayers will voluntarily contribute information and tax revenues into the system. Options here are presented one by one, while different tax packages, such as Kenya’s tax and VAT reforms, will be considered during Part II of this project.

Farm incomes are often volatile, caused by changing weather, climate, and other forces of nature that are outside of the farmers’ control. This means that authorities should take special care to avoid unnecessarily burdening farmers during the “hard” years. More flexibility can be introduced into a proposed the tax system for farmers, so that they avoid being taxed during bad years, and so they can reclaim those income losses during the good years.¹³⁹

Additionally, there should be accommodation for farm families who are not literate, or where the declaration and calculation of incomes is unduly difficult or prone to error. Farm families should be able to choose between declaring income using a standard form or paying a simplified presumptive tax amount.

When offering a choice to taxpayers – either presumed or declared income – the government should first decide their own goals, and then structure the relative incentives to match these goals. For example, if the goal is to enlist more taxpayers, then designing the presumptive tax to be easy and low-cost will help to accomplish this goal. On the other hand, if the government wishes to encourage farmers to declare their incomes fully in order to collect more information about farm businesses, then the presumptive tax formulas can be designed to be slightly more expensive than an equivalent tax using declared income. The risk of the latter approach is that farmers may give up and fail to declare or pay any taxes at all.

¹³⁹ The reviewers of this report suggested additional methods to smooth farm incomes– one suggestion was to require mandatory crop insurance for taxpayers, and another suggestion was to go beyond loss carryovers, and to partly or fully refund past tax payments after a difficult harvest year. Full consideration of these suggestions is beyond the scope of this report.

Non-income tax methods are also considered here – primarily through taxation of products as they pass certain nodes of transportation or commerce. These taxes include so-called “Cess” taxes, export taxes, and property taxes.

Tax Policy Options:

- TP1: Expand taxable farm incomes by lowering the tax threshold. Currently, farmers whose sales are below 12 million RWF are exempt from tax. Revenues can be increased by lowering the threshold to 6 million or less. To adopt a Kenya-style threshold, where farm income is taxed like all other incomes – the threshold would be 2 million RWF per year (166,660 Francs per month). Farmers above the new threshold will be required to complete a tax income declaration form and pay income taxes in a similar manner as self-employed persons or sole-proprietors.
- TP2: Impose a Presumptive Tax on Agriculture Income. Rwanda Revenue Authority can allow farmers a simplified tax calculation method, similar to what Pakistan’s authorities use. The presumptive method will utilize the declared or measured land area, the crop type, average crop prices, and the average crop yield. Gross income is computed as the product of these inputs:

$$\text{Presumptive Gross Income (PI)} = H \times Y \times P$$

Where:

H is the size of arable land, measured in hectares

Y is the average yield for the crop type in a given year, taken from statistical authorities

P is the average farm-gate price for the crop type, taken from statistical authorities

In a given year, farms subject to the tax can choose to use the presumptive income approach or the declared income approach, depending on which system they believe will yield them a lower tax burden. The presumptive would be calibrated in order to approximate declared income for a typical farm.

- TP3: Eliminate tax exemptions for farm inputs. The IMF-preferred approach to raising revenues is to mitigate so-called “tax expenditures.” Eliminating tax-waivers for farm supplies such as pesticides, fertilizers, and certain machinery would increase tax revenues. The VAT rate for inputs would be re-scheduled, to a rate between zero and the full 18% VAT rate in Rwanda.
- TP4: Impose taxes upon crop exports. Like Cameroon, Rwanda can broaden the set of taxable export commodities to include coffee, teas, vegetable and fruit exports that are currently exported freely. Export taxes on coffee and tea can also be reinstated, or a state-run export board can be created to become intermediaries between world markets and local farmers.
- TP5: Expand Land Tax to Agriculture: As proposed in Kenya and done in Pakistan, Rwanda can remove the tax exemption for agricultural land and begin taxing arable properties, or imposing fees/fines for under-utilization.

-
- TP6: Impose Local Trade Taxes: The license fee for selling agriculture products can be increased for farm-sector enterprises. This effectively targets only commercial farmers.

5.2 Legal Feasibility Assessment

TP1: Declared Income Tax Feasibility

According to Rwanda's tax law n°016/2018 of 13/04/2018 establishing taxes on income, all income is taxable above a threshold of 30,000 RWF per month or 360 000 RWF per year. But the same law specifies that for the farmers to be taxed, they have to have a turnover above 12 million RWF per year. This limits the tax net to only the largest farm entities nationwide.

In order to include more farming entities into the tax net, the tax law n°016/2018 of 13/04/2018 establishing taxes on income in its article 21 would need to be amended to lower the threshold below 12 million RWF for farm incomes. In addition, the law on tax procedures would need to be clarified to state that farm incomes are included as taxable incomes, and that farm households with turnover above the taxable threshold are required to supply a declaration of taxable income, in the same way that other self-employed entities currently do. Self-employed tax forms are available on RRA website.

If these modifications are made to the tax laws, then a declared income tax would be feasible.

TP2: Presumptive Income Tax Feasibility

According to Rwanda Tax Law on income article 12, enterprises with turnover lower than 20 million RWF are allowed to utilize a presumptive method to compute taxes due using a simplified tax declaration form, rather than to declare income using a full tax declaration form.

Most likely, a specific presumptive tax declaration form will need to be created for the purposes of farm income.

TP3: Legal Feasibility to Eliminate Tax Exemptions

Current VAT exemptions can be eliminated by removing farm inputs from the schedule of exempted items. This would require an act by Parliament, but it is regular practice to add and remove various goods and services from the schedule of VAT exemptions.

TP4: Legal Assessment of Increased Export Tax

The respective customs laws (Numbered 1000.11) state that a levy equal to 100% can be applied to the FOB price of coffee, packaged teas, and other agricultural products, specifically listed here:

HS Code 11: Raw Coffee Beans – 25%

HS Code 22: Packaged Teas and Mixtures – 15%

Etc..

However, since Rwanda is part of the East-Africa Customs Union, which manages a common external tariff and trade policies, local authorities would need to negotiate with other EAC countries for changing the EA Customs management Act. Alternatively, the rate of taxation can be changed using an administrative proposal that is approved by Parliament according to Procedure Rule # 11.111.

If authorities wish to increase export-revenues from new crop categories, then Customs Laws (Numbered 1000.11) will need to be amended to include additional HS codes for vegetables, fruits, roots and tubers, using a more detailed HS Code (most likely, a 6-digit or 8-digit HS Code).

TP5: Property Tax Legal Feasibility

Rwanda tax law n°75/2018 of 07/09/2018 determining the sources of revenue and property of decentralized entities already imposes general property taxes at the rate of 1% for the residential immovable property and between 0 and 300 RWF per square meter for residential plots. This rate is imposed progressively over four years. However, property that is declared for agriculture purposes is exempted from this tax under Rwanda Law cited above. Property taxes for agriculture are imposed only when property sizes are above 2 hectares.

If authorities wish to increase the number of farm households contributing to property taxes, then Rwanda Law governing the property tax on its article 12 will need to be amended to lower the threshold from 2 hectares, to another value, as chosen by the authorities.

Alternatively, the rate of taxation can be changed for agriculture property, compared to all other property types. This would be an amendment to Law 75/2018 cited above. Some economists propose specific taxes applied to agriculture *by product type*. If property taxes were to be imposed according to specific crop types, such rules would be imposed using Tax Law. Crop-specific tax rates are highly-unusual and are unlikely to be passed by a Parliament body.

Note that the tax rates cited above are new and will be implemented starting 1st January 2019 and are much higher than before 2019. Further raising property tax rates should account for this new rate increase, before further increases are proposed.

TP6: Local Trading Tax Feasibility:

According to Rwanda's Laws on Local Taxation (Law n° 75/2018 of 07/09/2018 determining the sources of revenue and property of decentralized entities), each district requires a trading license from any profit-oriented activity within the district.¹⁴⁰ "Cess" taxes, as originally defined, are not included under this definition. The license fee acts as a tax on trade volumes for VAT registered, because the annual fee can vary between RWF 60,000 for turnover less than 40 million, up to fees of RWF 250,000 for

¹⁴⁰ See PWC update on corporate taxes and fees: <http://taxsummaries.pwc.com/ID/Rwanda-Corporate-Other-taxes>.

turnover of 150 million or more. However; small businesses pay trading license tax depending on their type of business and location, the amount of tax ranging from 4,000 RWF to 40,000RWF.

Legally, it would be feasible to reduce the turnover threshold for Trading Licenses, in order to include certain farm incomes. However, this fee would remain a District-level fee, and not be collected by the Central Government. Farm turnover is not currently exempt from the Trade License fee.

5.3 Technical Feasibility Assessment

The operational or technical feasibility depends upon whether large resources would be needed to deploy a given tax policy (TP1-TP5). Each tax policy may require more government officers to visit farm sites (e.g., '000 of KM of travel needed), collect additional data, conduct reviews, etc., or if new offices are required, or whether expensive GIS software must be purchased, or whether drones must be purchased, declarations must be audited (and how many). A general view of these aspects is considered below, but detailed or specific costs are outside of the scope of this project.

TP1: Declared Income Tax

Income tax declarations are regularly collected from business operators and self-employed families in the following way. As the Rwandan system is based on self-assessment method, a person who carries out taxable income generating activities prepares an annual tax declaration and he/she presents the declaration to the tax administration via an online declaration facility for large and medium taxpayers and a mobile platform for small and micro-taxpayers. According to the amount of the turnover the taxpayer will pay a flat tax, or a presumptive tax of 3% of the turnover or a percentage of his net profit.

It is technically feasible to request online tax declarations from farmers with incomes above a new threshold that is lower than the previous threshold, thereby widening the income tax net for farm incomes. However, if farmers do not have a legal business address this creates a potential barrier to the technical feasibility. Official RRA communications must be delivered to a declared address, and if farmers do not have such an address, then farm taxation is not feasible.

TP2: Presumed Income Tax – Operational Feasibility

Presumed Income for farmers can be assessed either using Plot Size, Planted Size, or Harvest Size. The Rwanda Revenue Authority can adopt a presumed income formula as proposed in this section (Land size * average yield * crop price). In many countries, an “official price” sheet is generated by the government for tax purposes.

The Presumptive Tax method is legally feasible because the same rules that apply to small enterprises can be directly applied to farm incomes also. However, new presumptive income methods will need to be developed by the RRA in order to accurately estimate farm incomes without a full income declaration form. Over time, income declaration forms and presumptive tax estimates should be compared with each other, in order to adjust the presumptive ratios – to properly reflect net incomes.

TP3: Operational Feasibility of Removing VAT Exemptions

TP3 has the highest operational feasibility among any of the Tax Policies. To enact this policy, the schedule of exempted items is revised and selected agriculture inputs and outputs are removed from the “exempted list” and are included on the “taxable list”. Computerized customs departments will automatically be updated immediately, and inland VAT offices will be informed of the change. While enforcement of inland VAT collections for agriculture may be challenging, the enforcement of VAT payments for imported inputs to agriculture is the same as for non-agriculture items imported into the country.

TP4: Export Tax Operational Feasibility

Operationally, TP4 would require new institutions that can intervene at export terminals in order to collect a tax on FOB prices. Because the operations are concentrated at the border, or where export declarations are made, TP4 is more feasible from an operational standpoint than TP1 or TP2 – even if it is unlikely from a legal feasibility view.

Generally, export taxes are not utilized in Rwanda, because the government wishes to maximize exports in order to increase foreign currency reserves. Therefore, imposing a new tax on exports – if legal – may lead to conflicting policies.

Export taxes would be collected by Customs Authorities, based upon FOB declaration forms submitted before placing items on outbound transit.

Expanded export tax revenues are technically feasible, if the customs database is re-programmed to include additional HS codes for taxable exports, as declared. Specific crop exports may or may not be feasible, depending upon the HS-coding system allowed at the Customs Office.

TP5: Broaden Property Tax Base for Agriculture

The property tax is levied on the market value of a building and surface of a plot of land whose value is determined by a certified valuer or by a computerized mass valuation system. If the immovable property consists in a plot of land, the tax is calculated per each square meter. The Rwanda Land Management and Use Authority has the database of all plots including their sizes.

According to article 21 of the law n°75/2018 cited, the taxpayer files to the tax administration his/her declaration of the immovable property tax determined in accordance with the provisions of the Order of the Minister in charge of taxes.

The interface between the IT systems of the tax administration and Rwanda Land Management and Use Authority ensures efficiency and monitoring of the collection of the property tax on plot. Currently the tax administration is using the GIS technology to map all plots within the country and any strategy

to widen the tax base may use the already the available information within the local government system.

TP6: Increase Trading license fees or Trading Taxes:

Trading licenses offices already exist where commercial entities can apply and pay for licenses. Therefore, if authorities choose to impose Trade License requirements on farm incomes, these license offices provide feasibility to apply for and pay license fees.

Trade taxes: It is unclear whether local or national authorities are currently observing market trading activities by farmers. Trades or purchases that occur between farmers and purchasers of raw farm outputs are typically called “Farm Gate” transactions. The study team was unable to determine whether local authorities have technical capacity to observe or monitor Farm Gate transactions. When this question was raised to central tax authorities (RRA), they were clear to state that such observations are technically not feasible at this time.

5.4 Financial Feasibility

This report does not contain the quantitative information needed to quantify the potential revenues or enforcement costs associated with each of the tax policy options. In general, the study team found that agriculture-related taxes were between 0.4% to 1.0% of total tax revenues collected. But these low revenue levels reflected older, more traditional approach that is intended to “support” or encourage agriculture activity through tax exemptions. Unsurprisingly, the associated tax revenues are low.

A deeper discussion of potential fiscal revenues and economic impacts is scheduled to be constructed in Part II of the project – quantitative assessment.

6 CONCLUSIONS AND NEXT STEPS

Given the experiences described above, it should be clear that taxing farm incomes or outputs is unlikely to mobilise any large sum of funds. It should also be clear that the political and administrative effort required to legislate and collect agriculture revenues will not be trivial. But this does not mean agriculture taxes should be ignored or exempted. Indeed, a large benefit of including agriculture into the tax system is an increase in horizontal tax equity, where all Rwandan taxpayers feel like the system is becoming increasingly fair. In addition, the elimination of tax exemptions and building a more uniform tax system has outsized benefits by eliminating acute distortions and incentives to “game” the system. For example, rich urban residents can enlist poor farmers at import agents in order to avoid VAT on vehicles and electronic equipment, under the umbrella of “farm machinery.”

Rwanda should monitor developments in Kenya, as this country shifts to eliminate exemptions and include Kenyan farmers into the tax net. Rwandan authorities may consider a slow expansion of the tax-net by lowering exemption thresholds to include more commercial farming, and to monitor the resulting tax-yield from agriculture sector activities.

Taxes and Farm Income Volatility: Unfortunately, farm incomes are inherently risky because they are highly-dependent upon forces of nature. When designing tax policy in agriculture, policymakers must take extra care to accommodate for farm risks, adverse crop years, and the leveraged position that farmers must take – where they borrow funds to plant crops and must wait 4-6 months before revenues are generated. The timing of taxes-payable should be after harvest time, and the accommodation for losses should account for the outsized risks faced by this segment of the economy.

Review of Policy Strengths and Risks

The following matrix provides an early-phase assessment of risks and project feasibility for the introduction of agriculture taxation in Rwanda. This is a high-level summary of risks by tax types that were found in the case studies. Further analysis of different risks is possible in the final report.

Table 17: Review of Agriculture Tax Types and Associated Strengths and Weaknesses

	Description	Technical/Operational Feasibility	Financial Feasibility	Risks
CESS Fees	A fee specifically applied to inland (domestic) activity, for an earmarked purpose. Usually imposed by local governments. Example: Cess fee for construction of local school.	High: Applicable to local governments, but not feasible by central government, as such fees and taxes are supposed to be earmarked for specific purposes.	Medium: An agriculture CESS can raise significant local income, in productive farmland areas. CESS taxes on product trading in other regions is possible, but not advised.	Uncontrolled local CESS taxation can force farmers to operate informally in order to avoid taxation. Causes large disincentive to expand, if local governments expand CESS fees.
Declared Income Tax	Farmers submit a traditional income tax statement on an	Low: Most farmers are illiterate (60% or more). This precludes their	Medium: 30% of farmers operate for profit, so revenue potential exists,	Potential for overall failure, if system is implemented, but

	Description	Technical/Operational Feasibility	Financial Feasibility	Risks
	annual basis and remit taxes accordingly.	ability to accurately read and follow instructions for such forms.	but collecting revenue with this instrument is burdensome and costly.	few taxpayers actually comply.
Presumed Income Tax	Farmers submit a flat fee based on annual production of cash crops.	Medium: Can be used for all farmer types who do not wish to complete income statement. Easy to audit and understand. Difficult to discern 'subsistence' share of crops from 'commercial' share.	Medium: Expands the tax net, but net revenues depend upon number of "medium-size" farmers who join regime. Administration cost is lower than declared income.	Farmers risk paying tax even if net income is below threshold, or below zero. Safeguards against egregious taxation are essential.
Export Tax	A tax upon FOB value of exported crops and livestock	High: Since products must be formally registered with a manifest, taxing the value of exports occurs before exports are allowed to load onto cargo vehicles.	Medium: Total export value of agriculture was USD 515 million during the 2017/2018 fiscal year. This means that an export tax of 2% yields approximately USD 10,3 million, or 8.9 billion Francs.	Biggest risk is violating trade agreements and discouraging investment in agriculture as an export activity. Risk is lower, when tax rates are low.
Property Tax	Remove exemptions on land taxes for agricultural purposes. Currently, up to 2 hectares are exempt.	Medium: Land tax for agriculture is historically difficult but made easier through GIS/Google Maps/technology.	Low: Tax rate and collections will be relatively small, but once taxpayer is included into tax net, revenues are steady.	Can push farmers toward informal and illegal economic spheres, in order to avoid additional or excessive taxation.

Authorities should always strive to make taxpaying as transparent and equitable as possible, in order to encourage voluntary compliance and payment. Some example guidelines that are typically used by tax authorities, are the following:

1. **Ease of Payment:** Make tax filing and payment as easy as possible for taxpayers. Of all tax administration efforts, the highest-yield, by far, has been to make remittance simple and easy.
2. **Transparency:** The new taxation regime should be as transparent as possible, with as little ambiguity as possible. This minimizes the ability to manipulate administrative rules to avoid tax and improves public perception.
3. **Horizontal Equity:** The new regime should be equitable, so that all farms with similar incomes, face the same tax burden.
4. **Flexibility:** The tax system should have enough flexibility, that farm business is not "hamstrung" by the law. For example, farms should always have the option to state actual income in periods where they lost or did not earn income, rather than facing a fixed regime that imposes taxes, even when incomes are below the taxable threshold.

With these guidelines in place, the following policy regime can be implemented. These are six steps to implementation. All of the steps are needed, in order to successfully deploy a fair and productive tax on agriculture:

- Step 1: Lower the threshold for farm turnover from 12 million Francs, to 6 million Francs per year.
- Step 2: Establish a flexible tax policy – allowing for new taxpayers to declare their income using standard methods, or using a simplified method (e.g., a flat, turnover rate).
- Step 3: Use database and other technologies to identify the most likely new taxpayers and establish a mode of contact with these taxpayers. Inform the taxpayers of the new laws and help them to understand how it may impact them.
- Step 4: Coordinate with local governments to ensure that central taxation is aligned with local taxation.
- Step 5: Set estimated taxpayer targets and goals, using methods from this project or expertise within the Revenue Authority offices.
- Step 6: Begin rollout – with help from donors or central government.

6.1 Next Steps

In Part II of this project, the study team will construct a computable general equilibrium model (CGE). Using this model, some of the fiscal and economic costs and benefits can be considered more concretely. The accuracy of the CGE model results depends crucially upon the input data, so the study team will take care to explain where the data was strong, and where it was lacking.

During initial project interviews, the Revenue Authority (RRA) indicated that “how” a new tax would be implemented and administered was crucial. If the government wishes to consider more detailed administrative and technological solutions to one of the Tax Policies described in this report, a further project scope can be considered. The study team would need to enlist the help of capable tax-administration experts who understand how to leverage new technology for lowering costs.