Assessing the Impact of Policies in Developing Countries Using Social Accounting Matrices (SAM): The Case of Somalia 2025

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Abstract

This study explored Somalia's economic structure and public policy landscape through the lens of the Social Accounting Matrix (SAM) framework, with the objective of positioning SAM as a viable tool for future evidence-based policy analysis. Drawing exclusively on secondary data, the study examined available information on government revenue and expenditure, macroeconomic performance, household welfare, labor market dynamics, and vulnerability indicators. Data sources included national reports such as the Somalia Integrated Household Budget Survey, Labour Force Survey, GDP Statistical Release, and the Financial Governance Report, among others. The analysis revealed critical trends including heavy reliance on external grants, limited capital investment, persistently high unemployment, and widespread household vulnerability. While existing indicators provided useful benchmarks, the study found that Somalia's data systems remain fragmented and inadequate for constructing a complete SAM. The study concludes by recommending the establishment of a national think tank or coordination platform to spearhead SAM development, emphasizing the need for long-term investment in harmonized data systems and national accounts capacity. This paper serves as an early academic contribution to the institutionalization of SAM-based policy modeling in Somalia.

Keywords: *Developing Countries, Social Accounting Matrices (SAM) & Somalia*

1. Introduction

Agriculture, which includes crops, livestock, and fisheries, is the backbone of Somalia's economy. As reported by the World Bank and FAO in 2018, this sector accounts for approximately 75 percent of the gross domestic product (GDP) and represents 93 percent of total exports, mostly related to strong livestock exports. The agriculture industry plays a crucial role in supporting the livelihoods and employment of rural residents, accounting for an impressive 83.1 percent of all jobs in the nation (Mohamed, 2022). This sector not only provides food and economic stability but also serves as a backbone for many communities. However, it faces significant challenges,

primarily due to its heavy reliance on weather conditions. Frequent droughts pose a serious risk, reducing agricultural productivity and threatening the livelihoods of those who depend on farming and related activities (Warsame et al., 2024).

To enhance the productive capacity of Somalia's agricultural sector, it is essential to leverage data effectively. Detailed analysis and insights can help identify strategic priorities that are closely aligned with both national development goals and the global Sustainable Development Goals (SDGs) (Cohen, 2024). By addressing issues such as climate resilience, resource management, and sustainable farming practices, we can pave the way for not only improving agricultural outputs but also achieving long-term poverty alleviation in rural areas (Aragie, 2024). This approach fosters a more stable and prosperous future for Somalia's agricultural communities.

Improving the quality of national accounts will enhance input-output tables and the Social Accounting Matrix analysis (Sharify, 2021). These components play a vital role in shaping government economic policy. They are essential for providing clear insights into the effectiveness of current regulations, allowing policymakers to monitor their impact on various business operations (Khan, 2024). This ongoing evaluation helps identify areas for improvement and ensures that regulations are not hindering economic growth. Additionally, these elements facilitate the formulation of new policies that are strategically aligned with broader developmental objectives, ultimately fostering an environment that supports sustainable economic progress and meets the needs of the community (Kinkpe, 2024).

The Social Accounting Matrix is crucial to providing robust socioeconomic analysis in the context of developing countries. Indeed, this type of database is valuable for conducting ex-ante evaluations of economic policies using various financial models and techniques.

2. Research Context

Somalia's economic landscape presents unique challenges and opportunities for policy analysis through Social Accounting Matrices (SAM). Studies have highlighted the critical relationship between natural disasters, deforestation, and economic growth in Somalia, emphasizing the need for robust policy evaluation frameworks (Warsame et al., 2024). The agricultural sector, which dominates the economy, is particularly vulnerable to these environmental challenges, making it essential to develop comprehensive analytical tools that can assess policy impacts across multiple sectors and stakeholder groups.

The application of SAM methodology has proven effective in analyzing policy impacts in developing economies similar to Somalia. For instance, research by Randriamamonjy et al. (2023) in Sudan demonstrated how SAM can effectively capture the intricate relationships between different economic sectors and policy outcomes in agriculture-based economies. This approach is particularly relevant for Somalia, as it allows for detailed analysis of both direct and indirect effects of policy interventions, especially in the context of agricultural development and resource allocation. Furthermore, studies by Kinkpe (2024) have shown that such analyses are crucial for understanding the economy-wide effects of agricultural value-chain enhancement in agriculture-based economies.

The implementation of effective monitoring and evaluation processes in Somalia's development projects has become increasingly important, as highlighted by Mire (2023) in their analysis of infrastructure projects. Cohen's (2024) work on institutions, goals, policies, and analytics in economic development provides a framework for understanding how SAM can be integrated into

broader policy analysis systems, particularly in developing countries where data availability and quality may present significant challenges. This research aimed to bridge the gap between theoretical frameworks and practical policy implementation by providing a comprehensive analysis of policy impacts using SAM methodology.

3. Research Objectives

i. To examine the impact of government interventions and public policies on analysis support systems in decision-making processes.
ii. To identify and assess effective benchmarks for monitoring progress and evaluating the impact of various policies and programs.
iii. To evaluate how guidance policy decisions influence development planning and socio-economic growth.

4. Research Questions

iv. How do government interventions and public policies impact analysis support in decision-making processes?
v. What benchmarks can be used to monitor progress and evaluate the impact of various policies and programs?
vi. Does a guidance policy decision, support development planning, and promote socio-economic growth?

5. Research Methodology

This study applied a secondary data-based approach guided by the Social Accounting Matrix (SAM) framework. Rather than constructing a full SAM, the research focused on identifying, extracting, and analyzing existing data sources that could support the future development of such a matrix for Somalia. The approach drew conceptually from previous SAM studies such as those by Serag et al. (2021) and Randriamamonjy et al. (2023), but was adapted to reflect the limitations of data availability in the Somali context. Data was collected exclusively from publicly available secondary sources, including national statistical publications from the Somalia National Bureau of Statistics (SNBS), World Bank and IMF economic reports, the Somalia Integrated Household Budget Survey (2022), the Labour Force Survey (2019), the Financial Governance Report (2023), and the GDP Statistical Release (2023). These sources provided fragmented but valuable insights into revenue and expenditure patterns, household welfare, labor market characteristics, and macroeconomic performance. The analysis focused on descriptive trends, benchmark indicators, and institutional summaries that could inform SAM-aligned policy evaluation. Quantitative outputs were limited to tabulations and summaries of available indicators, given the absence of harmonized national accounts.

6. Results And Findings

6.1 Examining the Impact of Government Interventions and Public Policies

This section examines the impact of government interventions and public policies on Somalia's economic decision-making framework. Fiscal data from 2018 to 2023, drawn from Somalia's official economic reports, reveals valuable insights into how the government has mobilized and allocated resources. The focus here is on three major revenue sources, tax receipts, non-tax receipts, and external grant, as well as four primary categories of government expenditure, employee consumption, use of goods and services, grants paid, and capital expenditure.

Table 1: Government Revenue in Somalia (USD), 2018–2023

Category	2023	2022	2021	2020	2019	2018
Tax Receipts	224,631,762	181,691,842	162,766,994	139,529,217	154,744,603	138,905,151
Non-Tax Receipts	104,859,950	80,977,903	66,794,410	71,704,628	74,939,156	44,473,235
External Grants	408,531,180	459,241,797	146,975,019	285,593,117	108,117,144	121,701,144

The data reveals a persistent dependence on external grants, which consistently exceed domestic revenue streams. In 2023, external grants stood at over 408 million USD, accounting for more than half of total revenues. This reflects the limited domestic resource base and highlights Somalia's fiscal vulnerability. However, tax receipts have shown steady growth from 138.9 million USD in 2018 to 224.6 million USD in 2023, suggesting improvements in tax administration and compliance. Non-tax revenues remain relatively low, contributing marginally to total collections.

Table 2: Government Expenditure in Somalia (USD), 2018–2023

Category	2023	2022	2021	2020	2019	2018
Employee Consumption	292,244,712	259,578,811	250,099,404	227,014,247	162,862,398	142,638,196
Use of Goods & Services	138,201,059	140,670,112	106,059,789	80,696,011	92,393,185	80,351,497
Grants Paid	126,273,305	111,242,917	45,850,523	80,283,381	45,007,479	N/A
Capital Expenditure	14,407,773	13,200,988	16,099,178	18,551,695	14,792,796	N/A

Government spending has increased notably across all categories over the period. The largest component remains employee consumption, reflecting the high cost of maintaining public sector employment. In 2023, over 292 million USD was spent on salaries, more than double the amount in 2018. Expenditures on goods and services also grew, pointing to greater operational investments. However, capital expenditure remains strikingly low, averaging less than 20 million USD per year. This suggests limited investment in long-term infrastructure and development projects. Furthermore, variability in grants paid indicates fluctuating government support to institutions or subnational entities, potentially tied to donor cycles or political priorities. The analysis shows that while Somalia has made progress in domestic revenue generation, its public

finances remain heavily reliant on external assistance. Government intervention, as observed through spending patterns, prioritizes recurrent expenses over development spending.

This section presents benchmark indicators drawn from national surveys and statistical releases that reflect the trajectory and effectiveness of public policy in Somalia. The aim was to establish a foundation of measurable outcomes, such as labor force participation, unemployment, household welfare, and macroeconomic performance that can guide future Social Accounting Matrix (SAM) modeling and policy simulation.

The data sources used include the Labour Force Survey (2019), the Somalia Integrated Household Budget Survey (2022), the GDP 2023 Report, and the Financial Governance Report (2023). These collectively provide quantitative baselines for assessing the results of economic interventions and highlight the areas in which further policy evaluation and modeling are needed.

Table 3: Selected National Benchmark Indicators for Policy Monitoring

Indicator	2018–2023 Range or Estimate	Source
GDP Growth Rate (%)	0.0% – 4.2%	GDP 2023 Report
Unemployment Rate (Total, % of labor force)	21.4% overall; 27.4% female; 18.4% male	LFS 2019
Youth Unemployment Rate (15–24 years)	37.4% (female: 40.8%, male: 35.2%)	LFS 2019
Labour Force Participation Rate	32.4% overall; 20.3% female; 45.9% male	LFS 2019
Household Consumption Share of GDP	Over 100% of GDP (import-driven consumption)	GDP 2023 Report
Food Insecurity (Moderate to Severe)	44.3% of households	SIHBS 2022
Households Affected by Price Shocks	53.3% (esp. food price shocks)	SIHBS 2022
Public Revenue Growth (USD, 2013–2023)	$100M → $281M	FGR 2023
Federal Government Salary Expenditures (2023)	$141M	FGR 2023
Donor Budget Support Transfers (2022–23)	$121M	FGR 2023

LFS: Labour Force Survey

SIHBS: Somali integrated household budget survey

The indicators reflect both the strengths and structural challenges of Somalia's policy environment. While real GDP growth shows a gradual upward trend—reaching 4.2% in 2023—employment has not kept pace. Labour force participation remains low, especially among women, and unemployment persists at high levels, particularly among youth. Household consumption continues to exceed GDP, highlighting Somalia's dependence on imports and external financial flows. Over 44% of households reported experiencing food insecurity, while more than half cited price shocks—especially for food—as a primary challenge, underscoring economic vulnerability at the household level. From a public finance perspective, the Federal Government has achieved steady gains in domestic revenue mobilization, rising from $100 million in 2013 to $281 million in 2023. However, recurrent spending, particularly on public sector salaries and donor-supported

transfers, still dominate the expenditure profile, limiting fiscal space for development-oriented investment.

6.2 Benchmarking Policy Impact through Key Indicators

In addition to analyzing revenue and expenditure, assessing Somalia's external financial flows offers deeper insight into how government interventions and international support systems have influenced the broader economy. The Balance of Payments (BoP) data highlights key income categories particularly secondary income, which includes remittances and aid transfers, and primary income, which covers investment returns and labor income.

These flows reflect not only donor commitment but also the strength of diaspora linkages and foreign sector involvement in Somalia's fragile economic structure. The following table presents these income components for the years 2018 to 2023.

Table 4: External Transfers and Primary/Secondary Income (USD Millions), 2018–2023

Category	2018	2019	2020	2021	2022	2023
Primary income	111.63	207.89	168.63	154.34	115.01	210.56
Primary income: credit	137.18	238.09	206.75	211.87	345.23	453.13
Primary income: debit	-25.55	-30.21	-38.12	-57.52	-230.23	-242.57
Balance on goods, services & income	-3,148.77	-3,383.09	-3,103.46	-3,896.10	-5,126.17	-5,333.25
Secondary income (transfers)	**2,235.93**	**2,673.59**	**2,546.18**	**3,054.05**	**4,289.51**	**4,110.17**

The secondary income category, which includes remittances from the diaspora and foreign aid, plays a critical role in Somalia's economic resilience. These inflows nearly doubled from 2.24 billion USD in 2018 to 4.29 billion USD in 2022, slightly tapering to 4.11 billion USD in 2023. This pattern underscores the heavy reliance on the Somali diaspora and international donors for both household support and national liquidity. Meanwhile, primary income credits—representing compensation to Somali nationals working abroad and returns on foreign investment—also saw an upward trend, peaking at 453 million USD in 2023. However, rising debit values imply increased outflows related to foreign-owned assets, highlighting a growing cost of external dependency.

Despite these inflows, Somalia's balance on goods, services, and income remains significantly negative throughout the period, with a growing external deficit that exceeded -5.3 billion USD in 2023. This trade imbalance illustrates the structural vulnerabilities in Somalia's economic framework where even robust financial transfers fail to offset persistent deficits in production and trade. In essence, while Somalia's fiscal and external positions are stabilized in part through government interventions and external financial support, the sustainability of this model is

questionable. Strengthening productive capacity, enhancing domestic savings, and balancing external exposure will be key to moving beyond survival toward structural transformation.

6.3 Guidance Policy Decisions on Socio-Economic Growth

The paper further aimed to evaluate how policy-guided decision-making affects socio-economic outcomes in Somalia. In fragile states, well-guided policies play a crucial role in buffering economic shocks and building resilience. To assess this, the study examined trends in GDP growth, unemployment rates, drought occurrences, and the General Vulnerability Index (GVI) between 2018 and 2022. These indicators reflect the compound effects of policy effectiveness or lack thereof on both economic performance and population well-being. Table 5 presents the summary of these interlinked metrics.

Table 5: Socio-Economic Growth and Vulnerability Indicators (2018–2022)

Year	GDP Growth (%)	Unemployment Rate (%)	Drought Indicator	GVI (Vulnerability Index)
2018	0.48	18.78	0	87.00
2019	0.56	18.83	0	87.00
2020	0.00	19.35	1	87.00
2021	0.52	19.55	1	86.24
2022	0.39	19.13	1	85.49

The results demonstrate that despite marginal positive GDP growth over the five-year period, unemployment remained persistently high, averaging above 19%. This points to a weak transmission effect of economic activity into job creation, a common challenge in settings where informal labor markets dominate and public policy lacks robust employment targets. The General Vulnerability Index (GVI) remained critically high throughout the period, with only slight improvements from 87.0 in 2018 to 85.5 in 2022. This suggests that the overall socioeconomic environment remained precarious for a large segment of the population, especially in rural and drought-prone regions.

The drought indicator, which shifted from 0 in 2018–2019 to 1 from 2020 onward, signals escalating climatic shocks. However, despite these repeated droughts, the policy response did not produce a notable reduction in vulnerability or unemployment highlighting a possible disconnect between national planning and actual risk exposure. The analysis underscores that policy guidance in Somalia has not translated into tangible socio-economic resilience. While GDP has grown modestly, structural unemployment and persistent vulnerability suggest that interventions have either been misaligned, underfunded, or poorly implemented.

7. Discussions

The findings presented across the three objectives highlight critical dimensions of Somalia's public policy landscape ranging from fiscal interventions and household welfare to employment dynamics and vulnerability to shocks. The evidence points to a government that is gradually expanding its capacity for revenue mobilization and basic service delivery, yet continues to rely heavily on donor support and external transfers to stabilize the economy. In particular, the data underscore how current policy efforts, though essential, are insufficient in structurally transforming the economy or reversing deep-rooted vulnerabilities such as high youth unemployment, limited capital formation, and widespread food insecurity.

From a benchmarking perspective, Somalia has begun to generate a body of economic and household data that can support meaningful monitoring and evaluation. The Labour Force Survey, SIHBS, GDP compilations, and financial governance reports all provide discrete data points that shed light on policy effectiveness and macroeconomic performance. However, these datasets remain largely fragmented and lack the harmonization required to support integrated policy modeling frameworks like the Social Accounting Matrix (SAM). This limitation is especially apparent when attempting to link sectoral policies to outcomes across household groups, labor markets, and institutional accounts in a coherent, systemic manner.

To overcome these challenges, there is an urgent need for sustained investment in Somalia's statistical infrastructure. This includes the establishment of a national think tank or SAM Taskforce comprising government agencies, academic institutions, and development partners to coordinate data harmonization, methodological training, and SAM construction. Such a platform would not only support empirical policy design but also enable Somalia to participate in regional and global analytical networks that depend on standardized national accounts. This study provides a starting point by mapping the available benchmarks and identifying the gaps that future SAM efforts should aim to fill. The time is ripe for Somalia to move from descriptive statistics toward dynamic policy modeling and this transition will require strategic collaboration anchored in local institutional capacity.

8. Conclusions and Recommendations

This study sought to examine Somalia's policy and economic structure using the Social Accounting Matrix (SAM) framework as a guiding lens, drawing on available macroeconomic, fiscal, and household-level data to map key benchmarks for development planning and monitoring. The findings reveal that while important data systems such as national accounts, labor force surveys, and household budget assessments are beginning to take shape, they remain fragmented and insufficiently integrated to support a fully functional SAM. Nonetheless, the available indicators covering revenue trends, expenditure patterns, employment dynamics, vulnerability, and household welfare, offer a valuable starting point for future SAM-based policy analysis. The results underscore the need for sustained investment in data harmonization, national accounts capacity, and methodological infrastructure. Moving forward, the establishment of a dedicated national think tank or SAM coordination platform could play a pivotal role in advancing Somalia's ability to conduct integrated economic modeling and evidence-based policy simulation. This paper lays the foundation for such efforts, positioning itself as an early academic contribution to the long-term goal of institutionalizing SAM development in Somalia.

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