

# Agricultural Growth and Performance in Nepal: Assessing Trends and Signals for Policy Reforms

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## Abstract

**Purpose:** Despite its crucial role in poverty reduction, the agricultural sector in Nepal has exhibited lagging performance by large within the context of the broader economy over the past decades. Agricultural growth, at 2.2%, was nearly half of the national economy's growth rate of 4.0%. Additionally, the contribution of agriculture to the overall economy has decreased from 33.4% in 2010 to 24.2% in 2022. This decline is mainly attributed to factors such as low crop productivity, limited diversification, a substantial increase in production costs, and the influx of low-cost subsidized foods from abroad, particularly India and China.

**Methods:** The research employed a mixed-method approach, integrating both quantitative data from secondary sources and qualitative insights through case studies and literature reviews. The study began with a desk review of agricultural performance trends over the past decade, followed by week-long qualitative case studies in three rural municipalities in western Nepal. These case studies involved fieldwork, semi-structured interviews (SSIs), focus group discussions (FGDs), and observations with various stakeholders, totaling 196 respondents using snowball sampling.

The study also analyzed Nepal's agricultural policies using the Political Economy and Policy Analysis (PEPA) framework. This framework was used to examine the political and economic factors affecting agricultural outcomes. Quantitative data on various agricultural indicators, such as Gross Domestic Product (GDP) growth, agricultural productivity, and trade, were collected from multiple sources, covering the period from 2013 to 2022. The integrated methods aimed to provide a comprehensive understanding of Nepal's agricultural landscape by combining macro-level policy analysis with grassroots-level insights.

**Results:** A significant disparity was observed between policy provisions in the agriculture sector and the actual implementation of its services. Despite having a strong Agricultural Development Strategy's (ADS) emphasis on fostering self-reliance, sustainability, competitiveness, and inclusivity, we found that agricultural extension programs, constituting 70% of public agriculture expenditure, predominantly focused on subsidies. These programs seemed more aligned with welfare initiatives than a strategic approach. Further analysis of government programs at federal, provincial, and local levels revealed that over 60% of subsidies were directed toward purchasing costly inputs (chemical fertilizers, farm machinery, equipment, hybrid seeds, and agrochemicals) from neighboring countries, contributing to a widening trade imbalance. Findings also revealed that extension programs disproportionately favored elite groups, distorting market prices and adversely affecting women, marginalized communities, and resource-poor farmers. A comprehensive FGD involving 196 participants indicated that only 7.7% had access to government subsidies and services, with over 70% of the subsidies focusing on private and personal capital development. Findings also uncovered a troubling trend of diminishing investments in the agricultural sector. The average agriculture budget allocation of 2.9% over the last 13 years signals a significant lack of both political and fiscal commitment to fostering the growth and development of the agriculture sector.

**Conclusion:** These insights emphasize the evolving landscape of budgetary priorities, underscoring the urgent need for strategic interventions to rejuvenate support for this crucial agricultural domain.

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**Keywords:** Agricultural policies, Agricultural subsidies, Growth and performance, Marginalization, Public goods

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## 1 Introduction

The agricultural sector serves as a cornerstone in Nepal's economic landscape, has been playing a pivotal role in ensuring food security, livelihoods, and overall economic development. According to the latest National Sample Census of Agriculture (2021/22), agricultural households constitute 62 percent of the total households contributing 24.2% to the national gross domestic product (GDP) (Nepal Rashtira Bank, 2023). Despite a

significant decline in the sector's contribution to the GDP, dropping from 36% in 2000 to 24.2% in 2022 (Nepal Rashtra Bank, 2023), the role of agriculture remains crucial as the primary driver for fostering inclusive, broad-based, and sustainable economic growth and ensuring food security. The Census highlights a significant increase in the number of families engaged in farming over the past decade (2011/12 to 2021/22). Census data indicates that the number of families participating in agriculture has grown to 4.13 million, up from 3.36 million in FY 2011/12. Despite the growing number of farm families, there has been a decrease in arable land though. The data indicates a reduction in the average size of agricultural land holdings, dropping from 0.68 hectares to 0.55 hectares over the past decade. This trend signals the country's urgent need to enhance both production and productivity, prompting the necessity for reforms in the agriculture and food systems.

The findings of the previous studies have highlighted troubling scenarios for Nepal's agriculture and food systems. There is a growing alarm over the escalation of Nepal's food imports, with recent reports indicating a substantial 65% increase in the imports of crucial agricultural products from 2015 to 2020. This not only underscores a trend of increasing dependency but also raises significant questions about the sustainability of the agricultural sector in the country—a potential threat to national security and sovereignty (Adhikari et al., 2021). Likewise, Adhikari et al. (2020) illustrated a significant surge in the export-import ratio of fresh vegetables, increasing by 6.43 times from 2009/10 to 2018/19. Despite sluggish economic growth, demand in Nepal remained robust in the last decade. This reliance can be attributed primarily to remittances earned by migrant workers (Ghimire, 2016), rapid urbanization, and shifts in dietary patterns influenced by the supply of cereals such as wheat from industrialized countries to food-importing developing nations (Hoering, 2013: p5).

The Government of Nepal (GoN) views agriculture modernization and commercialization as key strategies for poverty reduction and economic growth (SF, 2011; G.C. & Hall, 2020). To enhance agricultural production and productivity through commercialization, the Government of Nepal (GoN) has implemented various policies and programs, including the 20-year Agriculture Perspective Plan (APP, 1995/96–2014/15) and the Agricultural Development Strategy (2015–2035). The Agricultural Development Strategy (ADS) is considered pivotal in transitioning the agriculture sector from subsistence to commercialization (Khanal et al., 2020). In support of ADS, the GoN has been also implementing the Prime Minister Agriculture Modernization Project (PMAMP) to boost agricultural productivity and industrialization.

Critics of these Green Revolution-based policies argue that Nepal's agricultural strategies have primarily focused on increasing per capita yield and volume rather than emphasizing the production of high-quality and environmentally friendly outputs. Additionally, there is a perceived inadequacy in sustained government support in crucial areas such as credit, irrigation, price support, subsidies, agricultural extension, and, notably, the establishment of a competitive market failing to address the barriers and constraints faced by the small farmers (Adhikari et.al, 2021 and John & Babu, 2021). Such types of policies that promoted the intensive use of industrial inputs such as chemical fertilizers, irrigation, and improved crop varieties have not only polluted soil, water, and the environment causing environmental degradation but also affected human beings and animals (Deshar, 2013) and the shift of traditional agriculture have broken down of the agroecological linkage started in the green revolution agriculture (Parajuli et.al., 2020). The overall performance of the agriculture sector in Nepal is characterized by slow and steady growth, with the Food and Agriculture Organization (FAO, 2021) classifying Nepal as a lagging country in Asia concerning agricultural development and growth.

In the context outlined above, research was done with the main objective of delving into the comprehensive analysis of the trends and signals governing agricultural growth and performance in Nepal. By synthesizing a nuanced understanding of the trends and signals, this research also focuses on illustrating critical insights that can inform and shape the policy trajectory to foster inclusivity, sustainability, and innovation within the food and agriculture systems of Nepal.

## 2 Materials and methods

This study employed a robust research methodology that encompasses both quantitative data derived from secondary sources, and qualitative assessments through case studies, complemented by an extensive review of pertinent literature. A comprehensive desk review was done to analyze agricultural performance trends over the past decade, synthesizing relevant literature and data sources to establish a foundational understanding. Subsequently, week-long qualitative case studies were undertaken in Bardagoria (Kailali district), Lek Beshi (Sukhet district), and Suddhodhan Rural Municipalities (Rupandehi district) in western Nepal, involving immersive fieldwork to elucidate insights into local agricultural systems, farmers' perspectives, practices, and community dynamics.

Primary data were collected by the use of the checklist to perform semi-structured interviews (SSIs), Focus Group Discussions (FGDs), and direct observations, engaging with a diverse array of stakeholders such as farmers, traders, millers, municipal leaders, and government officials. A total of 196 respondents were contacted for the FGD, SSIs, and observations using the snowball sampling method.

The major agricultural policies of Nepal underwent comprehensive scrutiny utilizing the Political Economy and Policy Analysis (PEPA) framework, as posited by Mockshell and Resnick (2023). This framework guided a systematic examination and interpretation of the political and economic factors influencing agricultural policies and

outcomes. These integrated research methods were implemented to furnish a multi-dimensional understanding of Nepal's agricultural landscape, amalgamating macro-level policy analyses with on-the-ground insights gleaned from diverse stakeholders.

Time series data spanning the annual GDP growth rate, annual agricultural growth rate, the share of agriculture in GDP, cereal crop productivity, the percentage of the agriculture budget in the total budget, and exports and imports of staple crops were systematically collected. The data sources included the Ministry of Finance's Economic Survey reports, National Sample Census of Agriculture Nepal (2021/22), FAOSTAT, World Bank, the Government of Nepal Redbook, the Ministry of Agriculture and Livestock Development (MoALD), Trade and Export Promotion Centre (TEPC), Ministry of Commerce and Supply, covering a period of 10 years from 2013 to 2022.

### 3 Results

#### 3.1 Agricultural growth and national economic performance in Nepal (2010-2022)

We analyzed key economic indicators, focusing on the annual dynamics of Nepal's Gross Domestic Product (GDP) growth, agricultural growth, and the share of agriculture to the overall GDP from 2010 to 2022. We found that the annual GDP growth rate indicates substantial variations in Nepal's overall economic performance over the specified period. The annual agricultural growth rate unveiled a similar pattern as of growth in the national GDP witnessing fluctuations during the specified period. An analysis of the share of agriculture to GDP emphasized the changing contribution of the agricultural sector to Nepal's overall economic output. Over the observed period, there has been a consistent decline in the share of agriculture to GDP, from 33.4% in 2010 to 24.2% in 2022. Together, these three dimensions painted a nuanced picture of Nepal's economic trajectory, offering policymakers, researchers, and stakeholders a foundation for informed decision-making.

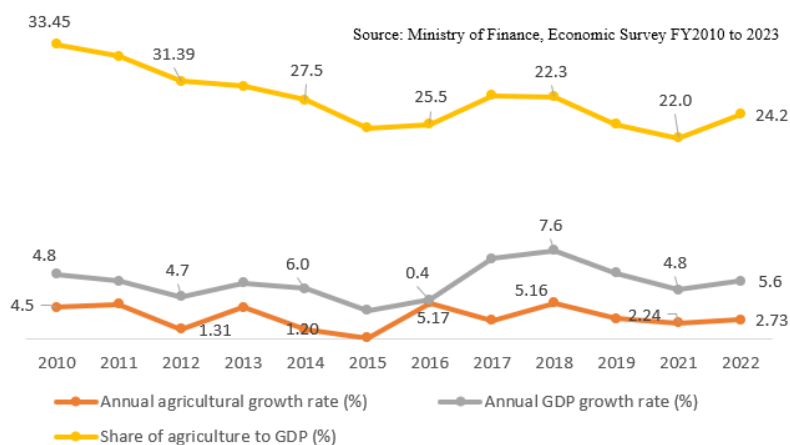


Figure 1: Annual national GDP, agricultural GDP growth rate, and share of agriculture to the national GDP from 2010 to 2022

#### 3.2 Cereal crop productivity trends over the last decade (t /ha)

Fig. 2 presents a comprehensive overview of the annual productivity of staple cereal crops, such as buckwheat, maize, millet, rice, and wheat, measured in tons per hectare (ton/ha). Encompassing the timeframe from 2010 to 2022, the data illustrates a slow and steady growth in crop productivity. However, this growth trajectory appears insufficient to satisfy the diverse and heightened food demand of consumers, leading to an augmented dependence on imports for staple crops.

#### 3.3 Annual export and import trends (2012/13-2022/23)

Fig. 3 outlines the annual export and import values (measured in million USD) for a duration spanning from the fiscal year 2012/13 to 2022/23. The data illustrates the import values increased significantly from 432.03 million USD in 2012/13 to 1,849.52 in 2021/22, compared to the total export values which range from 156.54 USD in 2012/13 to 1,039.42 USD in 2021/22.

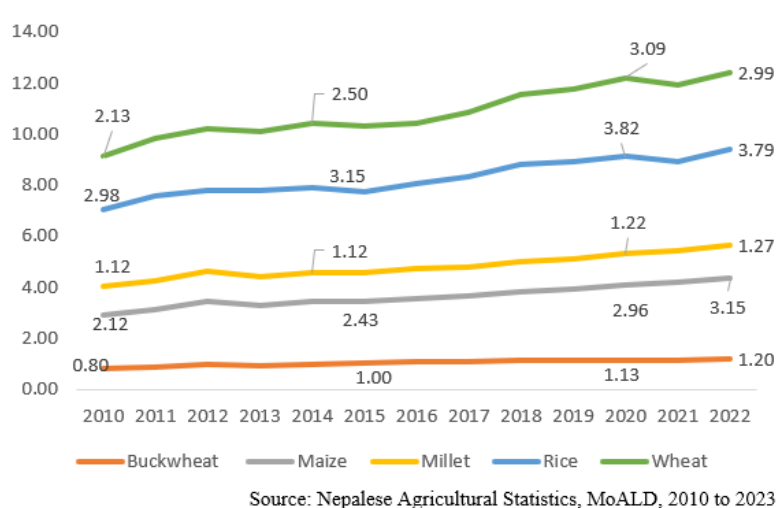


Figure 2: Productivity of cereal crops over the last decade (ton/ha)

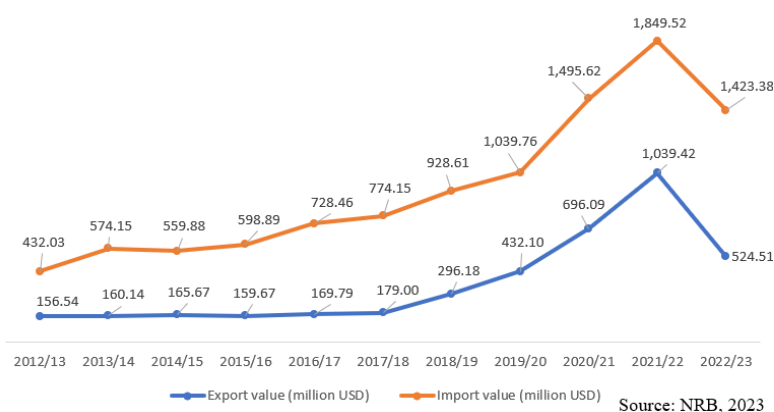


Figure 3: Import- Export Value of Agricultural commodities over the period of ten years (in US\$ 1,000,000)

### 3.4 Trends in budget allocations to agriculture sector within the total Budget (2011/12-2023/24)

The analysis focused on the percentage of the agriculture budget in relation to the total budget across fiscal years spanning from 2011/12 to 2023/24. The data portrays the proportion of financial allocations specifically designated for the agricultural sector within each fiscal year. Significantly, the percentage of the agriculture budget demonstrates discernible variations throughout this period, ranging from 2.3% in 2019/20 to a peak of 4.1% in 2013/14. Moreover, the findings underscore a concerning trend of diverting investments away from the agricultural sector. The average agriculture budget allocation of 2.9% over the last 13 years period.

## 4 Discussion

We observed that, despite agriculture’s immense role in poverty reduction, the sector’s performance has lagged in the economy. Over the past decade, agricultural growth was nearly half (2.2%) of the national economy’s growth rate (4.0%). Additionally, the contribution of agriculture to the overall economy decreased from 33.4 % in 2010 to 24.2 % in 2022. This decline can be attributed to various factors, including low crop productivity, limited diversification, a substantial increase in production costs, and the influx of low-cost subsidized foods from neighboring countries, particularly India and China.

Moreover, a significant disparity emerged between government policy provisions in the agriculture sector and the actual implementation of agricultural services. Despite the Agricultural Development Strategy’s (ADS) emphasis on fostering self-reliance, sustainability, competitiveness, and inclusivity in food and agriculture systems, our key informant interviews (KIIs), semi-structured interviews (SSIs), and focus group discussions (FGDs) during case studies revealed that agricultural extension programs, constituting 70% of the public agriculture expenditure, predominantly focused on subsidies. Field studies indicated that these programs seemed more aligned with welfare initiatives rather than a strategic approach to enhancing productivity and competitiveness.

An analysis of government programs at federal, provincial, and local levels further revealed that over 60% of sub-

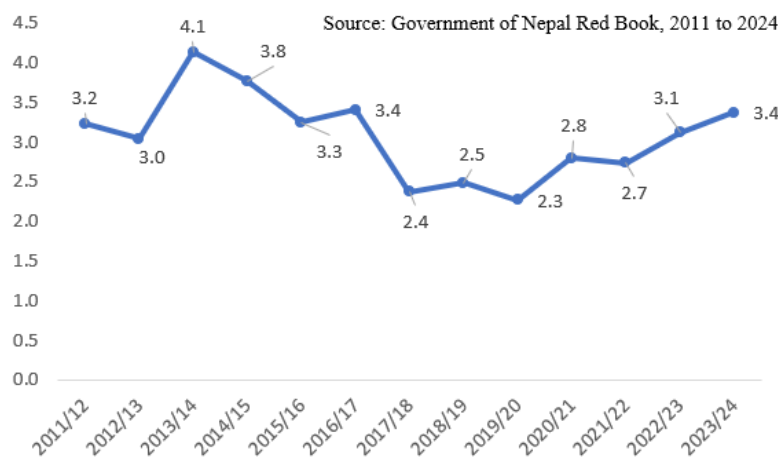


Figure 4: Percentage of annual agriculture budget in the total budget

sidies were directed toward purchasing costly inputs such as seeds, polyhouses, fertilizers, and machinery from neighboring countries. This contributed to a widening trade imbalance in the agriculture sector of Nepal. FGDs with smallholder, landless, youth, and women farmers highlighted that these extension programs disproportionately favored elite groups, distorting market prices and adversely affecting women, marginalized communities, and resource-poor farmers. A comprehensive FGD involving 196 participants indicated that only 7.7% had access to government subsidies and services, with over 70% of the subsidies focusing on private and personal capital development.

Furthermore, our findings uncovered a troubling trend of diminishing investments in the agricultural sector. The average agriculture budget allocation of 2.9% over the last 13 years (Government of Nepal Red Book, 2011 to 2024) signals a significant lack of both political and fiscal commitment to fostering the growth and development of the agriculture sector. These insights shed light on the evolving landscape of budgetary priorities, underscoring the urgent need for strategic interventions to rejuvenate support for this crucial agricultural domain.

## 5 Conclusion

In conclusion, our examination of the agricultural sector's performance over the past decade has revealed a significant disparity between its critical role in poverty reduction and the actual growth within the economy. Despite the acknowledged importance of agriculture, the sector has experienced sluggish growth. The diminishing contribution of agriculture from 33.4% in 2010 to 24.2% in 2022 highlights a troubling trend that demands furthermore attention.

The identified factors contributing to this suboptimal performance include low crop productivity, a lack of diversification, a sharp rise in production costs, and the influx of low-cost subsidized foods from neighboring countries. These challenges underscore the need for targeted interventions and strategic reforms to enhance the productivity and competitiveness of the agriculture sector.

Agricultural extension programs, which constitute a significant portion of public agriculture expenditure, predominantly focus on subsidies rather than strategic initiatives to boost productivity. The misalignment between policy goals and practical implementation has led to a situation where subsidies are often directed towards private and personal capital development, contributing to market distortions and disproportionately benefiting select elite groups.

There is an urgent need for comprehensive reforms in agricultural policies and practices. Investments in the sector must be strategically directed to address the identified challenges and bridge the existing gaps in policy implementation. Achieving sustainable growth in agriculture requires a shift from welfare-oriented subsidies to initiatives that foster inclusivity, competitiveness, and self-reliance, aligning with the goals outlined in the ADS. Lastly, the observed trend of diverting investments away from the agricultural sector, as reflected in the average budget allocation of 2.9% over the last 13 years, calls for immediate attention. This lack of political and fiscal commitment underscores the imperative to reevaluate budgetary priorities, redirecting resources to rejuvenate and support the pivotal agricultural domain. We thought it imperative to advocate for strategic interventions, policy alignment, and increased investments to ensure the sustainable development of Nepal's food and agriculture systems, addressing the challenges and capitalizing on the sector's potential for economic growth and poverty reduction.

## Conflict of interest:

The authors declare that there is no conflict of interest.

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