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ASSESSMENT OF THE AGRICULTURE AND MANUFACTURING SECTOR'S LINKAGES IN ETHIOPIA

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Abstract

Ethiopia is represented as a developing country that is the second most populous in Africa, with recurring poverty, lack of investment, and infant entrepreneurship. These are all constant problems of Ethiopia that require intervention and integration efforts to mobilize the existing resources in the agriculture and manufacturing sector. The objective of this study is to explore the integration of agriculture and manufacturing industries in Ethiopia. Also, to identify challenges that hinder the linkage between these sectors.

This study is a primary analysis of 1,448 light manufacturing sectors, purposively selected from 5 sub-sectors of the manufacturing industries. A cross-sectional mixed approach analysis was conducted using qualitative and quantitative data.

The result indicates that the contribution of agriculture to the sectors in creating employment and income generation for them is not sufficient. Due to the unsuitable implementation of the agriculture-led development industrialization strategy, the linkage to the other sectors of the economy was affected.

Keywords: *agriculture, industrialization, linkages, survey, Ethiopia.*

I. Introduction

In most developing countries, like Ethiopia, the main resources for production are land and the labor force engaged in agricultural activity, which is used at a low level of productivity. Agriculture is the backbone of economic development. The sector is providing products for the export markets, but also the raw inputs to the local manufacturing sector for processing. The expansion of exports of agricultural products is one way of increasing income and foreign exchange earnings. In addition, the sector provides labor force and capital for the non-agricultural sectors.

The Government of Ethiopia has introduced major reform initiatives with its transformative agenda aimed at accelerating growth and reducing poverty (Abrehet, 2020). It was done by assigning an efficient, transparent, accountable, and skilled power in response to the ever-changing needs of

society in the agriculture, industry, and service sectors. In the past 15 years, several policies and strategies have been developed to create enabling environment for the agriculture and industry sectors. It has come a long way in achieving significant progress by increasing employment opportunities and reducing poverty through small-scale farmers and light manufacturing industries.

The government has implemented the most prominent series of economic reform strategies, such as the Agricultural Development Led Industrialization Strategy (1993), Interim Poverty Reduction Strategy Paper (2000), and Sustainable Development and Poverty Reduction Program (2002). Plan for Accelerated and Sustained Development to End Poverty (2005), and Growth and Transformation Plan I (2011) and Plan II 2015/16 (MoUDH, 2012) with an objective to bring fast economic growth through increased agricultural productivity and competitiveness of the industrial sector. These strategies intend, among others, to attain food self-sufficiency at national level by increasing productivity of smallholders through information and technologies, increasing supply of industrial and export crops, and ensuring the rehabilitation and conservation of natural resource with special consideration of various supporting packages and approaches (Lemma, 2000 and Kassa,2003). However, Ethiopian agriculture has been suffering from manpower skills, shortage of capital, reduced market access, lack of market information, outbreaks of animal diseases, animal feed shortage, and declining prices, which affect the productivity of agriculture outputs (Rahmeto, 2008).

In addition, as World Bank's Investment Climate (2015) mentioned (Reference here) that SMEs as the most important foundation and seed for the improvement of manufacturing industries. However, the quality and coverage of infrastructure are low, the inadequacy stems largely from resource and capacity constraints leading to low productivity for most SMEs, and inefficient allocation of resources inhibits their competitiveness. This is a major impediment to the expansion of production for Smallholder industries, and development of export capacity (CBC, 2013).

In recognition of the significant role industry play in the country's economic and social development, the Government of Ethiopia has given much greater attention to industry development which has a strong linkage with agriculture and service industries. The agricultural sector accounts for more than 33% of the GDP, 70% of the annual export earnings, and 67% of the employment (World Bank, 2020). The overall achievement of economic growth of the country highly depended depends on the performance of the agricultural sector characterized by small scale, subsistence-oriented, traditional, and vulnerable to climate shocks. Though the percentage share of the agricultural sector to GDP has been declining, it still plays a significant role in the economic activities of the Ethiopian economy. However, necessitates having a strong linkage with the industrial sector used as a source of input supplies and access to market and job opportunities.

Eshetu and Mammo (2009) argue that "Ethiopia has failed to benefit from the phenomenal growth in agriculture and manufacture industry. This emerges from the fact that the sector lacks appropriate policies to be integrated into the development strategy, and agencies responsible for sector-oriented support services restrain the development and expansion of the sectors. The country has not made significant progress in pulling labor out of agriculture into more productive and industrial jobs. This calls for urgent and systematic research on the integration of agriculture and the manufacturing industry to create a conducive environment and proper implementation of the supports stated in the policies and strategies. This paper focused on the economic integration of SMEs in the manufacturing sub-sector engaged in wood and metal, Textile and Garment, Leather and Leather Product Agro-processing, and Construction Input manufacturing.

Therefore, this study describes the extent, direction, and interaction of the linkage between the agriculture and industry sectors in the study area. It also identifies the main determinants of agriculture and industry linkages in the study area. Backward production linkage occurs when agriculture uses the agricultural inputs, increasing the agricultural productivity of the industry.

Problem Statement

Ethiopia is characterized as an undeveloped country, with chronic poverty, a high population, second in Africa, Lack of investment capital, and infant entrepreneurship are all persistent problems of the country (Elias, 2015). Given this situation, we may not expect there is an integration of agriculture and the light manufacturing industry. Intervention and integration effort is required to mobilize the existing resources interplay in the agriculture and manufacturing sector.

World Bank Group (2015) mentioned that the private sector is expected to play a key role in Ethiopia's journey to become a lower-middle-income country in 2025. However, Ethiopian firms face significant financial constraints because financial institutions do not accommodate rural-urban needs. Addressing the rural-urban challenge, revealed that without adequate support from government and financial institutions, the sectors are not able to grow, or create more job opportunities and economic growth for the country.

As World Bank's Investment Climate (2016) also mentioned that the light manufacturing industry a fundamental foundation and seed for industries that links the urban-rural sectors. However, the quality and coverage of infrastructure are low, and the inadequacy stems largely from resource and capacity constraints leading to most of the low productivity, and inefficient of allocation resource that lacks competitiveness in the international market.

This is a major impediment to the expansion of production, and the development of the export capacity of agriculture and manufacturing industry (CBC, 2013) cited by Abrehet (2020) which emanate from the underdeveloped nature of productive capacity, absorbing skilled labor into the productive sector low (GSTS, 2019). This calls for systematic research in this area. Therefore, the main objective of this study is to assess the interlinkage between agriculture and the light manufacturing industry in Ethiopia Tigray Regional State.

Objectives of the Study

The general objective of this study is to examine the integration of agriculture and manufacturing industries in Ethiopia regarding the critical analysis of the agriculture lead industrialization and manufacturing policies and strategies implemented in Tigray Regional State.

Specific Objectives

1. To Analyze the implementation of the existing policies and strategies of agriculture and manufacturing industry towards the linkage of agriculture and manufacturing industry;
2. To Examine the practice of agriculture and manufacturing linkage in Ethiopia;
3. To identify the factors that hinder the implementation of the policies and strategies to integrate the agriculture and manufacturing industry.

2. Review of related literature

Agriculture and Manufacturing Industry Linkage in Ethiopia

Ethiopia's Gross Domestic Product (GDP) per capita increased from US$129 in 1999/00 to US$ 827 in 2020 (World Bank, 2022). The share of the population living below the national poverty line halved between 1995/96 and 2015/16, from 45.5 percent to 23.5 percent. Disparities in poverty among regions have narrowed, indicating a better balance in regional development. Agricultural and light manufacturing sectors have mutually interdependent relationships between them (Saikia, 2011).

The agricultural sector plays a significant role in Ethiopia through its contribution (33.77% in 2018 and 33.52% in 2019) to the national GDP, (67.9% in 2018 and 67.29% in 2019) for job creation of the labor force, and 70 % of the export receipts (WB, 2020). Whereas manufacturing accounts for 35% of the value-added and 13% of exports, foreign currency inflows through the upstream and downstream links with other sectors' production has affected economic growth (UNDP, 2018). Gardner (2003) showed a positive and significant relationship between the growth of agricultural GDP per worker and national GDP per capita for 52 developing countries. The agricultural sector is the major economic activity that affects and controls other e nomic activities, and it also has a dynamic effect on the manufacturing sector (Kassahun, 2006).

Thus, the economic resources which are allocated to the agricultural sector directly or indirectly help further strengthen the manufacturing industrial sectors. This is applied as a source of input and plays the expected role in economic transformation through agriculture-industry linkage. These could be achieved through enhancing mechanization, land defragmentation, irrigation, diversification, and specialization in the agriculture sector to produce cash crop products and become modern input suppliers to boost the rest of the economy.

These in turn, lead to an increase in income for the farmers, automatically initiating the surplus income to invest in other non-agricultural products such as furniture, home commodities from the light manufacturing industries and even they might settle their past debt to financial sectors, such as designed by industrial policy On the other hand, when the income of farmers is reduced because of shrinkage in agricultural production, some resources, such as labor force, shifts an urban area, and diverts the government to focus on service activities that are related to health care and nutrition. That is why the change in one policy and strategy of the sector will automatically affect the other interrelated sectors' integration. Hence, the policymaker who designs these policies and strategies bears in mind the linkages and direction among other sectors. Whereas the manufacturing industry plays a key role in the process of a nation's economic development. The experience of the developed world revealed that the manufacturing industry significantly increased its productivity and changed the economic structure.

Enabling Business Environment

ADB (2014) mentioned that the Donor Committee for Enterprise Development (DCED) describes the business environment as the complex interplay of policies, laws, and regulations that affect business development in each place and the institutions responsible for their enactment at the international, national, and regional level.

Agriculture is one of the main sectors which required a conductive working climate for small-scale holder, investors, and employees to engage with. A weak legislation, policies, regulations, strategies, and support institutions is limiting the interlinkage among sectors. According to the ILO (2000) identified that institutional frameworks determine the effectiveness and efficiency of business infrastructures such as business development skill, microfinance institutions, marketing, and research development whereas, open and transparent institutional framework enables access of these services to the needy with minimum cost and lower transaction costs (ILO 2002; OECD, 2018).

The Government of Ethiopia has recently adopted a Rural Job Opportunity Creation Strategy laying out a framework for action on youth employment in rural areas. However, interventions, improvements, and innovations of different sectors will require the successful operation of the strategy to improve access to and completion of quality of education and training to improve young people's productivity (WB, 2017). Educational policy is one of the factors that supported agriculture and labor-intensive industrial development through delivering the required skilled labor, especially in vocational, and engineering areas. (UNCTAD, 2017).

Manufacturing industrial growth guided by a strong, proactive developmental state is the key to rapid and successful development. However, due to the high cost and poor reliability of logistics, comparatively low labor productivity, and foreign exchange difficulties, the existing industrial businesses in Ethiopia struggle to make a profit. These issues threaten the long-term viability of existing industries and discourage future investments.

Effect of Export in agriculture and Manufacturing Industry linkage

One of the contributions of export-oriented industrialization is developing the market and product knowledge to promote exports through building ports, roads, and other necessary infrastructure. This enables exporters to have preferential access to capital and foreign exchange and integration into global value chains while creating synergy with interrelated agricultural sectors able to improve their competitiveness, and delivery of near physical presence of raw materials, machinery, and parts, and easy availability of skilled labor (MoIFDRE, 2017). Collaboration between agriculture and industry can be achieved through financial and environmental benefits, sharing utilities, and access to technology.

Kristiansen (2004) tried to clarify that the linkage between agriculture and industry has reduced the transaction costs and risks, allowing access to information, and improving learning and information-sharing possibilities. The government has provided support to create networking among agriculture and industry, helping them to get power through penetrating the global constraints and seek opportunities to gain from the international markets through creating an international partner and joint venture. The creation of these linkages increases domestic value-added and leads to significant contributions to the domestic economy and access to, technologies, technical expertise, market information, and marketing support (Barbin, 2017).

Several studies agree that agriculture and industry linkages play a crucial role in poverty reduction and economic growth through efficient forward and backward linkages that facilitate the integration and productivity of these sectors. The linkages between industry and agricultural products could be categorized as production, marketing, consumption, financing, employment, and the environment. The patterns of linkages could be identified from the occurrence of the movement of

agricultural products to the industry sector and vis versa. It was also supported by the provision of equipment used for the agriculture sector and created job opportunities for urban residents who were engaged in light manufacturing industries. Forward production linkages, on the other hand, involve the processing and distribution of agricultural outputs of the rural business sectors for use by the industrial sectors (Mewael, 2016).

Though there is a wide range of resources in rural areas, the amount of agricultural output processed by industries is insignificant. This indicates there is a weak forward production linkage between agriculture and industry.

The country has a large industrial base (textiles, marble, shoes, flour), which does not have any meaningful direct link with the agricultural production processes in the hinterland. These industrial activities were outward-directed and export-oriented. Hence, their contribution to the job opportunities they created and the market for raw materials for the agricultural sector is insignificant. According to Geiger and Goh (2012), the sectors in Ethiopia can usually control productivity and cost if the policy environment is conducive and enabling enough to adopt good practices. However, they can be affected by public policies related to taxes, tariffs, labor, and capital goods.

Marketing linkage is the other category of linkage manifested when urban residents and traders purchase agricultural produce from rural households. The input to the process of marketing linkage is, therefore, an agricultural product, and the output is the consumption of the product by the industrial sector. It is also manifested when rural firms purchase goods from the manufacturing industry. Usually, it includes the flows of agricultural and industrial goods between urban and rural areas (White, 2005).

Marketing linkage is the main form of rural-urban linkage. Food grains, livestock and livestock products, and merchandise flow between urban and rural areas. However, marketing linkage between agricultural producers and urban consumers is mostly provided through a network of traders or intermediaries. Industrial goods and merchandise, which are imported or domestically manufactured, flow from urban to rural areas. Activities that meet the consumer demand of rural households form the basic chain of consumption linkages. Agriculture and manufacturing industry linkages occur when the agriculture sector creates demand for industrial products. This becomes evident when industrial sectors have the required agricultural outputs in them for interactions to take place between agriculture and industrial sectors since manufacturing industries are the major suppliers of manufactured goods to rural areas. Though it is difficult to capture and document all types and varieties of these goods, the expenditure pattern of major durable and consumable items is treated under this section.

Generally, the creation of agriculture-industry linkages increases domestic value-added and leads to significant contributions to the domestic economy. Agriculture and industry sectors can access inputs, technologies, technical expertise, market information, and marketing support (Barbin, 2017). Aldaba (2008) pointed out that to take advantage of these opportunities, the manufacturing industry must be linked with the global production networks.

The other factor which determines the linkage between agriculture and industry sectors is the capacity of employees to innovate and adopt new technology for the growth and development of the sectors through the appropriate utilization of the machinery and equipment they use. One of the key determining factors of productivity is the ability of an economy to supply the skills needed for business operations to grow and develop. Ethiopia has made significant progress in expanding access

to education in the rural and urban areas, but there is still work to be done. A more literate and trainable labor force would not only increase productivity but also make the country more attractive to international firms seeking to invest in it. The shortages of skilled labor constitute a key constraint to productivity improvement in quality and quantity in the manufacturing sector.

Cristina et al.,2007, study on Manufacturing Innovation in the New Urban Economy, Responses to Globalization, mentioned that training and skills upgrading need to focus on customizing training to target both the core competencies of firms and those skills needed to meet changing business demands. Thus, industry clusters provide a potential solution to solve the shortages of skills, the lack of attraction of new talent, and the challenges of upskilling and deskilling the workforce. Berihun et al. (2014) confirmed that most light manufacturing failed or stagnated because of a lack of skilled manpower to handle new technology to operate the machines expertly properly.

Main challenges in agriculture and Manufacturing linkage in Ethiopia

Agriculture industrial transformation is not merely about increasing the number of manufacturing sectors or the number of employees working in these sectors and/or earning hard currency from manufacturing export industries. Such targets can be achieved through short-term campaigns, sometimes at the expense of other sectors' growth, heavy public subsidies, or by depressing local consumption. To some extent, this is what happened in Ethiopia about 10-15 years ago (GTP-I and II)., this section tries to identify the main constraints that hinder the linkage of the agriculture to the manufacturing sector in Ethiopia based on a review of existing studies and original analysis using different sources of data. The researcher focuses on strategic issues through a questionnaire, key informant interview, and document review in the study area.

3. Methodology

The study used a cross-sectional mixed approach method by using qualitative and quantitative data that were gathered from primary sources. This study is primary data with a population of 1,448 light manufacturing sectors, purposively selected from 5 sub-sectors of the manufacturing industries. For this study, 123 light manufacturers were selected through a proportional stratified sampling method. This was conducted by taking the number of target groups(strata) who engage in textile, metal, agro-processing, construction, and chemical production. For interview purposes, 15 leaders, experts, and stakeholders were selected purposively.

The researcher used both questionnaires for quantitative data and semi-structured interview questions for qualitative data. Besides, international, regional, national, and investment policies, strategic national industrial development plans, ILO reports, and WB data are relevant data to examine agriculture growth and employment situation.

Moreover, secondary sources including those relevant published research findings and literature, which were used as both conceptual foundation and empirical data, were deliberately consulted.

The data collected from primary sources and non-participatory observations were recorded, edited, organized, analyzed, interpreted, and presented with research questions. The quantitative data were analyzed using descriptive statistical tools SPSS version 25.

4. Results and Discussion

There is a significant difference among mean score indicators of the implementation of agriculture and manufacturing industries sector policies and strategies (Table1). The policies and strategies promote entrepreneur and human capital, strategies to enhance the productivity of the sectors and the policies are offered utmost attention to the agriculture sector. The data depict that the mean value of ($\overline{x}$ = 2.81, $\overline{x}$ = 2.84, $\overline{x}$ = 2.79, $\overline{x}$ =2.95, and $\overline{x}$ =2.98) respectively low because all the items have scored below the average mean ($\overline{x}$ =3.02). Moreover, the majority 46.7% of the respondents agreed that the strategies do not promote entrepreneur and human capital, 50.9% productivity of, sector and 51.9% as well as offer utmost attention the n to agriculture sector rather priority is given to manufacturing, and foreign direct investment.

Table 1. Related policies and Strategies and Enabling environment

		Strongly disagree	Disagree	Undecided	Agree	Strongly agree	Mean
Are the policies and strategies of agriculture and industry of the country applicable to integrating agriculture and manufacturing sector	**Count**	16	16	24	40	27	3.37
	Row, %	13.0	13.0	19.5	32.5	22.0	
Are the policies and strategies flexible and ready to amend	**Count**	19	15	25	44	20	3.25
	Row, %	15.4	12.2	20.3	35.8	16.3	
The policies and strategies were design based on the sectors context	**Count**	13	29	28	34	18	3.12
	Row, %	10.7	23.8	23.0	27.9	14.8	
The policy contributes to the living hood improvement of the sectors employees	**Count**	18	30	25	36	12	2.95
	Row, %	14.9	24.8	20.7	29.8	9.9	
Financial policy of the country affects the operating activities of the sector	**Count**	11	29	32	30	19	3.14
	Row, %	9.1	24.9	26.4	24.8	15.7	
Strategies of agriculture and manufacturing were favor the linkage of the sectors	**Count**	9	35	38	27	12	2.98
	Row, %	7.4	28.9	31.4	22.3	9.9	
Strategies promote productivity of the sectors	**Count**	15	42	29	23	13	2.81
	Row, %	12.3	34.4	23.8	18.9	10.7	
Strategies promote entrepreneur and human capital development	**Count**	13	49	19	26	15	2.84
	Row, %	10.7	40.2	15.6	21.3	12.3	
The policies are offer utmost attention of the agriculture sector to provide sufficient input to manufacture industry	**Count**	11	45	22	16	14	2.79
	Row, %	10.2	41.7	20.4	14.8	13.0	

Source: *Own computation*

In the interview, the leaders were asked whether the strategy applied to the agriculture and light manufacturing industry or not. They said that these policies and strategies are important to get out of

poverty if it is implemented properly. But it lacks proper implementation because of different reasons (lack of scientific knowledge and skills to understand the policies and strategies commitment of the leaders), especially at the low-level position and experts to support and coordinate sector activities. The linkage of agriculture strategy with other sectors is very poor even though the interest of the government is very high due to the lack of action of government officials and less effort by implementers hence, this time sectors are not protected from the new trade agreement signed by Ethiopia because they are not competing in the international market due to lake of resources and technology. These require the government's adequate support to the sectors.

The sector's competitiveness can be enhanced with strategies including proximity to resources and suppliers, shared infrastructure, and knowledge exchange between them (UN, 2012), as shown in Table 2, there is a statistically significant difference among the mean score of competitiveness factors. Except for the availability of skilled manpower in the manufacturing sector ($\overline{x}$ =3.19), and available cheap manpower ($\overline{x}$ =3.45) in sectors that have produced domestic demand for products ($\overline{x}$ =2.95), all the results are below the average mean ($\overline{x}$ =2.8).

Table 2. Effect of agriculture - Manufacture Industry linkage to Competitiveness of the Sector

		Strongly disagree	Disagree	Undecided	Agree	Strongly agree	Mean
Available of skilled manpower	**Count**	11	20	34	47	9	3.19
	Row, %	9.1	16.5	28.1	38.8	7.4	
Available of cheap manpower	**Count**	7	12	36	53	14	3.45
	Row, %	5.7	9.8	29.5	43.4	11.5	
Available of infrastructure	**Count**	16	39	33	29	5	2.74
	Row, %	13.1	32.0	27.0	23.8	4.1	
SMEs have produced demand for products	**Count**	11	39	25	39	8	2.95
	Row, %	9.0	32.0	20.5	32.0	6.6	
SMEs have produced external demand of product	**Count**	18	49	29	20	6	2.57
	Row, %	14.8	40.2	23.8	16.4	4.9	
SMEs have capability to produce high quality product	**Count**	21	51	19	25	6	2.54
	Row, %	17.2	41.8	15.6	20.5	4.9	
SMEs have competitive strategy to compete in the market	**Count**	21	47	22	27	5	2.57
	Row, %	17.2	38.5	18.0	22.1	4.1	
Government incentives (tax reduction subsidy and training of SMEs)	**Count**	19	45	19	26	11	2.71
	Row, %	15.8	37.5	15.8	21.7	9.2	
Availability of quantity and quality of raw material/input	**Count**	24	40	21	25	12	2.68
	Row, %	19.7	32.8	17.2	20.5	9.8	

Source: *Own computation*

In addition, the respondents are indifferent between disagreeing and undecided on the rest of the indicators explained in the above table. Countries like Ethiopia, available cheap and skilled labor for the sectors is obvious. The sectors cannot absorb the available workforces in the sector but pay minimum labor cost to increase productivity. On the other hand, the sectors were not produced a quality material compete in the international market due to lack of competitive strategies, quality and quantity inputs and the government motivation at large. The respondents also disagreeing with 45%, availability of infrastructure, 41% of the sectors have produced domestic demand of products, 55% produced external demand of product, 59% can produce a high-quality product, 55.7% of them have competitive strategy to compete in the market, 53.3% government incentives (tax redaction subsidy and training), and 52.5% availability of quantity and quality of raw material/input. Whereas 46.2% and 54.9% of the respondents were agreeing that the availability of skilled manpower and availability of cheap manpower.

Agricultural and manufacturing development agency helps light manufacturing employees and rural development experts to get out of dependence and create a link themselves with the local and national market. However, the respondent said that the sectors were always dependent on the government to arrange markets and promote their product and prepare business cards and promote themselves and create a link with local and international markets. They are limited in the local market. This implies a lack of market assessment based on study knowing demanded products by the local and international markets. Moreover, the gap in technology transfer, capital, market linkage exposure to foreign markets, and management system since they used family employees. Further, unwillingness to take risks of producing quality products and fear of increasing cost of production, and a lack of internationalization outlook.

Table 3. Networking and interconnecting between agriculture and manufacturing

Responses from interviewees		**Strongly disagree**	**Disagree**	**Undecided**	**Agree**	**Strongly agree**	**Mean**
Have good relationship	**Count**	13	41	21	17	3	2.78
	Valid N, (%)	13.7	43.2	22.1	17.9	3.2	
Provision of resources to others	**Count**	11	44	22	14	3	2.67
	Valid N, (%)	11.7	46.8	23.4	14.9	3.2	
Experience sharing to others	**Count**	8	42	22	17	6	2.70
	Valid N, (%)	8.4	44.2	23.2	17.9	6.3	
Transfer of knowledge, capital, and human resources	**Count**	11	48	21	12	4	2.48
	Valid N, (%)	11.5	50	21.9	12.5	4.2	

Source: *Own computation*

Transferring and efficient utilization of the production factors important agriculture and manufacturing integration to create strong networking between them to solve the common problems faced in the international market. The statistical description of having a good relationship among SMEs, experience sharing among SMEs, transfer of knowledge human power, and capital among

SMEs depicts that the mean ($\overline{x}$ = 2.54, $\overline{x}$ = 2.69 and $\overline{x}$ = 2.48 respectively). The data have shown that there is no statistically significant difference among the mean ($\overline{x}$ =2.65).

The data have shown that there is almost no statistically significant difference in the mean score of networks among actors, but the transfer of production factors (knowledge, capital, and human resources) depicts the mean below the average of 2.66. the majority (56.9%) of the respondents agreed that there is no strong relationship between the sectors sharing human and capital and experience sharing. This implies the attitude of growing together and coming together. Furthermore, a lack of awareness about the benefits through production networks, information exchange, and value chain with large enterprises and between the sectors helps for effective deployment of technology, business development services, and collaboration with other firms.

Most have limited experience creating networking and solving common problems by adopting knowledge capacity and technical skills. Networking with agriculture input suppliers, and industrial parks is also limited. Getting appropriate information regarding product marketing, raw material sources, technologies, and product designing are critical for the competitiveness and success of the manufacturing sector.

Table 4. The challenges of agriculture-industry linkage

		Strongly disagree	Disagree	Undecided	Agree	Strongly agree	Mean
There is adequate support service of training provision	**Count**	23	31	22	25	21	2.92
	Valid N, (%)	18.9	25.4	18.0	20.5	17.2	
There is adequate support service of workplace provision	**Count**	26	33	30	20	12	2.66
	Valid N, (%)	21.5	27.3	24.8	16.5	9.9	
There is adequate support service in credit /finance provision	**Count**	25	46	25	17	8	2.48
	Valid N, (%)	20.6	38.0	20.7	14.0	6.6	
There is adequate support in creating market linkage	**Count**	26	49	21	18	8	2.45
	Valid N, (%)	21.3	40.2	17.2	14.8	6.6	
SMEs have got all service at one stop service center	**Count**	23	45	29	16	9	2.53
	Valid N, (%)	18.9	36.9	23.8	13.1	7.4	
There is adequate support service in technology provision	**Count**	24	46	27	21	3	2.45
	Valid N, (%)	19.8	38.0	22.3	17.4	2.5	
Committed of support SMEs	**Count**	26	40	27	19	10	2.57
	Valid N, (%)	21.3	32.8	22.1	15.6	8.2	
Procurement of capital goods are easy	**Count**	28	44	18	24	8	2.51
	Valid N, (%)	23.0	36.1	14.8	19.7	6.6	
Easily to access information about market	**Count**	31	39	25	22	5	2.43
	Valid N, (%)	25.4	32.0	20.5	18.0	4.1	
Easily acquisition of land or rent	**Count**	29	40	26	22	2	2.39
	Valid N, (%)	24.4	33.6	21.8	18.5	1.7	

Source: *Own computation*

There is no significant difference in the mean score of the indicators listed. The Challenges faced by the sectors indicators. Their mean depicts that the respondents are indifferent between disagreeing and undecided on those issues listed as an indicator. Respondents were agreed that adequate support services provide by the workplace, access to facilitate credit, technology transfer, procurement of capital goods, easy access to information about the market, and acquisition of land /rent are the main challenge for the sectors to have a strong linkage. The result from the interviews was approved that the above-stated problems have been influencing the daily to day operations. This implies they are working in a difficult situation due to a lack of commitment and weak support of the leaders and experts to mobilize and coordinate different stakeholders engage directly or indirectly in agriculture and manufacturing industry 'activities. Evidence shows that most of the light manufacturing and small-scale farmers take credit from informal institutions (local finance associations).

Conclusion

The Government of Ethiopia has given much greater attention to industry development which has a strong linkage with the agriculture and service industries. However, the result shows that though the government designed various strategies and initiation to support the sectors, the government cannot create enabling environment for implementors to strengthen back and forward agriculture-industry linkage. As a result, low productivity due to poor quality input and skilled human power, weak relationships with outside suppliers, and lack of foreign currency manifested in the sector. This calls for the government to design a policy and strategy based on the current situation of the existing resource. The market linkage shown above in the data was limited in the local market due to a lack of technology transfer of technology information asymmetry in the sectors.

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Efiopiyada kənd təsərrüfatı ilə emal sektoru arasında qarşılıqlı əlaqənin qiymətləndirilməsi

Xülasə

Tədqiqatın məqsədi Efiopiyada kənd təsərrüfatı ilə emal sektoru arasında qarşılıqlı əlaqənin qiymətləndirilməsi və bu əlaqəni əngəlləyən problemlərin müəyyənləşdirilməsidir.

Tədqiqatın nəticələri göstərir ki, kənd təsərrüfatının digər sahələrdə iş yerlərinin açılmasına və gəlirin yaradılmasına töhfəsi kifayət deyil. Kənd təsərrüfatının inkişafına yönəlik sənayeləşmə lazımi şəkildə həyata keçirilməmiş və aqrar sektorun inkişafına töhfə verməmişdir.

Bundan əlavə, kənd təsərrüfatı sektorunun ÜDM-də payı get-gedə azalır.

Açar sözlər: *kənd təsərrüfatı, sənayeləşmə, əlaqə, problemlər, sorğu, Efiopiya.*

Абрехет Мехари
Преподаватель Эфиопского университета государственной службы

Оценка взаимосвязей сельского хозяйства и обрабатывающего сектора в Эфиопии

Резюме

Цель этого исследования - оценить взаимосвязь между сельским хозяйством и обрабатывающей промышленностью в Эфиопии и выявить проблемы, препятствующие взаимосвязи между сельским хозяйством и обрабатывающей промышленностью.

Результат указывает на то, что вклад сельского хозяйства в создание рабочих мест и получение доходов в других секторах недостаточен. Индустриализация, направленная на развитие сельского хозяйства, не была осуществлена должным образом и не способствовала развитию сельскохозяйственного сектора, что влияет на его связи с остальными секторами экономики. Кроме того, доля сельскохозяйственного сектора в ВВП со временем демонстрирует тенденцию к снижению.

Ключевые слова: *сельское хозяйство, индустриализация, связь, проблемы, опрос, Эфиопия.*