

STIPRO Policy Brief



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DISTANT NEIGHBOURS 3

Impact of Foreign Direct Investment (FDI) on Local Technological Capabilities in the Agriculture Sector in Tanzania.

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Introduction

Agriculture is the backbone of the Tanzanian national economy. It accounts for 26% of the gross domestic product (GDP) and provides employment opportunities to about 80% of Tanzanians. The agricultural sector has considerable potential for wealth creation and poverty reduction in the country, but it is dominated by low productivity smallholder farms. Large scale farming occupies only about 15% of the cultivated land or 3.4% of the cultivable area¹. The latest initiative to revive the agricultural sector is the “Kilimo Kwanza” agricultural strategy. The strategy encourages investments, and one of its ten pillars is effective use of science and technology to increase agricultural productivity. Foreign Direct Investment (FDI), through Multi-National Enterprises (MNEs) can help build and develop technological capabilities of local farmers as they have

¹ URT (2011). The Economic Survey 2010. Kiuta, Dar es Salaam: Ministry of Finance

The Science, Technology and Innovation Policy Research Organisation (STIPRO) (formerly ATPS-Tanzania) is an NGO engaged in independent policy research in science, technology and innovation (STI) in Tanzania with a view to contributing to the resolution of contemporary issues in STI for the purpose of informing STI policies in the country. Under the current organizational structure STIPRO acts as a think tank for the network of other individuals and organisations interested in STI policy issues in the country.

In 2010–2011, STIPRO, by then, ATPS-Tanzania carried out a study on The Impact of Foreign Direct Investment (FDI) on Local Technological Capabilities in the Agricultural Sector in Tanzania. The study involved small scale indigenous farmers located near large scale MNE plantations:

- a) 60 small scale coffee farmers were randomly selected from Kibosho in Moshi Rural District
- b) 50 small scale sugar cane farmers were randomly selected from Kilombero in Morogoro region

elsewhere been found to be key in local technological capability building. Although FDI inflows into agriculture have recently been increasing in Tanzania, very little is known about their impact on local technological capabilities. This study was therefore a modest attempt to bridge this knowledge gap. Specifically, it sought to answer the following questions:

- What is the level of linkage between FDI and local farmers?
- To what extent is FDI contributing to technological capabilities of local farmers?
- What are the policy steps needed to ensure that FDI gives the maximum benefit to Tanzania's technological development in agricultural sector?

How FDI can contribute to local technological capability building

FDI may benefit the host country through several channels that include vertical and horizontal linkages.

a) Vertical linkages include forward and backward linkages. While forward linkages refer to relations with buyers, backward linkages are relations with suppliers of parts, components, materials and services. The effect of such linkages on local farmers depends on the quantity and quality of inputs supplied and the willingness of FDI to transfer knowledge and build a long-term relationship with them. FDI can also help to raise productivity through providing technical assistance and information to improve quality or facilitating innovations or assisting in purchasing inputs and intermediary goods, setting up production facilities and diversifying.

b) Horizontal linkages refer to the diffusion of technology through demonstration or competition. This occurs when local farmers see the superior technology of the FDI and either update their own², or imitate the new technologies used by the FDI.

However, the positive impact of FDI is not automatic and depends largely on the motives for FDI, in-depth knowledge of local conditions and appropriate policies to enhance the positive impacts.

² Saggi K, (2000). 'Trade, foreign direct investment, and international technology transfer: A Survey'. World Bank Working Paper Series in International Economics, No. 2349

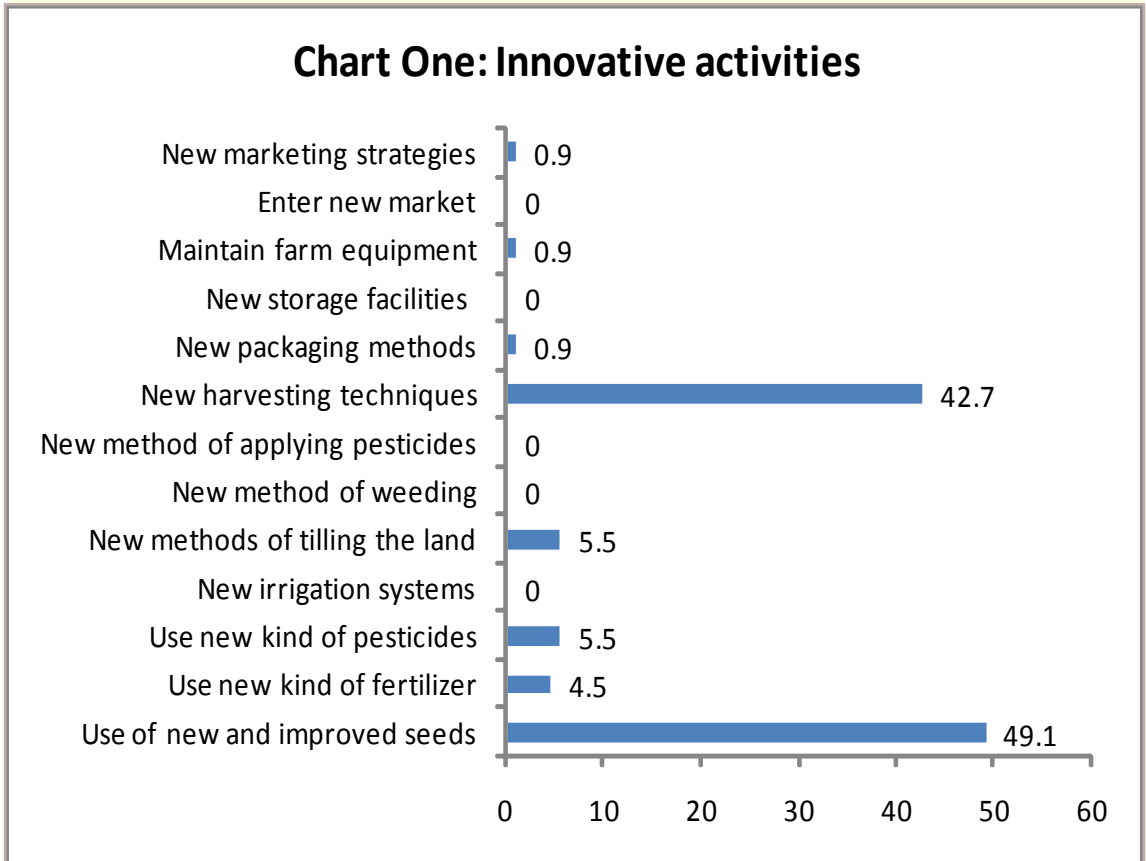


Characteristics of farmers interviewed

- a) Farmers interviewed were heads of household: 72.7% were men and 27.3% were women
- b) 73% had primary education and 20% had secondary education. Only 2.7% had any college education
- c) The vast majority (72%) had small farms, of 1-5 acres. 16.4% had 6-10 acres. Only 13% had more than 10 acres. On average farmers in Kibosho had smaller farms than those in Kilombero.

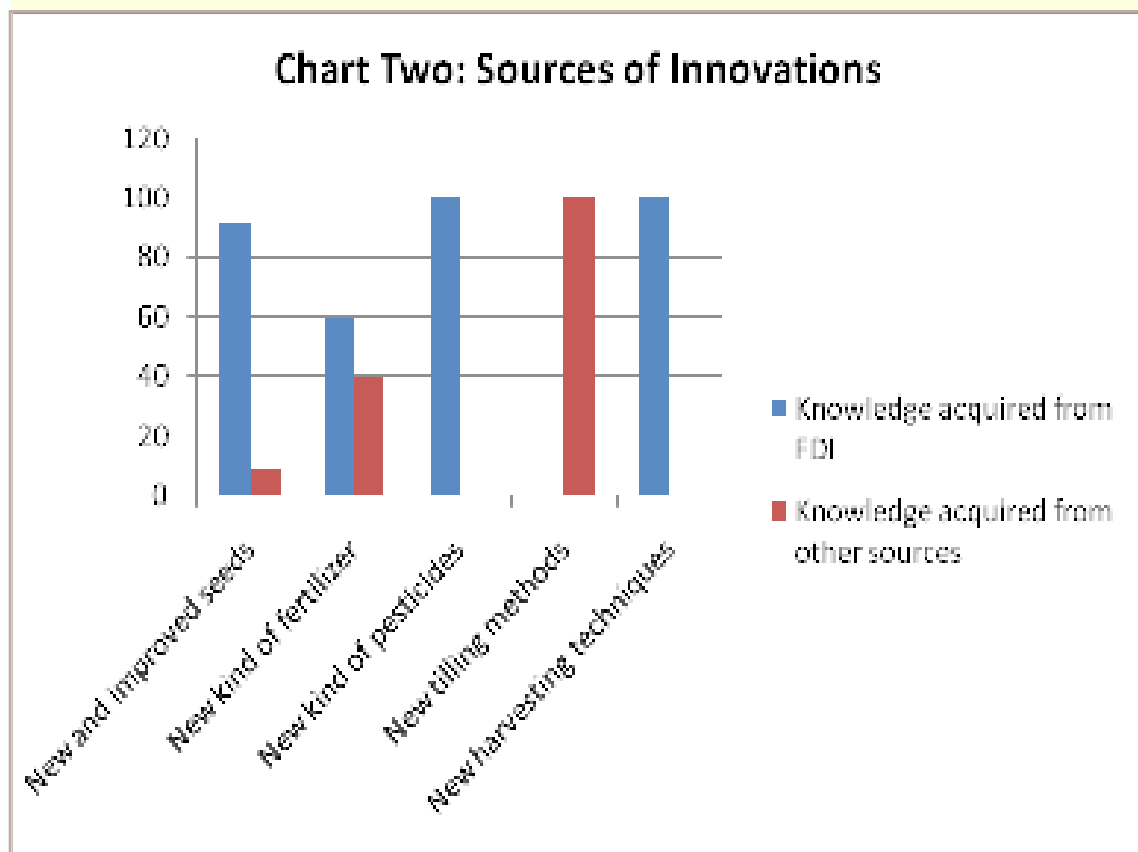
Major Findings

One: Local farmers are innovating



Farmers were involved in 8 out of the 13 possible innovative activities. The most common innovation is in the use of new and improved seeds (49.1%) followed by the introduction of new harvesting techniques and procedures (42.7%). A few also apply new methods of tilling and new pesticides and fertilisers (less than 10%) and all the other activities were hardly implemented at all.

Two: FDI was the source of most innovations



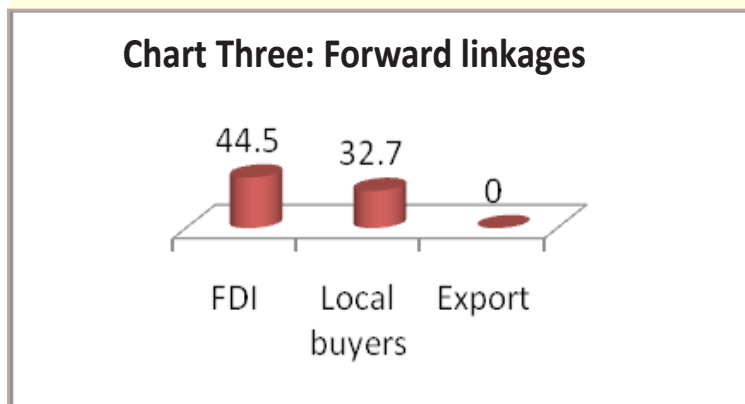
With the exception of new tilling methods, FDI was the primary source of innovation, in particular in relation to inputs such as seeds, fertilizer and pesticides.

Three: Backward linkages (suppliers) had minimal effect on innovation

About 29.1% of farmers had backward linkages with local supply companies. However, the greatest linkage (71.8%) was noted to exist between the farmers and farmers' associations. Thus, while FDI provided farmers with the knowledge about seeds, fertiliser and pesticides, farmers' associations provided the farmers with substantial factor inputs. 87.5% of respondents said that suppliers did not influence their innovations at all. This is because, typically, the immediate suppliers of such inputs as seeds, fertilizers, pesticides and small farm equipment like hoes and spraying machines are agro-dealers who operate small shops in rural and urban centres and some medium agro-vet shops in urban centres. These normally do not impart any kind of knowledge to farmers – the relationships are purely commercial.

Four: Forward linkages (buyers, including FDI) had a significant effect on innovation

Farmers seem to have more forward linkage with FDI (44.5%) than local buyers (32.7%). This is largely due to the fact that in Kilombero, the FDI, the Illovo Sugar Company is the only processor of sugar cane. No farmer was exporting outputs. This is natural given the scale of operation of these farms, which was relatively too small to warrant a venture into the export market. Coffee was exported by companies that bought coffee either direct from the farmers or indirectly via the Moshi coffee auction.



Although half the respondents were of the opinion that buyers did not influence their innovations at all, the other half felt that buyers had substantial influence, especially in regard to harvesting techniques which was the area where the FDI had the most influence on knowledge also (see Chart Two). Some local sugar cane farmers also got improved seed from the FDI.

Five: Innovation and collaboration with other actors

The majority of farmers (76.4%) worked most closely with other farmers in implementing their innovations. Otherwise, the next most mentioned actors were crop associations, financial institutions, and to a lesser extent, extension services and FDI. Both the Kilombero sugarcane farmers and the Kibosho coffee farmers mentioned that they worked on the FDI plantations where they acquired some advanced skills and techniques. In Kilombero they also mentioned that some were employed in the sugar processing factory and the FDI had provided some health and education facilities.

Suppliers of equipment and other inputs were also seen as a channel for knowledge exchange by some farmers because they not only supply farm equipment but also

give instructions on how to use them. Thus, 8.2% said they learned from suppliers.

Only 5.5% farmers had had any collaboration with research centres and only 11% said that research institutes helped them to innovate. This is very unfortunate because it is precisely these centres that can help farmers develop new ideas, processes and products, and improve further collaboration with FDI. Kilombero farmers complained that they lacked knowledge and skills to improve the content of their sugar in the cane and that experts from research organizations and universities were not available to help them.

Constraints to Linkage and Collaboration between FDI and Local Farmers

In the two areas of the study, several constraints that hindered linkages were noted.

Coffee farmers in Kibosho

The major constraint was the bad relationship – actual or perceived – between the small scale indigenous farmers and the FDI owning the plantation. The farmers identified several factors that created the bad relationship.

Poor communication

- Local farmers do not know the terms of the contract between the government and the FDI.
- Language barriers have also prevented communication between the farmers and the FDI whose staff do not know Kiswahili.

Access to resources

- The FDI have diverted much of the water upon which the local farmers depended for irrigation to their plantations. They were not interested in collaborating with local farmers to develop their traditional irrigation system.
- The local farmers used to cut grass for their animals and fetch firewood from the plantation before it was privatized. They also used to plant vegetables and beans within the coffee plantations. But after the plantation was taken over by the FDI, all these practices are no longer allowed.

FDI need to work harder to create an enabling environment for cooperation and technological development

Mistreatment

- Villagers are harassed by FDI when they pass through the plantation and accused of being thieves.
- Workers in the plantation are not provided with protective gears like masks and hence pesticides affect their health.

Sugarcane Farmers in Kilombero

The constraints identified by Kilombero sugar cane farmers were similar in many ways:

Poor communication

- Lack of understanding of business contracts relating to contract farming and out-growers' schemes
- Language barrier as the FDI management do not speak Kiswahili
- Lack of sufficient and appropriate representation of union leaders in various forums in the factory and plantation

This was partly caused by the low education level (mostly primary school education) of the majority of the local farmers as well as a lack of collaboration skills and courage to take the initiative on the part of both local farmers and foreign investors.

Inadequate support to local farmers

- Delays in buying the crops
- Delays in payment and low payments
- Lack of transparency of the FDI. Farmers claimed that the FDI is cheating them on sucrose level and cane weighting

Policy implications and recommendations

As shown by the above findings, FDI has the potential to contribute to technological capability building of local farmers, but the tense relations between FDI agricultural enterprises and local farmers is constraining this potential. The first issue that needs to be addressed is therefore the overall relationship between agricultural FDI and local farmers. A situation of distrust and perceived mistreatment seriously impedes the development of technological capabilities of local farmers. Thus, a number of policy implications arise from the study findings.

1. The government and other stakeholders should find a way of ensuring harmony between local farmers and foreign investors. This is the sine qua non for improved relations between foreign investors and local farmers and therefore improved linkages and spillovers of knowledge from FDI to farmers. Such harmony must be based on transparent contracts between government and investors and improved communication based on participation of local actors.

2. There is a need to encourage collaboration and linkages between farmers and other actors that go beyond selling of inputs and buying of products. In particular more emphasis should be placed on improved equipment and marketing, not just seeds, fertiliser and pesticides.
3. The government should revisit the role in practice of research institutes and extension services in the way they relate to local farmers. This should be based on in-depth research into the working of innovation systems in agriculture with particular reference to the lack of linkages between farmers and research institutes. Research institute should be a go-between between the farmers and FDI.

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