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Msuya, Elibariki

Kyoto University

2007

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MPRA Paper No. 3671, posted 22 Jun 2007 UTC

# **The Impact of Foreign Direct Investment on Agricultural Productivity and Poverty Reduction in Tanzania**

*Elibariki Msuya, mzeeba@hotmail.com  
Kyoto University, Japan*

## **Abstract**

**In this paper, the impact of Foreign Direct Investment (FDI) on agricultural productivity and poverty reduction are examined. Factors that hinder FDI flow to agriculture in Tanzania are assessed. Specifically, the role of FDI in improving an agricultural firm's efficiency in Tanzania and reforms required for more effective investment promotion in agriculture are examined. The study uses literature review to draw its conclusions and policy recommendations. It is observed that FDI has a positive impact on productivity especially to smallholder farmers who are linked in integrated producer schemes. The study recommends rethinking of the smallholder institutional setup for increasing productivity and FDI flow to the agricultural sector. An important implication of the results is that FDI to Tanzania and specifically to agriculture has a much more far-reaching economic and social impact than in other sectors.**

## **1. Introduction**

FDI has been shown to play an important role in promoting economic growth, raising a country's technological level, and creating new employment in developing countries (Blomström and Kokko, 2003; Klein, Aaron, and Hadjimichael, 2003; Borenstein, De Gregorio, and Lee, 1998). It has also been shown that FDI works as a means of integrating developing countries into the global market place and increasing the capital available for investment, thus leading to increased economic growth needed to reduce poverty and raise living standards (Rutihinda, 2007; Dollar and Kraay, 2000; Dupasquier and Osakwe, 2005).

According to the World Bank's "World Development Report", in 2000 over 1.1 billion people were subsisting on less than US\$1 a day and around 2.1 billion people on less than US\$2 a day of whom between two-thirds to three-quarters live in rural areas. In Sub-Saharan Africa (SSA), where about 43 percent of its population is living below the international poverty line, the incidence of poverty is the highest among smallholder farmers residing in rural areas. Thus, if the war on poverty is to be won, developing countries need to place more emphasis on the agricultural sector (Mangisoni, 2006; IFAD, 2002).

Growth in agriculture and its productivity are considered essential in achieving sustainable growth and significant reduction in poverty in developing countries. Both developmental and agricultural economists view productivity growth in the agricultural sector as critical if agricultural output is to increase at a sufficiently rapid rate to tackle poverty (Rao, Coelli and Alauddin, 2004). In view of the declining arable land per capita, high production costs, combined with rapid population growth and the resulting need for human settlement, and rising urbanization, significant improvements are required in productivity growth in agriculture in order to increase agricultural output through technological innovations and efficiency. Limited development and adoption of new production technologies essential for improving productivity by the poor are mostly due to limited income and sources of credit. FDI plays a significant role in increasing productivity by offsetting the investment and technological gap. This is shown in the literature (e.g. Chen and Démurger, 2002; FAO, 2001; and Buckley, Clegg and Wang 2006) by significant levels of Total Factor Productivity (TFP) growth between sectors dominated by FDI and those dominated by domestic investment. Much of this productivity is a result of technological improvement through spillover and improved efficiency (Blomström and Kokko, 2003).

In light of the above, the evaluation of the impact of FDI on agricultural productivity in Tanzania is an essential step in studying the relationship between FDI, agricultural productivity and poverty reduction. There is some literature dealing with FDI flow to Tanzania (see for example, Rutihinda, 2007; Ngowi, 2002; and Mkenda, 2005). However, the existing literature focuses on the determinants of FDI, the impact of FDI on local firms (spillover effect), and FDI entry modes to Tanzania, with very little discussion of the impact of FDI on agricultural

productivity, and the resulting impact on poverty reduction. The present paper attempts to overcome this limitation. It examines the impact of FDI on agricultural productivity in Tanzania by reviewing empirical evidence. More specifically, this paper examines the role of FDI in increasing efficiency of smallholder farmers and thus their productivity. Factors that hinder FDI flow to the agricultural sector are also highlighted. It emphasizes a new approach to the promotion of investment to the sector that is based on further integration of smallholder farmers in the national, regional, and global value chain.

The flow of FDI into agriculture in Tanzania is important for three main reasons. The first is that, the agricultural sector plays an important role in the Tanzanian economy and has the potential to advance the country's objectives of growth and poverty reduction. Agriculture contributes the most to GDP (over 45% of the GDP) and supports livelihoods of over 80% of Tanzanians living in rural areas. Agricultural products contributed about 21.3% in 2005 (URT, 2006a) of Tanzania's export earnings. Secondly, since over 80% of the population in Tanzania lives in rural areas and agriculture is the mainstay of their living, any strategies to address poverty must involve actions to improve agricultural productivity and farm incomes. As growth is the single most important factor affecting poverty reduction, FDI flow into the sector is thus central to achieving that goal. Thirdly, FDI has remained very small<sup>1</sup> (about 2.1% of total FDI inflow) despite the sector's impressive growth rate (5.5% in 2005; URT, 2006b); being the most efficient sector in creating employment<sup>2</sup> and given its role in addressing both urban and rural poverty.

This paper is organized as follows. Section 2 builds a conceptual framework for the impact of FDI on agricultural productivity. Section 3 presents a descriptive analysis of Tanzania's FDI flow while section 4 summarizes evidence of FDI impact on agricultural productivity and poverty reduction in Tanzania. The way forward is presented in section 5 followed by concluding remarks.

## **2. Literature Review**

The importance of FDI in economic performance has been extensively discussed in the economic empirical literature. Analyses may be divided in two main categories: those looking at the determinants of FDI and those looking at the impact of FDI on the domestic economy. The major determinants of FDI include domestic market size and its growth, domestic business environment, technological capability, trade policy, investment policy, commitment to international rules and agreements, and other factors. The second group includes a growing number of empirical papers studying at various levels of aggregation, how FDI influences the economic growth process. The main focus of this paper is on the impact of FDI on agricultural productivity and poverty reduction. The following review concentrates on the literature investigating the role of FDI in increasing productivity. Within this body of literature, two different approaches can be distinguished. One aims at measuring the contribution of FDI to output growth and productivity. The other assesses the performance of sectors dominated by FDI compared with domestic firms, in order to appreciate their potential impact on industrial structure and efficiency.

### **Theories and Empirical Studies**

According to Blomström and Kokko, (2003) and Borenzstein, De Gregorio, and Lee (1998), the contributions of FDI to the development of a country are widely recognized as filling the gap between desired investment and domestically mobilized saving, increasing tax revenues, and improving management and technology, as well as labor skills in host countries. These could help the country to fight its way out of poverty (Borenzstein, De Gregorio, and Lee. 1998).

According to neoclassical theory, FDI influences income growth by increasing the amount of capital per person. It spurs long-run growth through such variables as research and development (R&D) and human capital. Through technology transfer to their affiliates and technological spillovers to unaffiliated firms in the host economy, MNCs can speed up the development of new intermediate product varieties, raise product quality, facilitate international collaboration on R&D, and introduce new forms of human capital (Ikara, 2003).

Empirical studies suggest that FDI is very important because it provides a source of capital and complements domestic private investment. Many studies (e.g., Blomström and Kokko, 2003; Chen and Démurger, 2002; and FAO, 2001), conclude that FDI contributes to total factor productivity and income growth in host

economies, over and above what domestic investment would trigger. These studies find, further, that policies that promote indigenous technological capability, such as education, technical training, and R&D, increase the aggregate rate of technology transfer from FDI and that export promoting trade regimes are also important prerequisites for positive FDI impact.

For instance, a study by Borenzstein, De Gregorio, and Lee (1998) using data on FDI received by developing countries tested the effect of FDI on economic growth in a cross-country regression framework. They found some indications that FDI has a positive effect on economic growth, but this impact was dependent on the human capital stock in the host economy. The increased productivity by FDI holds only when the host country has a minimum threshold stock of human capital. Similarly, Sun (1998) in Chen and Démurger's (2002) study also found evidence of a generally higher level of productivity growth of foreign-funded firms in China compared to domestic firms. Most of these studies use data across different sectors. It is assumed that the results and implications hold true also for agricultural firms. Therefore, the first research question (R1) is: *Does inflow of FDI in Tanzanian agriculture have a positive impact on productivity? This is expected to be the case especially for smallholder farmers who are linked to FIEs through integrated producer schemes*<sup>3</sup>.

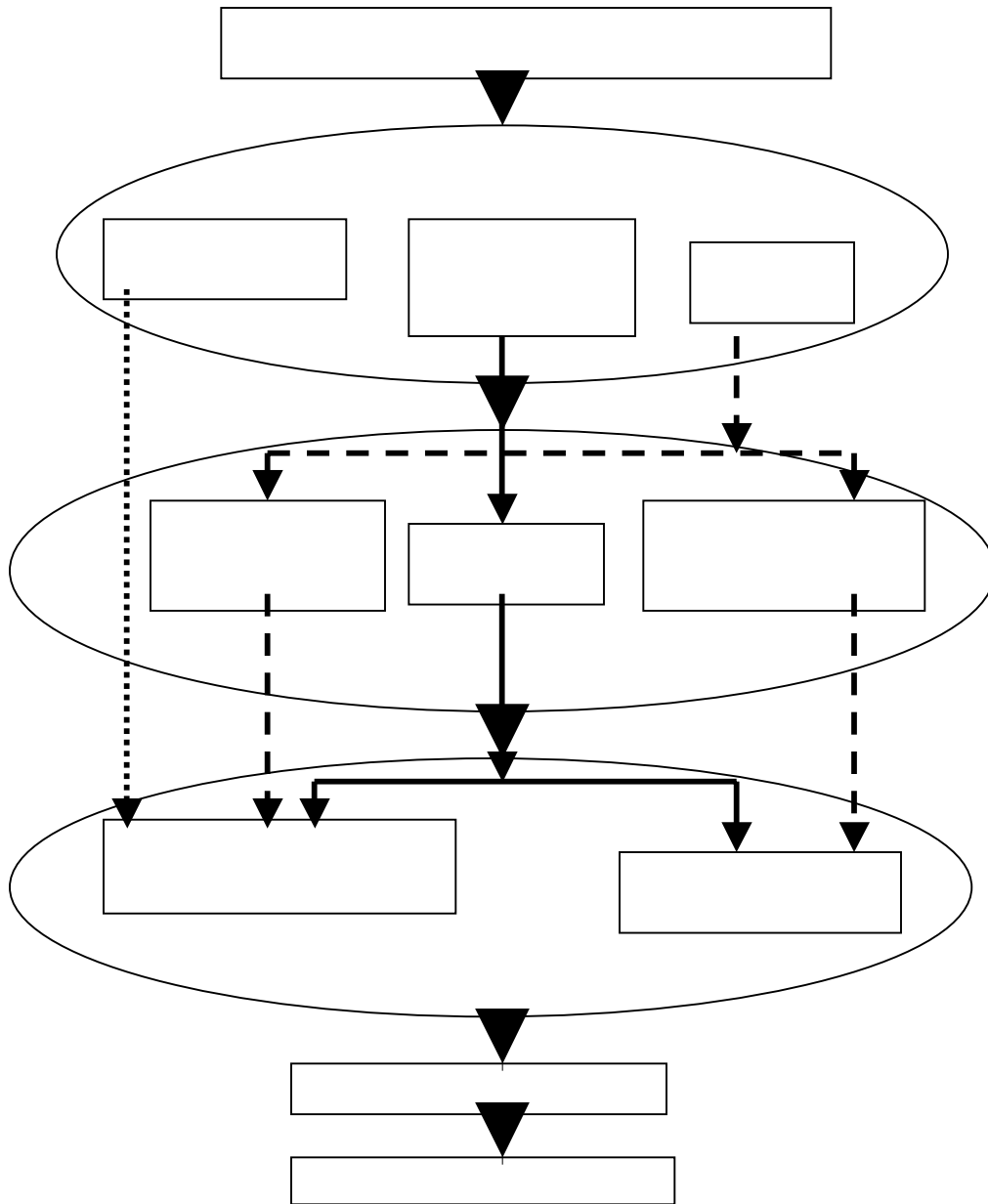
However, there is growing empirical evidence suggesting that the impact of FDI on economic growth is not automatic. For example, Borenzstein, De Gregorio, and Lee (1998) show that for FDI to contribute to economic growth, the host country must have achieved a minimum threshold level of development in education, technology, infrastructure, financial markets, and health. Thus FDI contributes to economic growth only when the host country has reached a developmental level capable of absorbing the advanced technology that it brings. This suggests that most of the effect of FDI on economic growth likely derives from efficiency gains rather than an overall higher induced level of investment. In a similar perspective, Fan (1999, chapter 7) quoted in Chen and Démurger (2002), shows that "positive and significant spill-over appears only in industries which are mainly labor-intensive and have a low to moderate technology gap between Chinese and foreign firms". Therefore, based on this and the fact that agriculture production in developing countries is mainly labor-intensive the second research question (R2) is: *If agriculture firms (smallholder farmers) with strong links (through vertical integration) to FIEs are likely to be more efficient than their counter parts that are not.*

### **Conceptual Framework**

This paper is based on the concept that; achieving the Millennium Development Goals (MDGs) requires more rapid and broad-based economic growth. An estimated rate of gross domestic product (GDP) growth of 7% a year is needed to achieve the Millennium Poverty Target (IFAD, 2002). In many low-income countries, given the importance of the agricultural sector in employment and output, the best way to raise the overall rate of economic growth and promote broad-based and sustainable development is through more rapid agricultural development. FDI can play an important role through increasing efficiency and productivity.

Although growth is not a sufficient condition for poverty alleviation, there is evidence that higher incomes in developing countries benefit the poor segments of the population proportionately (Ikara, 2003). FDI is a key element in generating growth and thus it is an important ingredient for poverty reduction. Dollar and Kraay, (2000) indicate that on average the poor do benefit from growth, as an increase in the rate of GDP per capita leads to a one for one increase in the average income of the poorest. FDI is thought to contribute to economic development (and therefore poverty reduction) through initial macroeconomic stimulus and by raising total factor productivity and efficiency of resource use in the recipient economy.

FIG. 1 below presents a conceptualization of the way in which FDI can contribute to poverty reduction. Ikara (2003) shows that, FDI contributes to poverty reduction by raising total factor productivity and efficiency of resource use. This leads to economic growth and ultimately poverty reduction. He points out the transmission mechanism between FDI and poverty reduction is through direct technology transfer, technological spillover, human capital formulation, international trade integration, and competitive business environment. Most of the literature on FDI agrees with this notion of the mechanism of transmission (see Blomström and Kokko, (2003) for a review).



**FIG. 1: FDI IMPACT ON POVERTY REDUCTION; TRANSMISSION MECHANISM**

As can be observed from FIG. 1, the pattern of inter-relationships among the economic variables impacting on poverty reduction is complex and, given time and other constraints, cannot be entirely covered in this study. However, Tambunan (2004) shows that much of the contribution of FDI to poverty reduction is through widening access to employment, especially productive employment. He points out that "...in many developing countries insufficient job opportunities are the result of inadequate levels of investment, both domestic and foreign" and that "... low investment makes other forms of poverty alleviation more difficult, because lower rates of economic growth than the rate of population growth means that each year more people are added to the ranks of the poor...". In developing

countries where domestic savings are very small, FDI is a potential source for capital formation. As pointed out earlier, the ultimate impact of FDI on economic growth in the host countries (leading to poverty reduction) depends not only on the performance of foreign firms, but also on the diffusion of new technologies, innovations, knowledge, new best practices and other intangible assets from FDI throughout the economy of the host countries (Tambunan, 2004; Borenstein, De Gregorio and Lee, 1998).

The literature reviewed shows that most previous studies on FDI's impact on productivity focused on different countries and sectors of the economy although, some focused on a single country or a single branch at a time using a variety of methodologies (see Hansen, Jervelund and Olsen, 2006 for a summary). On the other hand, most researchers (both developmental economists and agricultural economists) have examined the sources of agricultural productivity growth over time. Most of these studies used cross-sectional data to estimate a Cobb-Douglas production technology using regression methods. The focus was generally on estimating production elasticities and investigating the role of farm scale, education, research and presence of FIEs in explaining the determinants of productivity. A number of studies have conducted panel data analysis of agricultural sector comparisons. Rao, Coelli and Alauddin, (2004) provide a brief review of the literature.

### 3. FDI Inflow into Tanzania

Table 2 below shows selected economic and financial indicators for Tanzania. Domestic savings are about 12 % of Gross National Disposable Income. Although this might seem to be high, one can observe that the rate of saving is somehow very small. With this small saving rate, the Tanzanian economy needs support from outside. FDI could be a better way for injecting the much needed capital for rapid economic growth.

**TABLE 2: TANZANIA ECONOMIC AND FINANCIAL INDICATORS**

Indicator	Unit	2000	2001	2002	2003	2004	2005
Change in GDP at Factor Cost--Constant 1992 Prices	Percent	4.9	5.7	6.2	5.7	6.7	6.7
GDP Per Capita--Current Prices	USD	262.7	264.4	267.9	276.2	303.0	319.8
Inflation	Percent	5.9	5.2	4.5	3.5	4.1	4.4
Saving to GNDI Ratio	Percent	11.6	11.1	12.7	11.8	12.3	12.5
Population (TZ Mainland)	Million	31.9	32.1	33.6	34.2	34.8	36.2
Total External Debt as % of GDP	Percent	80.7	78.5	75.9	83.5	77.5	77.5

Source: Bank of Tanzania

Despite a fall in FDI in Sub-Saharan Africa, Tanzania's FDI inflow has increased impressively over the years. The flow of FDI into Tanzania has been on the increase over the past decade (Table 3). According to the World Investment Report 2006 (UNCTAD, 2006), Tanzania's inward FDI stock in 2001 reached a record high of US\$224 million, before jumping to US\$ 6,028.8 million by the end of 2005, placing the country among the top dozen recipients of FDI in Africa, just behind the oil producing countries and South Africa. This trend is partly explained by the continually improving economic performance and investment climate created by the economic and political reforms in the early 1990s.

**TABLE 3: SUMMARY OF FDI FLOW AND STOCK IN TANZANIA**

No.	Variable Inward Outward	Inward
1	FDI flows, 2002-2005 (annual average in Mill. USD)	475.0
2	FDI flows as a percentage of GFCF, 2002-2005 (annual average)	21.5
3	FDI stock, 2005 (Mill. USD)	6028.8
4	FDI stock as a percentage of GDP, 2005	49.6

Source: UNCTAD, FDI/TNC database

About 85 percent of the Foreign Private Capital (FPC) stock in Tanzania is FDI. FPC such as portfolio and other foreign investment, mainly debt (short and long-term borrowings) account for the remaining 15 percent. Other types of external capital to Tanzania are bilateral and multilateral aid from the World Bank and other partner countries. Since 1993, FDI inflow into Tanzania has predominantly taken the form of Greenfield investment in spite of some participation by foreign investors in Tanzania's privatization programme and a few cases of acquisitions of foreign affiliates by foreign investors. Tanzania has been able to attract both market-seeking FDI and export-oriented FDI to different sectors of her economy (Table 4).

Survey results from a study by the Tanzania Investment Center (TIC) show that, FDI stock in Tanzania is dominated by OECD countries particularly UK, Canada, Japan and USA as observed in Table 4. As a group, OECD countries, accounted for 57.2 percent of the stock of FDI in 2001, followed by SADC (24.5 percent) and EAC (7.3 percent) (URT, 2005).

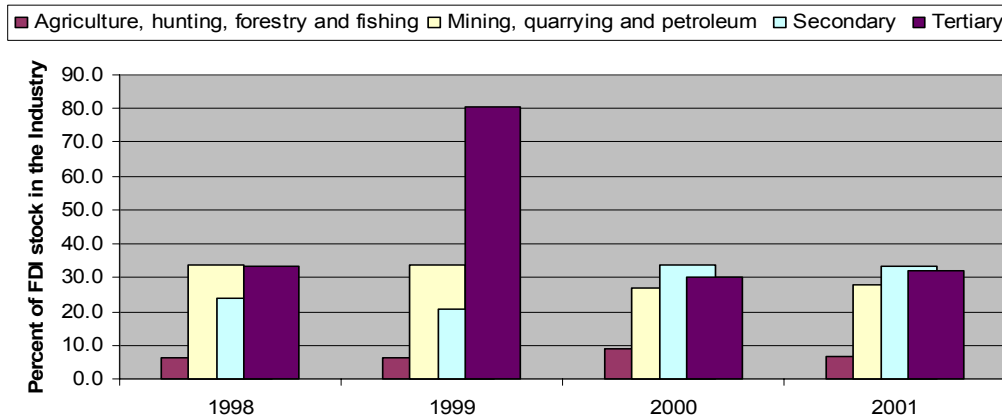
**TABLE 4: SUMMARY OF TYPE OF FDI AND COUNTRY OF ORIGIN**

No.	Type of FDI	Industry	Country of Origin
1	Market-seeking FDI	Brewing	South Africa
		Tobacco	Japan
		Electronic Equipment	Japan; Republic of Korea; UK;
		Cement	Norway; Zambia
		Sugar Processing	South Africa; UK
		Financial services	South Africa; UK; Saudi Arabia; US; Belgium; France; Kenya; Malaysia
2	Export-oriented FDI	Mining	UK; SA; Ghana; Canada; Australia;
		Textile	China;
3	FDI in infrastructure and utilities	Energy (electricity)	Malaysia; Canada;
		Telecommunication	German; Netherlands; US; EU;
		Port handling facilities	Philippines; UK; EU

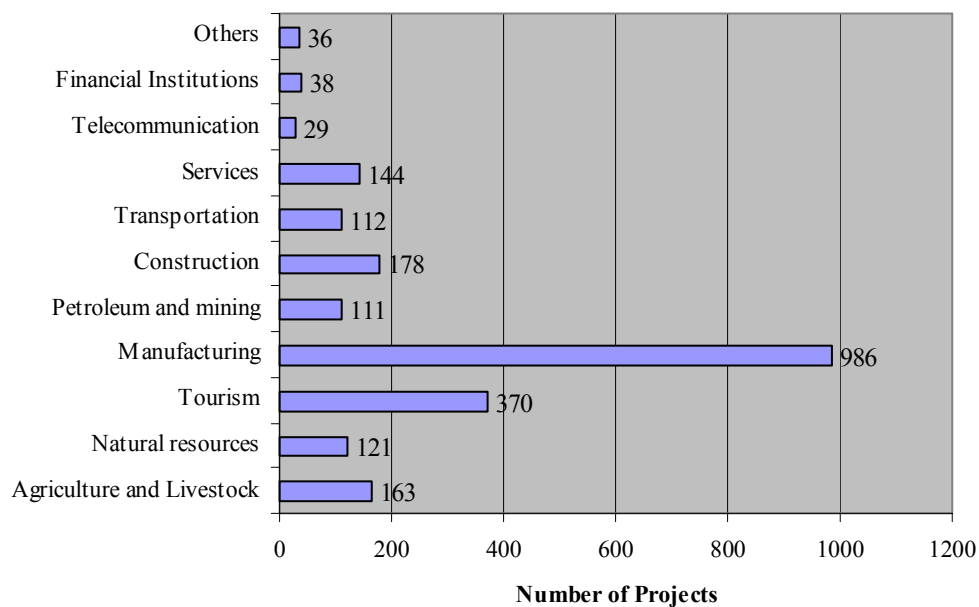
Source; UNDP, 2007

Regional distribution of FDI in Tanzania shows that high concentrations are in regions endowed with a variety of natural resources and which have a better social and economic infrastructure. Dar es Salaam, the largest city in the country was leading with 51.7 percent of total FDI stock during 1999 – 2001, followed by Shinyanga and Mwanza (11.5% and 10.8%); Arusha – including Manyara (8.3 percent) all of which have natural resources. Others are Morogoro (5.5 percent) and Urban West – Zanzibar (2.4 percent) (URT, 2005). Development of social and economic infrastructure is thus necessary in order to increase the prospects of other regions to attract investments.

Mining, manufacturing, wholesale and retail trade (including tourism) have attracted more investment since the middle of 1990s. These sectors have been dominated by Trans-National Companies (TNCs), which also dominate the power generation and telecommunication industries. According to recent data from Tanzania Investment Center (TIC) (URT, 2005), between 1990 and 2003, 2288 projects with a total investment of \$11.9 billion were registered. Figure 2 and 3 below show the number of projects and FDI stocks distribution by sector. The surge of investments in the manufacturing sector reflects a response to the reform programme and privatization process started in 1993. The failure of the agricultural sector to attract sufficient FDI needed to bring about rapid growth and thus help in fight against poverty is discussed further in the coming section.



Source; Tanzania Investment Center (TIC) reports  
**FIGURE 2: DISTRIBUTION OF FDI STOCK (%) BY SECTOR, 1998-2001**



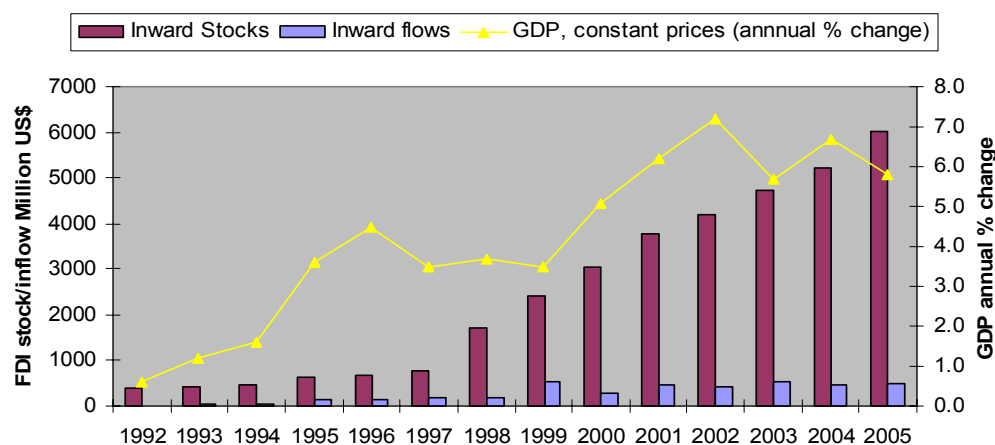
Source; Tanzania Investment Center (TIC) reports  
**FIGURE 3: NEW (1990-2003) INVESTMENT PROJECT IN TANZANIA BY SECTOR**

Despite the fact that agriculture has immense investment potential, employing about 89 percent of the total population, contributing about 47 percent of GDP, directly producing about 45 percent of total exports, and a key sector in the fight against poverty, it has attracted the smallest share of FDI to Tanzania.



#### 4. Impact of FDI on Agriculture in Tanzania

The qualitative impact of FDI on the Tanzania economy has become noticeable, especially in the industries in which FDI is concentrated. FIG. 4 below indicates that there is a strong positive relationship between FDI stocks and GDP growth rate. In mining, FDI has served as an engine of growth and has helped increase gold exports. Gold exports amounted to USD 703.7 million contributing about 42% of the total export value for the year ending September 2006 (BOT, 2006). Gold exports remain dominant in total non-traditional exports, followed by manufactured goods and fish and fish products. The increase of FDI inflow has also contributed to the modernization of the various industries. Foreign investors have restructured privatized enterprises, boosting their competitiveness, typically contributing to the transfer of technology and skills. Although the impact is strongest in the industries in which FDI is concentrated, it has limited implications for the entire economy.



Source: UNCTAD, FDI/TNC database; Bank of Tanzania

FIG. 4: FDI INFLOW/STOCK AND GDP GROWTH 1992-2005

The scale of this impact is still small and a number of desired results are not occurring (such as linkages to the local economy thus impacting poverty reduction or the encouragement of local science and technology capacities). For example most FDI, currently has little impact on the employment situation, as it is directed toward capital-intensive sectors. Thus, after initial successes with FDI, the challenge for Tanzania is now to push FDI to new frontiers, such as agriculture, which is important in the fight against poverty.

##### Impact on Agriculture Productivity

In his speech to commemorate the 16<sup>th</sup> Africa Industrialization Day the Tanzanian Minister for Industry and Trade, Dr Juma Ngasongwa stressed among other things that "...low productivity, inadequate physical and economic infrastructure, dependence on export of primary goods without value addition through manufacturing and low standards and standardization are key constraints adversely affecting Tanzanian economic growth..." (IPP, 2005). Dr. Ngasongwa pointed out that the government through the Tanzania Development Vision 2025 has "...assigned the industrial sector a very central role of transforming the economy from a low productivity agriculture to a semi- industrialized one led by modernized and highly productive agricultural activities which are effectively integrated and buttressed by supportive industrial and service activities...". Given the limited financial capabilities of the government, FDI is expected to play a central role in this task.

As shown in the literature review section above, several studies have found that local firm's productivity increases with sales to multinational enterprises. Similar results have been obtained in Tanzania by Rutihinda,

(2007), when exploring the impact of globalization on Small and Medium Enterprises (SME) in Tanzania. In her regression model both specification coefficients for capital, raw materials, domestic sales to FIEs and joint ventures were positive and significant. This indicates that Tanzanian firms, like firms in other developing countries are affected equally by FDI flow. This trend is assumed to hold true in all sectors.

Tanzanian agriculture is dominated by smallholder farmers cultivating an average of 0.5 ha. to 2 ha.. Productivity has been especially low for smallholders compared to agricultural undertakings by estates or large commercial farms, which have been able to attract considerable FDI. Records from TIC show that more than 90% of FDI in agriculture went to crop sub-sectors (e.g. sugarcane, barley, sisal) whose smallholder farmers have been well organized to support foreign investments (URT, 2005). Two examples (the production of sugar cane in Mtibwa<sup>4</sup> and Kilombero<sup>5</sup>; and tea in Rungwe District through the Wakulima Tea Company<sup>6</sup>) demonstrate that FDI flow to agriculture is viable and beneficial to smallholders and FIEs (Box 1). These two cases are chosen as they show incentives from FIEs (such as reliable markets, stable prices and technology development) can lead to an increase in smallholder productivity. Secondly they are chosen due to the large number of smallholders (about 30,000) integrated with the FIEs. Given that these smallholders normally represent households, the impact of the increased productivity is far reaching. In the sisal industry similar trends have been observed through Katani Ltd<sup>7</sup>. FDI has been shown to be able to influence agricultural productivity thus impacting on poverty reduction in Tanzania (R&AWG, 2005; URT2006a; and Msuya and Ashimogo, 2006). However, more empirical studies are needed to support this hypothesis of FDI's impact on Tanzanian agriculture productivity.

#### **BOX 1: Impact of FDI on Agricultural Productivity**

*In these two schemes driven by FDI, positive results have been recorded in expanded area cultivated, in increased production and productivity and in improved quality.*

##### **Tea Industry**

*In Rungwe, annual green leaf production has increased fivefold in the last four years from 3,774,912 kg (2000/01) to 15,285,451 kg (2004/05). The average yields of green leaf from smallholders have increased consistently from around 1,000 kg/hectare (2000) to around 5,000 kg/hectare (2004), while the overall quality of tea from smallholders is reported to be above the standards set by the company. Productivity performance is best for those smallholders with links to integrated producer schemes. Their average yield increased from 939 kg/hectare (2000/01) to 3,249 kg/hectare (2002/3). Although there is room for improvement when compared with the tea estates' productivity which averaged 9,128 kg/hectare (2000/01– 2003/4), the yields from smallholders in integrated producer schemes have improved consistently and significantly since 2000. In Rungwe the scheme is operating with 15,000 tea-producing smallholders.*

##### **Sugar Industry**

*Sugar cane recorded a much higher growth in production from 2001 after several years of stagnation. The smallholders increased production from 907,000 tonnes (1999/00) to 1,594,000 tonnes (2004/05) accounting for about 68 percent of total production of sugarcane in the 2004/2005 season. This significant growth can be attributed to the privatization of sugar cane estates and the adoption of the out grower model of production which began in early 2000. Smallholders producing sugar cane are integrated through growers associations which have direct links with FIEs (MSE and KSCL). The FIEs provide extension services, transportation of cane to the factories, and direct markets. Together, the two FIEs support about 14,000 (2006) sugarcane-producing smallholders.*

**Source:** R&AWG, (2005); Msuya and Ashimogo, (2006); URT, (2006a)

#### **Impact of FDI on Efficiency**

A number of studies of the Tanzanian agricultural sector have shown that smallholders with strong links to FIEs are more efficient than their counterparts. Msuya and Ashimogo, (2006) used cross-sectional data to estimate technical efficiency of smallholder farmers in the Tanzanian sugar industry. The results obtained from the Cobb-Douglas stochastic frontier estimation, showed that the average technical efficiency of outgrowers (smallholders with links to FIEs) was higher than that of non-outgrowers. Although they found that several factors (age, origin of

the farmer, educational level, and farm area) affected the technical efficiency of smallholders, the integration of smallholder with FIEs (Mtibwa Sugar Estate (MSE)) was a major factor. For example they found that those smallholders who are close to the factory were more efficient compared to those who were farther away. This was closely associated with high transportation cost to smallholder farmers far from the factory as the MSE provide transportation for farmers close to the factory and others are forced to use private transportation.

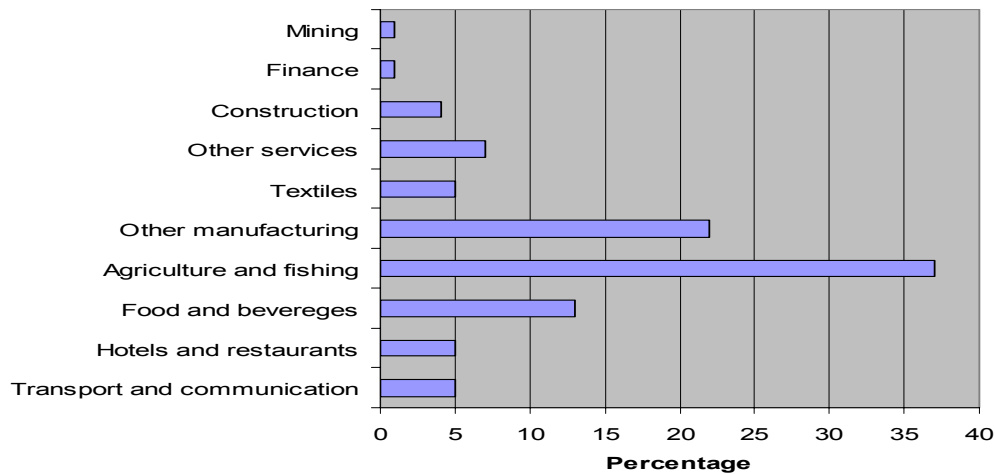
On the other hand a study by Admassie and Matambalya (2002) shows that firms that are not integrated with FIEs are more likely to be inefficient. In their study, the level of technical efficiency of SMEs in Tanzania was examined using a Cobb-Douglas stochastic frontier production function. They found low levels of technical efficiency characterizing the Tanzanian SMEs. They showed that the inefficiency reduced the SMEs potential output levels significantly. They suggested that in assisting these firms to improve their technical efficiency effort should be made to ensure "...adequate supply of inputs, markets, and credit facilities, and undertaking extensive infrastructural development and training...". It should also be noted that these SMEs were mostly agricultural based.

The impact of FDI on efficiency and thus poverty reduction is also shown in a study by ESRF, (2002) which focused on the impact of MSE and Kilombero Sugar Company Ltd. (KSCL) on the economic development of Morogoro Region. In their review ESRF (2002) showed that the two factories had an impact on poverty reduction in the surrounding area as a result of the outgrower schemes. They showed that higher prices and assured markets had led to increased productivity and efficiency of smallholder cane farmers. As pointed out earlier in the introduction, there are only a few studies which discuss the impact of FDI on Tanzanian agricultural firms and/or smallholder farmers. An empirical analysis linking the above observed efficiency increase to FDI will help to determine if the mechanisms suggested in section 2 above hold in all crop sub-sectors.

#### **Factors Contributing to Low FDI in the Agricultural Sector in Tanzania**

Domestic policies vis-à-vis FDI fall into two broad categories; regulation and promotion, both of which have been used in Tanzania. With respect to the regulation of FDI, the general trend over the past decade has been for the gradual liberalization of rules governing foreign investors and their investments. Furthermore, privatization programmes from the early 1990s have expanded the opportunities for foreign investors. For example, in June 2003, the Finance Minister announced that the Government would introduce reforms to the 1999 Land Act. The intent of the reforms is to facilitate the use of land as collateral in bank borrowing and to spur private investment in agriculture. Investment promotion has concurrently become an important policy tool for attracting FDI. Policies aimed at attracting FDI have ranged from relatively passive and general promotion schemes to much more aggressive targeting of foreign investors combined with the use of investment incentives. Investment incentive packages in Tanzanian agriculture include among others: - zero-rated duty on capital goods and all farm inputs including fertilizer, pesticides and herbicides; reduced import tariff on project capital items to 0% for investors with Tanzania Investment Centre (TIC) Certificate of Incentive; deferment of VAT payment on project capital goods; zero-rated VAT on agricultural exports and for domestically produced agricultural inputs. All export of locally produced goods from Tanzania are charged 0% of VAT; and an indefinite carry-over of business losses against future profit for income tax.

Despite these efforts and recent growth of the sector, together with observed productivity and efficiency increasing capabilities, FDI flow into the agricultural sector has remained very small in Tanzania. Fig. 4 above shows that among projects approved by the Tanzania Investment Centre between September 1990 and June 2004, agricultural and livestock projects accounted for only 5 percent of the total value of investment (URT, 2005). It has been shown that agricultural and livestock projects are most efficient in creating employment (Figure 5), indicating that agriculture has what is needed (ability to create productive employment) to address both urban and rural poverty.



**FIGURE 5: TOTAL EMPLOYMENT OF APPROVED FOREIGN AFFILIATES, 1990-2000**

Expansion of private investment in the agricultural sector is limited by several factors. One study (Amani *et al*, 2003) has observed that Tanzania’s agricultural export is constrained more by domestic (supply-side) factors than international trade barriers. For instance, the lack of adequate infrastructure has resulted in high energy and transportation costs, thus rendering Tanzania’s commodities non-competitive. A low level of domestic entrepreneurship coupled with poor quality products has resulted in loss of market share. Limited financial capital, and unfavorable land and labor laws deter the growth of medium and large-scale agricultural production leading to the export sector’s dependency on poor quality high cost products from small-scale production (see Amani *et al*, (2003) for a detailed review).

On the other hand as the Tanzanian agricultural sector continues to depend on smallholder producers, the characteristics and institutional setup of smallholders’ have impact on the performance of the sector and thus its ability to attract FDI. Tanzanian smallholder farmers have limited education and experience, are frequently exposed to shock and have to deal with weak institutional arrangements for production. This has led to only slight increases in agricultural productivity and insufficient improvement in the quality of production (R&AWG, 2005). This is especially true when the productivity of smallholders is compared to that of estates or large commercial farms. As discussed above this difference in productivity led to more than 90% of FDI in agriculture being directed to crop sub-sectors (e.g. sugarcane, barley, sisal) whose smallholder farmers have been well organized to support the foreign investments.

Although factors mentioned in Amani *et al*, (2003) work are important and significant in addressing low levels of investment in the sector, the institutional setup of smallholders seems to be the single major determinant of FDI inflow into the sector. Therefore, to promote production and quality in an environment/economy such as Tanzania’s, there is a need to reconsider the traditional approach to agriculture - based on smallholder farmers competing in liberalized markets - and to consider new approaches to promote sustained, high quality production. These justify the consideration of alternative institutional arrangements for smallholder farmers that will attract more FDI inflow and improve smallholder productivity.

## **5. The Way Forward**

In order to transform the agricultural sector into one with high productivity and high quality output, effort is needed to understand and eliminate the barriers to smallholders that inhibit the growth of productivity. The structural problems facing smallholders (such as limited access to information, to input and output and financial markets) need rethinking, a different institutional arrangement that will attract more FDI to the sector. Such an

arrangement would involve smallholders being better organized (in producer associations). Producer associations can improve productivity, reduce costs through supply chain linkages and improve competitiveness. They manage to do so by improving access to necessary and affordable input (technologies and credit).

Although cooperatives are the dominant form of smallholder producer association, they are faced with challenges in addressing investment and productivity. In Tanzania, restoring the confidence of smallholders in cooperatives is a big challenge. The second challenge is to build integration of production, transport, processing and marketing to take advantage of supply and demand value addition without complicating the institutional arrangements of the unmanaged levels. Third is to ensure the introduction of innovation and knowledge on a continuing basis without subjecting members to high consultancy fees given the socio-economic conditions of smallholders (read R&AWG, 2005 for challenges of reintroducing cooperatives in Tanzania).

Integrated producer schemes on the other hand, are designed to develop the capacities of smallholders through extensive provision of extension services and close monitoring of production and quality control. The model links production to investments in agro-industrial activities and markets. It has typically involved technical assistance from foreign or local private companies. This setup typically operates an integrated system that links production, extension services, transportation, processing and marketing. As the integrated producer schemes have an inbuilt supply chain system, they allow the realization of value addition for the benefit of all involved. In Tanzania, integrated producer schemes have so far been organized in the sugarcane, tea, sisal, and dairy industries. These kinds of product specification tie the investors (FIEs) in processing facilities to the providers of agricultural produce and create an alliance which is of mutual benefit. Through this setup smallholder farmers can have reliable markets and foreign investors who shy away from the sector can have reliable sources of inputs to satisfy the capacity setup of their processing plants. So far in Tanzania this setup mainly exists in form of outgrower schemes, with the help of foreign investment it has been viable and beneficial to smallholders (Box 1). Given that integrated producer schemes requires a lead firm for governance, which frequently have to heavily investment in the sector in question; and given the low saving and thus investment capacity of local citizens, FIEs will remain as the major link in setting up these schemes.

## **6. Conclusion and recommendations**

This paper has examined the impact of FDI on agricultural productivity in Tanzania, with some focus on poverty reduction. The study suggests that there might be a positive impact of FDI on smallholder productivity and efficiency. The study found that apart from general determinants such as macroeconomic stability, efficient institutions, political stability and a good regulatory framework, the smallholder institutional setup has positive impact on FDI flow into the sector. It has been observed that crops whose smallholders are well organized attracted more FDI. An important implication of the result is that FDI to the agricultural sector is not solely driven by policies and incentives to foreign investment and that the institutional setup of smallholder farmers can play an important role in promoting investments to the sector. In the short and medium term, efforts to foster integration and creation of strong bonds between smallholders and investors through integrated producer schemes can increase FDI to the sector and thus increase productivity. Other determinants such as investment regulatory frameworks, policies that promote macroeconomic economic stability, and improved physical infrastructure also have a role to play both in the short and long run. In the long run, more FDI can be attained by developing strong institutions in all sectors. The challenge that remains is how to set up these institutions (integrated producer schemes) in other crop sub-sectors which might have different processing requirements. Further empirical studies in this area are recommended for a better understanding of the mechanism through which FDI addresses the productivity of smallholders and poverty reduction.

**Acknowledgements:** I wish to acknowledge with gratitude the invaluable guidance from my supervisor, Prof. NARIU Tatshuhiko and 21COE Kyoto University for financial support. The views presented here are my own and I take full responsibility for omissions or mistakes.

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## End Notes

<sup>1</sup> Among projects approved by Tanzania Investment Centre between September 1990 and June 2004, agricultural and livestock projects accounted for only 5 percent of the total value of investment (URT, 2005).

<sup>2</sup> To generate employment of one person in agriculture sector, it requires approximate an investment of TSh.7 million, while in the construction sector would require an investment of about TSh.115 million (URT, 2005).

<sup>3</sup> Integrated producer schemes are designed to develop the capacities of smallholders through extensive provision of extension services and close monitoring of production and quality control. The model links production to investments in agro-industrial activities and markets.

<sup>4</sup> Mtibwa Sugar Estate (MSE) was handed over to Tanzania Sugar Industries (TSI) in August, 1998 (after TSI had bought the company). Prior to this, the Government of the United Republic of Tanzania owned it. Super Doll Trailer Manufacture Company (T) Limited of Dar-es-Salaam, in the United Republic of Tanzania, on behalf of TSI now manages the Company through The Agricultural Consultancy Services (Mauritius) Limited (ACSL), of c/o Multiconsult Limited, Les Jamalacs Building, Port Louis, Mauritius.

<sup>5</sup> Kilombero Sugar Company Limited (KSCL) is owned by three shareholders — South Africa's Illovo Sugar (55 per cent), Tanzania government (25 per cent) ED&F Man Holdings Limited of Britain (20 per cent). It produces an average 150000 tons per year. This is the largest sugar producer in Tanzania.

<sup>6</sup> Wakulima Tea Company (WATCO) and the Rungwe Small Tea Growers Association (RSTGA) are partners under the roof of Tanzania Tea Packers (TATEPA). Established in 1995, TATEPA is the largest domestically owned private company in Tanzania – and the third largest on the stock exchange – with 2,000 shareholders and 200 employees. Rungwe smallholders own 25 per cent of the shares of WATCO.

<sup>7</sup> Katani Ltd. was formed after sale of government share of the former Mkongwe Group Companies in 1998. it is now owned by Highland Estates Manufacturer of sisal twine, ropes, yarn, carpet