

## Agronomy and Value Chains for Sustainable Development

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I candidly believe peace, education, health and food security form the pillars of humanity and human survival. Any achievement of any Sustainable Development Goals (SDGs) without significant achievement of the four, would give lopsided development at the very least or none at all at the worst. In other words, without the four, development achievements made thus far are at risk and there might be no development to sustain. Let us consider agronomy and the potential of its value chains for this abstract.

“Agriculture in the 21st Century faces multiple challenges: it has to produce more food, with a smaller rural labor force, adopt sustainable production methods and adapt to climate change”<sup>1</sup>. The challenges to agriculture are made even more astronomical by the fact that global population is expected to have grown by 2.3 Billion by 2050.<sup>2</sup>

According to the World Bank, agriculture is estimated to contribute 3.901% of the USD 78.28 Trillion of the World’s GDP (<http://data.worldbank.org/indicator/NV.AGR.TOTL.ZS>) and yet agriculture directly employs 29.5% of the World’s population as at 2014 (<http://data.worldbank.org/indicator/SL.AGR.EMPL.ZS?page=5>).

This statistic is generally inversely proportional to a country’s GDP per capita; the smaller a country’s GDP per capita, the more likely a significant proportion of its population gets its livelihood primarily from agriculture. Consider Burundi and Ethiopia at approximately USD 276 and USD 620 GDP per capita respectively; with 89% and 77% of their populations involved in agriculture respectively compared to Norway and Australia at approximately USD 55,000 and USD 43,000 GDP per capita respectively; with 1.9% and 3.9% of their populations involved in agriculture respectively.<sup>3</sup>

Poverty and economic inequality are enshrined by a system that essentially seasonally or permanently alienates a significant proportion of its population from the production value chain, whether deliberately or inadvertently so. A country dependant on agriculture for livelihood and foreign exchange (majority which are the countries least performing on the MDG indicators in absolute terms) has direct linkages to SDGs 1, 2, 8, 10 and 15; if proper agro-production and agribusiness practices are upheld within the country and the global market.

I would like to ask two questions for the benefit of this paper;

1. A country journeying to the development levels of G8 economies, what are the returns on agriculture investment; the social and economic multiplier effects; and backward and forward linkages to all the other 15 SDGs if it were to embrace all the parameters of SDG 8 and SDG 17 in agriculture?
2. The core spirit of SDGs is equity. How then can, countries ranked lower in the global economic and social indicators; the very ones with a majority of their population in agriculture achieve the SDGs if agronomy is not the center of their progress? In other words, how can they ensure; “No One is Left Behind” in these countries?

To answer the first question; the returns, multiplier effect and linkages will vary from country to country but on the overall are immense, particularly in the countries with the worst socioeconomic indicators. To answer the second question; they unfortunately cannot, I believe.

<sup>1</sup> Food and Agriculture Organization FAO: High Level Expert Forum-Global Agriculture towards 2050.

<sup>2</sup> UN Department of Economics and Social Development <http://www.un.org/en/development/desa/news/population/2015-report.html>

<sup>3</sup> Inference is made from lines of best fit from simultaneous equation combinations of any 2 countries among the top 10 GDP per capita and a proportion of their population involved in agriculture and compared with the same among the 10 countries with the least GDP per capita.

Source of data is CIA Library.