**GREEN REVOLUTION: THE PLACE OF LOGISTICS AND TRANSPORT**

**By Peter Kayula (PhD)**

In his acceptance speech as chairman of the Assembly of the Africa Union (AU) in February 2010, then President of Malawi, Bingu wa Mutharika said:

‘’One challenge we all face is poverty, hunger and malnutrition of large populations. Therefore, achieving food security at the African level should be able to address these problems. I would therefore request the AU Assembly to share the dream that five years from now no child in Africa should die of hunger and malnutrition. No child should go to bed hungry. I realise that this is an ambitious dream but one that can be realized. We all know that Africa is endowed with vast fertile soils, favourable climates, vast water basis and perennial rivers that could be utilized for irrigation farming and led to Green Revolution and mitigate the adverse effects of climate change. We can therefore grow enough food to feed everyone in Africa. I am, therefore, proposing that our agenda for Africa should focus on agriculture and food security. I propose that our slogan should be ‘Feeding Africa Through New Technologies: Let’s act now.’”

This line of thinking by the late president, in an exceptional measure, spells out a clear and deep vision of how to approach the Green Revolution challenge and builds on the optimistic outlook for which the revolution should pride itself on.

The Green Revolution was largely a result of the comprehensive creation of new institutional arrangements aimed at using existing technology to improve agricultural productivity. It arguably played a critical role in helping overcome chronic food shortages in Latin America and Asia. Many years ago.

Ideally, the implementation of small and medium-sized Green Revolution projects and strategic frameworks could be one central solution to enhanced access to agriculture development which has not yet succeeded at a larger scale, especially in Africa.

Governments and the international community have recognised the need to act and numerous international initiatives currently focus on the Revolution which makes this serious analysis of this agriculture process, its strategic framework, the place of logistics and transport and the difficulties it encounters, to be much more in order.

Sustainable agriculture globally and in Africa in particular, has travelled a bumpy road for so many years. Persistent food shortages, general low-level productivity, very high transaction costs influenced by limited transportation and low financial returns in a situation where development financing is difficult to obtain coupled with new threats arising from climate change, have compounded its place in economic history.

However, in strong contrast with the past decades, we arguably face compensation in three major opportunities that can help us transform the agricultural process.

First and foremost, advances in science and technology worldwide situate at our door steps, new tools needed to renew the mission of Green Revolution.

Secondly, efforts to create regional markets will provide new incentives for agriculture production and trade. Thirdly, the deep-seated alignment of infrastructure development with global and regional agriculture development goals.

Of profound interest is the fact that the entire world needs to find ways to intensify agriculture production while protecting the environment but this has not been smooth sailing.

Green Revolution continues to be subject of considerable debate. However, the way the revolution has impacted on agriculture productivity and reductions in consumer prices can hardly be disputed.

Much of the debate over the impact of Green Revolution ignores the core issue of what would have happened to agriculture in developing countries without it. On the whole, without international research in developing countries yields in major crops would have been higher in industrialized countries by 4.8 percent. This is mainly because lower production in the developing world have pushed up prices and given industrialized country farmers incentives to boost their production.

It is not surprising that African countries and the international community continue to seek to emulate the Green Revolution or recommend its variants as a way to face current and future challenges. More important, innovation driven agriculture growth has pervasive economy-wide benefits as demonstrated through India’s Green Revolution.

On the African continent specifically, countries are faced with enormous technological challenges but they also have access to a wide pool of scientific and technological knowledge than was available when the Green Revolution was launched.

However, in as much as we discuss the importance of the renewed mission of the Green Revolution, it is thus plausible to review major advances in science, technology and engineering and identify their use.

Such exploration should include an examination of fields such as information and communication technology (ICT), transport, genetics and ecology, among others.

Understanding the convergence of these and many other fields and their implications for the Green Revolution is important for effective decision making.

Enabling infrastructure, (if I can define infrastructure as facilities, structures, associated equipment, services and institutional arrangements that facilitates the flow of goods, services and ideas), such as transportation is essential for the Green Revolution’s development.

Worldwide, reliable transportation is absolutely critical for growth and innovation in agriculture and agribusiness. Sufficient roads, rail, seaports and airports are essential for regional trade, international exports and cross border investments.

It is also important to highlight the fact that Innovation in other areas of agriculture such as improved genetic material, better access to capital and best farming practices will produce results only if farmers and companies have a way to get their products to markets and get critical inputs to farms.

Transportation is the key link for food security and agribusiness based economic growth. Roads are most obvious and critical element but modern seaports, airports, and rail networks are also important particularly for export-led agriculture innovation such as cut flowers or green beans in Kenya.

To that end, many countries have prioritized infrastructure as key element in their Green Revolution development strategies.

One of the lessons learned from other countries is the importance of linking infrastructure investment, especially in key areas such as transportation, to specific agricultural programmes.

Not to forget the role roads have played in China’s rural development and poverty alleviation, as well as the two cases in African transportation investment. Ghana’s rural roads project and Mali ‘s Bamako-Senou Airport improvement project.

On another hand, poor infrastructure and inadequate infrastructure services are among the major factors that continue to hinder global sustainable development.

Roads for example are critical for supporting rural development. Emerging evidence suggests that in some cases, low quality roads have more significant impact on economic-led development than high quality. In addition, all scientific and technological infrastructure require reliable transport and efficient logistical networks.

In the manufacturing and retail sectors, efficient transportation and logistical networks allow firms to adopt process and organizational innovations such as just in time approach to supply chain management.

Infrastructure promotes agriculture trade and helps integrate economies into word markets. This year’s Africa Forum which will bring together all chartered Institute of logistics and transport members countries in Africa and other members across the world to network and discuss pertinent supply chain logistics and transport issues affecting the African continent will specifically spell out the future of Logistics and Transport in the African Continental Free Trade Agreement (AfCFTA).

The agreement provides for free movement of business people, joint implementation of inter-regional infrastructure programmes and institutional arrangements that promote cooperation among the three Regional Economic Communities (RECs) and the meeting will provide a unique opportunity to promote the importance of boosting support for resilience chain supply management and building of human capacity (as part of a larger agenda of the logistic and transport industry) in a more systematic and coordinated way.

The Forum to be held in August in Ghana something which has arguably never been more relevant than now represents significant milestone in the steady process of deepening Africa’s economic integration.

In an exceptional measure, it also underscores the determination among key players in the private sector to expand prospects for prosperity by creating space for presentation of papers and discussions by seasoned professionals in the industry and academia on the free trade agreement. This move will go a long way in helping achieve Africa Union ‘s continental integration objectives.

It is believed that the transformative potential of the singular re-investment drive of the monumental AfCFTA will depend on the free flow of goods across borders — which only the logistics sector can help unlock.

But local entrepreneurs and multinationals alike have also long lamented the broken nature of logistics and supply chains across the African continent, once a huge industrial estate.

Efficient transportation and logistical networks process and organizational innovations such as just in time approach to supply chain management is also fundamental to human development including delivery of health and educational services.

Modern transportation and logistical networks process and organizational innovations such as just in-time approach to supply chain management, will also need to reflect the growing concern over climate change, a development which is inflicting greater dislocation on resource management systems and global economic stabilities than previously witnessed.

This will be particularly tragic in view of the extraordinary global commitment to delivering sustainable development goals and so many nations seem finally to be in earnest about tackling climate change causes and impact.

Africa’s green revolution activist, Agness Kalibata, once said global warming is not a future phenomenon, as we have already seen its impact on the ground in the form of poor yields and an inconsistency in weather patterns.

‘’I can give hundreds and hundreds of examples of climate change but the real problem is that each year, climate change becomes more pronounced in terms of less rains and increasing unpredictability of seasons. It is affecting what and how farmers plant, that is the real problem.’’

A fiercely independent Kalibata told the **Africa Business** in exclusive interview for a special edition published in 2015:

‘’If we look at climate change most of the African continent has to date survived on rain-fed agriculture, but that is being threatened by climate developments. Climate change is becoming real; we are seeing more droughts with fewer rains.’’

According to current studies, the influence of climate change has devastating effects on the environment. Glaciers have shrunk, ice on rivers and lakes is breaking up earlier, plant and animal ranges have shifted while trees are flowering sooner. (**Intergovernmental Panel on Climate Change**)

Effects that scientists had predicted in the past coming as a result of global climate change are now occurring: loss of sea ice, accelerated sea level rise and longer, more intense heat waves.

For now, we have to anchor the promotion of public policy engagements and public awareness of the importance of integrating science and technology, including the fields of transport and logistical networks on the Green Revolution development, discussions and strategies. Specific attention should be placed on exploring how they can be adapted to local economic conditions and climate change crisis.

(**The writer of this article is a Zambian journalist, author, researcher, a PhD candidate and student of Logistics and Transport. Email** **zajrworkshop@gmail.com****, mobile:+260-974027029**)