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Enhancing Productive capacities, Science, Technology and Innovation for the LLDCs

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Excellences, distinguished colleagues, ladies and gentlemen

Before I begin my presentation, let me express my gratitude to UN OHRLLS for organizing this retreat and giving UNIDO the opportunity for this intervention.

Let me start by presenting you with two stylized facts that serve to give a snapshot of key parameters for assessing the economies of LLDCs. I have used averages although wide variations exist among the countries.

The first table shows the contribution of key sectors to aggregate output in LLDCs.

What you will observe is a systematic decline of the contribution of agriculture and manufacturing to GDP. The decline of the agricultural sector was not accompanied by a reduction in the share of employment in the sector. So, in reality, these countries experienced a decline in productivity in the agricultural sector.

The share of manufacturing production to GDP is a strong indicator of the industrialization of the economy and a measure of value addition in the production system. It is an indication of the creativity and innovation in the economy because usually 80 % of R&D and innovation happens in the industrial sector. The data shows a worrisome trend. LLDCs have indeed experienced a process of deindustrialization. This is a serious impediment to their medium and long term growth and capacity to innovate.

The second table looks at the export concentration index for LLDCs from 1990-2003 and 2004-2012 respectively. A higher number means higher concentration or less diversification. The share of natural resources in total export has increased in the majority of LLDCs during the post-Almaty period relative to 1990-2003. Higher export concentration especially in natural resources further expose these countries to damaging effects of fluctuations in global demand and prices of commodities and susceptibility to shocks.

Moreover, the difficulties experienced by the LLDCs in moving up the technology ladder are illustrated by the low technology intensity contents of their exports. The low technology content is an important impediment to the LLDCs' ability to compete in global markets for medium and higher-technology products.

From the above we can extrapolate some conclusions about the challenges faced by the economies of the LLDCs. These are:

- High dependence on export of natural resources and commodities;
- Low levels of industrialisation;
- Special challenges linked to geography, including remoteness from major international markets, inadequate transport infrastructure and high transport and trade transaction costs. According to World Bank estimates the average cost of exporting a container for LLDCs is \$3000 in 2013 while transit countries only pay 50 per cent of this cost;
- Economic performance of LLDCs is heavily dependent on the economic situation in their neighbouring countries:

Because of these challenges the majority of LLDCs continue to experience high levels of poverty as well as slow progress along important dimensions of economic and social development. 16 of the 32 LLDCs are also classified as least developed countries.

Conceptual framework: *Structural transformation for enhanced productive capacities*

Let me therefore lay out a conceptual framework for enhancing productive capacities. Similar to most developing countries, to achieve sustainable economic growth, LLDCs will need to focus on the structural transformation of their economies by promoting competitive industries and export structures that produce higher value-added products. This will require a strong focus on industrialization, and the development of responsible value addition to encourage job creation and income generation, while respecting the planetary boundaries and ensuring the efficient use of resources.

Corner stones for developing productive capacities

Let me now turn to some corner stones that LLDCs need to focus their attention on in order to develop their productive capacities and initiate a process of structural change involving product diversification and upgrading.

First, let me define a bit more clearly what we mean by productive capacity because this will be useful for devising the way forward. Today, no agreed upon definition exists. In short, productive capacity is a term used to define maximum possible output of an economy. More specifically, we can say that it is "the productive *resources*, entrepreneurial *capabilities* and production *linkages* which together determine the capacity of a country to produce goods and services."

So how do we foster the productive resources, entrepreneurial capabilities and production linkages in LLDCs? In brief, I would like to highlight seven cornerstones.

First, Industrial Policies: More than their coastal neighbors, LLDCs need to adopt aggressive development strategy to alleviate the development challenges and the adverse effects associated with geography. UNIDO and others have highlighted the importance of industrial policies. The structural transformation of an economy requires a strategic approach that has to be based on a thorough understanding of global and local trends and of the countries' potential and limitations. Given the specific limitations that LLDCs face, especially their limited access to world markets and high transaction costs, strategic choices regarding the transformation of their economies are crucial for LLDCs. Governments in consultation with the private sector and main stakeholders need to develop a clear industrial vision that outlines clear commitments towards the strengthening of economic drivers and a competitive regional and international positioning. Strategic decisions that have to be taken include: expanding existing manufacturing capacities and engaging in new industries, creating new linkages including enhanced linkages with transit countries for stronger regional integration; furthermore improving productivity and participating in more dynamic world market segments. The main role of the state in this process is to facilitate the coherent implementation of this vision and help overcome the coordination problems among the stakeholders and institutions involved.

Although there is no one-size-fit-all, a necessary element of the industrial strategies of LLDCs countries should focus on: specialisation within a regional context;

specialising in niche products for domestic consumption and export; participating in non-tradable goods for local and regional markets; and developing production and trade systems that are less dependent on transport or producing goods that are efficient to transport in the sense of having high value relative to weight. For resource-rich LLDCs a necessary part of their strategy should be to increase domestic value-added content of their natural resource exports as well as leveraging their natural resources to achieve economic transformation. Very importantly too, a key part of the strategy will be to increase productive capacity geared to transforming agriculture through science and technology into a launching pad for Industrialization, in addition to guaranteeing food security.

Second, Infrastructure: This is by far the biggest challenge LLDCs face. While infrastructure is critical in all developing countries, it is especially essential for alleviating the specific constraints of LLDCs due to remoteness. In particular, an efficient infrastructure base helps reduce production and trade costs, which enable firms in landlocked countries to integrate in the global markets. The transport infrastructure is by far the most important and relevant of the network. This includes also the transit infrastructure.

Another key requirement for enhanced productive capacities is access to affordable and reliable energy. Similar to transport costs, high energy costs or the lack of energy access are considerable impediments to industry competitiveness in LLDCs today. The majority of LLDCs are energy importers, with only a few of them producing and exporting energy. There is therefore a need to invest in energy infrastructure, while at the same time enhancing energy efficiency as this can reap environmental, social and economic dividends.

Third, Access to investment: The development of productive capacities in LLDCs furthermore largely depends on access to investment. The rates of FDI inflows to LLDCs have increased from 8.9 billion USD in 2003 to 34.6 billion in 2012. However, LLDCs still tend to have lower FDI rates than other LDCs. FDI plays a crucial role in accelerating private sector development and can be an important driver of industrial development, as it promotes productivity growth by providing capital, technologies and knowledge. Therefore, to expand their productive assets, LLDCs need to mobilize investment - both domestic and foreign. In this context it is crucial that LLDCs promote an enabling environment to attract foreign direct investment and

private sector involvement. . Resource-rich LLDCs should seek to maximize direct taxation of natural resource exploitation and trade as well as government share of resource rent. Government should provide incentives for MNCs to retain some of their profits in the domestic financial systems as term deposit or other financial assets. In turn banks should be incentivized to intermediate these additional resources efficiently by lending to productive and employment generating sectors. Other forms of financing such as remittances, ODA, bonds, infrastructure financing should be considered.

Fourth, Private Sector Development: Besides attracting foreign businesses, developing a vibrant private sector at home is critical for economic growth, entrepreneurship development, technological dynamism and associated productivity growth. Therefore, LLDCs will have to focus on the development of a strong private sector by improving the general business environment for private sector development. Supported by a conducive business environment the private sector can play a vital role in driving innovation. Private companies often stand at the frontier of new sectors and bring innovation to the economy. Besides that, the Almaty Declaration rightly emphasizes the importance of the private sector as a service provider and as user of transit systems, and therefore as an important stakeholder in the development of infrastructure in LLDCs. In this regard, I would also like to stress the importance of **public-private partnerships**. In the area of science and technology, strong inter-linkages between the public and private sector can be of profit for both sides.

Fifth, Science, technology and innovation: One way to enhance the low productivity rates in LLDCs as well contributing to better competitiveness in regional and international markets is to invest in new technologies for productivity growth. The private sector assumes an outstanding role in fostering STI as it accounts for the bulk of innovative activities. LLDCs, therefore, both have to invest in science and facilitate technology transfer by creating an enabling environment for business creation and development. Focus should also be on being able to understand and adapt foreign technology at the level of production.

Sixth, Development of human capacities: A problem that many LLDCs face is the shortage in human capital at the different skills levels. Increasing investment in human capital is particularly essential in LLDCs to increase productivity, innovation and competitiveness. Low levels of productivity and limited economic diversification

often lead to emigration of skilled workers in search of job opportunities. In view of this “brain drain”, ensuring a match between labour demand and supply is a big challenge for LLDCs. In close cooperation with the private sector and vocational training institutions, LLDC governments should therefore establish and revise vocational training curricula, and build capacities of vocational training institutions. This will contribute to match the skills of job-seekers to labour market needs and demands of the private sector.

Finally, South-South cooperation: LLDCs are particularly well placed to positively benefit from South-South cooperation because; different from traditional North-South cooperation, such cooperation usually takes place in a regional context and can thus promote regional integration. South-South cooperation is also crucial for LLDCs because, in as much as it facilitates exchange of knowledge, experience, technology, and investment, the technological gap between countries of the South is usually less pronounced and thus facilitates adoption in LLDCs. It is also because of these distinct advantages that The Almaty Declaration emphasizes the importance of South-South cooperation and encourages the further strengthening of South-South cooperation and triangular cooperation.

Before concluding I would like to provide some examples of projects being undertaken by UNIDO in LLDCs countries

Concluding remarks

Concluding my presentation I would like to briefly summarize the main issues and highlight a few points that I believe are crucially important for enhancing the productive capacities of LLDCs, Let's make sure we take these points into consideration when we review the Almaty programme of action.

- I have briefly described the structural vulnerability of LLDCs, high trade transaction costs and resulting low competitiveness on international markets, which is why LLDCs have to focus on the structural transformation of their economies focusing on diversification and value-addition.
- Furthermore, I mentioned the cornerstones for developing productive capacities in LLDCs:
 - Regional Integration;
 - Industrial Policies and the need for strategic decisions;

- Access to energy and increased energy efficiency as an important component of infrastructure development;
- The need to build an enabling environment for investment;
- The importance of creating an enabling environment for private sector development as well as public-private partnerships.
- The importance of science, technology and innovation to increase productivity and boost competitiveness
- The development of human capacities and skills in close cooperation with the private sector
- And last but not least, South-South cooperation given its focus on regional cooperation and a narrower technological gap between participating countries.

Let me finish by saying that I am convinced that addressing these cornerstones will bring us a long way as we embark on a review of the Almaty Programme of Action and I look forward to our discussion.

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