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*Editorial*

# Agricultural Economics

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**Evolving Scope of Agriculture in the Economy and the Challenge:** Almost any data on agricultural output (as GDP share) or the sector's share of employment is bound to be noisy due to definitions of both what constitutes 'agriculture' as well the characterisation of the work units (in fulltime equivalent). Nevertheless, a preliminary investigation into apparently consistent country/regional data for 2022/2023, as available, reveals that across China, South Asia, and the EU, the real average labour productivity is about the same relatively speaking at about 0.31–0.33, *i.e.*, the output share of GDP is about one-third (or less) of the labour share of employment. However, Canada and the US appear to buck the pattern cited above, where the same statistic appears to be much higher 0.63 (Canada) and 0.53 (US), respectively. A major divide here is between the richer world (say, EU and north America), where the average farm size is not only much larger but relatively stable over time vis-à-vis those in the global south. Of course, many other factors would explain the productivity differences, including institutional and definitional issues as hinted already. Agricultural economists would better serve their profession by examining the relative labour productivity phenomenon by developing internally consistent data and determining the standards of both the conceptual as well as measurement issues in defining what the EU calls 'annual work unit'. Most developing countries look up to ILO as the standard bearer when dealing with labour market constructs, and there may be work ahead to strive for a global standard by re-examining the EU and global guidelines on both the definition of agriculture as well as the unit of agricultural work. To the extent agricultural productivity remains higher in North America, or elsewhere for that matter, further research is called for especially in the developing world where the share of employment is stubbornly high, e.g., in mid-forties in Bangladesh and India, holding back the standard of living.

**Food Security, Conflicts, and Protection:** Despite the dwindling share of agriculture in a nation's GDP, a universal pattern, a robust growth of agriculture is intimately linked with global food security. While individual nations cannot ignore addressing the demand side of the food security equation, the supply issues are often global. Armed and geopolitical tension, epidemics, and trade barriers have posed a serious challenge to the international trade and movement of grains and jeopardised hunger and an orderly way of life in many parts of the world, especially in zones of active conflict. Economists and policy makers, in their advisory and/or advocacy roles have a duty to call for a total withdrawal of trade barriers permitting the free flow of food through all lawful channels.

Another aspect of food security deals with the quality control and regulation of processed food. Everyone recognises the energy utilisation in any processing activity, while the industry (both plant and non-plant) has been engaged in a continuous campaign to innovate newer 'products' thus seeking greater profits and to satisfy (and to create) the consumers' palate. The proliferation of value-added food vis-à-vis the natural variety may raise the demand for some products thus permitting a higher price of the produce to the grower; however, this comes with baggage. The latter includes the excess use of energy, and the negative health externalities arising out of a decline in the quality of nutrition, not to speak of the higher risk of morbidity (e.g., childhood obesity and juvenile diabetes) from the excess intake of sodium, sugar, and trans-fatty acids. Economists and related specialists have a duty to engage in high-quality research to identify the risks and measure these damages so that the conjectures cited above are turned into scientific propositions. Once so informed, one can design suitable policy interventions.

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**Climate Change:** While plant science has over the decades made an extensive contribution toward the development of nutrition rich varieties of major grains (e.g., rice, wheat and, maize) and I gather efforts have also been underway to innovate climate-resistant seeds. It is important to be able to predict the implications of climate change on atmospheric as well as soil temperature, moisture distribution, and soil nutrients in different geographic zones, and allow full dissemination of such knowledge to the farming community (including extension service providers) everywhere. Regional and local agricultural agencies (dealing with both research and policy) would then have to devise actual policies with respect to issues of crop/seed choice and rotation, fertiliser, irrigation, and pest management. Similar actions should also be extended to climate induced livestock rearing practices.

The climate-based insurance products, especially for crops, have long been devised with a variety of success in different parts of the world. The reach of such practices is still unsatisfactory in many parts of the developing world, especially sub-Saharan Africa, and South Asia. Premium affordability as well as inadequate insurance education have historically held back the purchase of insurance in such contexts. With climate change, the underlying statistical modelling would now have to undergo recalibrations and newer products would have to be developed and rolled out. Economists and related specialists do still need to explore viable financing innovations (e.g., the mere linking of credit and insurance has proved inadequate) to make insurance affordable to small family farms (both crop and livestock) in low and lower-middle income contexts.

### **Declaration of Competing Interest**

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.