Paths and Limits of Agricultural Growth

How a decreasing share of the active population can provide food for an increasing number of people on a limited land and without adverse impacts on environmental resources?

Global trends

Between 1961 and 2003, the world population has been multiplied by 2 and the urban one by 3, whereas active people involved in agriculture has increased by only 60%.

Consequently, the number of persons nourished by an agricultural worker has increased from 3.6 to 4.7 on average (+31%), this was made possible thanks to an increase of production per worker (+53%) as well as per cultivated hectare (+123%), while the cultivated area per worker has fallen from 1.45 ha to around 1 ha.

Regional agricultural productivities

Is there a sustainable agricultural productivity path?

Despite a fantastic OECD's growth in terms of labour productivity due to motorization and quite easy rural-urban migrations, the world average agricultural productivity path remains rather close to the ASIA one based, above all, on a yield boost. This land productivity is high in ASIA as well as in OECD, but in both cases, seems now to level off for various possible reasons (low market incentives, increasing prices of fossil energies and of other agricultural inputs, water stress, soil or biodiversity erosion...).

Future important yield growth may take place in FSU where both land and labour productivities seem still rather easy to improve. In LAM where the productivities are already significantly high, the extension of the cultivated area may be the first challenge and problem, while in SSA, it is the peaceful land access along with mechanisation and sustainable yields improvement. Whatever happens, future employment and livelihood of present agricultural families remains a global key question, and one may wonder if the high OECD motorisation of agriculture is a possible and desirable path to follow elsewhere in the world.

References

The Millennium Ecosystem Assessment Regions

development

agronomique

en recherche

de coopération

Centre de Agricultural Growth provide food for an increasing number of people on a limited land and without adverse impacts on environmental resources?

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References

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