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Reformulation of Agricultural Sustainability

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All definitions of Agricultural sustainability agree on that it has economic, environmental and social aspects while the economic aspect is examined taking into consideration viability in strictly microeconomic terms. Energy input is usually analyzed into Labor, Machinery, Fuel, Nitrogen, Phosphorus, Potassium, Seeds, Irrigation, Herbicides, Insecticides, Electricity and Transport. However, in most countries under food stress labor input is high while agricultural production has low contribution from the rest of the energy input variables which impacts productivity in a negative way. Since most of these countries have negative trade balances and foreign exchange shortages, economic viability must be augmented in a way that influences these national account balances which impede the viability of microeconomic aspect examined usually. The augmentation methodology proposed is the redefinition of cultivated land by the obligatory inclusion, as an integrated component, of additional land where biomass/biofuel cultivation takes place. The target of this redefinition is (a) to cover the cost of the rest of the energy input variables by a crop which reduces imported fuel and allows for the foreign exchange earned to be transferred to the import of these missing quantities while retaining the same level of imports (b) to lower in a sustainably stable way crop prices in general and (c) to insulate crop production from the local and local fluctuations of energy cost. The pros and cons in terms of general sustainability are examined.