

Measuring Crop Yield Sustainability

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Abstract—Sustainability is multifariously defined contested phenomenon. Sustainability has been defined by various authors in various ways keeping in mind the perspective concerned. Sustainability is a long term phenomenon which integrates judicious use of natural and other resources without affecting the prospects of future generation; as such it takes care of intergenerational equity also. In agriculture by crop yield sustainability one means persistence or capacity of system to maintain per hectare productivity of particular crop or cropping system. Then question arises, how could we define or assess whether a system or a production system as sustainable one! In agriculture, for steady supply of food towards food and nutritional security measuring the crop yield sustainability plays vital role. In a country like India with reach source ecogeographic, ethnic, cultural and other diversity, food habits are generally developed based on these diversity. Thus, a fragile/unstable/unsustainable production system has great importance on continuing such diversity. So measuring, the crop yield sustainability of different crops plays vital role. With this perspective, in this exercise an attempt has been made to analyse the statistical measures of crop yield sustainability and in the process proposes new measure of crop yield sustainability. With an example of long term crop yield data on gram, the yield sustainability of different states have been measured. The study ultimately reveals that though not all the measures of crop yield sustainability result in uniform conclusion but can very well be used for comparison among the growing areas and appropriate policy measures can be taken up to sustain the crop production accordingly.

Keywords: Crop, cropping system, measure, sustainability.