

## **GREEN FARMING STRATEGIC VISION : 55**

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## **Organic Farming for Environmental Health**

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The continuous and unbalanced application of the agrochemicals causing degradation of environment in terms of air, water and soil pollution thus deteriorating the environmental health. The decline in agricultural productivity due to loss of soil fertility is the visible impact. The chronic and indirect effects of excessive application of agrochemicals are surface and ground water contamination, contribution to the global warming, climate change, ozone layer depletion and soil degradation. According to the National Bureau of Soil Survey and Land Use Planning (NBSSLUP) 21.97 million hectare (m ha) of land in the country is degraded in terms of acidity and alkalinity /salinity. On the other hand, agriculture remains vulnerable to vagaries of monsoon particularly in rainfed areas. Natural calamities such as drought and flood occur frequently. Climate change is likely to aggravate the risks of thermal stress, drought and flood and may considerably affect agricultural production through direct and indirect effects on crops, soils, livestock, fisheries and pests. According to Intergovernmental Panel on Climate Change (IPCC) report, greenhouse gas (GHG) emissions from the agricultural sector account for 10–12% or 5.1–6.1 Gt of the total anthropogenic annual emissions of CO<sub>2</sub>-equivalents. However, this accounting includes only direct agricultural emissions; emissions due to the production of agricultural inputs such as nitrogen fertilizers, synthetic pesticides and fossil fuels used for agricultural machinery and irrigation are not calculated. Furthermore, land changes in carbon stocks caused by some agricultural practices are not taken into account, e.g., clearing of primary forests. Emissions by deforestation due to land conversion to agriculture, which account for an additional 12% of the global GHG emissions, can be additionally allocated to agriculture. Thus, agriculture production practices emit at least one quarter of global anthropogenic GHG emissions and, if food handling and processing activities were to be accounted for, the total share of emissions from the agriculture and food sector would be at least one-third of total emissions. Considering the high contribution of agriculture to anthropogenic GHG emissions, the choice of food production practices can be a problem or a solution in addressing global warming.

Environmental health is the quality of environmental regimes such as air, water and soil for their desired use, application function etc. The conventional agriculture and high tech agriculture practices both are deteriorating the environmental health through different means. Considering the ill effects of the conventional/hi-tech agricultural practices, organic farming practice is being seen as a viable option towards maintaining the environmental quality for its desired use. Recent studies have also highlighted the substantial contribution of organic agriculture to maintain environmental quality without decline in agricultural production and in an economical way. The definition of organic agriculture itself describes environmental health objective of organic farming. As per the Codex Alimentarius Commission organic farming is a holistic production management system that avoids use of synthetic fertilizers, pesticides and genetically modified organisms, minimizes pollution of air, soil and water, and optimizes the health and productivity of interdependent communities of plants, animals and people. The principles of organic farming aim to minimize the dependency of farmers to external agricultural inputs thus promoting on farm inputs through waste recycling, value addition, integrated management of nutrient, weed, pest, water etc., crop rotation etc. The adoption of organic agriculture helps in minimizing the adverse impacts of food production practices and associated pollution sources on air, water and soil quality and eventually helps in maintaining environmental health.

All the Researchers/Scientists/Academicians/Policy makers/Stakeholders/Students are hereby asked to promote the organic farming among farmers of the country for farmers welfare, ours wellbeing, ecosystem balance and maintaining steady environmental health because organic farming has a potential to address the existing as well as forthcoming environmental issues.

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