

Rice and people; mechanistic and organic visions on biosphere and humansphere

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Abstract

During the 1960s new ideas about ecology, crop production and plant breeding emerged. These ideas are rooted in a 'systems approach' to the biosphere. The approach gained ground in various institutes and services because it resonates with ideas of control and management among political leaders and administrators. In this paper we show how this cybernetic or mechanistic idea of ecology affected crop improvement, in particular the Green Revolution in rice. Critics of the Green Revolution have always rejected the top-down implementation of improved crop varieties and argued for local solutions. Proponents of a local approach generally base their arguments on political grounds, proposing participatory approaches as a way to enhance democratic principles. However, ecological implications of such local approaches are often termed in similar control and management language, emphasizing resource conservation measures and formulating restrictive norms to enhance sustainability. Recent research in West Africa on regional patterns and adaptation of rice varieties suggests that West-African rice farming, hardly affected by the Green Revolution, proves to be a dynamic and flexible activity where local and global influences each find their way. Results suggest that organic forms of interaction between human activities and agro-ecological processes are progressively innovative. This has implications for the perspective on ecological systems in general and rice improvement in particular at the level of global research centers.