

# **The rice genome and its history; mutual benefit and policy implications**

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New genetic techniques are a useful addition to the toolbox of the historian. In this paper it is argued that the techniques and information from the genetics of rice (*Oryza sativa* L. and *Oryza glaberrima* Steud.) creates a series of challenges for the history of rice production. Answers to these questions are highly relevant for current policies and projects addressing plant improvement and rural development in rice growing regions. The questions emerging from genetic analysis of rice are particularly related to the origins, travel routes and hybridization of different varieties of the rice plant.

This paper identifies three different regions that are nodes in a global network of movement of rice germplasm, Indonesia, the Northwest-Mediterranean and West-Africa. For each of these regions, recent insights from rice genomics are presented. These insights are projected on a long-durée historical perspective, identifying major historical events and patterns that affected the distribution of rice genes and its impact on rice production. The result is a framework to investigate the region-specific dynamics between rice genotype and the socio-technical environment of rice production.

Furthermore, this paper argues that such a framework fits with an emerging change among national and international research institutes and donors to move away from the idea that one technology will work regardless where it is introduced. Region-specific features, both agro-ecological conditions and social factors, are taken more seriously than before. The framework proposed here contributes to a better understanding of contextual factors as well as long-term processes of change. However, there are substantial differences in specific cause-effect mechanisms from a long-term historical perspective and the anticipated mechanisms from international donor efforts. Historical analysis therefore can contribute to the formulation of policies and technologies that induce change processes, resulting in improved situations with respect to rice production and food security.