



**INDIAN INSTITUTE OF TECHNOLOGY GUWAHATI  
SHORT ABSTRACT OF THESIS**

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**SHORT ABSTRACT**

The present study attempts to examine the nature, process, and organisation of scientific collaboration in rice biotechnology research in India. The present study from Sociology of Science and Technology (SST) perspectives that are critically engaged in exploring such aspects employs mixed methods to achieve the research objectives. The quantitative methods comprise the bibliometric study of scientific collaborations occurring at the micro and macro levels in the field of rice research in India. The qualitative methods include of in-depth personal interviews with 71 scientists engaged in rice biotechnology research from 21 scientific institutions coming under the aegis of Indian Council of Agricultural Research (ICAR), and the State Agricultural Universities (SAUs). The quantitative and qualitative analyses indicate that scientific collaboration in rice biotechnology research is both national and international in character. Furthermore, the collaborative ambit of rice research is transcending the boundaries of organizations, regions and nations as well. The research activities in the field of rice crop are in a transition phase, making a gradual shift from "little science" to "big science" environment. Weak university-industry collaboration implies that rice research activities are in initial phase of 'Mode 2' form of knowledge production, where triple helix model is yet to evolve. The project formation in rice biotechnology research is not only shaped by agency function of scientists but also by the structure within which scientists operate. However, in this study, the role of the structure was found to be more dominant in comparison to the agency function. This study finds that collaborative practices in rice biotechnology research seem to be influenced by various sociotechnical factors. The organisation of scientific collaboration in rice biotechnology research can be best characterized by a high incidence of the classical Weberian features: hierarchy of authority, written rules and regulations, formalized responsibilities and a specialized division of labour. However, these features should not be understood as impediments to scientific collaborations. Their principal objective is to protect organizational interests as any form of collaboration is, by definition, a purposive ephemeral joining of partners.