

Travelling in the social science community: assessing the impact of the Indian Green Revolution across time and disciplines

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The Indian Green Revolution (GR) offers an interesting, if complex, example of about the nature of evidence and how it travels between academia and the public sphere, between different academic disciplines and over time. By the mid-1960s some American economists were arguing that the key problem facing the agricultural sector in developing economies was not institutional or cultural but economic. Farmers were rational but were constrained by a low equilibrium production, and income, trap. It was a trap because low income meant that they used poor quality inputs and low level technology and they had a low income because of this. Through the medium of the World Bank these views came to influence Indian policy, which had previously focused on institutional solutions (especially land reform) to the problems in its agricultural sector, and the GR was instigated. This was seen to be important by policymakers because at that time India faced enormous pressures on its food supply from its rapidly expanding population; also, at a more general level one major problem the economy faced was the low level of average income and since farmers were a significant proportion of the economically active population raising their income might help to solve this. Initially, at the heart of the GR lay the adoption of High Yielding Varieties of wheat and rice (HYVs). However, compared to traditional crops the HYVs were less resistant to drought and disease which meant that they required better irrigation and more water generally and more fertiliser, pesticide and germicide. Thus, to encourage the adoption of the riskier and more capital intensive HYVs the state provided support to encourage farmers to improve the quality of their land through greater irrigation and use of chemical fertilisers and insecticides, as well as providing selective price supports. The impact of the GR has been the subject of controversy, although it does appear that over time the diffusion of HYVs is still increasing.

In terms of our project a study of the GR can provide insights into how facts travel from academia to state policy to influencing individual farmers (in terms of the economic argument about technology), how facts travel between science and farmers (in terms of persuading farmers of the benefits of the HYVs), how facts travel between academic disciplines (in terms of the wide ranging debate about the rationale and success of the GR which encompasses, among others, economists, geographers, political scientists and sociologists), and how facts travel over time (in terms of how the debate about the success

of the GR has changed over time, which has turned on the interpretation of a dynamic factual base). This particular case study will focus on the debate about the GR within the academic social science community and will assess this travelling across disciplines and across time by analysing a database based on the large academic literature on the GR.

The database of articles used in the paper was compiled from a search of articles and books in four major databases: the International Bibliography of Social Sciences, JSTOR, PCI Full Text and the catalogue of the LSE library (BLPES). The parameters used for the search were 'Green Revolution' within the title, abstract, keyword and/or subject fields. Initially no geographic restriction was placed on the search nor was any restriction placed on discipline area. The search results (titles and abstract) were then scanned for geographic focus. Wherever the focus was clearly on India, Punjab, South-Asia or Asia including the subcontinent those entries were selected for inclusion in the database. Within the database several characteristics of the articles were identified, including journal of publication, date of publication and discipline area, which would allow some initial observations to be made. For example, preliminary results show that Economics accounted for almost half the database and there were almost four times as many Economics articles about the GR than there were Sociology articles; they also show that most disciplines became interested in the GR in the early 1970s and maintained some interest up to the present.

The aim of the analysis is threefold: firstly, within each academic discipline to trace the literature on the GR and changes in that literature over time, with the focus on how the 'facts', or 'facts' that were felt to be important, concerning the GR within that discipline changed over time; second, to examine how different academic disciplines analysed the GR at certain points in time, for example did they use different 'facts' to analyse the GR or did they use the same or similar 'facts' but interpret them in a different way?; third, to assess if 'facts' about the GR travelled successfully between different disciplines. The preliminary analysis of the database mentioned above does suggest that it will allow us to address each of these questions.

In the original search of the four major databases books were also included and information gleaned from these will also be used to supplement the analysis of the journal articles. Furthermore, a small selection of book reviews will also be utilised, particularly where a book has been found to be reviewed in several journals across disciplines.