

NATIONAL RESEARCH DEVELOPMENT CORPORATION OF INDIA AND
THE TRANSFER OF TECHNOLOGY FROM LABORATORY TO INDUSTRY

A STUDY

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One of the main functions of the National Research Development Corporation of India (NRDC) is the transfer of technology from R&D institutions to industry. Its role herein is ~~is~~ chiefly that of an agent or intermediary but of late expanding activity in process development has been undertaken. There are a number of mechanisms for technology transfer:

1. Direct investment
2. Outright sale/purchase
3. Management contracts
4. Turn-key job "
5. Licence agreements
6. Dissemination of information
7. Training of personnel

NRDC mainly operates through licence agreements and dissemination of process know-how. Recently the Govt. have also approved of equity participation by it in public companies to the extent of 26% of total equity (technology transfer by direct investment). With growing responsibility and commitment in this manner the need exists more than ever for fuller and quantifiable understanding of the factors and problems in technology transfer.

The literature available on the subject of technology transfer is largely qualitative theory and discussion and such empirical studies as exist do not contain any quantitative methodology to satisfy metrical minds. This deficiency is well-recognized since policy makers do desire, and need, concepts that can be quantified to facilitate comparison and to make optimum choices. A number of questions connected with technology transfer may be readily cited where quantifiable concepts will need to be developed:

1. Direct and indirect cost components of the different mechanisms of technology transfer
2. Significant factors contributing to success of transfer - their ordering, dependence on environment and controllability.
3. Choice of projects and interdependence of scale and agglomeration of factors for success.
4. Determination of life of licence agreements, premia and royalty rates.
5. Process evaluation and determination of saleability
6. Relationship between the number of licences issued and probability of success.

The above are only illustrative and not at all exhaustive of the type of questions of interest to policy makers. The present investigation is an attempt to apply some simple quantitative methods and point to possibilities in the field of technology transfer. Four different areas have been elected for analysis :

- a) Process-flow information available in annual reports of NRDC
- b) Sample survey of entrepreneurs and scientists at the Third CSIR-NRDC ~~Govt~~ Get-together to determine attitudes and approach to process merit determination.
- c) Study of 5 successful processes to define criteria for success and to identify and to rank contributory factors.

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d) NRDC study of some unsuccessful processes to verify conclusions and to extract any more valid information.