

**DFID RESEARCH REPORT: R 7006**

**ADJUSTMENT AND DEVELOPMENT IN SOUTH INDIA : RESEARCH  
ASSISTANCE FOR DISSEMINATION**

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# RESEARCH REPORT R 7006 : ADJUSTMENT AND DEVELOPMENT IN SOUTH INDIA: RESEARCH ASSISTANCE FOR DISSEMINATION

**Barbara Harriss-White**

## **1. BACKGROUND AND OBJECTIVES**

The purpose of this dissemination grant was to revise and to develop the output from R 5686 in order to produce two books. This output, comprising 40 working papers, had been peer-reviewed by scholars, administrators, local policy makers and NGO activists at an international workshop in Chennai, India, discussed with DFID, New Delhi, and had reported to ESCOR by its deadline of March 1996. Under R 5686, run by the Madras Institute of Development Studies through Queen Elizabeth House, Oxford University, three villages in northern Tamil Nadu (the agricultural economies of which had been studied in 1973-4 and 1982-4) had been re-surveyed in 1993-4. A basic census was also made of 8 other villages so as to provide a consistent data base for the entire set of 11 villages which have been studied each decade over the 20 year period. In the three villages subjected to detailed survey, dimensions of social welfare - not hitherto evaluated - were added to the core of data and the development of the non-farm rural economy was also examined. One of the books planned as output for R 7006 was to be on agriculture and social welfare during the reform period and the second was to be on rural development over the two decades from 1973. Please see Appendices 1 and 2 of the original proposal for R 7006 for their outlines, and the Preface of the 'output', the two-volume book submitted to ESCOR alongside this report, for a brief history of this project.

The final product for dissemination differs from the original proposal for two reasons. First, a set of tragic events concerning the Indian and British co-directors of this project and other members of the Indian team threw the venture into jeopardy. The impact of these events meant that R 7006 then had to be prepared in Queen Elizabeth House alongside the management of two other DFID-funded projects and the dissemination material was seriously delayed. Second, the data inputted at the Madras Institute of Development Studies turned out to require an unplanned extra year of checking and cleaning in Queen Elizabeth House, absorbing the resources for research and editorial assistance, contributing further to delays and necessitating modifications to the division of responsibilities. (The data are now clean, and available on CD.) ESCOR was kept fully informed and was consulted throughout about these difficulties. R7006 started in October 1997 and was given a series of extensions (one of which was funded) from its original deadline at the end of 1998 until May 2001. The output is a single book with 19 chapters in two volumes : **Reforms and Rural Development: Essays on Long Term Village Change and Recent Development Policy in South India**. Sage, New Delhi, has expressed interest in publishing it and will review it shortly. It will also be placed on QEH's website. Its table of contents is appended to this report.

This book deviates from the original objectives of R 7006 in the following ways. It is a single, two-volume book rather than two books. From the original book 1, the analysis of agricultural policy had to be less detailed than planned (but see Chapter 2.1 of the final book for an analysis of the scope of policy) and the planned exploration of 'reverse land reformism' was not possible. The village level impacts of policies for agricultural production form part 2 of the new book, a similar evaluation of policies for social welfare forms part 3 and an analysis of policy implications and state capacity comprises part 4.

The original book 2 had to be considerably modified. Its original scope and findings comprise part 1 of the final book and are now summarised in Chapter 1.1. From Chapters 1.2 to 1.6, there follow detailed accounts of water and hydro-politics, of variation in village economies over space and time, of social stratification in villages, of labour and its gendering and of the evolution of the rural non-farm economy. Lost from the original plan are the chapters on agrarian markets, contracts and institutions, the industrialisation of the pastoral economy and the work on the urban-rural expansion of silk weaving and on economic change in the local market town. The latter two pieces of research were dropped because they had been carried out simultaneously with funding *outside* the ESCOR project and with scholars *not* in the ESCOR team.

Chapters 1.1, 2.1 and 4.1 of the final book summarise its findings and their implications for policy, though the policy paradigm itself is subject to a critique in chapter 2.1. Since the policy implications of all of the findings made by 1996 were conveyed to Indian policy makers, to ESCOR and to DFID, New Delhi, in 1996 itself, *the rest of this research report focusses on the new research* conducted by the research assistants employed on, and then associated with, R 7006 from 1997-99. Diego Colatei was employed throughout, cleaned the data, was the major author of two studies on stratification and credit and assisted with supplementary data processing for the chapter summarising long-term change and that on fertiliser. Dr Ruhi Saith was employed for 9 months during which she completed a study on the identification of poor households and assisted with the chapter on rural infrastructure.

Over and above the data cleaning and the production of the dissemination material itself, there are therefore three pieces of *new research* funded under R 7006 on which to report:

- 👍 Diego Colatei and Barbara Harriss-White : Social Stratification and Rural Households (Chapter 1-4)
- 👍 Rural Credit (Chapter 2-5)
- 👍 Ruhi Saith and Barbara Harriss-White : Anti- Poverty Policy : Targeting and Screening for Eligibility (Chapter 3-1)

Detailed reflections on the project's *field methods* (on the scope of village studies and revisits, on the sampling procedure for villages and households, on the surveys, on case material and the village diaries) are to be found in Appendices 1 and 2 of Chapter

1.1 in the accompanying book - and details of the systemic study of the four processes of policy and of how our field research fitted into them are in Chapter 2.1.

## **2. SOCIAL STRATIFICATION AND RURAL HOUSEHOLDS**

### **Objectives and Methods**

In an agricultural economy undergoing diversification, it makes little sense to classify rural households either by a single stratifier (such as land) or by combining agricultural variables into an index. Both the agricultural and the rural non-agricultural economy now have to be incorporated in household classifications. We have experimented in capturing this diversification. Three villages had been selected for intensive survey in 1993-5. They are representative of archetypical agrarian conditions. One was large, diversified, accessible, well-irrigated; the second was large, agricultural, remote and canal- and well-irrigated; the third was small, agricultural, remote and poorly irrigated. From the household census of these villages, eighteen variables were used relating to size and scale of operation, derived from three influential theories of rural mobility and stratification (those of differentiation, modes of exchange and life cycle mobility), and adapted to include the non-farm rural economy. These variables described assets and land; tenurial status; market dependence; the organisation of production; income and wealth and demographic characteristics and dependency ratios. This data set also reflected the many attributes used to classify agrarian households in previous research.

A tree-hierarchical clustering technique, where similar observations are combined in a stepwise progression was used to stratify households in each village. Given the process of (dis)aggregation of households with similar attributes, this method provides a means of zooming onto the village economy at various scales of resolution. It has proved to be useful in evaluating the loss of information in groups' heterogeneity, which has to be traded-off to obtain an analytically tractable number of clusters. The method starts with a simple disaggregation into two groups. Thence, by reversing the fusion process, the structure of the rural economy is decomposed to reveal both quantitatively significant and qualitatively interesting group differences both within and between villages.

### **Findings**

1. No village-specific household groups appear in the analysis. Counter intuitively, there are strong structural similarities between villages chosen to represent a range of agrarian conditions. Village households could be classified into three categories of poor and middle peasants and the elite.

2. A small group of shattered households (consisting of single individuals - often old) are the poorest.

3. These households, along with a group of poor peasants *leasing-out* their land and a large cluster of poor agricultural labourers form the biggest, strongly consolidated, homogeneous class in all three villages.

4. Middle peasants are far from self-sufficient, but found everywhere to be deeply involved in labour markets, both as employers and employees and in the non-farm economy as well as in agriculture.

5. The elite households (about 10%) are highly diversified everywhere and in combinations of economic activity tending to uniqueness. They deploy both their own and hired labour both in agriculture and the non-farm economy. These households control about half the land and most of the irrigated land.

6. Land is not the only, or the most important, differentiator of rural households. Other features such as dependency ratios, debt and the organisation of labour are as significant as land (if not more so) in differentiating rural households. Nevertheless *landlessness* is a precious stratifying variable once other household characteristics are taken into account.

7. The comparison of village averages and the analysis of inter-village variations between similar groups suggest that more developed and accessible villages - while increasing opportunities for higher, more diversified and more stable incomes and assets - may also have greater inequality and more highly differentiated access to labour, land and financial markets.

### **3. RURAL CREDIT**

#### **Objectives and Methods**

While informal credit played an important role in the initial stages of the green revolution, targeted credit has been a major component during the decades of heavy agriculturalisation. The Khusro Committee of 1989 and the Narasimhan Committee of 1991 - investigating state-directed credit, and banking reform - both recommended deregulation without considering existing informal credit relations. Tamil Nadu state has rates of achievement in priority sector lending 2.5 times the national average and is a useful case study through which to examine the impact of formal credit on informal credit (which the Narasimhan Committee confessed was 'unknown'); the purpose served by two decades of state regulated credit and possible improvements in access to credit.

The data used was from four sources; first the 3-season field survey of production, consumption, assets and liabilities from a sample of 120 village households selected by systematic random sampling proportional to strata determined by cluster analysis as described in (2) above; second village diaries kept by the survey investigators; third, a series of policy documents and secondary research; fourth the 1982-4 study carried out in the same villages by IFPRI (P. Hazell and C. Ramasamy, 1991, *Green Revolution Reconsidered* Johns Hopkins, Baltimore). A statistical analysis was carried out investigating quantities, sources, terms and conditions of formal and informal credit by village, gender of the household head, caste, class, landholding and educational status.

## Findings

1. The distribution of debt was more unequal than that of land. That of formal debt was more unequal than that of informal debt. Credit relations increase inequality. Formal lending is biased away from production and towards trading; it is biased away from poorer producers and captured by the rural elite; it does not supplement private credit but complements it.

2. Informal credit dominates the rural money market. Informal markets are highly fragmented and personalised. For scheduled caste, landless and female borrowers, access to the formal sector is almost completely denied. *Deregulation of credit cannot do other than increase the difficulty of access.* Poor borrowers have created a great variety of arrangements based on a solidary logic at very low, or no, interest. An astonishing number of rotating credit associations ('chit funds') have proliferated. Women have developed gender-specific subcircuits of credit known only to them.

3. Collateral is shown here to have a contradictory role in the demand for credit. As security it facilitates access to income increasing loans. As a direct generator of income it reduces demand for credit.

4. After two decades of state regulated credit, rural lending is reverting to forms of finance reminiscent of the 1970s in which formal credit is lent onwards into the informal sector. The difference is that merchants in the non-farm economy have emerged as important money-lending intermediaries alongside agricultural traders. Mercantile credit is as important quantitatively as is state regulated credit. Both kinds of merchants use triadic contracts (in which repayment for loans for an input is made by product sales to a third party on terms and conditions depriving the borrower from choices on inputs money and product markets) thereby demonstrating that such contracts are not confined to backward agricultural regions.

5. Widening access:

i) As the state does not deliver equitable access, the officially preferred option is to deregulate. As the economy diversifies and differentiates, new sources of demand for credit appear in sectors ignored by formal credit despite its pro-poor regulative framework : particularly women, low caste workers, landless people and rural weavers. With deregulation, banks will have no incentives not to confine lending to agrarian elites and urban on-lenders. The original reasons for state intervention remain valid. The case of equitably provided credit in the most remote village shows that there is no *necessary* reason why state managed credit cannot operate inclusively and with good coverage in poor and remote locations.

ii) Poor people need a) collateral and b) collateral of good quality to access *informal* credit. In the informal sector land is not used as a collateral but instead as a prior screen. *Ceteris paribus*, a micro-holding of 0.1 -1 acre doubles the size of informal loan taken and increases loans for production rather than consumption. Loans ought therefore to be given for landless people to purchase land.

#### **4. ANTI-POVERTY POLICY : TARGETING AND SCREENING FOR ELIGIBILITY**

##### **Objectives and Methods**

In India, those considered eligible for anti-poverty benefits are usually identified by information about private income with those below a pre-defined poverty line being eligible for a variety of social transfers. Attempts have therefore been made to improve income based targeting by using proxy indicators which correlate with income but are reliable, non-fudgable and practically easy to obtain.

To this end the relationships between self-declared private income and a set of 478 household variables obtained for 2057 households from the re-census of 8 of the original set of 11 villages, those which had not been selected for intensive re-survey, were analysed. Census data for the latter 3 villages had already been used successfully to pilot the method applied to this research ( Saith, R.R. "The Practical Identification of Poor Households: a Decision Tree Analysis of Village Census Data in Northern Tamil Nadu: Preliminary Results" *Adjustment and Development Project Working Paper Number 38*, Queen Elizabeth House, Oxford, UK, 1996.) Class probability tree analysis (CPTA), a non-parametric multivariate method, was used. CPTA reduces predictors of outcomes and expresses relationships between them in the form of easily interpretable rules that give combinations of the important features that characterise outcomes. Three experiments were carried out.

In the *first* case the characteristics of 'poor households' (those declaring private income below the poverty line) were distinguished from those of 'non-poor' households (those declaring private income above the poverty line).

*Second*, assuming that while poor households are unlikely to overestimate, some non poor households may underestimate their private income (in the expectation of benefits, thereby generating E errors), CPTA was used to isolate those households with characteristics of the class of non-poor who have declared income as under the poverty line.

*Third*, we simulated the common position of an outsider needing to evaluate eligibility using visible evidence or information hard to fudge. CPTA was applied to characterise poverty through a restricted set of variables fulfilling the criterion of non-fudgability.

##### **Findings**

1. Two representative rules from the CPTA suggest a very high probability for a household with the following characteristics being *below* the poverty line:

- i) one or more female members working as an agricultural labourer;
- ii) gross overall crop production less than 1.8 tonnes;
- iii) participation in a chit fund of under Rs 15,000

and a very high probability for a household being *above* the poverty line if it is:

- i) landed, with a gross production of more than 1.8 tonnes;
- ii) endowed with males of working age but not employed as agricultural labourers;

iii) endowed with two or fewer male dependents.

2. About 20% of households declaring income as poor were identified by CPTA analysis as having the characteristics of non-poor households. Such households would need further investigation for the reasons for distortion of income before transfers were made.

3. Using unfudgable evidence, a household has a very high probability of being poor if the following characteristics apply:

i) being scheduled caste;

ii) having a high ratio of dependents to workers ( $>0.6$ );

iii) having agricultural implements worth less than Rs 350; non agricultural tools worth less than Rs 1,000 and land worth less than Rs 35,000.

a household is very likely not to be poor if

i) the head is male;

ii) there is one or no wage-working woman;

iii) the ratio of dependents to workers is less than 0.6.

4. Recent attempts to identify rural populations as 'above' or 'below' the poverty line are known to have been arbitrary and fraught with inaccuracies. The method experimented with here has produced clear and simple results which both remove the element of arbitrariness and identify potential distorters.

## 5. DISSEMINATION

The objective of R 7006 was dissemination .

Apart from the two-volume book, additional dissemination has taken the form of:

i) *other publications*

S. Erb and B. Harriss-White, 2001, *Outcast from Social Welfare : Adult Disability and Incapacity in Rural India* , Bangalore, Books for Change

Barbara Harriss-White:

1996 with Gordon White (eds) *Liberalisation and the New Corruption* Special Issue IDS Bulletin vol 27, no 2

1996 with Gordon White 'Corruption, Liberalisation and Democracy: Introduction'  
IDS BULLETIN 27,2,1-6

1996 Primary Accumulation and Corruption under Deregulation: A Discussion based on South Indian Material IDS BULLETIN 27,2, 31-40

1996 Corruption and Policy Paradoxes REVIEW OF DEVELOPMENT AND SOCIAL CHANGE, 1,1, 85-101

1996 ( with T.B. Palaskas) The Evolution of Wholesale Price Behaviour in Tamil Nadu, 1973-93  
JOURNAL OF INTERNATIONAL DEVELOPMENT 9,1,101-115



1996 Staple Food Marketing Efficiency in Developing Countries: Introduction JOURNAL OF INTERNATIONAL DEVELOPMENT 9,1,97-100

1997 Food and its Frontiers: A Governing Idiom for Life POLITICA INTERNATIONALE XXIV, 5, 21-37

1997 The Green Revolution in South India POLITICA INTERNATIONALE XXIV 5 81-94

1997 (with S. Janakarajan) From Green Revolution to Rural Industrial Revolution ECONOMIC AND POLITICAL WEEKLY, vol XXXII no 25 pp 1469- 77

1997 Development and Death in South India FRONTLINE 14,6, 89-91

1998 Corruption in India: Agenda for Action (Review article) FRONTLINE 15,7, 79-82

1998 The Gendering of Rural Market Systems :Analytical and Policy Issues: ch 9 pp 189-214 in (eds) S. Jackson and R Pearson FEMINIST VISIONS OF DEVELOPMENT: GENDER ANALYSIS AND POLICY Routledge, London **reprinted** in (eds) L. Beneria and S Bisnath 2001 GENDER AND DEVELOPMENT : THEORETICAL, EMPIRICAL AND PRACTICAL APPROACHES Edward Elgar, Cheltenham

1998 i) Introduction: Visible Hands ii) Power in Peasant Markets in (ed) B. Harriss-White AGRICULTURAL MARKETS FROM THEORY TO PRACTICE: FIELD EXPERIENCE AND FIELD METHODS IN DEVELOPING COUNTRIES Macmillan, London

1999 Gender-Cleansing : The Paradox of Development and Deteriorating Female Life Chances in Tamil Nadu pp 124-153 in (eds) R. Sunder Rajan SIGNPOSTS:GENDER ISSUES IN POST-INDEPENDENCE INDIA Kali for Women, New Delhi

S. Janakarajan:

1997, 'Conflicts over the Invisible Resource - is there a way out?' in (eds) Moench M. and D Ajaya *Rethinking the Mosaic: Investigations into Local Water Management* IDRC , Canada

1997 'Consequences of Aquifer Over-exploitation : prosperity and deprivation' *Review of Development and Change* 11,3

2001, Groundwater Drawdown : Socio-economic and Policy Implications, MIDS, Chennai

(With A. Vaidyanathan) ,1997, *Conditions and Characteristics of Ground Water Irrigation* MIDS for Union Government Planning Commission, New Delhi

ii) *lectures and talks*

1999 : Dr Ruhi Saith on poverty indicators, screening and targeting, Queen Elizabeth House, Oxford

1999 : Barbara Harriss-White (appointed Cambridge University Smuts Memorial Lecturer, 1998-9): *Cambridge Commonwealth Lectures*

1999: DSA meetings on Poverty (SCF, London) and Annual General Meeting, Bath, UK

1999 : Belfast, Annual Meeting of the Association of Agricultural Economics  
2000 : International Workshop on Social Policy, UNRISD, Tammsvik, Sweden  
Centre for Development and Environment, University of Oslo, Norway  
Centre for Development Research, Bonn, Germany  
2001 : Cornell University, USA, Keynote Lecture to Conference on Global Tensions in  
memory of Ester Boserup  
2001 : Oberlin College, USA  
2001 : DFID HQ, London

iii) a *film*

(with DFID's dissemination funding) : 'Meals Ready' produced by 'The Other Media, New  
Delhi (contacted via admin@del3.vsnl.net.in)

shown on Doordarshan (Indian Public Service Broadcasting)

iv) *use of the data*

12 masters students in development economics have already used the data base at Oxford  
University.

v) *spin-off policy-oriented research*

On social consequences of water table depletion, the Central Indian Planning Commission  
commissioned a wider study of water mining in Tamil Nadu (Janakarajan and Vaidyanathan,  
1997, above).

On Adult Disability and Incapacity: The DFID-funded work on disability arising directly  
from this project was recognised as having been influential in DFID's position paper  
*Disability, Poverty and Development*, 2000.

PHOS have commissioned a similar study of rural adult disability and of the needs of rural  
disabled people in Zambia from Susan Erb who worked on the spin-off pilot project on  
disability.

Diego Colatei is working as a consultant to the DFID project ' Making Markets work for the  
Poor' using some of the results of the project reported here.

Dr Ruhi Saith is using the CPTA method on other dimensions of poverty in the project  
'Alternative realities? Different concepts of poverty, their empirical consequences and policy  
implications' which is part of DFID's research programme on Poverty Analysis and  
Monitoring and Pro-poor Growth

vi) *discussion with other researchers, policy makers and practitioners*

Dr S. Janakarajan is Advisor on Water Management and the Power (electricity) Sector to the  
Tamil Nadu State Planning Commission

Barbara Harriss-White has used this material in discussions in:

1999/2000-1 : International Labour Office, Geneva

2000 : New Delhi, Calcutta

2000 : India Country Director and Board of Trustees, ActionAid

2000 : Maison des Sciences de l'Homme, Paris, France.

**DISCLAIMER: The UK Department for International Development (DFID) supports policies, programmes and projects to promote international development. DFID provided funds for this study as part of that objective but the views and opinions expressed are those of the authors alone.**

# **APPENDIX: REFORMS AND RURAL DEVELOPMENT: ESSAYS ON LONG TERM VILLAGE CHANGE AND RECENT DEVELOPMENT POLICY IN SOUTH INDIA**

by Barbara Harriss-White and S. Janakarajan  
with contributions from Diego Colatei, Susan Erb, Lisa Gold,  
D. Jayaraj, Paul Nillesen, Ruhi Saith and M. V. Srinivasan

## **PLAN OF CHAPTERS**

Preface, Acknowledgements and Dedication  
Glossary

### **PART ONE: LONG TERM CHANGE**

1-1 Introduction: Heavy Agriculture and Light Industry

(Barbara Harriss-White, S. Janakarajan and Diego Colatei)

Appendices on:

- Selection of villages and households
- Long Term Village Studies
- Details of Production by Individual HYV

1-2 Irrigation: the Development of an Agroecological Crisis

(S. Janakarajan)

1-3 Time and Space: Inter Village Variation in the North Arcot Region, and its Dynamics 1973-1995

(M. V. Srinivasan)

1-4 Social Stratification and Rural Households

(Diego Colatei and Barbara Harriss-White)

1-5 Labour, Gender Relations and the Rural Economy

(Barbara Harriss-White)

1-6 Social Institutions and the Structural Transformation of the Non-Farm Economy

(D. Jayaraj)

### **PART TWO: PRODUCTION POLICY AND VILLAGE PERSPECTIVES**

2-1 Policy for Agricultural Development and Social Welfare

(Barbara Harriss-White)

2-2 Infrastructure, Markets and Agricultural Performance

(Barbara Harriss-White)

2-3 Access to Infrastructure and Local Utilities

(Barbara Harriss-White and Ruhi Saith)

2-4 Populism and Electricity in Rural Tamil Nadu

(S. Janakarajan)

2-5 Rural Credit

(Barbara Harriss-White and Diego Colatei)

2-6 Fertiliser Reforms and Nutrient Balances

(Barbara Harriss-White)

### **PART THREE: SOCIAL WELFARE IN THE VILLAGES**

3-1 Anti-poverty Policy: Targeting and Screening for Eligibility

(Ruhi Saith and Barbara Harriss-White)

- 3-2 Life Chances: Development and Female Disadvantage  
(Paul Nillesen and Barbara Harriss-White)
- 3-3 Incapacity and Disability  
(Susan Erb and Barbara Harriss-White)
- 3-4 Food, Nutrition and the State in Northern Tamil Nadu  
(Barbara Harriss-White)
- 3-5 No End to the Betrayal? Primary Education in its Social Context  
(Lisa Gold and Barbara Harriss-White)
- 3-6 Socially Inclusive Social Security  
(Barbara Harriss-White)

**PART FOUR: POLICY AND STATE CAPACITY**

- 4-1 So What for Policy? Rural Development in a Poor State  
(Barbara Harriss-White)

