

FERTILITY TRANSITION  
IN SOUTH INDIA

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Edited by  
CHRISTOPHE Z. GULMOTO  
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## LIST OF ABBREVIATIONS

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AFR	Adult Female Literacy	CBR	Crude Birth Rate
CEP	Contraceptive Protection Rate	TMFR	Total Marital Fertility Rate
CMR	Child Mortality Rate	GFR	General Fertility Rate
FMR	Proportion of Females Married in Age Group 15-19	ARSC	Annual Report of the Sanitary Commissioner
FWP	Female Work Participation	CRNI	Crude Rate of Natural Increase
GIE	Gender Inequity in Years of Schooling	ARS	Age Ratio Score
IEH	Index of Ethnic Heterogeneity	CWR	Child-woman Ratio
PHY	Physician and Surgeons per lakh population	CDR	Crude Death Rate
NUR	Nurses and Para Medicals per Lakh Population	SMAM	Singulate Mean Age at Marriage
HI	Health Index	CAC	Computer Aided Cartography
GHI	Gender-related Health Index	NGR	Natural Growth Rate
HDI	Human Development Index	MAC	Mean Age at Childbearing
GDI	Gender-related Development Index	ST	Scheduled Tribes
SDP	State Domestic Product	PCA	Primary Census Abstract
DHS	Directorate of Health Services	SC	Scheduled Castes
WPR	Work Participation Rate	UNIP	Universal Immunisation Programme
UNDP	United Nations Development Programme	IMR	Infant Mortality Rate
MPCE	Mean Per Capita Expenditure	VD	Village Directory
POLI	Physical Quality of Life Index	PCA	Primary Census Abstract
FGD	Focus Group Discussion	ICC	Intra-class Correlation
SR	Sex Ratio	PDS	Public Distribution System
SRB	Sex Ratio at Birth	ICDS	Integrated Child Development Programme
JSR	Juvenile Sex Ratio	PAP	Poverty Alleviation Programmes
IFEIM	Index of Feamle Excess Infant Mortality	IEC	Information Education and Communication Programme
ENMR	Early Neonatal Mortality Rates	RCH	Reproductive and Child Health
LNMR	Late Neonatal Mortality Rates	MCH	Mother and Child Health
SIFP	South Indian Fertility Project (SIFP)	MCC	Maternal and Child Care Services
GIS	Geographic Information System	HSC	Health Sub-centre
UNFPA	United Nations Population Fund	MAR	Marriage Age
LPED	Laboratoire Population Environnement Developpement	FDI	Fuel Disparity Index
SRS	Sample Registration System	DDIO	District Development Index
NSS	National Sample Survey	CPR	Couple Protection Rate
TFR	Total Fertility Rate	ORG	Operations Research Group
ANC	Antenatal Care	PPA	Post-partum Amenorrhoea
NFHS	National Family Health Survey	IUD	Intra-Uterine Device
		CC	Conventional Contraceptives
		OBC	Other Backward Castes
		MPS	Mysore Population Study
		BPS	Bangalore Population Study
		KFS	Karnataka Fertility Survey
		PNMR	Post-natal Mortality Rates
		VHN	Village Health Nurse

## PREFACE

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As the alleged population problem and its many consequences has featured prominently in debates related to Indian development, the fact that South India, a region of more than 200 million inhabitants, crossed replacement level in the mid-1990s, is not a well-publicized feature of India's demography. This silent revolution concerns not only the most famous progressive regions where literacy is now almost universal or where the hi-tech export economy is booming, but a larger landmass of 630,000 sq. km. This vast area includes the drought-prone tracts of the Deccan, where dry agriculture has made little progress for decades and the densely-forested areas of the Western and Eastern Ghats, where isolated tribal settlements are the main indications of human presence. This profound and probably irreversible transition in reproductive behaviour occurred merely a few years later than in China, but it was not associated with any spectacular economic growth or sweeping progress in human development on a large scale. The discrepancy with China is even more striking when one considers the absence of any aggressive family planning campaigns that have proved incompatible in the past with India's democratic institutions.

While modesty suggests that this book may not offer the ultimate explanations about the circumstances that brought South India on par with developed countries, where fertility rates have already slipped under the replacement levels, this collection of articles aims at providing a rich and diverse information base on the various demographic trajectories of south Indian states. As chapters will illustrate, fertility transition is mainly a process of progressive reproductive change akin to social change and can be best understood as a continuous evolution that tends to sustain itself in ways that make additional change gradually more likely. Causation may be regarded here as cumulative, since each facet of behavioural changes affecting the reproductive setup, such as the decision among some to delay one's marriage or to adopt contraception, alters the social perception of fertility, which in turn facilitates further local changes within or across social formations. As a result, fertility levels observed in South India tend now to be always lower than what any other socioeconomic

features like literacy, economic development or urbanization would imply. The southern states tend to be often regarded as exceptions or special cases that cannot be directly compared to the rest of India. Nor can we assume the family planning administration to have been much more efficient in this part of the country and to represent the decisive ingredient in this rapid change. The fact is that the clusters of low fertility that can be observed in south India imperfectly coincide with administrative boundaries within which bureaucracy operates. This suggests that local, endogenous factors have played a significant role in shaping the progress of fertility decline beyond the better known impact of structural economic or educational change, or of the regional implementation of population policies.

South India's singular experience is no statistical or sociological anomaly, but the results of cumulative processes that started very early in parts of South India and probably spread more extensively through the region than anywhere else in India. The present volume documents the various phases of this rapid evolution, by offering a detailed review of most of the social and demographic information related to this decline and by testing some of the main explanatory frameworks. What emerges is chiefly the importance to describe regional contexts in greater detail to understand the social mechanisms that sustain the diffusion of the new, Malthusian family norms. It may be fair to say that the formal tools of demography may prove less able than a qualitative approach to fathom the driving force of local changes.

The seeds of this volume were sown in April 1998, when the editors organized a three-day conference at the Centre for Development Studies in Thiruvananthapuram, on 'South Indian fertility transition in a comparative perspective'. This meeting brought together many colleagues from India and France and gave us the opportunity to consider the many different angles to approach fertility change in India. We realized that the diversity of demographic experiences of each region in India was indeed difficult to cover with a unique set of tools, whether they were sophisticated modelling techniques or specific disciplinary approaches. The idea of a collective book entirely devoted to the history of fertility change in the south Indian states, was born at this occasion. We take this opportunity to thank P.N. Mari Bhat, Ashish Bose, Jean-Pierre Bocquet-Appel, Yves Charbit, N. Krishnaji, K.S. James, P.S. Nair, P.K. Panda, K.N. Raj, N. Ravichandran, K. Srinivasan, Jacques Véron and K.C. Zachariah, who participated in this original seminar and Jean-Luc Racine for his distant, but efficient support for this occasion. Though the chapters in this volume have been written long after the conference with other contributors who

joined us, the initial event helped to exchange seminal ideas about the ways to approach the regional diversity of India's demographic transformations.

In attempting to develop an integrated understanding of the rapid demographic changes whose impact on South India was clearly demonstrated by the 2001 census results, we opted for a more systematic approach of every state and decided to devote one or more chapters on each region. This was complemented by additional contributions shedding light on the broader historical and geographic perspectives of changes in the reproductive behaviour in India. Thus, we have a chapter providing a geographic approach to the analysis of demographic data in South India. Another chapter was also commissioned to reconstitute the history of fertility during the colonial period. In spite of the interest generated by the rapid developments over the two last decades, it is crucial to link up the final phase of the demographic transition in South India to the evolution in the Madras Presidency, where the fertility landscape was far from flat and monotonous. Similarly, several chapters compare South India with the rest of India, using original cartography or statistical analysis, and thereby stress the original character of the South Indian demographic narrative.

The first meeting in Thiruvananthapuram also gave us the opportunity to formally launch the 'South India Fertility Project' (SIFP), a joint programme that was supported from its inception by the Wellcome Trust and the French Institute of Pondicherry. This programme started effectively only in 1999 and brought together colleagues from five main institutions: the Centre for Development Studies in Thiruvananthapuram; the Institute for Social and Economic change in Bangalore; the departments of Population Studies at Bharathiar University in Coimbatore and Sri Venkateshwara in Tirupati; and the French Institut de Recherche pour le Développement. Over the course of the last four years, the members of the SIFP included the editors, N. Audinarayana, S. Gunasekaran, S. Krishnamoorthy, P.M. Kulkarni, K.N.M. Raju, T.V. Sekher and P. Ramachandran. Several dynamic doctoral students and post-doc scholars, such as S. Aliyar, M. Chakrabarty, S. Oliveau, P.N. Rajna, P. Ramesh, M.N. Sivakumar, T. Thenmozhi and S. Vella have also helped us at various stages of the project. Travelling across South India to Bangalore, Coimbatore, Pondicherry, Tirupati and Thiruvananthapuram, we met regularly to devise a common approach to study fertility decline in regions as diverse as Kottayam or Gulbarga, whose fertility differentials are hardly narrower than those that characterize Kerala and Bihar. This book partly represents the fruits of this long collaborative work by members of the SIFP and several chapters derive from the first phase of our

joint projects. Initial drafts of the regional analyses of fertility decline in Andhra Pradesh, Karnataka, Kerala and Tamil Nadu were prepared by each team and discussed. Preliminary versions of two regional studies were published in *Economic and Political Weekly* before the publication of this book and other chapters were also presented at various scientific forums to solicit comments and reactions from our colleagues.

The backbone of this comparative venture was the development of an original geographical information system (GIS) at the French Institute of Pondicherry, based on the disaggregated census data at the micro level. This spatial database helped us to assess the extent of fertility differentials as obtained in rural South India and to later redirect our research towards specific regions that were recently investigated by the SIFP (these studies are, therefore, not incorporated in this volume). Our GIS led to a detailed estimation of regional variations across regions within South India, as well as within each state. As several chapters in this book will stress, this is probably the most salient feature of fertility decline as revealed by our investigations. What these spatial differentials entail goes much beyond the apparent peculiarity of the local variations in fertility levels, as it points to the nature of social change itself. The distinctively spatial character of our research interest is yet another illustration of the geographic turn given to this volume. Except for Oliveau's chapter, all the maps prepared for this volume were drawn by Christophe Z. Guilmoto, with the assistance of the staff of the Population and Space programme at the French Institute, who helped us to overcome our initial difficulties with cartography and spatial modelling.

The research carried out by many of the contributors was made possible at the outset by the financial support of the Wellcome Trust, which provided a substantial research grant (GR053522) to what was initially regarded as an overambitious programme to create an original GIS from scratch for a region of 200 million inhabitants. The grant shared between the participating institutions allowed us to launch several research operations ranging from data acquisition to field-based surveys and student stipends. We thank S. Balakrishnan, W. Ewart and G. Goding at the Wellcome Trust office in London for their support over the years and their patience with the bureaucratic idiosyncrasies of the French administration. Additional support from the Delhi office of the United Nations Population Fund (UNFPA) to Christophe Z. Guilmoto also contributed to the strengthening of our database, and we are in particular grateful to M. Vlassoff.

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