Innovations in Tamil Nadu

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THE demographic transition of Kerala state in India has been widely acclaimed not only because its mortality and fertility levels have reached those of developed countries of the world, but also because the achievement has been possible despite the low level of Kerala’s economic development. Kerala’s success is largely attributed to high literacy levels among women and men, and relatively higher status and high age at marriage of women. The neighbouring state of Tamil Nadu, on the other hand, has managed to accomplish a feat similar to that of Kerala in fertility decline in a much shorter time span and without the same level of educational attainment or decline in mortality.

According to the Sample Registration Survey data for the year 1997, the total fertility rate (TFR), or the average number of children born to a woman during her reproductive period, was 1.9 in Kerala and 2.0 in Tamil Nadu. The reasons for rapid fertility decline in Tamil Nadu from a TFR of around 3.8 in the mid-70s to 2 now need to be fully explored for their relevance to other regions of the country that are socially and economically more akin to Tamil Nadu than Kerala.

Many social scientists and policy-makers have attempted to identify the factors contributing to rapid decline in fertility in Tamil Nadu. Some of the factors identified are: high levels of industrialisation; infrastructural development, especially transport network (Padmanabha 1995); social reform movements (Ramasundaram 1995, Srinivasan 1995, Kulkarni, et al. 1996); efficient family welfare programmes (Anthony 1992); influence of mass media (Bhat 1996); changing parental aspirations for better life for children in spite of relatively high infant and child mortality (Krishnamoorthy, et al. 1998, Ravindran 1998).

It has also been suggested that a high level of poverty in the state is responsible for lowering fertility (Kishor 1994). In addition, awareness about continuous land fragmentation between sons making cultivation in small parcels of land non-viable, has reportedly led to desire one living son who would inherit the land.
Additional sons would have to opt for non-farm employment, which has not grown rapidly enough to absorb all those available for work. The Tamil couples seem to have responded to these changes and modified their fertility behaviour.

According to the National Family Health Survey (NFHS), conducted in major states of India during 1992-93, rural Tamil households are poorer than rural all-India households on most economic indicators (ownership of land, assets such as milch animals, bicycle, television). And yet, inspite of relative deprivation, proportionately more members of Tamil households are able to access news or entertainment in the form of watching films than is the case at all-India level (Table 1). The exposure to mass media may indeed be an important factor in increasing the awareness about alternatives available to people and creating a demonstration effect. The relatively large size of villages in Tamil Nadu makes provision of services such as cinemas, public bus transport and health care by private practitioners much more viable for the providers and accessible to the people.3

The analyses undertaken by social scientists and others to understand fertility decline in Tamil Nadu have, however, largely ignored the steady but slow changes that the state has introduced in the overall health care delivery system. The widespread accessibility of reasonably good quality health care, including family planning services, has helped people attain their desired fertility goal.

The state is better prepared than most others in implementing many components of the reproductive health programme that India launched in October 1997 following the 1994 International Conference on Population and Development. For example, even before the GOI announced the removal of method-specific family planning targets in major states in 1995 and from the entire country in 1996, Tamil Nadu government had removed targets assigned to non-health personnel in the district of North Arcot as early as 1991-92. This could happen because the district collectors in Tamil Nadu, with the support of political leaders, assumed responsibility for the performance of the family planning programme and were able to introduce changes at the local level based on their assessment of the situation.

The North Arcot experiment indicated that even when the non-health personnel were not involved in promoting family planning, performance did not decline. In fact, it boosted the morale of health workers who were rewarded for their work and not someone else who did not engage in any motivational work with prospective clients. Also, at monthly meetings conducted in the presence of the district magistrate, health workers could articulate their problems, seek clarifications and receive guidance. Inspite of the fact that the
targets were centrally determined and the state could not alter the methodology of target fixing, the administrative participation in the programme in Tamil Nadu was substantial even prior to 1994.

This paper describes some of the positive measures adopted by the state of Tamil Nadu in order to draw out some programmatic lessons for implementers of health delivery in other states of the country. Finally, some of the measures that are yet to be addressed and the challenges that Tamil Nadu state faces are listed for future action.

Recruitment of Medical Officers: A major social change introduced in Tamil Nadu relates to the implementation of affirmative action or the reservation policy in the provision of higher education with strong state-level political support. As a result, in the past 40 years higher professional education has become available to those belonging to middle castes and classes from district towns. Consequently, a cadre of doctors has been created in the state that has roots in small towns and is willing to work in primary health centres located in rural areas at commuting distance.4

Further, many medical graduates from small towns or rural areas do not enjoy the luxury of spending several years specialising in some advanced branch of medicine or have the necessary resources to set up private practice requiring relatively heavy investment in equipment. The alternatives before them are either to become general practitioners or to take up government jobs that ensure a steady income. Many young doctors from district towns or rural areas prefer the latter option.

The Tamil Nadu government has also made employment as medical officers in the primary health centres attractive on several counts. One, it allows private practice by medical officers under certain conditions.5 Two, 50% of the postgraduate seats in all branches of medicine are reserved for those doctors who have completed a minimum three years of service in the primary health centres or district hospitals. Three, 15% of the seats for medicine (leading to MBBS degree) and the dental (leading to BDS degree) courses are reserved for students from rural schools.6 This is expected to increase the retention of medical officers in rural areas and assumes that persons coming from a rural background would have little problem in being posted there.

Lastly, doctors are recruited on a zonal basis. Tamil Nadu is divided into nine zones, with each zone comprising of two to three districts. Doctors are recruited through the Tamil Nadu Public Service Commission to work in the zone in which their residence is located for a minimum period of 10 years. Even after five years of completion of service in the primary health centres (PHC), the medical officer is placed in the same zone when released to work in
During my visit to the departments of health and family welfare in Chennai in early 1998, I was informed that nearly 40-45% of medical officers in the PHCs were women. The presence of women doctors has helped rural women in Tamil Nadu in accessing not only family planning services but general health care for themselves much more easily than was the case in the north Indian state of Rajasthan (Visaria and Visaria 1998). According to medical officers interviewed at the primary health centres in Tamil Nadu, many women patients visited the centres for reproductive health problems. Also, a large proportion of PHCs in Tamil Nadu have two medical officers unlike in many other parts of the country.

Logistic management of drugs: To strengthen the logistics management system of health care, the Government of Tamil Nadu has established a Tamil Nadu Medical Services Corporation (TNMSC). Registered under the Companies Act, 1956 on 1 July 1994 as a government company, it became functional in January 1995. It serves as an apex body for the purchase, storage and distribution of high quality drugs, medicines, sutures and surgical instruments for various government medical institutions in the state. It also renders other services like supplying equipment to hospitals and maintaining its own CT scan centres in the premises of a few government hospitals.

The TNMSC consults the WHO list of rational drugs and finalises every year the list of drugs and medicines required by government medical institutions in the state. It takes into consideration the recommendations of a committee set up for the purpose. The number of drugs on its list varies from year to year based on the requirements of the medical institutions. Open tenders invited from reputed manufacturers are processed in a systematic manner. Drugs are made available at highly competitive rates by suppliers finalised by the corporation. Processing, placement and distribution of orders of drugs to the PHCs and dispensaries is done using the computer network.

Quality is given utmost importance in purchasing drugs and medicines by the establishment of a quality control wing, headed by a qualified professional. Samples from the warehouses are sent for analytical testing to laboratories of national repute. The entire batch that fails the test is rejected. Due importance is given to packaging as well.

To facilitate storage and distribution of medicines, 23 warehouses, with two pharmacists each, were established. The warehouses stock at least a minimum of three months requirement. Each item in the warehouse is monitored at the headquarters through a computer network.
network on a day-to-day basis. A passbook system has been introduced for the withdrawal of medicines by government medical institutions, including the PHCs, from the district drug warehouses. Under this system, each institution is given a passbook with a specific number indicating the value of drugs which could be drawn pre-printed on the passbook (Government of Tamil Nadu, 1998a, pp.153-156).

During field visits, we received positive and satisfactory reports about the availability of drugs at the primary health centres. The medical officers reported receiving drugs normally within four days of their request. They use the brochure supplied by the TNMSC to prepare a list of drugs to be ordered and to estimate costs. The doctors at the PHCs also have a certain discretion (around 10% of the total allowance for medicines) to buy drugs from the market that are either not on the list or needed for an emergency.10

Involvement of various stakeholders: The Tamil Nadu government has taken certain proactive measures to involve the corporate sector in improving the health infrastructure and provide better services to the people. Thus, industrialists are encouraged to adopt and maintain primary health centres and government hospitals in the state at their cost. A special cell in the secretariat processes their requests. Three models of adoption have been suggested to the industrialists. One is total adoption where the full cost of running a PHC or taluk/district hospital (including salary of the staff, cost of drugs, purchase of equipment, civil work and maintenance, repairs and construction of staff quarters), are met by the industrial house. The second model is partial adoption where the industrial house meets all costs except staff salaries. The third limited adoption model involves provision of civil work, maintenance and repairs and provision of equipment. Upto March 1998, 15 industrialists had agreed to maintain 60 PHCs and several applications were pending with the cell in the secretariat.11

The Tamil Nadu government has also actively involved the donor community in its quest for health for all. The state has received assistance from several donors, chief among them being DANIDA. A part of their health care project funds are being used to conduct district level surveys to estimate infant mortality rates and other fertility and mortality measures (Government of Tamil Nadu, 1998b).12 The grant-in-aid from the Government of Japan has helped to strengthen the Chennai-based Institute of Child Health and Hospital for Children in the form of medical equipment and instruments for various departments. In addition, under the RCH project, World Bank grant funds are being used, among other things, for providing laboratory facilities at several PHCs for detection of reproductive tract infections and sexually transmitted infections (RTI/STI).
Above all, the state government is making significant investments in building the infrastructure of a health care service delivery system. There is a concerted effort to construct primary health centres and sub-centres in the areas where they are run from rented buildings and to upgrade rural dispensaries as primary health centres and some of the PHCs to community health centres by sanctioning additional staff and providing the needed facilities.\footnote{13}

Incentive system: The Tamil Nadu government has introduced a reward and incentive system that operates at both the individual and community level, and is applicable for the providers and clients. A woman health worker who ensures that there is no infant death during a year in her area, will be rewarded with a gold sovereign. At the district level, the medical officer of a PHC registering the highest percent reduction in infant mortality rate in the area will get a rolling shield. The collector of a district will also receive a rolling shield for achieving maximum reduction in IMR in the district.

Further, in order to reduce deliveries by untrained personnel, the woman health worker (known as village health nurse, VHN, in Tamil Nadu) is paid Rs 50 for conducting a delivery at home in the rural areas. Also, VHNs are encouraged to refer complicated pregnancies to higher levels of care and are paid Rs 25 for timely referral. In order to cover the entire sub-centre area regularly, VHNs are given an advance for purchasing a cycle or two-wheeler.

Increased availability of health services: To improve the availability of services, the Tamil Nadu government has introduced a 24-hour service in several primary health centres. To begin with, the block level PHCs are being upgraded to function for 24 hours a day to provide delivery care to rural populace. At the end of 1997-98, there were 250 PHCs that functioned as 24 hour centres (Government of Tamil Nadu, 1998c). Efforts are underway to upgrade the remaining block level PHCs as well. The problems of the staff are being tackled by hiring additional VHNs on a contractual basis and providing living accommodation to those who work night shifts.

Most of the day and night PHCs have been provided with an ambulance to be available for emergency obstetric care.\footnote{14} Diagnostic facilities for RTIs/STIs are being improved by strengthening laboratories at the primary health centres. To facilitate delivery, labour rooms have been constructed where none exist and upgraded or repaired where they were non-functional. This measure will reduce the load on district-level hospitals and more beds at the secondary level facilities will become available for emergency and complicated cases.

As part of the revamped reproductive and child health programme, the Tamil Nadu government has identified certain state-specific
objectives for immediate action. They are, lowering infant mortality and morbidity, eliminating female infanticide, lowering maternal morbidity, reducing suffering due to reproductive tract infections and sexually transmitted infections, improving abortion services and improving quality of health care. A number of them are being carefully monitored through the on-going reporting systems as well as through special surveys. There is, however, a need for more focused and concerted effort to address some of the following issues.

Limited contraceptive choice: A major challenge in Tamil Nadu, as in the rest of the country, is the excessive focus on female sterilisation. According to NFHS data, as against 96% of respondent women knowing about the places where services about female sterilisation were available, only 60% knew the source of supply for oral pills and IUDs. Also, 87% of currently married women using a modern method of family planning relied on female sterilisation (IIPS, 1995). The situation seems to have accentuated further because during 1995-96, 99.9% of all sterilisations were female sterilisations according to the service statistics published by the Ministry of Health and Family Welfare (Department of Family Welfare, 1997, p. 95).

The age at sterilisation has also been decreasing in Tamil Nadu as it has in the country. The median age at sterilisation in Tamil Nadu, according to NFHS data, was 26 years as against 27 for the country as a whole. It was only 25 years for women who were sterilised two years prior to the survey (NFHS, Tamil Nadu, 1994, p.89). Also, 87% of all sterilised Tamil women opted for tubal ligation, conducted soon after the delivery of a child, rather than for the simpler laparoscopic sterilisation. (For the country as a whole, this proportion was 65%. The other major state where tubectomy is popular is Andhra Pradesh, with nearly 98% of all female sterilisations conducted by ligation of tubes. See, Department of Family Welfare, 1997, p. 97.) The reasons for such heavy dependence on a single method need to be ascertained.

Clearly, there is a need to expand the options available to couples in order to lessen the disproportionate share of the burden of fertility limitation that is placed on women. The programme needs to take into account women’s compulsions and ascertain the reasons why they opt for sterilisation. Efforts to increase awareness and accessibility of other methods of contraception and to dispel the fear of their side effects must be increased. Introduction of new technology in the programme by training doctors in non-scalpel vasectomy, thereby making it available on a larger scale, must receive priority.

Infant mortality: Although the infant mortality rate (IMR) in Tamil Nadu (53 deaths per 1000 live births according to the 1997 Sample
Registration System) is lower than the national average of 72, it is significantly higher than that of Kerala (14). More importantly, infant mortality rate in Tamil Nadu continues to show significant rural-urban disparity, with IMR of 60 in rural areas and 39 in urban areas. The detailed district-level infant mortality data available from a special survey conducted in rural Tamil Nadu in 1996 also exhibit some disturbing features that need to be addressed with special focused programmes.15

One of the disturbing features is the large inter-district variation in the level of infant mortality. According to the 1996 survey data, the reported range in IMR was between 18.5 in Kanyakumari district and 98.1 in Dharmapuri district. In fact, the three districts of Dharmapuri, Madurai and Salem reported an IMR higher than the all-India rural average of 80. A second disturbing feature is an exceptionally high female IMR. Again, the districts of Dharampuri, Madurai and Salem reported female IMR of 131, 100 and 96 respectively, with corresponding male IMR of 69, 69 and 67. (For the state as a whole, male and female infant mortality rates were 52.7 and 57.3.) Third, early neonatal deaths are persistently high and have shown a tendency to rise in recent years. Tamil Nadu’s early neonatal mortality rate rose from 33.8 in 1971 to 37.8 in 1993.

The sex differentials in early neonatal deaths are also striking in some districts. According to the 1996 district level survey, early neonatal death rate in Dharmapuri district was 105 for girls as against 47 for boys (Chunkath and Athreya 1998). These statistics indicate that programmatic interventions have to be planned at a micro level in order to be effective. Also, the reporting systems of districts with a high female infant mortality must be strengthened along with undertaking some micro level studies to understand the underlying socio-cultural practices and the reasons for divergent patterns.

Female infanticide: The practice of female infanticide is believed to be a cause of large sex differentials in early infant deaths in some districts of Tamil Nadu. According to the 1996 district survey, female infanticide accounted for 8% of infant deaths and 16% of female infant deaths. It is estimated that around 3500 to 4000 female infants are killed in Tamil Nadu every year. According to primary health centre records for 1995, a total of 3,226 female infants deaths as opposed to 162 male infant deaths were reported ‘due to social cause’ (Chunkath and Athreya 1997). Nearly 85% of these deaths occurred in three districts of Dharmapuri, Salem and Madurai and were probably cases of infanticide. In fact, according to the 1996 survey, female infanticide accounted for more than half (59%) of all female infant deaths in Dharmapuri and for 54 and 33% in Madurai and Salem districts respectively (Chunkath and Athreya 1998).
Unlike other states of India such as Bihar or Madhya Pradesh, where the practice of female infanticide is also known to exist, the Tamil Nadu government has recognised that this practice exists in some districts of the state. In addition to legal action, the practice demands urgent social intervention by the state and civil society (George 1997). Documentation, networking among concerned NGOs, social activists and the state are recommended by many working to check the practice of female infanticide. However, the related practices of violation of foetal Sex Determination Act and of female foeticide, that are reportedly becoming more popular in the state, need urgent attention.

Abortion services: Another major concern closely related to the reproductive health of women, is the large-scale use of abortion as a method of family planning in Tamil Nadu. Accurate data on the number or rate of abortions is difficult to obtain or estimate inspite of abortion being legal in the country for nearly 20 years. However, if the NFHS data on pregnancy outcomes is any guide to information on abortion, then both spontaneous and induced abortion rates are among the highest in Tamil Nadu (Andhra Pradesh also exhibits similar rates). In India as a whole, 1.3 and 4.5% of all pregnancies reportedly resulted in induced and spontaneous abortions. In Tamil Nadu, on the other hand, the comparable figures were 4.3 and 7.0% (IIPS 1995, p.102; NFHS, Tamil Nadu 1994, p.63).

The statistics compiled by the Directorate of Family Welfare of the Government of Tamil Nadu, indicate that the number of abortions performed in government institutions has hovered around 22,000 a year since 1994-95. In the earlier period, a steady decline in numbers was noted although the number of clinics approved for conducting abortions or medical termination of pregnancies (MTPs) had risen by more than four times in 13 years between 1980 and 1993. Quite likely, many abortions go unrecorded in official statistics.

Of the official abortions, the share of government sector (government hospitals and urban health posts, and primary health centres) varied between 55 and 60%. Private nursing homes accounted for the rest of abortions performed. In reality, many unregistered doctors perform abortions in the state. A disturbing fact is that more than 90% of the abortions performed in the government sector were permanent sterilisation as against only around one half in the case of private nursing homes. The insistence in government institutions on permanent sterlisations along with abortion violates women’s right to reproductive choice and also drives women to unsafe and, perhaps, fatal abortion in the hands of quacks. There is an urgent need to delink abortion services from provision of permanent methods of contraception. Further, attention needs to be paid to good counselling and encouraging women to use other methods of contraception rather than resort to abortion. The
mothers’ meetings organised by VHNs in the villages should be an important platform to discuss issues of reproductive health, including abortion.

The Tamil Nadu government is making a concerted effort to tackle maternal mortality by encouraging institutional deliveries through providing labour rooms in the PHCs, keeping health centres open 24 hours with a nurse available on the premises, and providing essential emergency obstetric care to complicated cases. However, overall poverty, high anaemic conditions of women, often resulting in low birth weight of newborn babies, are complex issues that are difficult to address in the short run through programmatic interventions. They require larger societal changes and support of social activists, NGOs as well as the government machinery.

The Tamil Nadu government is aware about the burden of RTIs and STIs that women face. However, the immediate priorities are somewhat different. The health delivery system has yet to gear up to provide services to tackle STIs and RTIs among women and men. The VHNs are aware of the problems but unable to provide satisfactory answers to women, apart from recommending some private care provider. Another major area that has yet to be addressed is the health needs, including reproductive health needs, of young people. In coordination with the education department, the issue has yet to be addressed for school-going youth by providing basic scientifically correct knowledge about the human reproductive system.

Overall, the narration clearly suggests that inspite of some unaddressed areas or issues of reproductive health, the Tamil Nadu government has made impressive progress toward providing high quality maternal care and some components of reproductive health care to its people. The attention to ensuring continuity in providing good quality drugs at the peripheral level is also a positive step. The experience of Tamil Nadu does offer lessons to other states in strengthening their health delivery systems and directing their efforts and resources such that they make a difference to the lives of women and men.

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**TABLE 1**

Selected Characteristics of Households and Population of Tamil Nadu and All-India

(according to NFHS, 1992-93)

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Tamil Nadu</th>
<th>India</th>
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<tbody>
<tr>
<td>% of rural households with some land</td>
<td>41.1</td>
<td>64.0</td>
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<tr>
<td>% of rural households owning less than one acre of land</td>
<td>29.2</td>
<td>25.5</td>
</tr>
<tr>
<td>% of rural households owning any animals</td>
<td>38.8</td>
<td>67.0</td>
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Footnotes

1. The infant mortality rate, which is a good sensitive indicator of the health status of the population, was only 19 in Kerala compared to nearly 60 per thousand live births in Tamil Nadu. Female literacy rates in Kerala and Tamil Nadu, according to the 1991 Census data, were 86 and 51% respectively.

2. The social awareness movement in Tamil Nadu was started in the 1930s by a social reformer ‘Periyar’ Ramasamy (E.V. Ramasamy Naicker), who rejected the Brahmanical religion and the practice of untouchability. He recognised the need to raise the status of women and advocated increase in age at marriage of women and acceptance of a small family norm. The movement attracted people from backward and scheduled castes and influenced the ideology of a political party (Dravida Kazhagam) that is dominated by members of non-Brahmin groups.

3. Compared to 67% of India’s villages, only 31% of villages in Tamil Nadu had less than 1000 population according to the 1991 Census data.

4. A visit to the primary health centres in the state would convince anybody that many medical officers have non-Brahmanical backgrounds and are very similar to that of many rural patients in dress, mannerism, language, as well as overall values and attitudes.

5. The medical officers cannot set up private nursing homes, nor can they conduct private practice from within the premises of the government health centres.

6. The Tamil Nadu government bears the full cost of medical education of the first 20 students in the merit list from families that do not have any graduates.

7. The number of lady doctors employed in PHCs, and the number of PHCs with two doctors are not readily available. However, the information was provided by the state demographer during a visit to the Directorate of Health Services in January 1998. He also indicated that government employment as a medical officer is a desired posting among new graduates and, as a result, there is a waiting period of about a year between selection and actual posting.

8. The committee consists of the director, medical and rural health services, the director of medical education, the director of public health and preventive medicine and the managing director of the TMNSC.

9. During visits to several PHCs in two districts in 1998, it was a pleasant surprise to note that even iron and folic acid tablets were blister packed and not handed to pregnant women as loose tablets on a piece of paper.

10. Himachal Pradesh has also introduced a similar drug procurement system. The Government of India has recently recommended other states to adopt this system of providing medicines and other supplies to the government medical institutions.

11. A visit to one such partially adopted PHC in Chengalpettu district vividly demonstrated what difference the industrial house made to the infrastructural facilities. A compound wall was constructed around the PHC premises. Around an old neem tree, circular-sitting space was built for patients and their relatives. An overhead water tank was also built to provide drinking water.

12. DANIDA has assisted the Tamil Nadu government since 1981 to improve the health and family welfare status of the weaker sections of rural population in the project area. The funding is provided on a reimbursement basis, with 85% borne by DANIDA, 5% by the Government of India and the remaining 10% by the Government of Tamil Nadu. The project is now in its third phase (upto 2002) and covers four districts.

| % of rural households owning bicycle/motorcycle/scooter | 37.9 | 43.5 |
| % of rural households owning radio/television | 33.6 | 40.5 |
| % of rural households with electricity | 55.1 | 38.7 |
| % of households watching television at least once a week | 50.4 | 31.8 |
| % of households listening to the radio at least once a week | 59.7 | 43.5 |
| % of households visiting a cinema/theatre at least once a month | 42.6 | 15.0 |

13. By the end of 1997, out of 8682 sub-centres in the state, 5572 functioned from their own buildings. The construction of the remaining sub-centres has been taken up in a phased manner under various schemes such as Hill Area Development Programme, Decentralised District Plan (see, Government of Tamil Nadu, 1998a, p. 81).

14. The present Tamil Nadu government purchased some ambulances for the PHCs and hospitals from the sale proceeds of an aircraft used by the former chief minister. (Successive governments have shown a knack for impressing the people of the state through such pro-people gestures.) See, Government of Tamil Nadu, 1998b, pp. 10-11.

15. The Sample Registration System provides estimates of vital rates at state level only. Its sample size does not permit district level estimates. However, the Directorate of Public Health of Tamil Nadu conducted a survey in rural areas in early 1996, covering 10.4 lakh rural households or roughly one-sixth of all rural households in the state to obtain district level estimates of birth rate, death rate and infant mortality rate. (See, Chunkath and Athreya 1998.)


References


