INDIA'S NATIONAL POPULATION POLICY (2000)

An Evaluation

सत्यमेव जयते

Sandhya Agrawal
Hubert H. Humphrey Institute of Public Affairs
University of Minnesota
May 14, 2009

TABLE OF CONTENTS

ACKNOWLEDGEMENTS

I would like to thank Preeti Anund of JANANI and Poonam Arora of Parivar Seva Sanstha for sharing their invaluable knowledge of family planning practice. I also wish to thank Dr. Devendra Kothari of Jaipur's Management Institute of Population and Development, who pointed me in the direction of essential family planning data. Finally, special thanks should be given to my advisor, Deborah Levison, for her encouragement and guidance.

ABSTRACT

This paper examines the quality of India's family planning practice under the National Population Policy (2000) or NPP-2000. The intent of NPP-2000 is to eliminate unmet contraceptive needs by providing high quality reproductive healthcare. In particular, the NPP-2000 aims to address flaws in healthcare infrastructure and to achieve a total fertility rate of 2.1 births per woman by 2010. Unfortunately, the implementation difficulties of past years persist in the era of NPP-2000. Indian families are subject to poorly-trained healthcare personnel and insufficient medical supplies, among other setbacks. Using interviews with family planning professionals and data from quantitative and qualitative studies, the following analysis exposes widespread variation in the quality of family planning practice. Additionally, the author proposes strategies to address unmet contraceptive needs in northern states and among disadvantaged populations.

Introduction

Historically, India has struggled to meet the demands of a rapidly growing population. As early as the 1920s, Indian officials posited that population growth would threaten economic development and overwhelm the public health system. Likewise, developed nations (such as the U.S.) feared that a growing Indian population would increase demand for foreign aid. In 1952, India responded to these concerns by adopting the world's first National Family Planning Program (NFPP). The program aimed to curb fertility rates by providing access to maternal healthcare and contraceptives. However, implementation fell short of the program's objectives. In the rush to achieve demographic targets, NFPP resorted to coercive measures. Indian families were subject to aggressive outreach efforts and mass sterilization campaigns. Ultimately, the program sacrificed reproductive health and family preferences in the name of population control.

Half a century later, the National Population Policy (NPP-2000) has been heralded as the solution to poor implementation. Reproductive healthcare is a top priority of NPP-2000. The immediate-term objective is "to address the unmet needs for contraception, healthcare infrastructure, and health personnel, and to provide integrated service delivery for basic reproductive and child health care (National Population Policy, 2000,1)." The midterm objective is a replacement fertility rate, or total fertility rate of 2.1 births per woman by 2010[1].

Despite good intentions, the discrepancy between policy and practice persists in the era of NPP-2000. Health care centers are inaccessible to rural villagers; sexually active young men and women are often misinformed regarding the function and

[1] The total fertility rate (TFR) is defined as "the average number of children born to a woman during her lifetime" (Population Reference Bureau, 2008).

availability of contraceptives; and reproductive health is compromised by poorly trained health care professionals. Moreover, variation in services has produced an uneven distribution of fertility rates. While nationwide fertility has largely decreased since the 1970s (from 6.6 births per woman in the early 1970s to 2.7 births per woman in 2005), women in urban slums, rural villages, and northern states continue to experience above-average fertility (Visaria et al, 1999 and NFHS-3, 2005). As a result, unmet contraceptive needs endure in each state. With current implementation difficulties in place, the National Population Policy (2000) is unlikely to achieve either its immediate-term or mid-term objectives.

This paper examines the quality of present-day implementation under the National Population Policy (2000) as well as its impact on nationwide fertility rates and reproductive health. The following analysis also draws upon interviews with family planning experts and successful state programs to identify possible next steps.

Methodology

Secondary research is supplemented and enriched by interviews with family planning professionals and demographers working in Indian non-governmental and non-profit organizations. Sources were public officials familiar with the operations and management of a family planning organization. Each respondent was interviewed for approximately one hour by telephone regarding funding, family planning services, and personnel issues. All interviews were recorded and transcribed. I requested and obtained permission to use the names of individuals and their organizations in this paper. I also attempted contact with officials in the Ministry of Health and Family Welfare, but received no response.

History

Until the 20th century, India's population was kept in check by widespread epidemics and famine. In 1918, the last great influenza epidemic took the lives of nearly 15 million people. Following the outbreak, India's death rate declined rapidly—from an average of 38.2 deaths per thousand in 1916-1920, to 17.1 deaths per thousand in 1948. The improvement in mortality was largely attributed to progress in the areas of health management, political stability, and economic development. As mortality rates stabilized in the second half of the 20th century, infant mortality rates declined and high fertility persevered. More children were surviving into adulthood and contributing to the population with their own families (Davis, 1968).

Rapid population growth quickly became a concern of the Indian government and international interest groups. Prior to independence (1920s-30s), Indian officials suggested that population growth would stifle economic development and burden the public health system (Visaria and Chari, 1998). In 1943, the British-Indian government commissioned Sir Joseph Bhore and the Health Survey and Development Committee (or Bhore Committee) to investigate the relationship between population growth and community health. In concert with the 1951 census, the committee determined that population growth was strong despite war, famine, and religious tension. Committee experts also suggested that the public health system would not be able to meet the demands of a growing population. Accordingly, the committee concluded that birth control was critical to slowing population growth and improving family health (Sagaza and Kumar, 2006 and Thapar, 1963).

The findings of the Bhore Committee served as the inspiration for India's 1952 National Family Planning Program (NFPP), a component of the first five-year development plan (Sagaza, 2006 and Connelly, 2006). Each development plan was constructed with the intention of guiding and managing nationwide economic growth (Hanson, 1966). In its original form, NFPP encouraged "family limitation" and sought to "stabilize the population at a level consistent with the requirement of the national economy (National Population Policy, 2000,1)." NFPP also recommended making birth control available in primary health care centers, such as hospitals (National Population Policy, 2000).

The first two five-year plans (1951-1961) envisioned an extensive public program with a focus on maternal and child health (Peters, 2002). Family planning services and health education were offered through government-funded clinics, often found in hospitals. Though the "clinic-based approach" was modeled after the Planned Parenthood Organization, NFPP did not promote modern contraception. Much of this was due to disagreement among government officials. While the Planning Commission avidly supported contraceptives, the Ministry of Health (directed by followers of Mohandas Gandhi) resisted.[2] Gandhi actively opposed contraception and favored abstinence or self-restraint in its place. Thus, NFPP promoted natural family planning (ie. the rhythm method) throughout the first five-year plan (Maharatna, 2002). The government publicized NFPP in a campaign comprised of nearly half a million posters and hundreds of radio broadcasts (Connelly, 2006).

[2] Created in 1950, India's Planning Commission is responsible for formulating the five-year development plans. Its objective is to effectively utilize resources and improve economic growth. (planningcommission.nic.in/welcome.html)

Personnel issues quickly rose to the surface during the first five years of NFPP. The Indian government found it difficult to recruit clinic professionals with appropriate health care training and clinic staff struggled to meet the demands of large populations. In some locations, one center was to serve approximately 60,000 people. Though it sounded impressive, opening a rural clinic often meant the addition of a single health worker at a primary health care center. With less than two months of training, workers were overburdened with the responsibilities of educating, motivating, and screening family planning clients (Connelly, 2006).

The Target-Driven Approach

A decade after the creation of NFPP, India's high fertility rates prevailed. Between 1955 and 1960, the population growth rate increased from two to 2.26 percent per year, implying a population doubling time of less than 35 years (United Nations Common Database, 2009 and Palmore and Gardner, 1996). Few clients visited the 147 clinics established under the first five-year plan (Visaria and Chari, 1998) and contraceptives were poorly funded. The difficulties posed by low literacy levels, inadequate transportation, and limited communication made it difficult for families to access clinic services. Consequently, the third five-year plan (1961-1966) abandoned the clinic-based model in favor of an aggressive "extension-education approach (Maharatna, 2002)."

In its new form, NFPP imposed time-bound work quotas on states, districts, primary health care centers, and service providers (Maharatna, 2002 and Visaria and Chari, 1998). At each level of government, officials documented their progress towards monthly quotas. To achieve quotas or "targets," local officials were required to form

family planning committees that would pressure married women of childbearing age into participation (Santhya, 2003 and Connelly, 2006). In addition, health workers were expected to visit women in their homes. Some state officials garnered participation through financial incentives; these were intended to compensate for transportation costs and lost wages. The chief secretary of Madras paid poor "acceptors" 30 rupees (nearly 10 percent of average annual income) for each sterilization and paid 15 rupees to "motivators," those who brought people to the clinic.[3] The Central Family Planning Board added staff to 3,000 hospitals and maternity homes to conduct free sterilizations (Connelly, 2006). International donors also contributed to NFPP, which resulted in a dramatic expansion of the program (Maharatna, 2002 and Visaria and Chari, 1998). In 1961, the number of family planning clinics rose to 1,649 (Visaria and Chari, 1998).

What followed was a massive sterilization campaign, or what some researchers have termed the HITTS model: the health-department operated, incentives based, target-oriented, time-bound, and sterilization-focused program (Donaldson, 2002 and Maharatna, 2002). Foreign investors like the United Nations, World Bank, Population Council and Ford Foundation promoted long-term and non-reversible contraceptive methods, namely IUDs and sterilization. Unlike birth control pills, these methods were low-cost and did not rely on personal motivation. The result of this effort was overwhelming: in 1961, more than 10,000 men received vasectomies (Connelly, 2006). By 1962, 158,000 Indians were sterilized, more than 70 percent of whom were male.[4] The Ministry of Health attributed much of its success to mobile units, or traveling outreach efforts. But these claims were misleading. Mobile units targeted vulnerable

[3] Average annual income refers to the per capita net product in 1966 (India, A Reference Annual, 1962).
[4] Male sterilizations did not require as much time as female sterilizations. This may explain the high percentage of male sterilization (Connelly, 2006).

populations: people institutionalized for tuberculosis, leprosy, and mental illness (Connelly, 2006).

Toward the end of the third five-year plan (1966) Indira Gandhi assumed office as the Prime Minister of India. With a long-standing interest in family planning, she was determined to make headway in the area of population control. A day after being sworn into her new position, she renamed the Ministry of Health the "Ministry of Health and Family Planning."[5] She also established a Department of Family Planning within the Ministry. This department housed a permanent secretary and Minister of State for Family Planning (Connelly, 2006).

Having entered office in the midst of a massive food shortage, Gandhi faced national pressure to secure foreign aid. President Lyndon Johnson of the United States earlier refused to provide such aid until India committed to a solid population control policy. Johnson subscribed to the work of Stephen Elke (a Ford consultant in India) who claimed that:

> *…preventing births could increase India's per capita GNP by redirecting money spent on the health, education, and welfare of the surplus population to more productive investments, while at the same time reducing the number who would share in the proceeds (Connelly, 2006).*

On the 28th of March, 1966, Gandhi and Johnson met to discuss population growth. Pleased with Gandhi's commitment to population control, President Johnson requested congressional approval of a food donation shortly thereafter (Connelly, 2006).

Unfortunately, food aid was insufficient. Monsoon rains did not arrive as planned that year and the risk of famine was high. Desperate families responded to incentive payments in greater numbers. Impressed by the rising number of "acceptors" in

[5] The Ministry of Health and Family Planning was later retitled the Ministry of Health and Family Welfare.

incentive-oriented states like Madras and Punjab, the Ministry of Health and Family Welfare distributed incentive funds to each state: 11 rupees for each IUD insertion, 30 per vasectomy, and 40 per tubectomy (Connelly, 2006). In 1966, these payments represented approximately three percent, seven percent, and nine percent of average annual income.[6]

Following the expansion of incentives, a 1967 investigation by the Planning Commission found that faulty program services were endangering adult health. Poor medical practice contributed to the spread of disease (instruments weren't often sterilized), post-operative care was nearly non-existent, and contraceptive acceptors complained of pain. A study in Maharashtra determined that only 5 percent of men and 6 percent of women were visited by staff post-operation. Women receiving IUDs reported excessive bleeding. Both female and male health was at risk (Connelly, 2006). Not surprisingly, the 1971 census revealed even greater population growth at a rate of 2.68 percent (United Nations Common Database, 2009 and Maharatna, 2002). The effects of NFPP were negligible.

New healthcare policies during the fourth and fifth five-year plans (1969-1979) placed increasing demands on family planning professionals. With the adoption of the Minimum Needs Program (MNP) in 1974, health workers were required to provide nutrition services in addition to general healthcare and family planning services (Maharatna, 2002). Under the Maternal and Child Health Program (MCH) of 1977, primary healthcare centers were restructured to host two health workers (one female and one male). In a single center, health workers were expected to address basic health needs,

[6] Average annual income refers to per capita net product in 1966 (India, A Reference Annual, 1968.)

maternal and child health care, and family planning for a population of 5,000 people (Santhya, 2003). Healthcare professionals faced a daunting task.

Despite personnel issues, Indian states claimed to be meeting targets. Experts, however, challenged states' progress, arguing that family planning data were manipulated to reflect the desired outcomes. Research by the Planning Commission found that many of the people agreeing to sterilization were already infertile. Among vasectomies performed in Uttar Pradesh, almost half the men were more than 50 years old (Connelly, 2006). Nonetheless, international interest groups continued to encourage outreach efforts for the sake of urgent action. Consequently, the Indian government organized sterilization camps and traveling clinics on a mass-scale. In addition, the government promoted population control through legislation. In 1972, the Medical Termination of Pregnancy Act legalized abortion (Maharatna, 2002). Four years later, the Indian government updated the British Marriage Child Prevention Act (1929) to prevent high fertility rates and maternal mortality rates among young mothers. Relabeled the "Child Marriage Restraint Act," the Act raised the minimum age of marriage for girls from 14 to 18 years (Mukherjee, 2006 and Mohapatra, 2006).

In 1976, parliament proposed a bold National Population Policy, which called for a "frontal attack on the problems of population."[7] The policy encouraged state governments to pass legislation that would require citizens to participate in family planning and discontinue childbearing after three children (Santhya, 2003). As funding to states was frequently dictated by performance on family planning measures, states responded quickly. The state of Maharashtra followed suit with a proposal for

[7] Though it attracted a great deal of attention, the 1976 National Population Policy never became law (Kothari, 2009).

compulsory family planning. Additionally, many states "incentivized" small family size with the promise of employment, scholarships, housing, or loans (Connelly, 2006 and Maharatna, 2002). Coercive practices ensued. The unwilling and uneducated were often forced into sterilizations. Within a single year (1976-1977), 8.26 million sterilizations were performed (Maharatna, 2002).

The public grew increasingly agitated throughout the "Emergency Period" of 1975-1977.[8] Many resisted family planning services, particularly vasectomies. Eventually, Indira Gandhi's Congress Party was defeated in the 1977 national election. The new government, led by Morarji Desai and the Janata party, denounced coercive practices as well as compulsory family planning. In its place, government officials proposed an entirely voluntary family planning program founded on reproductive education (Santhya, 2003).

The target-based and time-bound approach resurged during this period, though not to the same degree as in past years. During the sixth five-year plan (1980-1985) the Planning Commission established a Working Group of Population Policy to develop long-term targets and objectives for NFPP. Targets were closely tied to incentive payments, but this newest version of NFPP favored child survival and spacing methods over sterilization (Santhya, 2003 and Maharatna, 2002). The Indian government asserted that implementation would be carried out in all primary healthcare centers without any sterilization camps. Additionally, government officials encouraged the involvement of non-governmental organizations and community groups in providing family planning services (Maharatna, 2002).

[8] Upon conviction of election fraud, Indira Gandhi persuaded President Fakhruddin Ali Ahmed to declare a National Emergency during the years 1975-1977. This postponed national elections until 1977.

From Population Control to Reproductive Health

The seventh five-year plan marked an important shift from population control to community-based outreach. NFPP placed greater emphasis on women's rights through the promotion of reversible methods and small-family incentives. The family planning program also devolved to the community level. In 1992, the 72nd and 73rd Constitutional Amendments as well as the Panchayati Raj and Nagar Palika Acts endowed Panchayats (local governments) with the authority to carry out NFPP (Santhya, 2003). Panchayats also became responsible for all primary health care services, including family planning, primary education, and the provision of basic amenities such as drinking water and roads. To encourage women's participation in the political process, women were guaranteed one-third of the seats in Panchayats. The new community-based approach appeared to be successful. Fertility and infant mortality levels declined in southern states. Kerala, Tamil Nadu, and Andhra Pradesh were nearing replacement fertility levels (Maharatna, 2002).

NFPP continued to embrace reproductive health and a community focus in the development of India's eighth five-year plan (1992 – 1997). While drafting the plan, officials identified the core factors contributing to rapid population growth and the "non-realization" of population objectives. Members of the planning committee concluded that centralized planning, target-setting, inadequate program implementation, poor community involvement, and the promotion of non-reversible contraception ran counter to the objectives of NFPP (Santha, 2003 and Maharatna, 2002). Government officials also decided that female sterilization should no longer be promoted as a primary method of contraception, as the responsibility of family planning invariably fell to women. In light of these findings, the Indian government appointed M. S. Swaminathan (a world-

renowned agriculture scientist) to chair the committee responsible for composing a new national population policy. In 1994, the draft policy was submitted to members of parliament as well as state and national agencies for review (Maharatna, 2002).

That same year, NFPP received an in-depth evaluation at the International Conference on Population and Development in Cairo. In pre-conference meetings, participants argued that ethics and quality of care should not be compromised for demographic goals (Visaria et al, 1999). In place of the target approach, health advocates, researchers, service providers, and activists proposed that population policies be guided by reproductive health, reproductive rights, and gender equity (Datta, 2000 and Maharatna, 2002). Attendees also recommended that NFPP improve program management and quality of care, expand services, and use media to broadcast family planning information (Datta, 2000). Advocates reiterated these recommendations at the Fourth World Conference on Women in Beijing in 1995. Following these two conferences, the Indian government abolished method-specific contraceptive targets and replaced them with the Target-free Approach (later renamed the "Community Needs Assessment Approach") in 1997. Under the new approach, health workers' case loads were determined by needs assessments conducted at the community level (Visaria et al, 1999 and Santhya, 2003).

The Indian government openly publicized its new commitment to reproductive health with the Reproductive and Child Health Program (RCH) of 1997. RCH advocated client satisfaction as well as high quality comprehensive and integrated health services. The policy endeavored to prevent unwanted pregnancy, promote maternal and child health, and protect against and manage reproductive tract infections and sexually

transmitted infections. The program also strove to meet the needs of under-served groups, including adolescents and the economically and socially disadvantaged (residents of urban slums and tribal communities). Like the Community Needs Assessment Approach, RCH encouraged decentralized planning and called for the involvement of multiple stakeholders such as non-governmental organizations, the private sector, and Panchayats (Santhya, 2003).

Six years after its creation, M.S. Swaminathan's draft population policy became the National Population Policy (2000). Influenced by the Cairo conference and RCH, the National Population Policy (NPP-2000) simultaneously promoted reproductive health and population stabilization "in the wider context of sustainable development (Santhya, 2003, 4)." This new comprehensive approach was described in the introduction of the law:

> *Stabilizing the population…is as much a function of making reproductive health care accessible and affordable for all, as of increasing the provision and outreach of primary and secondary education, extending basic amenities including sanitation, safe drinking water and housing, besides empowering women and enhancing their employment opportunities, and providing transport and communications (National Population Policy, 2000).*

Advocates, policymakers, and researchers seemed to agree that the NPP-2000 was a more humane approach to the issue of rapid population growth. However, many were concerned that NPP-2000 was too ambitious (Santhya, 2003). The immediate and mid-term goals posed a significant challenge to service providers throughout the health sector (see Appendix).

Concerns were well founded. Poor implementation continues to plague family planning practice throughout India. Reproductive health is daily challenged by a limited supply of poorly trained health care professionals.

Likewise, women and men in rural locations face limited access to family planning services. The implications are unfortunate—unmet contraceptive needs persist in all states. Indian officials and family planning practitioners will have to address such obstacles if they are to uphold reproductive health as a top priority.

Past and Present-Day Implementation

Though family planning services have generally improved since the passing of NPP-2000, the Ministry of Health and Family Welfare continues to grapple with issues such as inadequate service delivery, inconsistent medical supplies, and poorly trained healthcare personnel. Variation in implementation quality has resulted in a wide range of progress. While states in the south and southwest experience fertility rates below replacement, northern states lag far behind. Not surprisingly, unmet needs are highest in northern states. In the states of Meghalaya and Bihar, 35 percent and 23 percent of married women report an unmet need. In contrast, the southern state of Andhra Pradesh reports that a mere 5 percent of married women experience an unmet need.

Traditionally, the unmet need for contraception has been defined as the discrepancy between women's reproductive preferences and contraceptive use (Casterline, 2000). Using this definition, the 2005-2006 National Family and Health Survey (NFHS-3) reports that approximately 13 percent of Indian women have an unmet need for family planning. Nevertheless, some recommend revising the definition to more accurately reflect women's reproductive intentions (Jain, 1994 and Dixon-Mueller, 1992). An example of such a definition is the proposed "Helping Individuals Achieve their Reproductive Intentions" (HARI) index developed by Jain and Bruce in 1992. The index is calculated as the proportion of women failing to realize at least one of the

following outcomes within a designated timeframe: a desired pregnancy with a positive outcome; the prevention of an unplanned pregnancy; safely terminating an unwanted pregnancy; achieving the desired interval between two consecutive births; and preventing any associated reproductive deaths (Jain, 1994). If the HARI index were to replace the traditional definition of "unmet need," the percentage of women with an unmet need would likely be higher than is reported in all Indian states. For this reason, proper implementation of family planning services is vital to the success of the National Population Policy (2000).

The following sub-sections illustrate past and present-day implementation of the family planning program. In some cases, data is unavailable before 2000, the year in which the National Population Policy (2000) became law. However, interviews with family planning practitioners and the most recent National Family and Health Survey (NFHS-3, 2005-2006) confirm that data from the 1990s are representative of the current situation.

Outreach

Outreach efforts vary considerably with geographic region (Koenig et al, 2000). Visitation by family planning practitioners tends to be more widespread in south and west India. In a four-state study of outreach efforts, Roy and Verma (1999) found that 89 percent and 93 percent of women in Tamil Nadu and Karnataka reported a visit by a female paramedical worker within the last three months. In contrast, only 53 percent and 61 percent of women in the states of Bihar and West Bengal reported a visit. Northern states are prone to the lowest levels of outreach. According to a 1993-1994 study of Uttar Pradesh, less than 10 percent of women reported a visit by a female outreach worker

within the past three months. Male worker visitation was even less common (Khan et al. 1999).

Rural women are subject to less frequent and less thorough outreach efforts than urban women. A 1994 study conducted in Maharashtra found that residents of remote villages are less likely to be visited by a health worker, to be visited for a meaningful length of time, or to receive other maternal and child health services. Under Maharashtra's family planning program, Auxiliary Nurse Midwives (ANMs) were expected to visit 50 households each day. In order to reach this target, ANMs would have to restrict household visits to five minutes. The distance and difficulty in traveling to remote villages were significant obstacles to health workers' efforts. Thus, family planning practitioners in this study tended to visit communities and households that were accessible by main roads (Murthy, 1999).

Workers' limited time on the job contributes to clients' dissatisfaction with family planning practice. A 1994-1995 time-use study in Karnataka found that workers spend an average of four hours per day on the job, of which 65 percent is dedicated to service delivery. Poor time-use may be explained by insufficient transportation. Karnataka's Department of Health and Family Welfare Services does not cover the costs of transportation for health workers. Many ANMs are forced to walk long distances with heavy loads of medical supplies (Bhatia, 1999). In the 1994 study of Maharashtra, almost two-thirds of respondents reported that a nurse/midwife had visited for less than five minutes during her most recent household stay. Not surprisingly, clients generally prefer government clinics to outreach efforts (Murthy, 1999).

Limited Client Choice and Knowledge

Under the Target-Free Approach of 1996, clients must be able to choose from a wide selection of reversible and non-reversible contraceptives options. Yet, healthcare workers and clients argue that little choice exists. Limited contraceptive choice can be attributed to "client segmentation," a technique advocated in the target-free manual. Client segmentation guides health workers' contraceptive recommendations according to a woman's family size preference and her current family structure. Women who have two or more children, or who do not want more children, are encouraged to pursue sterilization. Women who are recently married or who intend to postpone motherhood are offered a short-term contraceptive method (Visaria et al, 1999).

In general, clients' knowledge of reversible methods is inadequate. The most recent Demographic and Health Survey (2005-2006) reports that more married women are familiar with female sterilization than condoms (98.4 percent versus 76.1 percent). As has been the trend, rural married women are less knowledgeable of reversible methods than their urban peers. For example, 87.4 percent of urban married women know of IUDs, but only 68.5 percent of rural married women are familiar with IUDs. Fortunately, the gap has narrowed over the past ten years (Demographic and Health Survey, 2005-2006). Besides urban/rural location, women's knowledge of contraceptive methods also varies across age groups. Married adolescents are less likely than their 20-34 year old peers to be familiar with either permanent or reversible methods (NFHS-3).

Quality of Care

In interviews with 12 government personnel and family planning program functionaries, Visaria and Chari (1998) found that the quality of services provided through government clinics is generally insufficient. According to interviewees,

Auxiliary Nurse Midwives "do not work efficiently, do not visit the field often enough, and do not conduct check-ups of the clients (Visaria and Chari, 1998, 91)." As cited in Koenig et al (2000), Verma and Roy (1999) also noted that quality may be compromised by variation in ANMs' knowledge of family planning and service delivery. The proportion of workers with accurate knowledge of basic sterilization procedures, such as tubectomy, ranges from 68 percent in Karnataka to 90 percent in Tamil Nadu (Verma and Roy, 1999). As would be expected, northern states' ANMs are the least knowledgeable of contraceptive methods. A study conducted in Uttar Pradesh determined that a mere 38 percent of nurse-midwives are familiar with the true side effects of contraceptives (SIFPSA et al, 1996).

Perhaps more problematic is the issue of hygienic care. Because numerical indicators have been the focus of NFPP, doctors often sacrifice appropriate medical care (sterilization of instruments) to achieve high numbers of "contraceptive acceptors" (Visaria and Chari, 1998). Among IUD acceptors in Gujarat, only 41 percent reported that the provider washed his or her hands or put on gloves prior to inserting an IUD (Visaria, 1999).

Inadequate infrastructure also contributes to the issue of poor care. Many primary health care centers lack electricity generators and hospital beds. As a result, health care professionals are forced to conduct medical procedures in makeshift accommodations, such as vehicles or the floor of a hospital (Visaria and Chari, 1998). Outreach camps (sterilization camps) are least likely to be staffed by trained professionals and possess sufficient infrastructure. Many camps offer limited privacy and lack clean water.

Moreover, toilet facilities are largely non-existent and unsanitary (Ramanathan et al, 1995).

Pre-acceptance and post-acceptance check-ups are infrequent, and often absent in primary health care centers. The Reproductive and Child Health Survey found that, nationwide, one in four women receive a follow-up visit from a health worker after accepting a contraceptive. Similarly, data collected by the International Institute for Population Sciences reveal that, in many states, less than 10 percent of women report a follow-up visit (Santhya, 2003).[9]

Reaching Adolescents

Data from India's most recent Demographic and Health surveys find that unmet contraceptive needs are greatest among adolescents. This is of great concern considering that 44.5 percent of women ages 20-24 are married before 18, the legal age of marriage (NFHS-3). Unfortunately, little is known regarding adolescents' contraceptive use. A few small studies suggest that a majority of sexually active unmarried adolescents do not use any contraceptive method (Santhya, 2003).

In a 1995-1997 study of married adolescents (ages 15-19) in rural Maharashtra, Barua and Kurz (2001) found that married adolescent girls often defer reproductive health and fertility decisions to husbands and mothers-in-law. Among girls suffering from gynecological problems, only half pursued treatment. Those who did not receive treatment reported that their husbands disapproved of openly discussing such health problems. Husbands were also unwilling to accompany their wives to a health care facility. Nonetheless, mothers-in-law often encouraged health care if a gynecological

[9] This data was taken from the Reproductive and Child Health Project: Rapid Household Survey (Phase 1 and Phase II) 1998-99. Mumbai: IIPS.

problem appeared to threaten fertility. Mothers-in-law also pressured daughters-in-law to conceive within the first year of marriage.

Very few couples reported using modern contraceptive methods. Mothers-in-law preferred natural family planning and girls found it embarrassing to discuss contraception and spacing with their husbands. Thus, once a husband and wife were satisfied with the size of their family, the wife would be sterilized in accordance with the preferences of her husband and mother-in-law. As a result, many girls underwent tubectomies at very young ages, some before 19 (Barua and Kurz, 2001).

The findings of Barua and Kurz (2001) are confirmed by the experience of JANANI, an Indian non-profit providing family planning services. Preeti Anund, General Manager of Programs at JANANI, reported that, like the young girls in Maharashtra, young women seeking family planning services in Bihar are prone to visit after having completed their families. Once they have borne two or three children, women visit JANANI's clinics for a permanent contraceptive method. Generally, these women are between 25 and 27 years of age (Anund, 2009).

Family planning practitioners in non-governmental organizations report that it is difficult to reach unmarried adolescents. According to Poonam Arora, Chief Operating Officer at Parivar Seva Sanstha (a family planning NGO), schools and colleges are often unwilling to coordinate with family planning groups. Parivar Seva Sanstha's Youth-Friendly Clinic in Jaipur caters to adolescents, but most who attend are already married. Thus, outreach to unmarried adolescents often takes the form of community-wide outreach. In the case of Parivar Seva Sanstha, family planning professionals educate

schoolteachers and coordinate community-wide events that promote the use of contraceptives (Arora, 2009).

Staffing

Since its inception, the National Family Planning Program has struggled to attract and maintain sufficient numbers of family planning personnel. To maintain staff at government clinics, recent medical graduates are recruited to work in primary healthcare centers. Most find it difficult to adapt to rural locations, which lack basic amenities (Visaria and Chari, 1998). Doctors also find that there is little financial benefit to working in family planning clinics, as general practice yields greater pay (Anund, 2009). Consequently, high turnover is common. At Parivar Seva Sanstha, doctors often limit practice to a single year in which they learn to conduct abortions and perform other family planning services. Soon after, most leave to start a private practice. To cope with high turnover, family planning providers heavily invest in training programs. In the case of Parivar Seva Santha, training is completed in less than two months so that doctors may serve the local community for the majority of a year before departing (Arora, 2009).

Health workers, namely Auxiliary Nurse Midwives (ANMs), are also in short supply. Many nurses pursue higher pay in countries other than India (Arora, 2009). Of those who work in family planning, most are women with household responsibilities. As a result, many are not available for the entire workday. Work hours are further complicated by limited and unreliable transportation (Visaria and Chari, 1998). Some NGOs have attempted to increase the supply of family planning professionals by involving male health workers, but it is difficult to secure male participation. Research in Karnataka revealed that, among male health workers performing malaria and tuberculosis

screening, most believe that reproductive healthcare should be carried out by women (Murthy et al, 2002).

Program Partnerships

Private-Public partnerships are vital to the success of the National Population Policy. Deficiencies in government-provided services are often addressed through the work of non-governmental organizations (NGOs) or a local government body, such as the Panchayati Raj. India's Ministry of Health and Family Welfare recognizes the importance of private-public partnerships in its *Guidelines for Department of Family Welfare Supported NGO Schemes* (2003). According to this document, collaboration should be established between NGOs and state governments. The nature of this relationship is illustrated in the following:

> *The work of NGOs is essentially supplementary and complementary in nature to that of the government. NGOs have a comparative advantage of flexibility in procedures, and a rapport with the local population. The [Government of India] therefore proposes to involve NGOs in using strategies for expanding access to health services (Guidelines, 2003, 11)*

In accordance with the *ninth five-year plan* (1997-2002), the Department of Family Welfare issues grants to Mother NGOs serving designated districts. The Mother NGOs then distribute smaller grants among Field NGOs in sub-districts. These small grants are intended to assist NGOs in meeting the objectives of the national Reproductive and Child Health Program (Guidelines, 2003). In the words of Preeti Anund at JANANI, "We are helping the government reach its mandate (2009)."

With the recent decentralization of NFPP, state governments are taking greater measures to provide both private and public family planning services in primary

healthcare centers.[10] In Orissa, the state government has donated a hospital room to Parivar Seva Sanstha where the NGO provides family planning counseling services. Upon arrival, hospital personnel refer all family planning clients to Parivar Seva Sanstha for counseling. In exchange, Parivar Seva Sanstha offers clients the option of choosing between government-provided services and the organization's services. Government services are guaranteed to be free while NGO services are heavily subsidized and may require a small fee. Parivar Seva Sanstha enhances government services by providing training to government clinics' ANMs (Arora, 2009). NGOs may also partner with each other to expand service delivery. For example, JANANI partners with Pathfinder, a community-based NGO, to administer couples counseling and family planning education (Anund, 2009).

Supplies

Both JANANI and Parivar Seva Santha report little difficulty in procuring medical supplies. NGOs save costs by purchasing surgical equipment in bulk from manufacturers. The Indian government also supplies contraceptives and pills to NGOs at a highly subsidized rate. To prevent supply shortages, NGOs compute supply-use projections at the start of each year to inform their purchases. By doing so, NGOs are able to maintain supplies throughout the year. Neither JANANI nor Parivar Seva Santha reports a shortage of supplies.

Unfortunately, government clinics have not been as fortunate in obtaining medical supplies. The four-state study by Roy and Verma (1999), as referenced in Koenig et al (2000), revealed that the availability of medicines at government clinics varies by region.

[10] NGOs fall within the domain of the private sector. However, through partnerships with the government, many NGOs provide family planning services at no cost to clients (Anund, 2009).

While 72 percent of women interviewed in Tamil Nadu feel that the availability of medicine is always adequate at government clinics, only 50 percent of women in Karnataka feel the same. The numbers are worse in Bihar and West Bengal where 23 percent and 14 percent of women report that the availability of medicine is adequate. Though some states are better off than others, supply shortages appear to be a nationwide dilemma. Even Tamil Nadu, renowned for its successful family planning program, has been found to experience shortages of medicine and supplies. During shortages, women visiting government clinics are often forced to provide their own birthing kits and supplies. This may include blood, saline solution, gauze and cotton (Koenig et al, 2000).

Implementation difficulties have contributed to clients' general preference for private-sector health and family planning services. Murthy (1999) determined that family planning clients generally perceive private-sector health and family planning services to be of higher quality than government-run clinics. Ravindran (1999) also suggested that a shortage of female doctors in the public sector has encouraged more female patients to seek services from the private sector where female doctors are more readily available. Of course, private services are not available to those who cannot afford them.

Successful States

Though implementation difficulties are widespread, some states have already achieved the mid-term objective set forth by NPP-2000. Among the most extraordinary are Tamil Nadu, Kerala, and Andhra Pradesh. Today, the total fertility rates for these states are 1.8, 1.9 and 1.8 births per woman (NFHS-3). Unlike India's northern states, these "successful states" have not battled extremely high fertility in recent years. Data from NFHS-1 expose near-replacement fertility rates as early as 1992. At that time,

Tamil Nadu reported a total fertility rate (TFR) of 2.48 births per woman, Kerala a TFR of 2.0, and Andhra Pradesh a TFR of 2.59. Southern states' low fertility rates are not the result of any single policy or program. Many of the progressive values espoused by the National Population Policy (2000) were present in these states long before creation of the policy. Nonetheless, coercive outreach efforts may have contributed to the decline in each state's TFR.

Kerala

As early as 1951, Kerala's total fertility rate was well below that of the nation. Originally, low fertility was attributed to older ages of marriage among women. Today, the prevalence of contraception plays a greater role in explaining fertility: 68.6 percent of married women aged 15-49 use some form of contraception (NFHS-3). Kerala's most notable fertility decline occurred in the early years of NFPP. According to Bhat and Rajan (1990), the total fertility rate dropped from 5.6 births in 1951-1961 to 2.3 births per woman in 1986.

Historically, women in Kerala have experienced greater independence than their northern peers. Since British rule, women have benefited from progressive state politics. Prior to independence, temples in Kerala were used to educate both men and women. Kerala's progressive nature was also evident in attempts to distribute wealth equally among sub-populations (Nag, 1984). Matriarchal sub-populations in Kerala made and continue to make up a large portion of the population. Consequently, women in Kerala enjoy some of the highest literacy, education, employment, and land ownership rates in India (James, 1999 and Eswaran, 2002). Women's independence is reflected in national indicators of female empowerment, where Kerala is well above the average. Currently,

62.5 percent of married women participate in household decisions and less than 17 percent report any spousal violence (NFHS-3).

Equity in healthcare is also notable throughout Kerala. Ninety-nine percent of rural births and 100 percent of urban births are carried out in healthcare institutions (NFHS-3). In 1964-65, only 13 percent of rural births were performed in health care institutions. Antenatal care is also impressive. According to the National Family and Health Survey, 100 percent of rural and urban women with births in the last three years received some form of antenatal care. These indicators suggest that Kerala's family planning infrastructure is far more developed than in the northern states. Success in the field of healthcare is often linked to well-funded training programs where nurses are educated in the field of family planning (James, 1999).

Andhra Pradesh

Unlike Kerala, the declining fertility rates in Andhra Pradesh are not associated with social development in the form of high literacy rates or education among women. Instead, the significant drop in fertility (from 4.6 children per woman in the early 1970s to 2.5 children in 1997) is the result of widespread contraceptive use. In recent years, contraception rates among married women ages 15-49 have risen from 47 percent in 1992-1993 to 68 percent in 2005-2006, and the decline in fertility was experienced by almost all sub-populations (James and Subramanian, 2003).

Like Kerala, high rates of contraceptive use can be linked to progressive state policies from the early 1980s. The Integrated Child Development Services (ICDS) program, which improves the nutrition of young children and mothers, sought to effectively allocate resources among rural and poor populations. The state also addressed

poverty and fertility rates in a program known as "Welfare Induced Population Stabilization" which promoted the small family norm. Throughout the 1980s, the state government increased the number of primary health care centers from 450 to 1100, and heavily invested in the recruitment of physicians. The state's family planning program also encouraged active community organizing at the local level (James, 1999). The effect of the family planning program is apparent in a statistical analysis of village-level factors, using data from NFHS-2:

> *…the second governance variable, family planning related group meeting at the village during the last one year showed a nearly significant positive relationship with the contraceptive use. This indicates that effective implementation of [the] programme has a major effect on contraceptive use in the village (James and Subramanian, 2003, p.1223).*

Though Andhra Pradesh has successfully lowered its total fertility rate, women's empowerment indicators are less than ideal. Thirty-five percent of ever-married women have experienced spousal abuse. Further, many women are married as adolescents. Nearly 55 percent of women aged 20-24 were married by the age of 18, as of 2005 (NFHS-3). Other health indicators suggest that the overarching objectives of the National Population Policy--children's health and maternal health--continue to be challenged. The infant mortality rate rests at 53 infant deaths per 1000 live births. When broken down into rural and urban infant mortality rates, it is evident that rural health is particularly challenging. The infant mortality rate among rural women is twice that of urban women (NFHS-3). Evidently, Andhra's success is limited to contraception.

Tamil Nadu

Similar to Andhra Pradesh, the decline in Tamil Nadu's fertility rate has not been associated with low infant mortality rates or improved literacy. Rather, aggressive outreach efforts, promotion of the family planning program, and the indirect effects of urbanization are the major factors contributing to fertility decline. In an ethnographic study by Van Hollen (1998), multi-purpose health workers admit to pressuring women into accepting IUDs immediately following the birth of their second child. At times, women were not aware of IUD insertion. After months of pain and bleeding, many were forced to visit a private hospital where they paid for removal of the IUD. In some cases, the primary health care centers would refuse to remove IUDs, despite women's requests that they do so. This unfortunate history is often overlooked in discussions of Tamil Nadu's "successful" family planning program.

Since the late 1950s, government agencies in Tamil Nadu have worked together to achieve family planning targets. A regional political party, the Dravida Munnettra Kazhagam party, also popularized the small-family norm in an effort to improve the state's economic health and promote women's rights (Srinivasan et al, 1991). Women's empowerment indicators reveal contradictory information. Presently, 69.2 percent of married women participate in household decisions. Yet, 42 percent of married women have experienced some form of spousal violence (NFHS-3).

An analysis by Savitri (1994) found that improved road facilities have expanded access to health care services at primary healthcare centers. With the urbanization of Tamil Nadu, Savitri suggests that families have been increasingly exposed to family planning practices through the development of all-weather roads. Specifically, small district roads and village roads maintained by Panchayats have strengthened rural-urban

connections. Families from rural residences are now able to visit family planning clinics in urban locales.

Contraceptive use in Tamil Nadu continues to be high, though not as impressive as in Kerala and Andhra Pradesh. Currently, 61.4 percent of married women ages 15-49 use some form of contraception, up from 49.8 percent in 1992-1993. There is little variation in contraceptive use between rural and urban women. Likewise, rural and urban women experience similar rates of antenatal care. Nearly 97 percent of urban and rural mothers received at least three antenatal care visits after their last birth.

Unmet contraceptive needs in Kerala, Andhra Pradesh, and Tamil Nadu are well below the national average. However, impressive total fertility rates do not imply flawless family planning programs. Southern states have yet to achieve all the objectives set forth under the National Population Policy. Women's empowerment and health are still of great concern.

Alternate Explanations for Declining Fertility Rates

While successful implementation has been instrumental in the reduction of fertility rates across southern states, cultural trends are also influencing fertility. In a *Decomposition of Recent Fertility Changes in South Asia* (1989), Retherford and Rele argue that India's total fertility rate has been positively affected by changes in the proportion of people marrying within designated age groups. By comparing the period of 1960-64 against the period of 1980-1984, Retherford and Rele found that India's total fertility rate fell by approximately 1.06 children. The proportion of those married at younger reproductive ages declined while the proportion of those married at older reproductive ages increased. For example, among 15-19 year olds, the proportion married

declined from .678 in 1960-1964 to .420 in 1980-1984. Among 35-39 year olds, the proportion married increased from .875 to .934. A similar increase was found in the 40-44 and 45-49 age category.

Accordingly, age-specific marital birth rates also declined between the periods of 1960-64 and 1980-84. Among 20-24 year olds, the birth rate dropped from 332 births per thousand to 312 births per thousand. The decline was even more pronounced for 30-34 year-olds, from 237 births per thousand to 186 births per thousand. Evidently, the changing proportion of marriages in each group may explain the nationwide decline of India's total fertility rate.

Conclusion

According to Dr. Devendra Kothari, author of Madhya Pradesh's population policy and director of Jaipur's Management Institute of Population and Development, India is now projected to achieve replacement fertility by 2018. India will soon realize the National Population Policy's (2000) mid-term objective. But fertility rates are not the only measure of success. Total fertility rates ignore the larger mission of NPP-2000, namely the promise of high quality reproductive healthcare. While southern states like Kerala and Andhra Pradesh are successfully prioritizing proper implementation and women's health, the vast majority of states continue to compromise reproductive health with poor service. NPP-2000 has yet to overcome sixty-seven years of inadequate family planning practice.

The solution to poor implementation is clear: state governments and other administrators of NPP-2000 need to prioritize reproductive health at every level of the family planning program. To do so, the family planning program must expand. Large-

scale networks are a crucial piece of this recommendation. By formalizing the relationships among Panchayats, NGOs, grassroots organizations, and state officials, the family planning program will likely garner greater support and transparency. The Ministry of Health and Family Welfare should take steps to attract health care workers and doctors to the family planning field. In addition, staff must be properly trained and held accountable for their work. Competitive pay should be offered to family planning professionals so as to maintain high quality services in the long-term. Further, transportation limitations must be addressed in order to reach men and women of disadvantaged populations (ie. slum residents, tribal castes, and rural residents).

Finally, men must be included in discussions of family planning practice. Ample evidence suggests that husbands make decisions related to family planning and healthcare, yet data from the most recent Demographic and Health Survey (2005) reveal that men are less knowledgeable of contraceptive methods than their female partners (Santhya, 2003). Collaborative family planning decisions made by men and women are likely to yield fertility outcomes which satisfy both partners. Thus, administrators of the National Population Policy (2000) should take steps to educate men about the benefits of family planning.

There is no doubt that families in India have embraced the small family norm. Families face increasing economic strain with the birth of each additional child. This was openly acknowledged as early as the 1950s when survey data revealed a desire for limited family size (Visari and Chari, 1998). What families lack is education, information, and adequate access to contraceptives. If the National Population Policy (2000) is to eliminate

the unmet contraceptive needs of all Indians, implementation of the family planning program must reflect an appreciation of family preferences and high quality healthcare.

Appendix

National Population Policy 2000 - Objectives

The immediate objective of the NPP 2000 is to address the unmet needs for contraception, health care infrastructure, and health personnel, and to provide integrated service delivery for basic reproductive and child health care. The medium-term objective is to bring the TFR to replacement levels by 2010, through a vigorous implementation of inter-sectoral operational strategies. The long-term objective is to achieve a stable population by 2045, at a level consistent with the requirements of sustainable economic growth, social development, and environmental protection.

In pursuance of these objectives, the following National Socio-Demographic Goals to be achieved in each case by 2010 are formulated:

1. Address the unmet needs for basic reproductive and child health services, supplies and infrastructure.
2. Make school education up to age 14 free and compulsory, and reduce drop outs at primary and secondary school levels to below 20 percent for both boys and girls.
3. Reduce infant mortality rate to below 30 per 1000 live births.
4. Reduce maternal motality ratio to below 100 per 100,000 live births.
5. Achieve universal immunization of children against all vaccine preventable diseases.
6 Promote delayed marriage for girls, not earlier than age 18 and preferably after 20 years of age.
7. Achieve 80 percent of institutional deliveries and 100 percent deliveries by trained persons.
8. Achieve universal access to information/counseling, and services for fertilityl regulation and contraception with a wide basket of choices.
9. Achieve 100 percent registration of births, deaths, marriage, and pregnancy.
10. Contain the spread of Acquired Immunodeficiency Syndrome (AIDS), and promote greater integration between the management of reproductive tract infections (RTI) and sexually transmitted infections (STI) and the National AIDS Control Organization.
11. Prevent and control communicable diseases.
12. Integrate Indian Systems of Medicine (ISM) in the provision of reproductive and child health services, and in reaching out to households.
13. Promote vigorously the small family norm to achieve replacement levels of TFR.
14. Bring about convergence in implementation of related social sector programs so that family welfare becomes a people centered program

Source: www.populationcommission.nic.in/npp_obj.htm

Figure 1: The States of India

Source: www.nationsonline.org/bilder/map_of_india50.jpg (2009

Figure 2: Annual Growth Rate of India (1955 – 2050)

Year	**Annual Growth Rate (Percent)**
1955	2
1960	2.26
1970	2.28
1980	2.08
1990	2.07
2000	1.75
2005	1.55
2015	1.26
2050	0.32

Source: UN Common Database (Globalis)

Figure 3: Total Fertility Rate (1955 – 2050)

Year	**Total Fertility Rate**
1955	5.97
1960	5.92
1970	5.69
1980	4.83
1990	4.15
2000	3.45
2005	2.76
2015	2.46
2050	1.85

Source: UN Common Database (Globalis) and NFHS (2005-2006)

References

Anund, Preeti. Telephone Interview. Minneapolis, MN. March 11, 2009.

Arora, Poonam. Telephone Interview. Minneapolis, MN. March 11, 2009.

Barua, Alka and Kathleen Kurz. 2001. "Reproductive Health-Seeking by Married Adolescent Girls in Maharashtra, India." *Reproductive Health Matters* 9 (17): 53-62.

Bhat, P. N. Mari and S. Irudaya Rajan. 1990. "Demographic Transition in Kerala Revisited." *Economic and Political Weekly* 25 (35/36): 1957-1980.

Bhatia, Jagdish C. 1999. "Constraints to the Quality of Primary Health Services in Rural Karnataka." In *Improving Quality of Care in India's Family Welfare Programme: The Challenge Ahead.* Eds. Michael A. Koenig and M.E. Khan. New York: The Population Council. Pp. 183-209.

Centre for Policy Research. *Population, Poverty and Hope*. New Delhi, Uppal Publishing House, 1983. :463-74.

Casterline, J.B. and S.W. Sinding. 2000. "Unmet Need for Family Planning in Developing Countries and Implications for Population Policy." *Population and Development Review* 26 (4): 691-723.

Connelly, M. 2006. "Population Control in India: Prologue to the Emergency Period." *Population and Development Review* 32 (4): 629-667. Published by Population Council.

Datta, Bishakha and Misra, Geetanjali. 2000. "Advocacy for Sexual and Reproductive Health: The Challenge in India." *Reproductive Health Matters* 8 (16): 24-34.

David, Kingsley. 1968. *The Population of India and Pakistan.* New York: Russel and Russel.

Macro International, 2005. *Demographic and Health Survey, 2005-2006: India.* Mumbai, IIPS.

Donaldson, Peter J. 2002. "The Elimination of Contraceptive Acceptor Targets and the Evolution of Population Policy in India." *Population Studies* 56 (1): 97-110.

Department of Family Planning (Government of India). 2003. *Guidelines for Department of Family Welfare Supported NGO Schemes*: http://mohfw.nic.in/NGO%20Guidelinesfinal%20Oct.03.pdf (Accessed March 25, 2009).

Eswaran, Mukesh. 2002. "The Empowerment of Women, Fertility, and Child Mortality: Towards a Theoretical Analysis." *Journal of Population Economics* 15 (3): 433-454.

Government of India, 2000. *National Population Policy 2000.* National Commission on Population, New Delhi, Ministry of Health and Family Welfare.

Hanson, A.H. 1966. *The Process of Planning: A Study of India's Five-Year Plans.* Belfast: Oxford University Press.

Jain, A. and J. Bruce. 1994. "A Reproductive Health Approach to the Objectives and Assessments of Family Planning Programmes." In Sen, Germain, Chen (eds). *Population Policies Reconsidered: Health, Empowerment and Rights* Cambridge, Harvard Centre for Population and Development Studies.

James, K.S. 1999. "Fertility Decline in Andhra Pradesh: A Search for Alternative Hypotheses." *Economic and Political Weekly* 34 (8): 491-499.

James and Subramanian. 2003. "Towards a Demographic Transition." *Economic and Political Weekly* 38 (12/13): 1219-1229.

Khan, M.E., R.B. Gupta, and Bella C. Patel. 1999. "The Quality and Coverage of Family Planning Services in Uttar Pradesh: Client Perspectives." In *Improving Quality of Care in India's Family Welfare Programme: The Challenge Ahead.* Eds. Michael A. Koenig and M.E. Khan. New York: The Population Council. Pp. 49-69.

Kothari, Dr. Devendra. Telephone Interview. Minneapolis, MN. April 10, 2009.

Koenig, Michael A., Gillian H.C. Foo, and Ketan Joshi. 2000. "Quality of Care within the Indian Family Welfare Programme: A Review of Recent Evidence." *Studies in Family Planning* 31 (1): 1-18.

International Institute for Population sciences, 2006. *National Family Health Survey-III, 2005 – 2006: India.* Mumbai, IIPS.

Maharatna, Arup. 2002. "India's Family Planning Programme: An Unpleasant Essay." *Economic and Political Weekly* 37 (10): 971-981.

Mohapatra, Subash. 2006. Child Marriages Persist in Rural India. *Asian Tribune* 7, no. 001. http://www.asiantribune.com/index.php?q=node/1763 (Accessed March, 17, 2009).

Mukherjee, Sumita. Using the Legislative Assembly for Social Reform: The Sarda Act of 1929. Sage Journals Online 26 (3): 219-233 http://sar.sagepub.com/cgi/content/refs/26/3/219 (Accessed April 19, 2009).

Murthy, Nirmala. 1999. "The Quality of Family Welfare Services in Rural Maharashtra: Insights from a Client Survey." In *Improving Quality of Care in India's Family Welfare Programme: The Challenge Ahead.* Eds. Michael A. Koenig and M.E. Khan. New York: The Population Council. Pp. 33-48.

Murthy, N., L. Ramachandar and P. Pelto. 2002. "Dismantling India's Contraceptive Target System: An Overview and Three Case Studies." In *Responding to Cairo: Case Studies of Changing Practice in Reproductive Health and Family Planning.* Ed. N. Haberland and D. Measham. New York: Population Council, pp. 25-57.

Palmore, A. and Robert W. Gardner. 1996. *Measuring Mortality, Fertility, and Natural Increase.* Honolulu, Hawaii: East-West Center.

Peters, David H. 2002. "The Role of Oversight in the Health Sector: The Example of Sexual and Reproductive Health Services in India." *Reproductive Health Matters* 10 (20): 82-94.

Ramanathan, Mala, T.R. Dilip, and Sabus S. Padmadas. 1995 "Quality of Care in Laparoscopic Sterilization Camps: Observations from Kerala, India." *Reproductive Health Matters* 6: 84-93.

Ravindran, T.K.S. 1999. "Rural Women's Experiences with Family Welfare Services in Tamil Nadu." In *Improving Quality of Care in India's Family Welfare Programme: The Challenge Ahead.* Eds. Michael A. Koenig and M.E. Khan. New York: The Population Council. Pp.19-32.

Ravindran, T.K.S. and U.S. Mishra. 2001. "Unmet Need for Reproductive Health in India." *Reproductive Health Matters* 9 (18): 105-113.

Roy, T.K. and Ravi K. Verma. 1999. "Women's perceptions of the quality of family welfare services in four Indian states." In *Improving Quality of Care in India's Family Welfare Planning Programme: The Challenge Ahead.* Eds. Michael A. Koenig and M.E. Khan. New York: The Population Council. Pp. 19-32.

Sagaza, H. and A. Kumar. 2006. "Family Planning in India: Approaches and Achievements." *Waseda Daigaku Ningen Kagaku Gakujutsuin Ningen Kagaku Kenkyu* 19 (1): 13-28.

Savitri, R. 1994. "Fertility Decline in Tamil Nadu: Some Issues." *Economic and Political Weekly* 29 (29): 1850-1852.

Santhya, K.G. 2003. "Changing family planning scenario in India: An overview of recent evidence," *South & East Asia Regional Working Paper* no. 17. New Delhi: Population Council.

Srinivasan, K., P.C. Saxena, T.K. Roy, and R.K. Verma. 1991. "Effect of Family Planning Program Components on Contraceptive Acceptance in Four Indian States." *International Family Planning Perspectives* 17 (1): 14-24.

State Innovations in Family Planning Services Agency (SIFPSA), United States Agency for International Development (USAID), and the EVALUATION Project. 1996. *Performance Indicators for the Innovations in Family Planning Service Project: 1995 PERFORM Survey.* Uttar Pradesh State Seminar Report. Lucknow, Uttar Pradesh: SIFPSA, USAID, and the EVALUATION Project.

Sundari Ravindran, T.K. and U.S. Mishra. 2001. "Unmet Need for Reproductive Health in India." *Reproductive Health Matters* 9 (18): 105-113.

Thapar, Savitri. 1963. "Family Planning in India." *Population Studies* 17 (1): 4-19.

Van Hollen, Cecilia. 1998. "Moving Targets: Routine IUD Insertion in Maternity Wards in Tamil Nadu, India." *Reproductive Health Matters* 6 (11): 98-106.

Visaria, Leela. 1999. "The Quality of Reproductive Health Care in Gujarat: Perspectives of Female Health Workers and their Clients." In *Improving Quality of Care in India's Family Welfare Programme: The Challenge Ahead.* Eds. Michael A. Koenig and M.E. Khan. New York: The Population Council. Pp. 143-168.

Visaria, Leela, Shireen Jejeebhoy and Tom Merrick. 1999. "From Family Planning to Reproductive Health: Challenges Facing India." *International Family Planning Perspectives* 25: S44-S49.

Visaria, Pravin and Vijaylaxmi Chari. 1998. "India's Population Policy and Family Planning Program: Yesterday, Today, and Tomorrow." In *Do Population Policies Matter?* ed. Anrudh Jain, 53-112. New York, NY: Population Council.