

POPULATION STABILIZATION IN BIHAR, INDIA

Situational Analysis and Future Directions

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Presented to
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Acknowledgement

We are thankful to Population Communication for taking the initiative to prepare a report on population stabilization for future programmatic interventions and direction in Bihar state of India. The report examines the programs and policies that would accelerate progress towards population stabilization in Bihar and proposes recommendations that will help in achieving the replacement level fertility. We would especially like to thank Bob Gillespie for his support, guidance and inputs.

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Abbreviations

CHC	Community Health Centre
DLHS	District Level Health Survey
FRU	First Referral Unit
ICPD	International Conference on Population and Development
IIPS	International Institute of Population Sciences
IMR	Infant Mortality Rate
JSK	Janasankhya Sthirata Kosh
JSY	Janani Suraksha Yojana
MMR	Maternal Mortality Rate
MMU	Mobile Medical Unit
NGO	Non Government Organization
NFHS	National Family Health Survey
NPP	National Population Policy
NRHM	National Rural Health Mission
PPP	Public Private Partnership
SAC	Satisfied Acceptor Couple
SRS	Sample Registration System
TFR	Total Fertility Rate

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POPULATION STABILIZATION IN BIHAR, INDIA

Situational Analysis and Future Directions

I. Introduction

The purpose of this report is to carry out situation analysis and identify future directions for population stabilization in Bihar, India through examining the programs and policies that would achieve population stabilization. It will help Population Communication to plan and fund the preparation of planning grants that would include timetables, targets, budgets, training, commodity needs, logistics, delivery of services, mobilizing field workers, conducting media campaigns, etc.

The report describes the status of the population policies and family planning programs in Bihar that would accelerate progress towards population stabilization. It has largely relied upon the various secondary sources including government reports, policy papers related to health, population policy and programmes; literature review and desk research. However, information was also gathered about health, population and reproductive health scenario in Bihar through discussions with different stakeholders like Government officials, Bihar State Health Society, Public Health Resource Network, Donor agencies, NGOs and individuals.

Section II of this report provides a population and development profile of Bihar. It then reviews family planning status in terms of current use and unmet need in section III. This is followed by a discussion of evolution of population policies and programs in section IV. The strategies to accelerate progress towards achieving replacement fertility and subsequent population stabilization and their implementation requirements are the subject of section V. In conclusion, based upon recent improvement trends in socio-economic development and family planning program performance, we can be cautiously optimistic that replacement fertility could be reached in 20- 25 years although the technical group on population projection, Registrar General of India (2006) had estimated that Bihar will achieve replacement level of fertility by the year 2021.

Table 1. Decadal Population Growth Rate

SL	India/ State	Percentage Decadal Growth Rate			Sex-Ratio (Females/1000 Males)			Population Density per sq. km.		
		1981-91	1991-01	2001-11	1991	2001	2001	1991	2001*	2011
1.	India	23.87	21.54	17.64	927	933	940	267	324	368
2.	Bihar	23.38	28.62	25.07	907	921	916	685	881	1102

Figure 2. Percentage decadal growth rate in Bihar

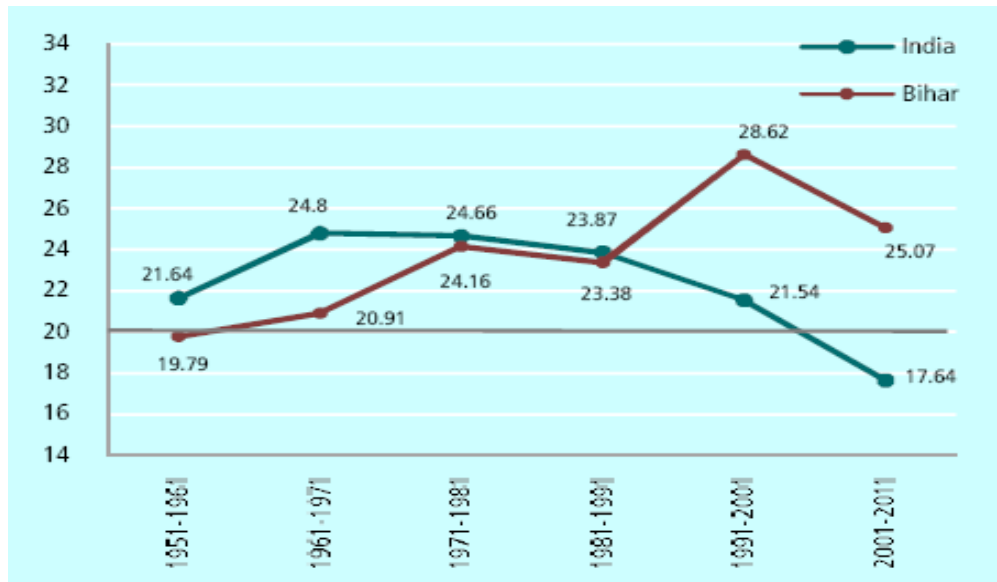
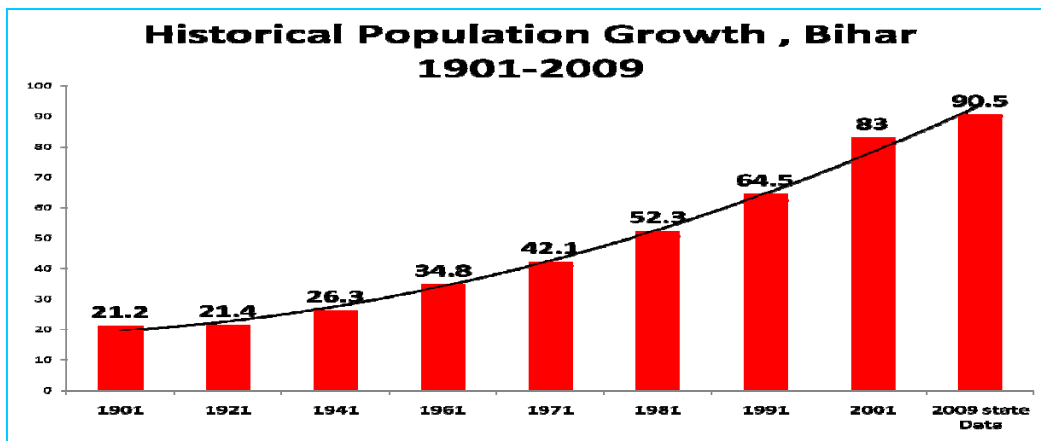


Figure 3. Historical population growth in Bihar



Demographic Diversity in India

According to a Report of the Technical Group on Population Projections for India and States 2001-2026, Census of India, 2001³, the population of India is expected to increase from 1029 million to 1400 million during the period 2001-2026 - an increase of 36 percent in twenty-five years at the rate of 1.2 percent annually. While India's population growth rate has been declining over the years, the overall population will continue to grow as 51% of the population is in the reproductive age group (15-49). Millions more will join this cohort each year.

The Group also estimated, that, under the current trends, it would take at least 25 years for the use of contraception, female age at marriage, unmet need for contraception, ideal family size and regular exposure to mass media to reach respective levels required to attain replacement-level fertility in Bihar (Table 2). At current levels, it may take several more decades to stabilize the population. Specially, considering the age structure and population distribution (according to census 2011) where (0-6 years) constitutes the highest proportion (17.9 percent) of the state's total population. Concentration of population in this age group also implies that the fertility transition in Bihar is much slower.

Table 2: Population Projection for Bihar, 2001-2026

State	Projected growth rate 2008-11 (%)	Projected population growth			Total fertility rate	
		% growth	(millions)	% share	2011	2021
Bihar	1.5	37.2	30.85	8.3	3.0	2.2
India	1.4	36.1	371.23	100.0	2.5	2.1

Out of the estimated total population increase of 371 million between 2001 and 2026 in India, 187 million are likely to be added in the seven States of Bihar, Chhattisgarh, Jharkhand, Madhya Pradesh, Rajasthan, Uttar Pradesh and Uttaranchal⁴ i.e. nearly 50 percent of India's demographic growth although they currently account for 40% of the total population. Of the population

³ Report of the working group on population stabilization for the eleventh five year plan (2007-2012). Planning Commission. Government of India. New Delhi.

⁴ A. Singh (2010). Population Stabilization: the Way Ahead. www.jsk.gov.in accessed on August 23, 2010.

increase during the period 2001-26, it is estimated that 8% would be contributed by Bihar, about the same as its current share in the population.

There is considerable demographic diversity in India, as shown in Table 3. While some states accounting for 61% of the total population have achieved or are close to achieving replacement level fertility, others with 39% of the population will still take many more years.

Table 3. Estimated Dates for Reaching Replacement Fertility Level in Different States

States have already or nearly achieved replacement fertility	State that are expected to achieve replacement fertility by 2020	State that are expected to achieve replacement fertility after 2020
Kerala (1988) Tamil Nadu (2000) Andhra Pradesh (2002) Himachal Pradesh (2002) Delhi (2001) NE States (2005) West Bengal (2003)	Assam (2019) Jharkhand (2018) Haryana (2012) Orissa (2010) Gujarat (2012) Maharashtra (2009) Punjab (2006) Karnataka (2005)	Uttar Pradesh (2027) Madhya Pradesh (2025) Chhattisgarh (2022) Uttarakhand (2022) Bihar (2021) Rajasthan (2021)
Accounting for 28% of India's population in 2001	Accounting for 33 % of India's population in 2001	Accounting for 39% of India's population in 2001
Source: The Technical group on Population Projection, RGI. 2006.		

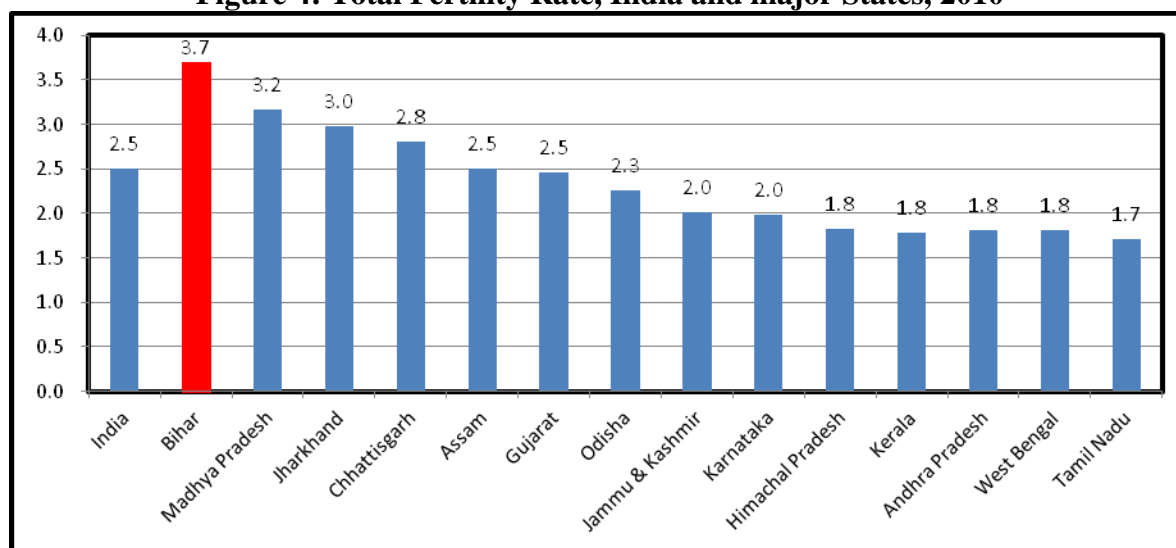
Socio-cultural Context of High Fertility

Bihar has a very high total fertility rate (3.7 children per woman according to SRS, 2010 estimates) in comparison to other states and country fertility rate (2.5 children per woman) (Figure 4). Except for Infant Mortality Rate (IMR), which is only marginally higher in Bihar than in India, the demographic situation of Bihar is extremely difficult. On the socio-economic front too, Bihar lags far behind the other states due to its high fertility, educational backwardness, and unemployment. Figures of major health and demographic indicators are given in Table 4. The Infant Mortality Rate is 48 per 1000 live births (SRS, 2010) and Maternal Mortality Ratio is 312 per 100,000 live births (SRS, 2004 - 06) which are higher than the National average.

Table 4: Demographic, Socio-economic and Health profile of Bihar as compared to India

S. No.	Item	Bihar	India
1	Total population (Census 2011) (in millions)	103.8	1210.19
2	Decadal Growth (Census 2011) (%)	25.07	17.64
3	Crude Birth Rate (SRS 2010)	28.1	22.1
4	Crude Death Rate (SRS 2010)	6.8	7.2
5	Total Fertility Rate (SRS 2010)	3.7	2.5
6	Infant Mortality Rate (SRS 2010)	48	47
7	Maternal Mortality Ratio (SRS 2004 - 2006)	312	254
8	Sex Ratio (Census 2011)	916	940
9	Population below Poverty line (%)	42.60	26.10
10	Schedule Caste population (in millions)	15.07	166.64
11	Schedule Tribe population (in millions)	0.9	84.33
12	Female Literacy Rate (Census 2011) (%)	53.33	65.46

Figure 4: Total Fertility Rate, India and major States, 2010

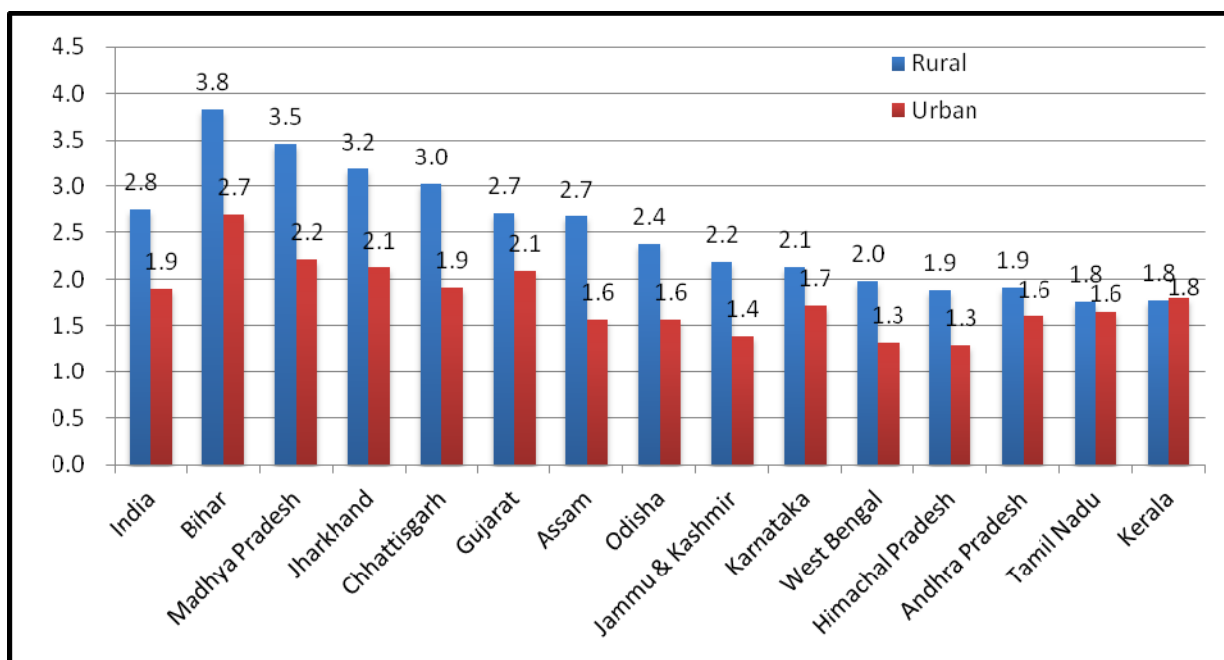


Source: Sample Registration System

The state is predominantly rural with 88.70 percent people living in rural areas (Provisional Census data, 2011). It comprises 38 districts with 9 Divisions, 101 Sub Divisions, 534 Blocks,

199 towns and 44874 villages. All the districts have a rural population of over 80 percent and 7 districts having rural population of over 95 percent. Rural areas are socio-economically much less developed. In rural areas of Bihar, fertility (3.8 children per woman) is higher in comparison to urban areas (2.7 children per woman) and is the highest in the country (See Figure 5).

Figure 5: Total Fertility Rate, India and major States, Rural and Urban, 2010



Source: Sample Registration System

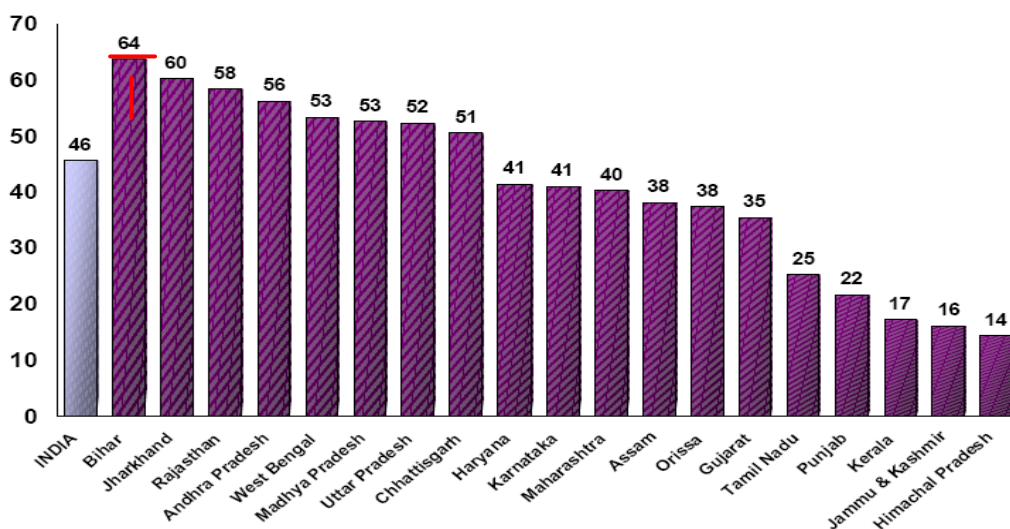
The data and indicators associated with high fertility in the State can be attributed to various factors. Prominent among them are (a) economic backwardness; (b) high percentage of marriages under the age of 18 years, (c) preference for male child, (d) low rate of female literacy and low female status, and (e) modest level of infant mortality. In addition, the family program is weak resulting in lack of information and choices for safe family planning services and low level of contraceptive use.

Economic backwardness of the State can be judged from the fact that its per capita income is less than 40 percent of the national average and the rural poverty ratio is as high as 43.1 percent compared to a national average of 27.1 percent. The state is facing desperate challenges in

improving its growth and improving the health of its population, particularly that of women and children.

In Bihar, marriages are mostly early and arranged where female mean age at marriage is lower than legal age. Percentage of girls married below the legal age of 18 is 64% (See Figure 6) with mean age of marriage for boys and girls are 21.6 and 17.6 years respectively (DLHS-III). DLHS III survey also shows that out of total births, Bihar has 8 % of births to women aged 15-19 years.

Figure 6: Percent of Women, Ages 18-29, Married by Age 18, Major States of India, 2005-06



Source: NFHS-3

The society places a high emphasis on fertility with enormous social pressures to bear children immediately after marriage particularly from youth, which is a serious concern in the state that needs to be immediately addressed (See Table 5). In such a society and social pressure, many young people do not consider the possibility of delaying first child. Other young people want to delay child bearing, but do not know how to do so. It is difficult for newlywed couples to translate intent into practice, because of various barriers. These are conventional thinking that women have no right to decide; no confidence to fight against societal norms; lack of spousal communication; inadequate knowledge of contraceptives and RH services; and fear that contraceptive use can cause infertility.

Table 5. Fertility among youth

Fertility among youth	
Fertility in women under 25	55%
15 – 19 married	19%
15 – 24 want no more children	34%
Married 15-19 experienced pregnancy	58%
Median birth interval 15-29 months	25 to 29
Unmet need for spacing 15 -24	35.1 to 26.7%
Spacing contraceptive use 15-24	3% to 16.7%
Source: NFHS 3 (2003 – 2005)	

NFHS3 results indicate that son preference in Bihar is strong. Thirty-nine percent of women and men want more sons than daughters in Bihar. On the other hand, only 1-2 percent wants more daughters than sons. The vast majority of women want at least one son (88%) and at least one daughter (85%). The desire for more children is strongly affected by women's number of sons. Among women with two children, 68% of women with one son and 77% of women with two sons want no more children, compared with only 20% of women with two daughters and no sons. In India, among women with two living children, 62% of women with two daughters and no sons do not want any more children.

More than half of the young boys and nearly three-fourth of the young girls are not enrolled in primary schools even today. The overall literacy rate in Bihar is only 63.82 percent (Male: 73.39, Female: 53.33)⁵ as compared to 74.04 percent for India and the disparity is even wider for female literacy — 53.33 and 65.46 % for Bihar and India respectively.

The State has very low indicators of women's status in India. Only 22% and 30% women reported that they mainly made the decision for their own health care and purchase of daily household needs (NFHS-3). Less than one in 10 women said that they make the decision to visit her family or relatives.

⁵ Bihar ranks last in the country preceded by Arunachal Pradesh (66.95 per cent) and Rajasthan (67.06 per cent).

III. Family Planning Status: Current Use and Unmet Need

The percentage of married women using contraception in India has increased from a level just over 10 percent in the early 1970s to 48 percent in 1998-99, and to 53 percent by 2004 (all India). Considering the logistical problems of supplying information and services to more than 250 million women of reproductive age, this increase is a remarkable achievement. Surveys have repeatedly shown that women's knowledge about contraception is nearly universal. Female sterilization remains the most common method of family planning. For the first time in recent decades, the 2001 Census has registered a fall in the growth rate of population below two percent, indicating that the decline in the birth rate has begun to overtake the decline in the death rate. In the early 1970s, less than 15 percent of the deliveries were occurring in institutions. It has increased from 12.1 % (1992-93) to 22 % (2005-06) to 27.7% (2007-08) to 47.9% (CES 2008).

NFHS surveys show that there was little change in contraceptive use for all methods between NFHS 1 (1992-93) and NFHS 2 (1998-99) in Bihar. However, contraceptive use for all methods increased from 23.5% to 34.1% by 2005-06 (Table 6). The unmet need declined from 25.7 to 23.1 showing that total demand for family planning had increased from 49.2% to 57.2%.

Nevertheless, contraceptive use in the state is characterized by the predominance of non-reversible methods, limited use of currently male/couple-dependent methods, substantial levels of discontinuation, negligible use of contraceptives among both married and unmarried adolescents and wide district level variations. Even percent of currently married women (15-44 years) using female sterilization is lower in the State in comparison to other states (See figure 9).

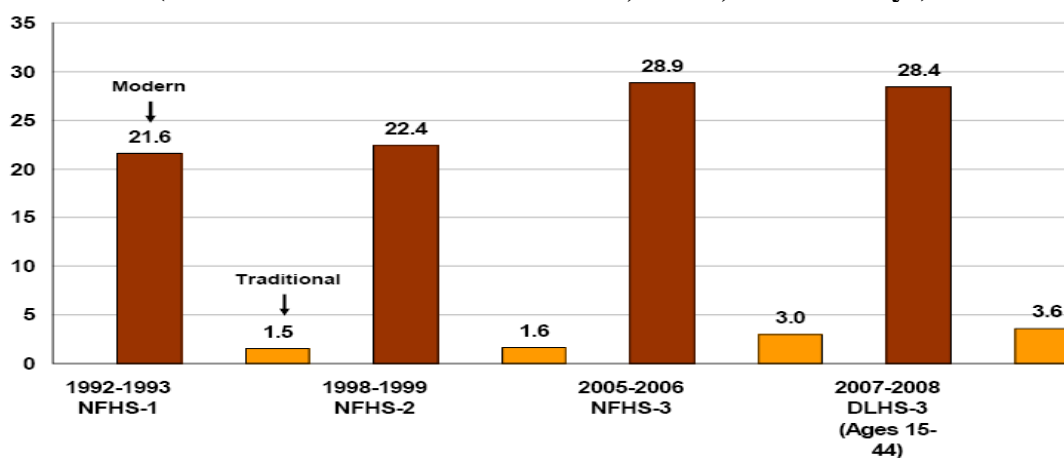
Table 6: Use of Family Planning Methods in Bihar

Key Indicators for Bihar from NFHS II and III	NFHS-3 (2005-06)			NFHS-2 (1998-99) ³
	Total	Urban	Rural	
Marriage and Fertility				
1. Women age 20-24 married by age 18 (%)	60.3	37.3	65.2	71.9
2. Men age 25-29 married by age 21 (%)	43.0	23.2	48.8	na
3. Total fertility rate (children per woman)	4.00	2.87	4.22	3.70
5. Median age at first birth for women age 25-49	18.7	19.6	18.6	18.9

Key Indicators for Bihar from NFHS II and III	NFHS-3 (2005-06)			NFHS-2
	Total	Urban	Rural	(1998-99) ³
Family Planning (currently married women, age 15–49)				
Current use				
7. Any method (%)	34.1	50.6	31.4	23.5
8. Any modern method (%)	28.8	41.2	26.8	21.6
8a. Female sterilization (%)	23.8	31.2	22.6	18.5
8b. Male sterilization (%)	0.6	0.7	0.5	1.0
8c. IUD (%)	0.6	1.1	0.5	0.6
8d. Pill (%)	1.3	3.1	1.0	0.8
8e. Condom (%)	2.3	4.8	1.9	0.6
Unmet need for family planning				
9. Total unmet need (%)	23.1	17.4	24.0	25.7
9a. For spacing (%)	10.7	5.9	11.5	13.1
9b. For limiting (%)	12.4	11.5	12.5	12.5
na: not available, 3. NFHS-2 estimates recalculated to exclude Jharkhand.				

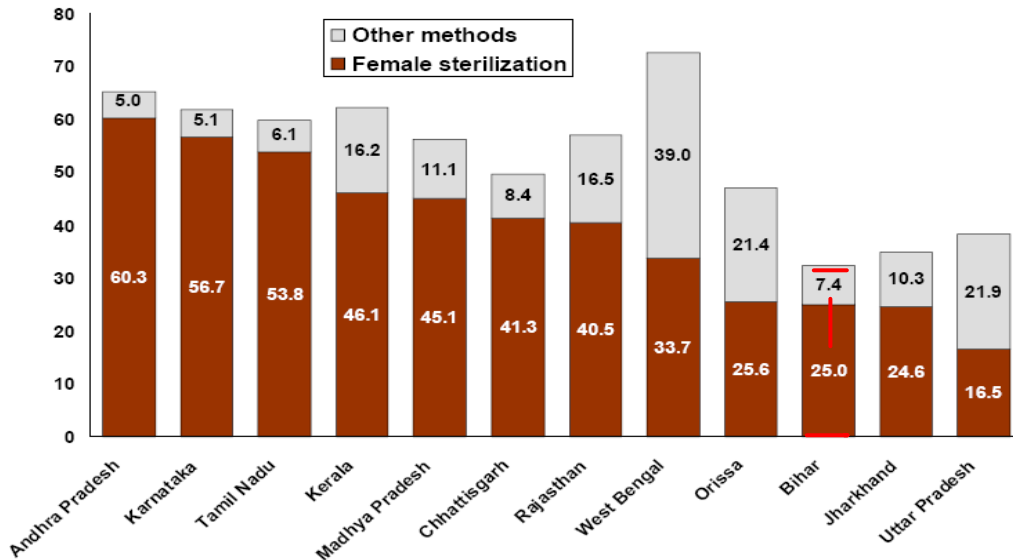
The four surveys, NFHS 1-3 and DLHS surveys show that there is improvement in acceptance of modern methods of contraception. Family planning, particularly sterilization acceptance has increased in the state (See figure 7 and 8).

Figure 7: Contraceptive use by Currently Married Women, Ages 15-49 (Modern and Traditional Methods, Bihar, Four Surveys)



Source: NFHS – 1, 2, 3, and DLHS-3

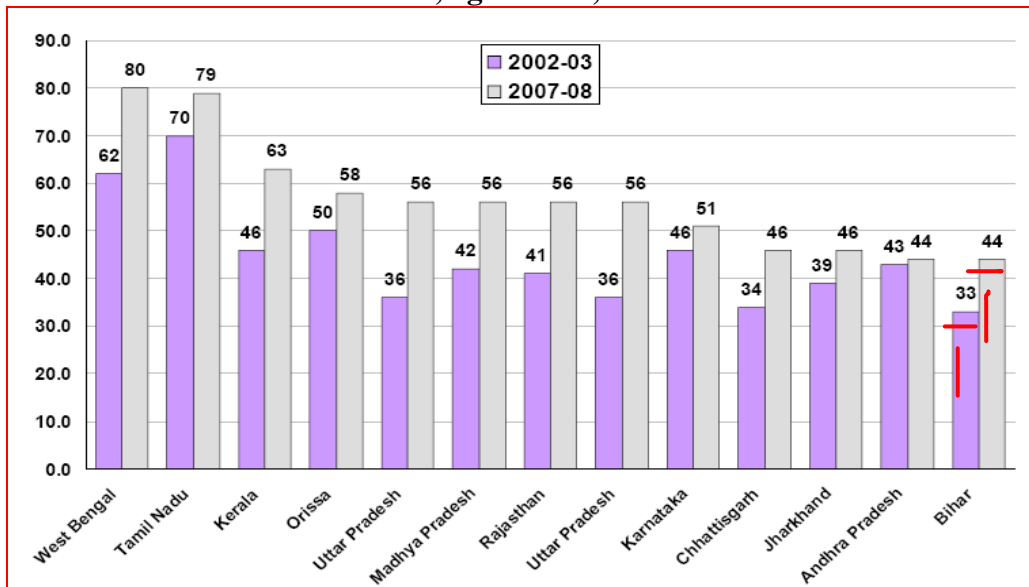
Figure 8: Percent of Currently married Women, Ages 15-44, Using Female Sterilization and using other methods, Selected States of India, 2007-2008



Source: DLHS-3

Demand for children is higher in Bihar compared to India. The percent of married women with two children in the reproductive age group who want no more children in Bihar was 44%, lower than all states (Figure 9).

Figure 9: Percent of married women, ages 15-49, with two children who want no more

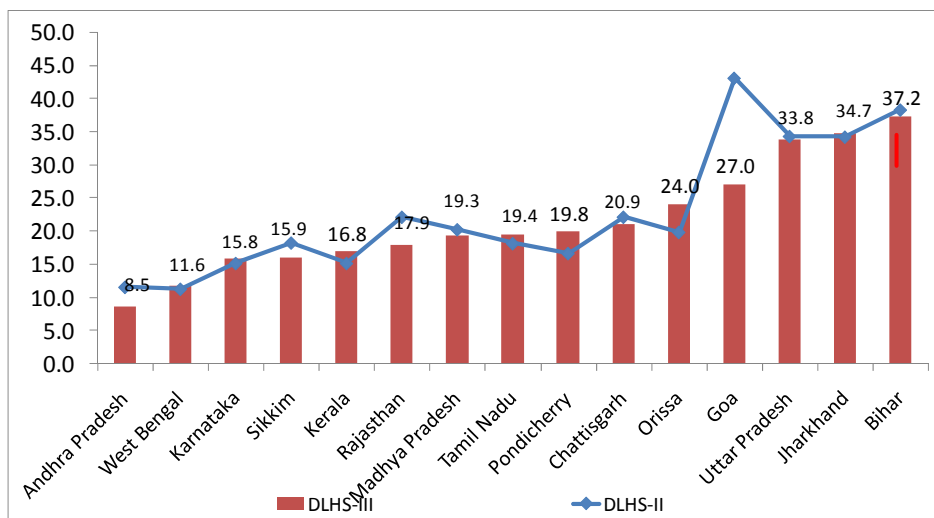


Source: DLHS 1 and 3 (District Level Health Surveys, Selected States of India)

Meeting the unmet need for contraception

The National Population Policy document lays great stress on meeting the unmet need for contraception as an instrument to achieve population stabilization. The presence of high level of unmet need for contraception for limiting and spacing in Bihar state is validated by data from both NFHS and DLHS. It would be a mistake to assume that inadequate access to services should be the dominant, or even a major, explanatory factor for its presence. Total unmet need for family planning according to NFHS3 (2005-06) was 23.1 and DLHS3 (2007-08), using a different methodology estimated it to be is 37.2 % (See Figure 10). One in three to four women in the State had unmet need for family planning. Unmet need for limiting has increased in the State, which is a poor reflection of availability of services and service provisions especially when majority of clients depend on public health services in the State. Total unmet need is highest among the younger women and women of lower parity, particularly for spacing. It is important to address the unmet need for contraception, particularly for spacing by providing access to safe, effective and reversible methods. To do so it may be necessary to expand the basket of contraceptive choices. Social marketing of contraceptives and availability of the range of methods would help to meet the needs of couples who are not ready to accept sterilization. Peripheral health workers Auxiliary nurse-midwives (ANMs) and Accredited Social Health Activists (ASHAs) should identify women with unmet need for contraception and address their concerns so that unwanted pregnancies could be avoided.

Figure 10: Unmet Need for Family Planning-Total



The rate of increase in CPR was nearly negligible during the period 1992-93 (NFHS1) and 1997-98 (NFHS2) as compared to 7.4% increase in India (Table 7). However, CPR rose faster in Bihar compared to India during the period 1997-98 and 2005-06. Unmet need declined in India over time but not so in Bihar. Total demand for FP is much higher in India compared to Bihar but it increased significantly between NFHS 2 and 3. Only 59.6% demand is satisfied in Bihar compared to 81% for India as a whole.

Table 7. Contraceptive Prevalence and Unmet Need in India and Bihar

NFHS	Bihar			India		
	1*	II	III	I	II	III
Contraceptive prevalence rate	23.1	23.5	34.1	40.8	48.2	56.3
Unmet need	25.1	25.7	23.1	19.5	15.8	13.2
Total demand	48.2	49.2	57.2	60.3	64.0	69.5
% demand met	47.9	47.8	59.6	67.6	75.3	81.0
*For Bihar and Jharkhand together						

Bihar is much poorer than India as whole as can be seen by proportion of households in different wealth quintiles (Table 8). As expected, TFR decreases, CPR increases, unmet need decreases and percent demand met increases as households become wealthier. However, it is very difficult to disentangle effect of socio-economic development and family planning program on fertility. Bihar's CPR is lower than India and TFR is higher than India for each wealth quintile. The total demand for FP in Bihar for each wealth quintile is also lower than India. If the contraceptive use and fertility of persons in each wealth quintile household in Bihar was same as in India then wealth adjusted CPR and TFR for Bihar would be 52.8 and 3.07. If for each wealth quintile, the same proportion of FP demand was met in Bihar as in India then the CPR would be 44.9, 10.8% more than current CPR of 34.1 which is nearly half the difference between India's and Bihar's CPR. Similar is the situation with respect to education levels of women.

Table 8. TFR and CPR by Wealth Quintiles in India and Bihar

	Wealth quintiles					Total
	I	II	III	IV	V	
India (%)	20	20	20	20	20	100
Bihar (%)	31	30	18	13	9	100
Bihar CPR	21.5	28.4	38.1	48.0	60.4	34.1
India CPR	42.2	51.1	56.8	62.5	67.5	56.3

Bihar TFR	5.1	4.5	(3.6)	3.0	2.1	4.0
India TFR	3.89	3.17	2.5	2.24	1.78	2.68
Bihar unmet need	27.3	24.4	23.3	17.6	11.0	22.8
Bihar Total demand	48.8	52.9	61.4	65.6	71.4	56.9
India Unmet need	18.2	14.8	12.8	10.6	8.1	12.8
India Total demand	60.4	65.9	69.6	73.1	75.6	69.1
Bihar percent demand satisfied	44.0	53.7	62.0	73.2	84.6	59.6
India percent demand satisfied	69.9	77.6	81.6	85.4	89.3	81.5
Education levels of household population above 6 years of age						
	No education	< 5 years	5-7	8-9	10-11	12+
Bihar TFR	4.6	NA	3.2	3.2	2.4	2.4
India TFR	3.6	2.5	2.5	2.2	2.1	1.8
Bihar CPR %	29	40	41	41	53	53
India CPR %	52	63	59	59	60	62

High fertility is not just because women want much larger families (wanted TFR 2.8) but also because they are not able to use contraception necessary to achieve their wanted fertility (Table 9).

Table 9. Wanted fertility Rates by Wealth Quintiles in India and Bihar

	Wealth quintiles					
	I	II	III	IV	V	Total
Bihar TFR	5.1	4.5	3.6	3.0	2.1	4.0
India TFR	3.9	3.2	2.6	2.2	1.8	2.7
Bihar wanted TFR	2.8	2.7	2.1	2.1	1.7	2.4
India wanted TFR	2.4	2.1	1.8	1.7	1.5	1.9

The above discussion shows that the wanted fertility is lower than current fertility but higher than replacement fertility and the unmet need for contraception is high. Reasons for non-use of contraception in future for those with unmet need are related to fertility, opposition to use and FP method-related. It is both a supply problem in terms of access, availability and quality of care for family planning services and a demand problem requiring behavioral change communication and changes in socio-economic correlates of fertility (Table 10).

Table 10. Reasons for Non-use of Contraception

Reason for non-use	Bihar	India
Fertility related (infecund, breastfeeding, menopausal etc.)	32	67
Opposition to use (self, husband, religious, social etc.)	30	15
Method related (fear of side effects, cost and access etc.)	27	12
Other	11	6
Total	100*	100*
*More than one reason was mentioned by respondents. Their responses have been adjusted to total 100 percent		

IV. Evolution of Population Policies and Programs

Population stabilization has been a challenge for the Government since independence. More than 60 years ago, India became the first developing country to initiate a state-sponsored family planning program in 1951 to control its high population growth rate. As Bihar state did not have a policy, it was mostly dependent on the Central government for the direction and population control initiative. Nevertheless, the State specific initiatives were not supportive, which played a crucial role in poor performance of the state in term of demographic achievements because of various reasons. As a result, the family planning program was unable to reach the hearts and minds of the people.

Other reasons behind these were number of well-intended but miscalculated policies. Largely the programs had been characterized by an ad-hoc nature offering a one-shot solution to the problem of the high rate of fertility. It was IUDs in the 1960s, vasectomy in the 1970s and tubectomy in the 1980s, where administrators, family planning workers and politicians put all their efforts in achieving the stipulated target by any one method. Thus, these programs which needed a delicate touch of social nurturing, became a game of sheer numbers (Govt. of India, 1978⁶, 1982⁷; Wadia, 1984⁸).

⁶ Government of India, 1978, Central Calling, March 1978, Department of Family Welfare.

⁷ Government of India, 1982, Yearbook 1980-81, Ministry of Health and Family Welfare.

⁸ Wadia, A. B., 1984, "The Family Planning Programme in India: The Non-governmental Sector", The Journal of Family Welfare, Vol. 30, No. 4.

The passive, clinic-based approach of the 1950s, gave way to a more proactive, extension approach in the early 1960s. A number of clinics were opened during the first two plan periods (1951-61) to provide contraceptive services, especially for women at clinics through socially trained female workers. Moreover, during the third plan (1961-66), the “clinic approach” was shifted to an “extension approach” to provide information to all eligible couples about every contraceptive method offered by the program. The late 1960s saw the emergence of a “time-bound”, “target-oriented” approach with a massive effort to promote the use of IUDs and condoms followed by more forceful “camp approach” to promote male sterilization in the 1970s. However, from the early 1960s until the 1990s, the family planning management program of the state was hindered by government determined targets for contraceptive acceptance. Such an approach to achieve the targeted demographic goals received several criticisms. Some of the reasons for the criticism were lack of holistic approach; totally government based program with little involvement of local people; targeting only women for contraception; poor counseling; excessive focus on target achievement as an end in itself rather than as a guide; poor follow up services; and lack of need based programs.

Following the International Conference on Population and Development (ICPD) held at Cairo in 1994, a major review was undertaken with the support of the World Bank and other agencies in 1994-95. As an outcome, method-specific contraceptive targets were abolished and the emphasis shifted to decentralized planning at district level based on community need assessment, and implementation of programs aimed at fulfilling unmet needs. This approach eliminated nationwide mandated targets for contraceptive acceptance, but continues to allow for locally determined targets at the community level, where grassroots workers were assigned targets for their service areas after assessing the needs of client (Ashord, 2001)⁹.

Since ICPD, the central and state governments have initiated many programs to slow the population growth. National Population Policy (2000) is one such initiative in this direction. The National Population Policy (NPP) articulated the new broad-based approach towards population stabilization, and set long-term policy goals. The two important demographic goals of the

National Population Policy (2000) are achieving the replacement fertility level (TFR 2.1) by 2010 and a stable population by 2045. The states were also directed to prepare State specific Population Policies. Despite these initiatives, Bihar state does not have state specific population policy and most of program and policies are still guided by the Central government and National Population and Health Policy.

Stabilising population is an essential requirement for promoting sustainable development with more equitable distribution. However, it 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.

NPP 2000

The National Commission on Population¹⁰ (constituted in May 2000 under the Chairmanship of the Prime Minister of India) is another attempt by the government to provide overall guidance for

population stabilization by promoting synergy between demographic, educational, environmental and developmental programs. Recently, Government of India has constituted five Expert Groups for studying the population profile of the States of Bihar, Uttar Pradesh, Rajasthan, Madhya Pradesh, and Orissa to identify weaknesses in the health delivery systems and to suggest measures to improve the health and demographic status of these States¹¹. Another important initiative for population stabilization is constitution of Janasankhya Sthirata Kosh (JSK) (Population Stabilization Fund - a public-private-partnership model) to provide proper guidance and information about the reproductive health care including for adolescents with a corpus fund of Rupees 1 billion.

In April 2005, the government of India launched the National Rural Health Mission (NRHM) Program bringing all programs including Reproductive and Child Health (RCH) and population stabilization under one umbrella. The NRHM seeks to provide universal access to equitable,

⁹Ashford, L. S., 2001, "New Population Policies: Advancing Women's Health and Rights. Population Bulletin, PRB, Vol. 56, No. 1.

¹⁰ The National Commission on Population has been re-located from Planning Commission to the Ministry of Health and Family Welfare for ensuring comprehensive and multi-sectoral coordination of Planning and implementation between health and family welfare on the one hand and the schemes of the related Departments on the other.

¹¹ India. 2009. Publication Division. Ministry of Information and Broadcasting, Government of India.

affordable and quality health care, which is accountable at the same time responsive to the needs of the people. Although things are improving under NRHM Program, it will take time to show its results considering the poor infrastructure and manpower shortage in the State. There is an increase in outpatients and institutional deliveries and several public-private-partnerships (PPP) interventions have been implemented to increase the family planning services and contraceptive use. Although the Janani Suraksha Yojana (JSY) assistance is received by lower percentage of women (only 73.6 % villages have any beneficiary of JSY), DLHS II and III survey show that there is 8.9 % increase in institutional deliveries in the State. The NRHM Bihar State report shows increase in Institutional delivery¹² in the State with total 1.05 million JSY beneficiaries (institutional delivery increased to 28% from 19%).

Health Services

Although the health infrastructure in the state is improving, it needs further improvement considering the wide variations in coverage at the district level. There are 10, 793 health centers in Bihar, of which 533 are rural Primary Health Centers (PHCs), 69 urban PHCs, 8858 sub-centers, 1243 additional PHCs, and 70 Community Health Centers (CHCs) or referral hospitals (Annex 2). In total 105 PHCs have been strengthened with three staff nurses each to make them functional for 24x7 work, 70 CHCs are functioning on 24X7. A total of 76 facilities have been made operational as first referral units (FRUs) at district and sub-district levels. No districts have functional Mobile Medical Unit (MMU).

One of the major reasons for inadequate family planning service is the weak health infrastructure (Table 11). The shortfall in facilities compared to those required according to population norms were 41% for sub-centers, 32% for primary health centers and 79% for community health centers.

¹² Nevertheless, only 11% beneficiaries stayed for at least 2 days in health facility after delivery.

Table 11: Health Infrastructure of Bihar

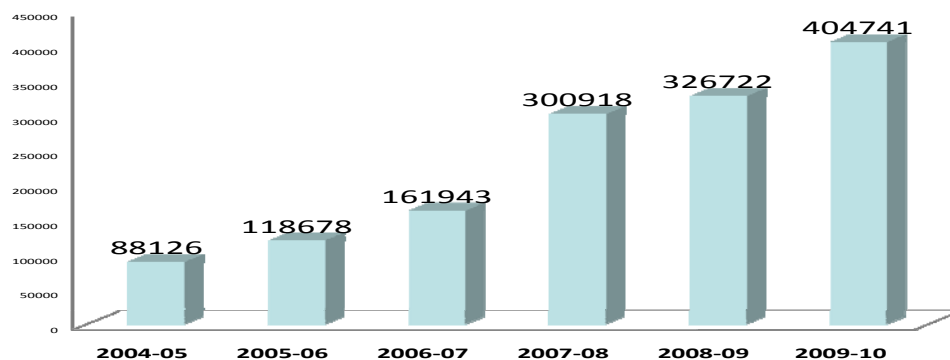
Health Institution	Required	In Position	Shortfall
Sub-centre	14959	8858	6101 (41%)
Primary Health Centre	2489	1641	848
	2489*	533*	1956 (79%)*
Community Health Centre	622	70	552 (89%)
Multipurpose Worker(Female)/ANM	10499	9127	1372
Health Worker (Male)/MPW(M)	8858	1074	7784
Health Assistants(Female)/LHV	1641	479	1162
Health Assistants(Male)	1641	634	1007
Doctor at PHCs	1641	1565	76
Surgeons	70	28	42
Obstetricians & Gynecologists	70	21	49
Physicians	70	38	32
Pediatricians	70	17	53
Total specialists at CHCs	280	104	176
Radiographers	70	15	55
Pharmacist	1711	439	1272
Laboratory Technicians	1711	135	1576
Nurse Midwife	2131	1425	706
(Source: RHS Bulletin, March 2008, M/O Health & F.W., GOI), *NRHM			

Trained health human resource is another important concern for the State. At present, on an average 5 doctors are in position for every 100,000 population in the state. There are district wise differences in availability of doctors. While 49 doctors are available per 100,000 population in Khagaria and 38 in Gopalganj, there is only one doctor available per 100,000 population in Arwal district. Except Khagaria and Gopalganj, no district has more than 18 doctors per 100,000 population. The situation is even more acute for staff nurses. There are only 2 Grade A staff nurses in position for every 100,000 population. The same pattern repeats in the availability of Auxiliary-Nurse Midwives (ANMs) who staff sub-centers. The appointment of community-based volunteer workers (Accredited Social health Activists ASHA) has been much closer to target but their training, efficiency and involvement is a matter of concern.

Family Planning Performance

Because of these initiatives and state government's increased interest, number of family planning sterilizations has increased considerably during the period 2007-08 to 2009-10 (Figure 11).

Figure 11. Family Planning Sterilizations from 2004-05 to 2009-10



Nevertheless, despite the improvements in certain indicators, policies, programs, investments by the government, and donor agencies, population stabilization initiatives in Bihar state is a serious demographic challenge and a cause of concern for the social and economic well being of the State. One of the several root causes of the delay in population stabilization and fertility reduction in the State has been the changing national population policies towards family planning programs. On several occasions, goals were established but not met, resulting in subsequent revisions.

Recently the Government of Bihar identified the following steps in improving performance of family planning program¹³

- Need for more Skilled manpower
- Infrastructure needs strengthening: more so in rural areas
- Improvement in counseling and expand informed choice of methods

- Regular contraceptive supply
- Improve quality of services
- Reduce seasonality in work as operations are mostly conducted in specific months / seasons

Several actions have been taken including preparation of district family planning action plans, training of service providers for IUD insertion and Non-Scalpel Vasectomies (NSVs), population education in school textbooks and steps to strengthen IEC for FP. The state has also formed the population council at state level and coordination committees at various levels. To activate the service delivery system, there are performance-based awards for district magistrates and civil surgeons, block levels and village level health volunteers (ASHAs) which are top performers. There are proposals to increase incentives to ANMs for IUD services as well as improve community-based distribution. The plans are for public-private partnership for FP service delivery.

In partnership with UNFPA, programs for adolescent sexual and reproductive health services in school as well as out-of-school settings are being implemented. The David and Lucile Packard Foundation has supported an NGO, Janani, to promote private sector service delivery through social franchising as well as expanding clinical network for FP services.

There are incentives to eligible poor couples from backward districts who fulfill Responsible Parenthood Practices: to promote delayed marriage, spacing of children and celebration of birth of girl child. There are also several government schemes to empower women including reservation for women at local government level. Population Stabilization Fund of India held motivational meetings for the field level staff for promoting IUD and sterilizations in low performing districts. More than 95% of staff have attended these meetings. The outcome is positive as from 40,000 IUDs annually, 214,000 IUDs had been inserted by the end of 2009-10.

¹³ C. K.;Misra (2010). Family Planning Strategies for Population Stabilization and Sustainable Development: Bihar 2010. Presented at the National Consultation on “Repositioning Family Planning”. New Delhi 5th May 2010. www.mohfw.nic.in accessed on August 20, 2010.

The David and Lucile Packard Foundation has implemented leadership development program in Bihar and a large number of government and NGO leaders have been developed (For a list see <http://iieldm.org/where-we-work/india/index.shtml>). This can serve as an important resource for the state. Recent initiative by the Bill and Melinda Gates Foundation to improve family health in collaboration with CARE is another opportunity. Presently, the program focuses on eight selected districts (Patna, Begusarai, East Champaran, West Champaran, Samastipur, Khagaria, Gopalganj, and Saharasa) and is likely to be extended to all districts.

Despite these, initiatives by different agencies and donors, much remains to be done. Financially, the state was able to spend only about 50% of its NRHM allocations in 2009-10. However, this is much improved compared to 2006-07 when only 27% was spent (Table 12).

Table 12. Financial Progress – Expenditure pattern

Financial Year	GoI Approved Envelop (in millions)	Expenditure (in millions)	Expenditure as % of approved budget
2006-07	3464	921	26.55 %
2007-08	7970	2377	29.83 %
2008-09	7666	3397	44.31 %
2009-10	10406	5625	54.05 %

V. Strategies to Achieve Population Stabilization

As discussed earlier, high fertility in Bihar is the result of low socio-economic development as well as poor performance of government sponsored family planning program. Low levels of education, low age at marriage, poverty, gender disparity, and modest declines in infant and child mortality have all contributed to maintaining high fertility. These factors, along with poor health infrastructure and non-focused family planning program are likely to lead to persistently high fertility regime. Even at the national level, the views regarding the ideal number of children are fast approaching the two child norm. However, preference for sons is clearly evident in the State. Given this context, the paper reviews the strategies that can be adopted to achieve the population stabilization within a reasonable time period.

More recent data supports the main arguments made in this paper. A recent survey in Bihar by the Population Council¹⁴ found that among currently non-pregnant women aged 15 to 34, who had given birth in the three years preceding the survey, only 31 percent were using a contraceptive method. This is much below national average of 43 percent. There was a skewed choice of methods with use of modern spacing method at 6 percent (condom use 2.9%, oral contraceptive pills 2.4%, IUD and injectable together about 0.7%) followed by safe period and withdrawal at 3% each. The most used method was female sterilization (18%). Post-partum contraception remained low. Contraceptive use among women who had given birth within one year preceding the survey was 20 percent, with skewed method-mix as half had adopted sterilization.

The survey found that there is considerable unmet need for family planning. Among these women, nearly half reported that they did not want any more children and more than half of them (55%) were not using any contraceptive method.

Both demand and supply side factors worked as barriers. In general, delaying first pregnancy did not appear as a very accepted norm in the community; although this social context may be changing. There is a norm of a large family size with median desired family size at 3 children. The desired family size is also affected by strong son preference. Although birth spacing was generally preferred, most were not aware of the dangers of closely spaced pregnancies (pregnancy within 15 months of delivery). Nearly a third of women reported their husband lives elsewhere increasing the chances of unplanned pregnancy for non-contraceptive users.

On the supply side, poor access to methods, cost of contraception, limited advice on family planning and fear of side effects of contraception acted as barriers. Private sector appeared to be a more popular source for condoms or pills. However, cost restraints many to buy and use them. Only a half of community level volunteers – ASHAs and AWWs – had ever been supplied condoms; while only a third had been supplied oral contraceptive pills.

¹⁴ Population Council (2012). Shaping Demand and Practices to Improve Family Health Outcomes in Bihar: Final Survey Report. Edited by M.E. Khan, France Donnay, Usha Kiran Tarigopula and Kumudha Aruldas

Thus, factors affecting both demand and supply barriers need to be addressed including exposure to mass media, advice received from community health worker, spousal communication, improved quality of care and improving access and availability of contraceptives.

These cannot be addressed by campaigns alone. As we outline below, a comprehensive program is needed to bring about sustained reduction in unmet need for contraception as well as changed social norms about gender and fertility eventually leading to population stabilization.

Although government has recently taken several steps to strengthen family planning program, our discussions with key stakeholders show that poor performance of Bihar state in population stabilization initiatives are primarily because of lack of political commitment and shared vision, and weak leadership of program. In the past and in the present, the state, its leadership including NGOs and civil society, have not ascribed the importance to population stabilization. Most of the initiatives taken in this direction in the state are because of the private donors and central government initiatives and largely because of pressure to spend the budget allocated by the central government which is very much evident from the performance of RCH I and II in the state. It is also evident that just increasing the budgetary provision and investment will not yield the desired results unless it is accompanied by strategic reforms and program to involve local communities in population stabilization. Based on discussions with various stakeholders such as government, NGOs, donors, and through a review of available literature and reports, authors recommend the following which may help in improving family planning program and population stabilization initiatives in the state of Bihar.

Launch a Comprehensive Family Planning Program

Typically the measures to achieve replacement fertility are of three types, meet unmet need which is quite high in Bihar, reduce desired family size by influencing correlates of fertility and reduce population momentum by family planning for youth. Clearly gender affects all the three and measures to improve women's status cannot be over emphasized. As wanted fertility rate is

only 2.4 compared to current TFR of 3.7, the immediate focus has to be on addressing unmet need and family planning services for youth. Continued improvements in female education and empowerment as well as decline in infant mortality will lead to further reduction in wanted fertility rate. Therefore, there is a need to urgently launch a comprehensive family planning program. Such a comprehensive program would have the following components affecting both supply and demand addressing factors at government/private service delivery, individual/household and community levels.

Government/private service delivery

- **Informed choice and improve quality of care.** There is an urgent need to improve quality of care and offer informed choice. For instance, only 11% women were told about side effects of their method in Bihar compared to 32% in India which itself is low (NFHS3). Only 9% were advised on what to do in case of side effects and 27% women were told about other methods. Consequently, only half the acceptors of modern methods of contraception opted to use public sector for services. Focus on counseling and quality of care in the program needs emphasis in terms of training, supervision, monitoring and reward systems.
- **Expanding the basket of contraceptive choices.** Female sterilization has been the mainstay of Indian family planning program. The users of reversible methods form less than 15 percent of the users of all methods. A high level of infant and child mortality, and strong preference for sons, deter women from accepting a terminal method of contraception early. The data from the NFHS show that about half of the unmet need for contraception is for spacing. There is an urgent need to expand the basket of reversible methods of contraception offered under the program. Research indicates that addition of a method to the basket of choices has an independent effect on the overall use¹⁵. Injectables, which are not currently offered under the program, should be introduced as

¹⁵ Population Stabilization for the Eleventh Five Year Plan (2007-2012). Planning Commission, Government of India.

early as possible by taking necessary safe guards. Female condoms would also be a welcome addition to the program.

- **Increasing male involvement.** Male contraceptive methods account for only 6 percent of current contraceptive use. Vasectomy, which used to be a popular method, went out of favor after the excesses committed in the 1970s. Vasectomy is safer and easier to perform in primary health centers than tubectomy. In recent years, the introduction of non scalpel vasectomy (NSV) has shown some signs of success in some states. Vigorous efforts should be made to promote this method, and train more doctors in performing this task. As males are the main decision makers in most households, IEC activities also need to focus on men for imparting knowledge on reproductive health of both men and women and about the advantages of small family.
- **Social marketing.** In spite of longstanding social marketing program by the government and various organizations such as Janani¹⁶ in the State for the promotions of condoms, IUDs and oral pills, the use of these methods continue to remain low. The social marketing program has suffered from (i) strong urban bias in the distribution network; (ii) low incentive to commercial participants; (iii) limited product range, and (iv) simultaneous presence of wasteful, free distribution system. Surveys have disclosed large unmet need for contraceptives in the State. Apparently, the government delivery system is not reaching the needy. As per the NFHS data, less than 10 percent of rural women report that they are visited by the ANMs during a year. This implies that ANMs are able to visit less than 100 households in a whole year. On the other hand, there is a large pool of formally or informally qualified Rural Health Practitioners (RHPs) who meet the day-to-day health care needs of rural folks. It is proposed to use them in the delivery of non-clinical methods of contraception and referring the clinical cases to the PHCs or FRUs, for a nominal fee. The successful experimentation of this approach in Bihar by Janani gives hope for future replication and scaling up.

¹⁶ www.janani.org accessed on August 20, 2010.

- **Involvement of private sector.** There is an urgent need to increase the involvement of private sector in the delivery of family planning services, especially in areas where the public sector is weak. It is estimated that private medical practitioners provide more than two-thirds of all health care in India. In rural areas, they are more respected and accessible than government grassroots health workers. As experience of Janani in Bihar has shown, rural health practitioners could be recruited for social marketing of non-clinical methods and for referring clinical methods to public/private health institutions.
- **Strengthening family welfare infrastructure.** The sub-centre, manned by an ANM, is the most peripheral health institution available to the rural population. The primary health centre (PHC) is a first referral unit for sub-centers to provide outpatient services. But in many remote areas of the State, there are no functional PHCs. Community Health Centers (CHC) are planned as first referral units (FRUs) for four PHCs for offering specialized care. But majority of CHCs do not function as FRUs as they either do not have the required number of specialists or the facilities. The facility survey undertaken as a part of RCH project has brought out the serious shortfalls in physical infrastructure, staff and supplies at public health institutions. The position of CHCs, FRUs, and district hospitals were somewhat better, but they too had severe shortage of supplies.

Individual/household level

- **Diffusion through satisfied users.** Strong spatial patterns in fertility decline, and systematic changes in fertility differentials by socio-economic status, support the innovation-diffusion hypothesis. The satisfied adopters of the method play a key role in this ideational change. By recruiting such couples for working in liaison with grassroots health workers, it may be possible to increase the rate of diffusion. Research has shown that contraceptive use increases in closely-knit communities through diffusion of information and the idea of small family norm¹⁷. Thus satisfied users can serve as active

¹⁷ *ibid.*

agent in this process. Janani¹⁸ also uses “Women Health Partners” for IEC. As the family planning program has been there for half a century, there are already some users of contraception in every community. The scheme intends to use them to rapid transmission of small family norm where ANMs would identify a ‘satisfied’ acceptor couple (SAC) of each method from caste and communities among whom the acceptance of the method is low. They should be requested to spread information about the method, and motivate others in their community. They should work in coordination with health workers at grassroots such ASHA, ANM and Village Child Development Center (*Anganwadi*) worker. For their services, a fixed honorarium could be provided. The performance of these SACs should be reviewed each year by the ANM to decide whether they could be retained for this work in the following year.

- **The role of mass media.** The role of mass media has become increasingly important these days in promotion of small family norm and providing information on family planning. The rapidly increasing exposure to electronic media has made this an important channel of behavioral change communication. The analysis of NFHS data have shown that the exposure to mass media, and family planning messages through these sources have strong independent effects on the current use of contraception, and future intention to use among non-users. Nevertheless, surveys show that in Bihar, regular exposure to mass media has not yet reached desirable levels to have a wider impact. It is therefore required to raise exposure to mass media in the state by using different media and mechanism such as providing DVD/CD player and introducing television set in PHCs and FRUs.

Community level

- **Involvement of local self-government institutions.** The 73rd and 74th Constitutional Amendments made health and family welfare a responsibility of local bodies. Being

¹⁸ Janani is a non-profit Indian NGO that implements a large service delivery programme in three of the poorest states of India, including Bihar. It has active social franchising, social marketing and a network of clinics providing family planning services.

closer to the people, a decentralized institution is expected to meet their needs and preferences. The whole idea of decentralized governance is based on some key factors like people's participation, accountability, transparency and fiscal transfers. Experiences from across the country indicate a precondition for enhancing the effectiveness in delivery of public health services is community participation in decision-making and program implementation. This can be facilitated through the intervention of the Local Government Institutions (*Panchayati Raj Institutions (PRIs)*) by making health services responsive to local needs, more accountable to the local population, focusing on local problems, prioritizing the requirements, generating public demand for the services, and efficient use of available resources. The National Population Policy (NPP-2000) reiterates the crucial role of panchayats in planning and implementation of health and family welfare programs. Decentralization is expected to bridge the existing gap between the service providers and the clients to a great extent. However, for the PRIs to be effective in health service delivery, more responsibilities need to be given in the sector-specific budget allocations, revenue-raising powers, and training. Since one-third of elected members at the local bodies are women, it is an opportunity to promote a gender sensitive, multi-sectoral agenda for population stabilization with the help of village level health committees. Nevertheless, in Bihar only 1.7 % Villages had Village Health and Sanitation Committees by 2007-08 (DLHS-III).

Meeting the Family Planning Needs of Youth

Meeting family planning needs of youth is another important area, which need to be addressed adequately. As mentioned earlier, about a third of the total population is in the age group of 10-24 that will contribute significantly to population momentum. Although many policies and programs (RCH II) over the last decade have articulated commitment to promoting the sexual and reproductive health and rights of adolescents and youth, insights from the *Youth in India: Situation and Needs 2006-2007* study by population Council and IIPS¹⁹ shows that the state has not addressed their specific needs for family planning information and services.

Three major initiatives are needed. One, there is a need to have comprehensive programs for family life education. Awareness of even basic pregnancy related issues remain limited. 47% of

¹⁹ A major portion of this section is derived from “*Meeting the family planning needs of youth: Insights from the Youth in India: Situation and Needs 2006-2007 study*”. Shireen Jejeebhoy, K.G. Santhya, Rajib Acharya . *Population Council, New Delhi*

young women said they did not receive information from any source. The unmarried are very poorly informed. While the married are better informed than the unmarried, no more than 40% were aware that a woman can get pregnant at first sex. Contraceptive awareness is universal but in-depth awareness is limited. Only 26% young men and 48% young women know how frequently oral pills are taken. 30% of young women and 62% of young men know that one male condom can be used just once.

Sources for information are limited. Communication with father or mother on growing up issues and reproductive processes was rare for young men. A large proportion of young women communicated with their mother about growing up issues, such as, menstruation. However, few young women discussed reproductive processes with their mother. There is also limited access to information from teachers on family life or sex education. Only 7% of young men and 3% young women had received sex education in or outside the school setting. The unmarried somewhat more likely than the married to be exposed to sex education

Peers and media are the leading sources of information. 62% young men and 30% young women cited a friend or neighbor as the leading source of information about sexual matters, 41% and 6% cited the media before marriage for the married. However, neither friends nor the media are necessarily reliable sources of information.

There are several advantages of family life education. Youth who have had sex education are more likely than others to (a) be correctly aware that a woman can become pregnant at first sex; (b) have in-depth awareness of contraceptive methods; and (c) (in pre-marital relations) have practiced contraception consistently.

According to the study recommendations, life skills education to the those in-school and out of school youth should be provided comprising (a) information on physical maturation, risky and protective actions and on where information, counseling and services are available; and (b) Enable youth to acquire the communication and negotiation skills that facilitate the adoption of safe practices. There is a need for paying attention to the training of trainers

Two, there is a need for comprehensive, youth friendly family planning services. The ARSH Strategy's Implementation Guide for State and District Program Managers notes that "friendly

services are to be made available for all adolescents, married and unmarried, girls and boys” (MOHFW, 2006). Less than 4% obtained information on contraception from a health care provider. Female sterilization is the leading method used, even among young women: nearly half of all women practicing contraception modern methods of contraception were sterilized. Non-terminal methods, far more appropriate for the young practiced by just half: 37% used condoms, 12% used OCs and 1% IUD. Large proportions of young men and women reported that they would hesitate to procure contraceptives from health care providers or pharmacies. Even among the married, one quarter of young men and half of young women reported shyness to approach HCPs or a medical shop.

Of the sexually experienced who practiced contraception, involvement of female partner in decision making regarding contraceptive use is limited in a large proportion of sexually experienced unmarried youth. The unmet need in the state is high and large proportion of married youth (24 % married men 15-29 years, and 33 % married women 15-24) reports that their last pregnancy was mistimed or unwanted.

Therefore, counseling and SRH services to married and unmarried young people in a non-threatening, non-judgmental and confidential environment need to be made available. As health care providers often have biases about providing such services to young people, they need to be oriented to

- Overcome biases about SRH service provision to the unmarried;
- About the special needs, heterogeneity and vulnerability of unmarried and married young people
- Develop appropriate strategies to reach diverse groups of youth
- Reposition the condom as a suitable method for youth

Three, age of marriage and services to newly married couples require serious attention. The study findings show that child marriage continues among young women (one in 5 married before 15 and half married before age 18), minorities of young men transitioned to marriage in adolescence; and nearly one quarter before the legal minimum age of marriage. 77% of women in age group 21-24 married before 18 years of age and 43% of the men in age group 21-24

married before 21 years of age in Bihar. Pressure to prove fertility immediately after marriage is enormous and more common in Bihar where 68 % women report first pregnancy before 18 years of age (Youth in India: situations and Needs Study). Half of young women and one-third of wives of young men initiated childbearing before age 18 (44% of men and 68% of women in Bihar 15-24 years of age. Childbearing is too closely spaced – Despite their young age, 11% of women aged 15-24 already had 3 children.

Among the unmarried, few sexually active unmarried youth practice contraception. Although almost all sexually experienced unmarried youth wish to avoid pregnancy, few have practiced contraception. Just 28% of young men and 12% of young women had practiced any form of contraception at first sex, and 21% and 9% had done so consistently in all sexual encounters. Just 13% sexually experienced young men and hardly any young women had used condoms consistently.

Since 2001, Pathfinder's Promoting Change in Reproductive Behavior (PRACHAR) Project has been transforming attitudes and behaviors to accelerate the use of and demand for contraception to delay and space pregnancies among youth and newlywed couples in Bihar²⁰. Working with NGO partners across five districts, Pathfinder disseminated powerful life cycle-specific family planning and reproductive health behavior change communication messages in 700 villages. By working with local NGOs as implementing partners, It has succeeded in changing beliefs, attitudes, and practices in areas where women and girls have traditionally been married young, faced extreme social and economic inequality, and been pressed by parents, in-laws, and the wider community to prove their fertility by bearing children immediately. Pathfinder's approach has contributed to a four-fold increase in contraceptive use among young married couples in project areas, a 1.5-year increase in the age of marriage, and a two-year increase in the age of mothers at first birth in intervention areas. Now in the third phase of the project, Pathfinder is working with the Government of Bihar and civil society to integrate the PRACHAR model into the state's health care system.

²⁰ www.pathfinder.org accessed on August 20,2010

It is therefore extremely necessary to impart early knowledge on the responsibilities of parenthood to newlyweds, information about contraception, and maternal and child health care. ASHAs under the NRHM could be visualized as an opportunity in this initiative for such communication strategies with specific focus on providing information on virtues of small family size, interval between births, methods of contraception and abortion. Campaigns around increasing female age at marriage could be undertaken in the state.

Finally, there is a need to invest more in youth. The demographic dividend will only be realized if young people have education and livelihood. Therefore, state needs to implement right to education through achieving universal school enrolment and promote youth employment

Research requirements

The absence of health research institute in the state is a major hindrance. The state has State Institute of Health and Family Welfare (SIHFW) and Population Research Centre (PRC), but its needs to be capacitated for research and innovation. Most of research studies on family planning and population stabilization are being undertaken by various NGOs and private agencies. For demographic information state is dependent on census, Sample Registration System, National Family Health Surveys (NFHS), and the District level Household Surveys (DLHS-RCH) conducted by the International Institute of Population Sciences. The survey provides information on issues related to antenatal care, immunization, safe delivery, contraceptive prevalence, unmet need for family planning, awareness about RTIs and STIs, and utilization of government health services and user's satisfaction. The state needs more focused research to address the population stabilization issue and dimensions of demographic, epidemiological, and health transitions in the state, which may highlight the reasons behind fertility change, mortality, and the changing attitudes towards contraception. The state should promote research with focus on relationship between acceptance of family planning and socio-economic conditions of population, document, and analyze successful family planning interventions for their success. The research studies should focus on demographic changes, migration, ageing, factors responsible for changing value of children, gender preferences, attitude towards small family norms, and imbalances in sex

ratio. With the introduction of new contraceptive methods and RCH services, it is necessary to find out the acceptability of contraceptive methods for men and women belonging to various socio-economic strata. This will help in understanding the misconceptions as well as side effects of various birth control methods. Based on the findings of these studies, the program can be fine-tuned to meet the requirements²¹. Demographic and behavioral surveys should also address issues related to reproductive rights, male involvement in family planning, adolescent reproductive health, and women's health status and autonomy.

Implementation Recommendations

In summary, implementation of the comprehensive program would need the following policy, program and organizational actions.

Policy measures

- *Political commitment:* The state should be oriented and sensitized to identify population as an important issue towards overall growth and development of the state. It should work towards having its own population policy with focus on (a) compulsory population/family life education with special focus on girls' education; (b) unmet need for contraception, family planning, and abortion for population stabilization; and (c) strengthening manpower, training, and infrastructure (restructuring of the Primary Health Centers and Sub-centers).
- *Vital registration.* State should focus and develop a mechanism to ensure the coverage and quality of registration of births, deaths, marriages, and pregnancies. Child marriages law should be strictly implemented which prevents marriage of girls and boys below the legal age of 18 and 21 years.

²¹ Report of the working group on population stabilization for the eleventh five-year plan (2007-2012). Planning Commission. Government of India. New Delhi

- *Financial resources.* Government would have to not only utilize well the NRHM resources but allocate a higher proportion of these funds for family planning as well as allocate resources for family planning from its own budget to signify its commitment.

Program actions

- *Informed choice.* The focus should be on limiting family size, and meeting the unmet need for family planning services. The state should focus on increasing the scope of informed choice in context of family planning and abortion services. An outreach effort needs to be made to help young women and men to understand how the available spacing methods would help in meeting their desired fertility level. Specific efforts need to be made to involve the private sector for the promotion of spacing methods, in general, and condom use, in particular.
- *Flexible locally responsive program.* In the state there is inter-district variation in family planning performance. The state should have flexible approach and focus on poor performing districts based on the data available from the DLHS and facility Surveys.
- *Maternal health program.* There should be focus on antenatal and institutional delivery care to reduce infant and maternal mortality to accelerate the process of fertility transition and population stabilization.

Organizational mechanisms

- *Community involvement.* Local self government and institutions such as Panchayati Raj Institutions (PRI) and Gram Sabha should be involved and strengthened in realizing the goal of population stabilization. Unless and until there is realization among people at grassroots and community level, it is not possible to achieve population stabilization in the state. There is also a need to develop better co-ordination mechanism between local self-governments and health care institutions. Community leaders, Self-help groups

(SHG) members, ANMs, Anganwadi worker, and ASHA can play pivotal role in identifying and addressing the adolescents' and couples unmet need of contraception.

- *Research.* State should strengthen its own institution for research, development and innovations.
- *Role of private sector.* NGOs and donors intervention should be in partnership and coordination with the government. Their role should be as strengthening partners rather than a duplicating role.

VI. The Future

Earlier it was estimated that replacement fertility will be reached by 2021, barely 11 years away. This seems most unlikely, as fertility did not decline during the period 1997-98 and 2005-06. Some have estimated that replacement fertility will be reached 20-25 years hence. The most conservative estimate is that of Population Reference Bureau which presumes that fertility will follow the same path as that of Karnataka state and estimates that replacement fertility will be reached later than 2060 and Bihar's population will be about 10% of India's population at that stage.

Recent trends, both for socio-economic and family planning program, are promising. The socio-economic correlates of fertility are accelerating in their progress. The Right to Education act has been passed. Although its implementation will require enormous investments and 220,000 new teachers would have to be recruited. However, it will lead to much higher levels of education, particularly that of females. Although income levels are known not to be strongly correlated with fertility decline, recent estimate of State domestic product suggests that it grew by about 11% compound annual growth rate in last 5 years compared to a negligible increase during the previous 5 years. While this may impact fertility only indirectly, it will provide more resources for overall socio-economic development. IMR has been steadily declining. Health infrastructure should also improve under the NRHM.

If the state implements measures proposed in this paper then one can be cautiously optimistic about accelerated decline in fertility and eventual population stabilization in not too distant in future.

Annex 1. Major Donors in Bihar

Name of the Agency & Contact Detail

UNICEF 8-Patliputra Colony, Patna-12.	Save the Children 159 - A, Patliputra Colony, Patna - 800013 Ph. - 0612-2274650, Mob. – 9934359311 Email:prabhat@savethechildren.in
UNFPA 8-Patliputra Colony, Patna-12.	Population Services International (PSI) Saikripayatan, Ram Nagari More, Ashina, Digha Road, Patna - 800025 Ph. - 0612-2581022/23, Mob. - 09391125152 Email: neerajkumar@psi.org.in
UNDP 8-Patliputra Colony, Patna-12.	PACS 128-B, Patliputra Colony, Patna - 800013, Ph.: 9431093496, Email: bh.praveen.pacs2@gmail.com
Care India 68 -A, Patliputra Colony, Patna – 13	Geneva Global 595 E Lancaster Ave. Suite 200, St. Davids, PA, 19087 USA, Ph.: +1 (610) 254 0000
Pathfinder International 189- Patliputra Colony, Patna- 13. Tel: 0612-2276877	The David and Lucile Packard Foundation B- 5, IInd Floor, Greater Kailash Enclave –II New Delhi- 110048 Phone: 91-11-51435468 Telefax: 91-11-51435467 Email: lcoutinho@packard.org

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Canal Road, Patna, M-9334693366.

National Foundation of India UG Floor, Zone
IV A, India Habitat Centre, Lodhi Road, New
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Phone: 011-24641864
Ajay_s_mehta@nfi.org.in

Womens Development Corporation
2nd floor, Indira Bhawan, R.C. Singh Path,
Bailey Road, Patna-1. Ph. - 0612-2234096

Janani
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Patna
Phone : 0612-253-7645

Action Aid India
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Population Council Ground Floor, Zone V A,
India Habitat Centre, Lodhi Road, New Delhi
Phone: 011-2464-2901

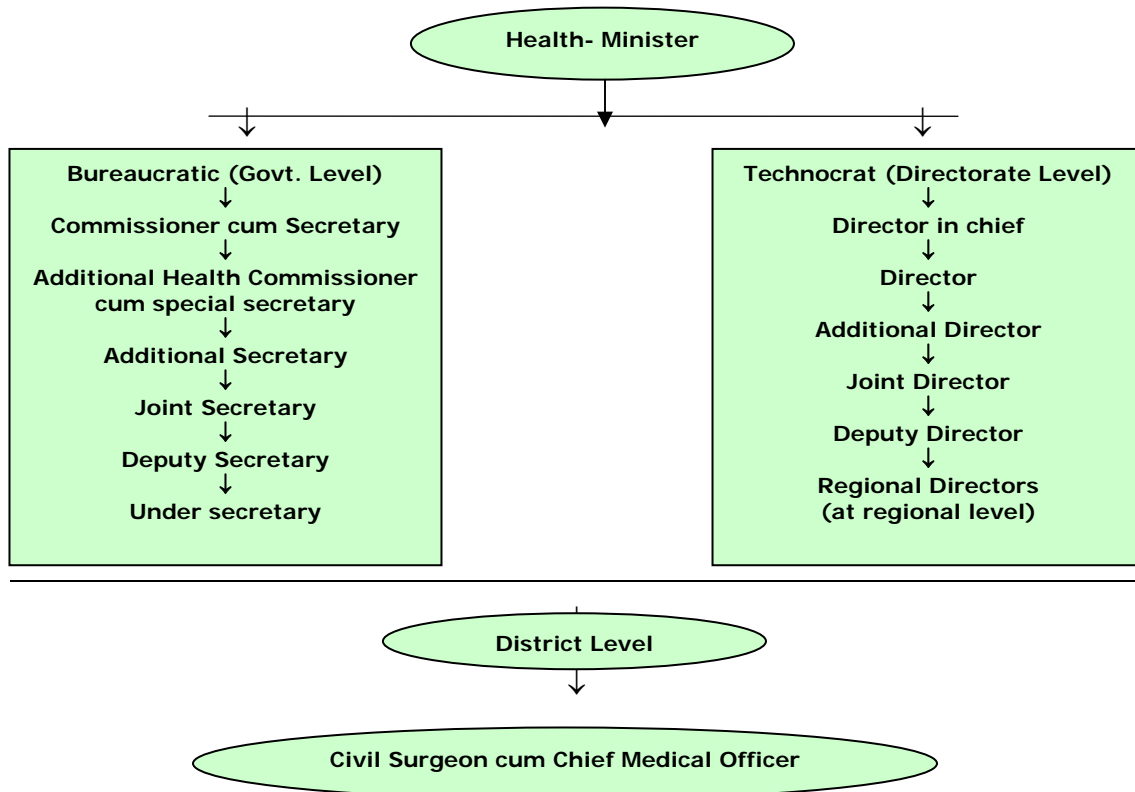
The Hunger Project
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Population Foundation of India
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2521983, 6453807,
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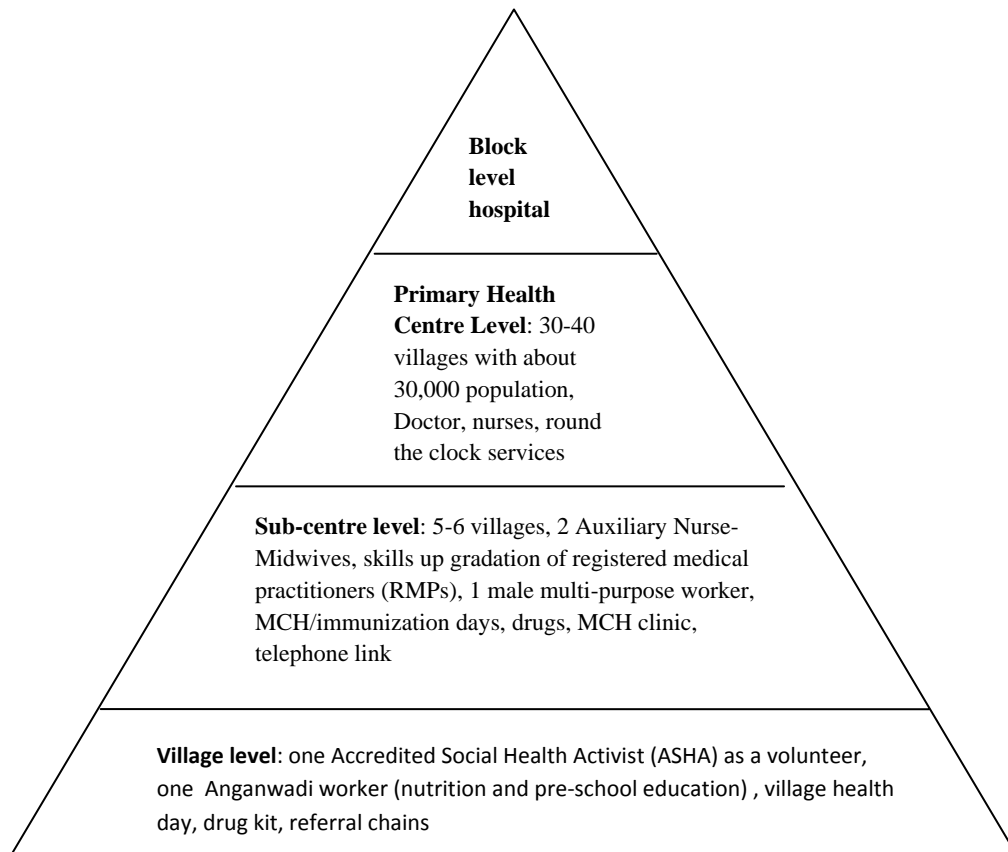
Annex 2. Health Administration in Bihar

The department of Health, Medical Education and Family Welfare functions through a two-tier system, first the governmental tier and the second the directorate tier. Both the tiers are primarily headed by the Health Minister, followed by the bureaucratic and technical tier. The hierarchy can broadly be put in to as follows:



Further, the hierarchy is diluted in the field i. e. regional level and primary health centre (PHC) level, to facilitate the health care at door step the primary health centre is further divided in to many Additional PHC's and sub-centres depending upon the workload and density of population. Under the primary health care delivery system multipurpose scheme is followed in the Bihar and the health workers, whether male or female are assigned an area of fixed population i.e. sub-centre, where he/she is supposed to look after overall health facilities. In case of need, he/she is supposed to refer the matter further ahead to APHC/PHC. At the PHC level, Medical Officer in charge is solely responsible for the health activities within the jurisdiction that in turn assisted by 3-4 medical officer, para-medical staffs and lower level functionaries.

The service delivery system as envisaged in NRHM is as follows:



References

Ashford, L. S., 2001, "New Population Policies: Advancing Women's Health and Rights. Population Bulletin, PRB, Vol. 56, No. 1.

Bulletin on Rural Health Statistics in India, 2008, Ministry of Health and Family Welfare, Government of India.

Provisional Census of India. 2011

Government of India, 1978, Central Calling, March 1978, Department of Family Welfare.

Government of India, 1978, Central Calling, March 1978, Department of Family Welfare.

Government of India, 1982, Yearbook 1980-81, Ministry of Health and Family Welfare.

India. 2009. Publication Division. Ministry of Information and Broadcasting, Government of India.

International Institute for Population Sciences (IIPS), Mumbai and ORC Macro, (2006). National Family Health Survey (NFHS-III) 2005-2006.

International Institute for Population Sciences (IIPS), Mumbai (2006). Reproductive and Child Health- District Level Household Survey (RCH-DLHS), 2006-2008.

International Institute for Population Sciences (IIPS) and Population Council. 2009. Youth in India: Situation and Needs 2006-2007, Executive Summary, Bihar. Mumbai: IIPS.

International Institute for Population Sciences (IIPS) and Population Council. 2008. Youth in India: Situation and Needs 2006-2007, Key Indicators, Bihar. Mumbai: IIPS.

Jejeebhoy, S. J. 2007. Sexual and Reproductive Health among Youth in Bihar and Jharkhand: An Overview. *Economic and Political Weekly*, 42 (48): 34-39 December.

Population Council. 2012. *Shaping Demand and Practices to Improve Family Health Outcomes in Bihar: Final Survey Report*. Edited by M.E. Khan, France Donnay, Usha Kiran Tarigopula and Kumudha Aruldas

Population, Health and Social Development in Bihar, Jharkhand, Orissa and West Bengal. 2010. Population Foundation of India. New Delhi.

Population Stabilization for the Eleventh Five Year Plan (2007-2012). Planning Commission, Government of India.

Registrar General of India. 2011. *Sample Registration System. SRS Bulletin*, Vol. 46, No. 1. December 2011.

Report of the working group on population stabilization for the eleventh Five Year Plan (2007-2012). Planning Commission. Government of India. New Delhi.

Report of the working group on population stabilization for the eleventh five-year plan (2007-2012). Planning Commission. Government of India. New Delhi

Wadia, A. B., 1984, 'The Family Planning Programme in India: The Non-governmental Sector', *The Journal of Family Welfare*, Vol. 30, No. 4.

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