

# MADHYA PRADESH

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## Population and Development

A Discourse on Family Planning in Madhya Pradesh

### Purpose of this brief

This policy brief takes a look at the progress made by Madhya Pradesh (MP) with respect to the family planning, and the reproductive and child health indicators in the state, and the impact of increasing population on the maternal and child health indicators in the state. The brief has two sections. In Section I data from the National Family Health Survey (NFHS), Sample Registration System (SRS), Census 2011, Annual Health Survey (AHS), and the Registrar General of India (RGI) Population Projections 2006 has been analysed to inform the national- and state-level policymakers and experts on the current status of MP's family planning programme. Section II of this brief presents population projections to inform the future course of population dynamics, estimate the resources required for family planning, and highlight the state's contribution to the achievement of the country's replacement level of fertility. The elaborate exercise of developing these projections was undertaken in 2012–13, and thus considers AHS, 2010–11 data.

### Health Goals for India: 12<sup>th</sup> Five-Year Plan

- Reduction in Infant Mortality Rate to 25.
- Reduction of Maternal Mortality Ratio to 100.
- Reduction of Total Fertility Rate to 2.1.
- Prevention and reduction of anaemia among women ages 15–49 years to 28 per cent.
- Raising child sex ratio in the 0–6 age group from 914 to 950.

# SECTION I

## A. Increasing population in Madhya Pradesh

Geographically the second largest state in the country, MP has a population of 7.2 crores as per Census 2011. Centrally located, it is often called the "Heart of India" and is home to a rich cultural heritage with practically everything; innumerable monuments, large plateau, spectacular mountain ranges, meandering rivers and dense forests offering a unique and exciting panorama of wildlife in sylvan surroundings.

Almost 40 per cent of the population in MP lives below the poverty line, and the rates of malnutrition, child and maternal mortality are high in the state. The population of MP has grown from 6 crore in 2001 to 7.2 crore in 2011, an increase of almost 20 per cent in a decade.

The total fertility rate (TFR)—the average number of lifetime births per woman by the time she reaches age 50—in MP stands at 2.9. The district-wise TFR varies from as high as 4.4 in district Shivpuri to 2.1 in Bhopal.

Figure 1 shows district-wise TFR in MP, and the difference in the TFRs of various districts. All the 45 districts except Bhopal have a TFR higher than the replacement level of fertility (2.1). Chhatarpur, Panna and Shivpuri districts have a TFR higher than 4 (4.1, 4.3 and 4.4 respectively) and the TFR in Barwani and Vidisha districts stands at 4. Around 65 per cent districts (29 in total) have a TFR between 2.6 and 3.5 and 22 per cent districts (10 in total) have a TFR between 3.6 and 4.5. They need specific urgent attention in addressing their high TFR.

TFR (AHS 2011-12)	# of districts	%age
4.1 – 4.5	3	6.6
3.6 – 4.0	7	15.5
3.1 – 3.5	15	33.3
2.6 – 3.0	14	31.1
2.1– 2.5	6	13.3
<b>Total</b>	<b>45</b>	<b>100</b>

Table 1: Districts categorised as per TFR. Source: AHS, 2011–12

Table 1 categorises the districts of MP according to their TFR.

## B. Slow and steady fertility decline in Madhya Pradesh

MP's TFR has dropped consistently between 2001 and 2012, i.e. from 3.9 to 2.9 (SRS, Various Issues) (Figure 2). The TFR of MP is currently 2.9 children per woman (SRS, 2012). According to RGI Population Projections (2006), MP is likely to achieve replacement-level of fertility (i.e. 2.1) by 2025.

Figure 1: District-wise Total Fertility Rate in Madhya Pradesh

Source: Annual Health Survey, 2011-12.

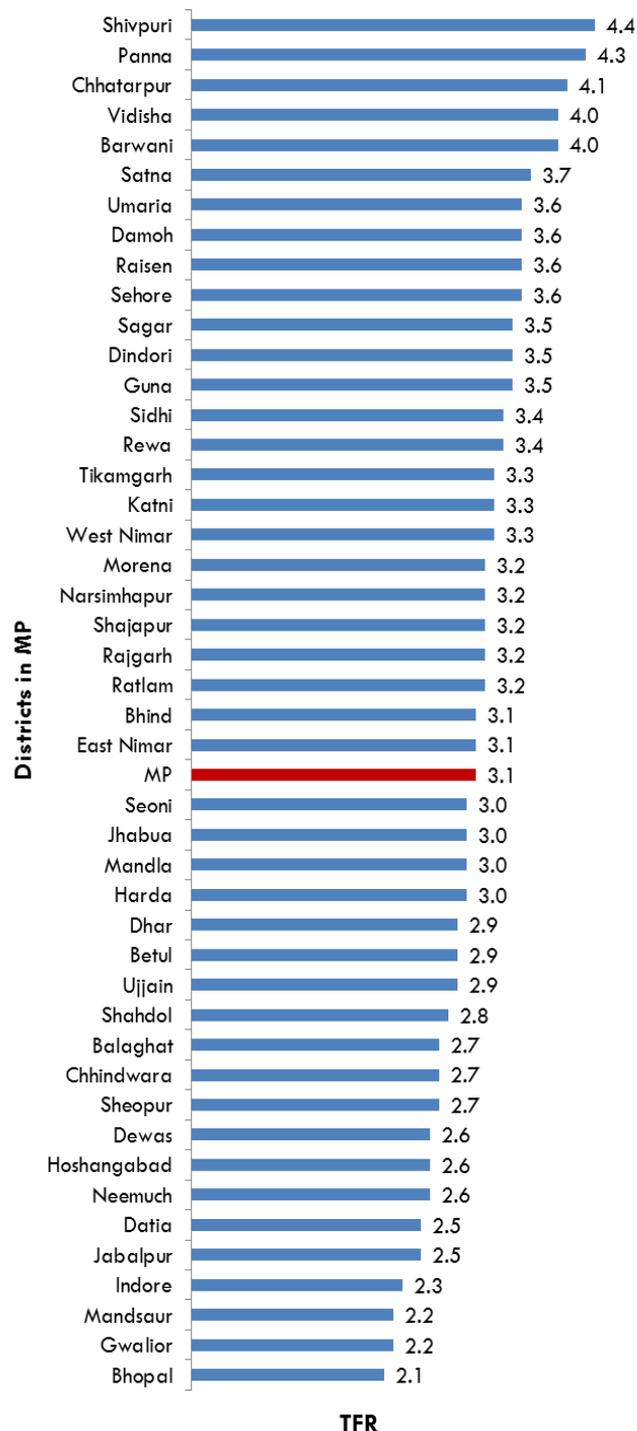
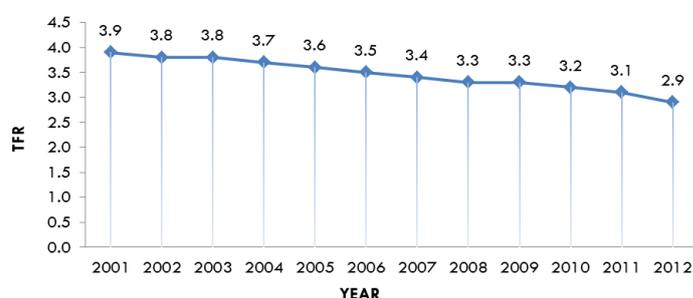


Figure 2: Trends in Total Fertility Rate in Madhya Pradesh since 2001. Source: SRS, Various Issues.



### C. Drivers of increase in population that need to be addressed

Increase in population is a cumulative effect of fertility and mortality indicators, along with socioeconomic determinants. Key actions requiring urgent attention to ensure a check on the increasing population include:

**C1. Reducing early marriage:** Early marriage increases the length of time for which a girl is exposed to pregnancy, which in the absence of use of a family planning method can lead to higher levels of fertility affecting the overall population momentum. This is one of the key issues affecting MP, with around 29 per cent girls getting married before the age of 18 years (DLHS-3, 2007–08). Recent AHS (2011–12) data shows that a substantially high percentage of currently married women (ages 20–24 years) i.e. 46.1 per cent are married before the legal age of 18 years in MP. Girls completing schooling and higher education, and being gainfully employed results in their marrying at a later age, planning their families and becoming socially and economically empowered. Thus, focus needs to increase on enrolling girls in school, reducing drop out rates, and providing opportunities for higher education and employment. State departments need to emphasise on increased health and life-skills education in schools, increased counselling of young women by Accredited Social Health Activists (ASHA), Auxiliary Nurse Midwives (ANM), and other door-to-door and mass media campaigns.

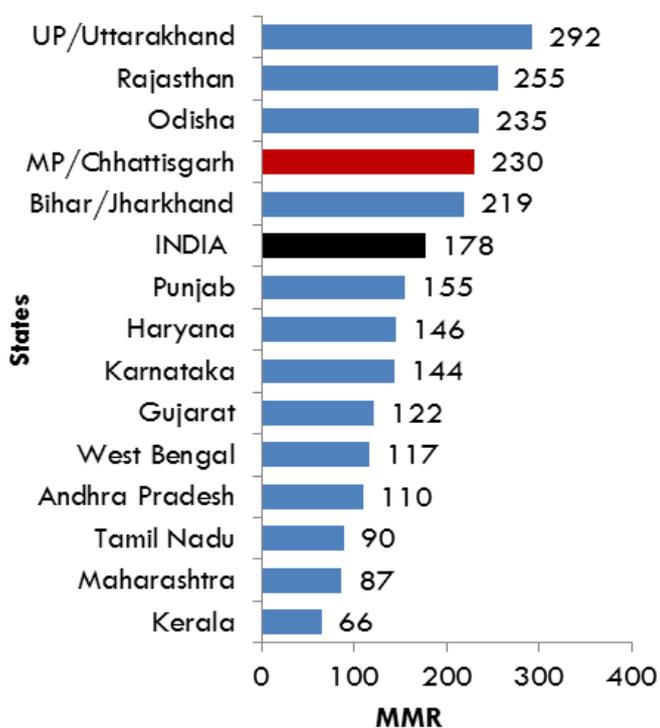
**C2. Reducing early childbirth:** Early marriage is potentially linked to early childbirth, as it keeps the fertility levels high. As per AHS, 2011–12, a high 48.5 per cent

women ages 15–19 years in MP were already mothers or pregnant at the time of the survey. Improved health education and community engagement at the community level by ASHAs and ANMs can help change social norms around expectations of first child immediately after marriage.

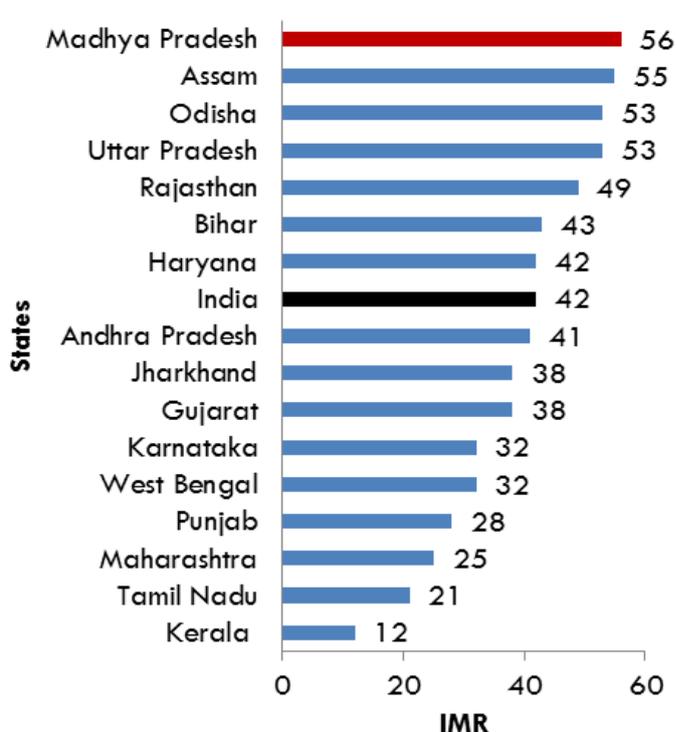
**C3. Improving Maternal Mortality Ratio:** Women who begin childbearing when they are younger than 18, are also at increased risk of complications during their pregnancy and during delivery. MP's maternal mortality ratio (MMR) was 379 in 2003. It has come down to 230 (SRS, 2013), a healthy improvement (collective figures for MP and Chhattisgarh). However, it still continues to be high as compared to India's MMR of 178 (SRS, 2013). The pace of progress will need to be accelerated in order to reach the 12th Five-Year Plan goal of bringing down MMR to 100 by 2017. There is a need to improve health service delivery, ensure availability of supplies and equipment, utilise funds effectively, ensure rigorous follow ups and provide continuum of care.

**C4. Bringing down Infant and Under-Five Mortality Rates:** The death rates of infants and children under the age of five in MP are 56 and 73 respectively (SRS, 2012). Infant mortality rate (IMR) and under-five mortality rate for India are 42 and 52 respectively. The state needs to make focused attempts to improve the IMR and under-five mortality rate by ensuring universal immunisation coverage; early detection and treatment of diarrhoea, pneumonia and malnutrition; community activation for wellbeing of children through the Village Health and Nutrition Days;

**Figure 3: Maternal Mortality Ratio in select Indian states. (Source: SRS 2013).**



**Figure 4: Infant Mortality Rate in select Indian states. (Source: SRS 2012).**



improved access to quality nutrition supplementation at the Anganwadi centres; and reduction in harmful traditional practices for treatment of childhood illnesses.

### C5. Improving contraceptive use among currently married women:

Contraceptive prevalence rate (CPR) is the proportion of women of reproductive age using (or whose partner is using) a contraceptive method at a given point of time. The CPR in MP is 59.3 per cent for any modern method (AHS, 2011–12), higher than the CPR in India. Though higher than the CPR in India (as per DLHS-3, 2007–8 estimates the CPR in India is 47.1 per cent), the state department needs to increase: access to quality contraceptive products and services through door-to-door

delivery; postpartum IUCD for women who are delivering under Janani Suraksha Yojana (JSY); male involvement and adoption of sterilisation; Family Planning week celebrations; efforts towards demand generation; and health education at the community level.

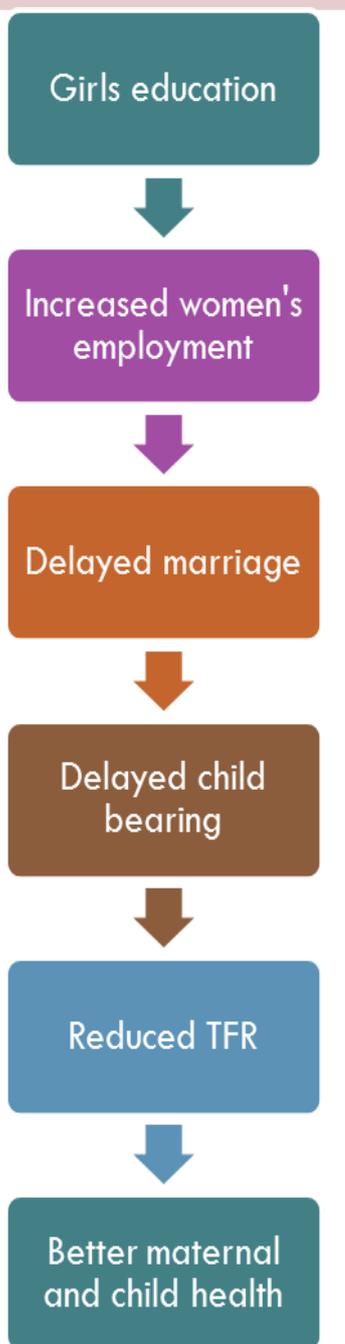
### C6. Addressing high unmet need for family planning:

Unmet need is defined as the proportion of women who want to delay or limit childbearing but are not using any family planning method (traditional or modern). Based on the AHS, 2011–12 data, 21.6 per cent currently married women in MP have an unmet need for family planning close to the national figures, which stand at 21.3 per cent (DLHS-3).

## D. Family planning saves lives

Investing in family planning will help improve health and development in MP. In this direction following actions would be required:

- **Help couples in MP achieve desired family size.** In MP the ideal family size for ever married women and men is 2.6 children (NFHS-3, 2005–06). NFHS-3 also elaborates that 72 per cent of currently married women and 70 per cent of currently married men in MP want no more children, are already themselves sterilised or have a spouse who is sterilised. Among those who want another child, 46 per cent of women and 43 per cent of men would like to wait at least two years. NFHS-3 findings point to a strong preference for sons in MP. Almost one-third of women and 28 per cent of men want more sons than daughters. NFHS-3 findings also suggest that unplanned pregnancies are relatively common and if women were to have only the number of children that they want, the TFR of MP would be 2.1.
- **Reduce childbearing risks.** High-risk births are a major cause of illnesses, disability and premature death among mothers and children (Feranil and Borda, 2008). High-risk births are defined as those that are spaced less than two years apart or born to mothers who are younger than 18 or older than 34, or who have more than three children. Infant mortality is 112 deaths per 1,000 live births in teenage mothers, compared with 74 deaths per 1,000 live births born to mothers



ages 20–29 (NHFS-3). As per NFHS-3:

- ◇ Bearing children too close together in time is especially risky.
- ◇ The risk of death in the first year of life is more than four times as high for children born less than two years after a previous birth than for children whose mothers waited four or more years between births.
- ◇ Children whose mothers have no education are five times as likely to die before their first birthday as children whose mothers have completed at least 10 years of school.

- **Save lives:** As per UNFPA estimates widespread use of family planning could lower MMR by 20 per cent and IMR by as much as 25–30 per cent in developing countries. Spacing pregnancies farther apart can help women affected by anaemia and malnutrition become healthier and better prepared for pregnancy in the future and thus, have healthier babies. For women for whom pregnancy poses substantial health risks and for those who do not want any more children, voluntary sterilisation can be an option to prevent pregnancy permanently.

## Population projections and expected levels of achievement for Madhya Pradesh

This section presents the expected levels of achievement (ELA) for MP to address its unmet need for family planning along with the population projections for the state till 2022. The projections include the increase in population, projected number of acceptors of family planning methods, the increased demand for contraception, and projections of IMR and under-five mortality rate. In keeping with the urgent need to address the family planning requirements in the state, these projections are intended to inform the family planning programme and help the state gear up for future requirements to strengthen the family planning programme. These projections were developed in 2012–13, and thus consider AHS 2010–11 data.

### A. Inputs and projection period

The population projections and the estimation of ELAs in MP and India took into consideration a set of inputs and assumptions. Two scenarios were considered—one with changed method mix and the other with an unchanged method mix.

- To compute the population projections, the universally accepted “Component Method” has been used. As per the method the population growth of a given geographic location is determined by three components: fertility,

mortality, and migration.

- SPECTRUM Suite, a software package developed by Futures Group, was used to compute population projections and ELAs. In particular two models—DemProj and FamPlan—have been used to project the population, and family planning requirements, needed to reach the national goals to address the unmet need.

In view of the two subsequent plan periods (12th and 13th five-year plans), the projection period has been determined as 2011–22.

### B. Assumptions and goal setting

The goal of reaching the unmet need for contraception has been fixed while keeping in mind the estimates of reaching the TFR of 2.1 provided by the Expert Committee on Projections, 2005–2006 (Office of the Registrar General of India, 2006). It is assumed that the unmet need for contraception will not fall beyond 4.7 per cent (Andhra Pradesh's level, NFHS-3, 2005–06), which has been the lowest in the country.

The overall goal is to “meet 60 per cent of the current unmet need for family planning (22.4%, AHS, 2010–11).” This will result in increasing the modern CPR from 57 per cent in 2010–11 to 69.9 per cent in 2022.

### C. Scenarios for projections

Two scenarios have been created for population projections and ELAs:

**Scenario A: Change in method mix proposed (based on the state's current level) for the projection period (2011–22).**

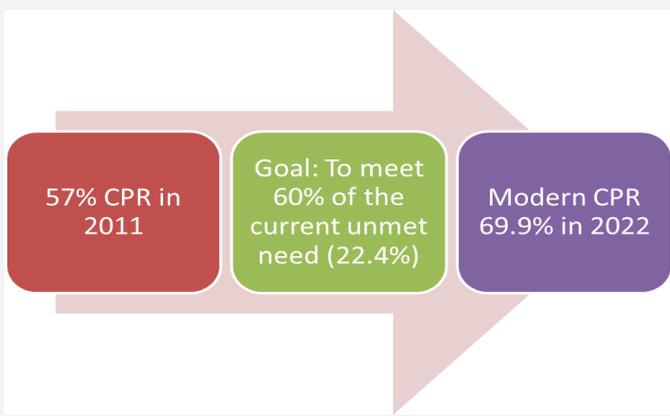
**Scenario B: The method mix will remain unchanged during the projection period (2011–22).**

Currently, the method mix in MP is 85.6 per cent (at the AHS, 2010–11 level) for limiting methods against 14.4 per cent for spacing methods.

If MP has to reduce 60 per cent of its current unmet need, the CPR will need to increase from the current 57 per cent (AHS, 2010–11) to 69.9 per cent in 2022 (projected figures).

For MP, as per Scenario A the change in method mix proposed, based on the state's current level—for

These projections have been taken from a Technical Report that was commissioned by the Ministry of Health and Family Welfare (MoHFW) to the Health Policy Unit, under the guidance of Dr R K Srivastava, Sr. Policy Analyst, (ex-Director General of Health Services, MoHFW), at the National Institute of Health and Family Welfare (NIHFW). NIHFW constituted an expert group under the Chairmanship of Dr Arvind Pandey, Director, National Institute of Medical Statistics, with experts from various technical organisations to provide technical directions to estimate the population projections and ELAs. Data analysed and presented have been collated from various sources, including Census publications, SRS Bulletins, three rounds of NFHS and DLHS, AHS (2010–11), and Family Welfare Statistics in India (of MoHFW), and other published materials.



projection period (2011–22)—is 73.5 per cent of limiting methods and 26.5 per cent of spacing methods by 2022. The proportion has been altered in Scenario A to address the slow decrease in the proportion of limiting methods and to sustain the current number of acceptors of limiting methods. Scenario B proposes an unchanged method mix ( 85.6 per cent limiting methods and 14.4 per cent spacing methods).

## D. Population projections

Table 2 presents the projected population for India and MP as part of the two different scenarios. India’s population is likely to exceed 1.30 billion by 2017 before reaching 1.38 billion in 2022. MP will add 7.2 million by 2017, and an additional 5 million by 2022

(Scenario A) as per these population projections. The projections indicate that under both the scenarios, the population projection in MP is almost the same till 2017. As per Scenario A the population of MP would be 84.8 million in 2022, whereas the projections against Scenario B show the population at a close 84.9 million in 2022.

**Table 2: Projected Population as per Scenario A for MP and India (Millions)**

State	2011			2017			2022		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
MP	37.6	35.0	72.6	41.3	38.5	79.8	43.8	41.0	84.8
India	623.1	587.4	1210.6	671.5	634.3	1305.9	708.7	669.8	1378.5

Projected Population as per Scenario B for MP and India (Millions)									
State	Male	Female	Total	Male	Female	Total	Male	Female	Total
MP	37.6	35.0	72.6	41.3	38.5	79.8	43.9	41.0	84.9
India	623.1	587.4	1210.6	671.6	634.4	1306.1	709.1	670.2	1379.3



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## E. Contraceptive method mix

If MP has to increase its CPR from current 57 per cent (AHS, 2010–11) to 69.9 per cent in 2022 (projected figures); reduce at least 60 per cent of its total unmet need; and meet the demand for spacing (total unmet need=22.4%; spacing=13.8% and limiting=8.6%, AHS, 2010–11), a change of current method mix is proposed.

Instead of the current method mix (85.6% limiting & 14.4% spacing—Scenario B), MP could adopt a method mix of 73.5 per cent limiting and 26.5 per

cent spacing (Scenario A) whilst ensuring improved counselling for clients to make informed and voluntary choices and provision of quality services, and not losing momentum of the uptake of spacing methods. As per the projections of Scenario A, 3.06 million women will require contraceptives for spacing and 0.37 million new acceptors will require limiting methods.

Table 3 and 4 present the projected number of acceptors of spacing and new acceptors of limiting methods under both the scenarios, to facilitate the planning process at the state level.

**Table 3. Projected number of acceptors for spacing methods: Scenario A, if MP and India change the method mix**

(MP: Limiting= 73.5% and Spacing= 26.5%) (Numbers in millions)

State	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
MP	1.18	1.26	1.4	1.55	1.7	1.86	2.03	2.22	2.41	2.62	2.83	3.06
India	31.04	32.52	33.12	33.74	34.34	34.89	35.42	35.97	36.49	36.98	37.44	37.92

**Projected number of acceptors for spacing methods: Scenario B, if MP and India continue as today**

(MP: Limiting= 85.6% and Spacing= 14.4%)

MP	1.18	1.21	1.26	1.3	1.35	1.39	1.44	1.49	1.55	1.6	1.66	1.71
India	31.04	32.08	33.01	33.99	34.96	35.91	36.85	37.84	38.82	39.79	40.75	41.7

**Table 4. Projected number of new acceptors for limiting methods: Scenario A, if MP and India change the method mix**

(MP: Limiting= 73.5% and Spacing= 26.5%) (Numbers in millions)

State	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
MP	0.42	0.35	0.37	0.37	0.33	0.35	0.38	0.4	0.37	0.4	0.37	0.37
India	5.17	5.05	5.3	5.34	5.37	5.39	5.66	5.7	5.75	5.81	5.88	6.07

**Projected number of new acceptors for limiting methods: Scenario B, if MP and India continue as today**

(MP: Limiting= 85.6% and Spacing= 14.4%)

MP	0.42	0.45	0.49	0.5	0.47	0.51	0.54	0.58	0.56	0.61	0.59	0.61
India	5.14	4.85	5.07	5.1	5.12	5.12	5.36	5.38	5.41	5.46	5.5	5.63

## F. Increased demand for contraception

The number of married women in the reproductive age group (MWRA) will also increase over time, as the

table below suggests (Table 5). These women will require contraceptives. MP will have to ensure access to a wide range of quality contraceptive products and services.

**Table 5: Projections of MWRA for India and MP under Scenario A and Scenario B (Numbers in millions)**

State	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
MP	14.6	14.9	15.2	15.5	15.7	16.0	16.2	16.5	16.7	16.9	17.1	17.3
India	237.7	242.2	246.6	250.8	254.8	258.6	262.1	265.5	268.6	271.5	274.3	277

## G. Contraceptive use and its influence on infant and child mortality

IMR is a serious health concern and directly associated with fertility rate along with other socioeconomic factors. With lower contraceptive use, there are chances of higher IMR. MP will fall short of achieving its Millennium Development Goal (MDG) for IMR of 28 per 1,000 live births by 2015. The situation regarding under-five mortality is similar. Table 6 projects the possible infant and under-five mortality rates that MP will have to plan for.

This indicates an urgent need to adopt strategies in a mission mode to address population growth and unmet need, increase age of marriage and first birth, and engage multiple stakeholders in increasing access to quality family planning services.

**Table 6: Projections for IMR and Under-5 Mortality for MP and India**

	IMR			<5 MORTALITY		
	2012	2017	2022	2012	2017	2022
<b>MP</b>	58.7	52.3	46.1	78.8	69.0	59.5
<b>India</b>	41.3	34.1	27.3	52.1	42.0	33.1

## H. Greater investment in family planning is the need of the hour in Madhya Pradesh

Family planning saves lives by helping women prevent unintended pregnancies, delay early childbearing, and space births at least two years apart. In summary, meeting the unmet need for family planning reduces fertility rates, leading to improvements in women's and children's health. The population projections present the population scenario of MP against both the scenarios. Thus, the state functionaries need to systematically expand access to family planning services and address the unmet need for family planning.

The state will need to ensure additional focus on:

- Increasing access to a wide range of quality contraceptive products and services.
- Placing increased importance on spacing methods and encouraging spacing between children among couples.
- Encouraging increased participation of men in family planning.
- Increasing human resources and health facilities to address the unmet need for family planning.
- Accelerating efforts towards addressing the socioeconomic factors that impact fertility. These include: increasing the age of marriage for girls; increasing education levels among girls and women; and creating more employment opportunities for women, to create an enabling environment for women's empowerment and addressing the issue of son preference.



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The Policy Unit is supported by the [Health Policy Project](#) (HPP), funded by the [U.S. Agency for International Development \(USAID\)](#), and implemented by [Futures Group](#) that contributes to improved health through strengthening the efficiency, effectiveness, and equity of health systems.

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