ODISHA

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Population and Development

A Discourse on Family Planning in Odisha

Purpose of this brief

This policy brief takes a look at the progress made by Odisha 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 Odisha'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: 12th 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.

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SECTION I

A. Increasing population in Odisha

Located on the south-eastern coast of the country, Odisha is the ninth largest state by area in India. Census 2011 estimated the population of the state at 4.2 crore, the 11th largest population among all the states. Ganjam is the most populous district in the state whereas Debagarh is the least populous district. The literacy rate in the state stands at 73.5 per cent, with 64.4 per cent female literacy.

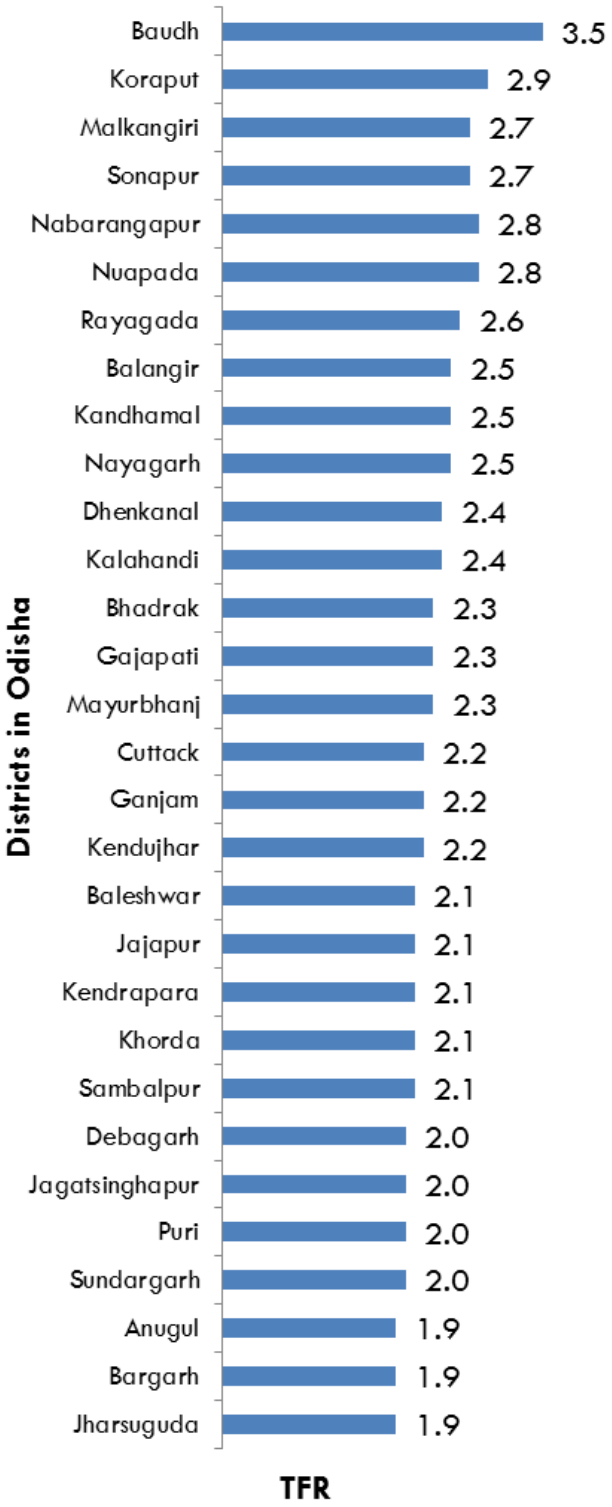
The state has witnessed a decadal growth rate of 13.97 per cent in the last decade, lower than the national decadal growth rate of 17.64 (Census, 2011). Odisha has achieved replacement level fertility i.e. 2.1 (SRS, 2012). The district-wise TFR—the average number of lifetime births per woman by the time she reaches age 50—varies from as high as 3.5 in district Baudh to 1.9 in districts Anugul, Bargarh and Jharsuguda (AHS 2011–12). The sex ratio in Odisha stands at 978 females per 1000 males and the state has been a decline in the sex ratio in the last decade. Though Odisha has made satisfactory progress with respect to its TFR, the maternal and child health indicators in the state are a cause for worry.

Figure 1 shows district-wise TFR in Odisha, and the difference in the TFRs of various districts. Of all the 30 districts 18 have a TFR higher than the replacement level of fertility. Of these only Baudh has a TFR as high as 3.5 and all the other districts have a TFR ranging from 2.2 to 2.9. Given specific and urgent attention, districts with TFR higher than 2.1 would be able to accelerate their progress towards reaching replacement level of fertility.
Table 1 categorises the districts of Odisha according to their TFR.

TFR (AHS 2011-12)	# of districts	%age
3.1 – 3.5	1	3.3
2.6 – 3.0	6	20
2.1 – 2.5	16	53.3
1.5 – 2.0	7	23.3
Total	30	100

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

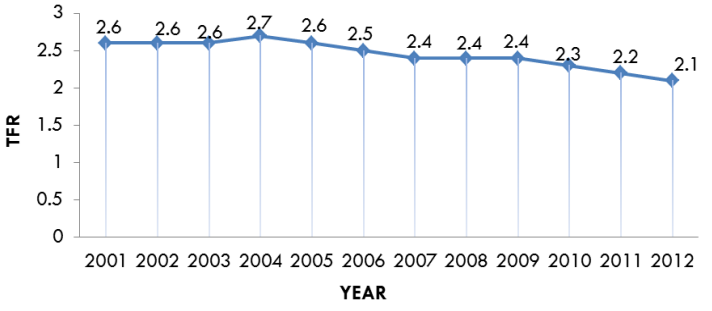
Figure 1: District-wise TFR in Odisha. Source: AHS 2011–12.



B. Slow and steady fertility decline in Odisha

Odisha's TFR has dropped consistently between 2001 and 2012, i.e. from 2.6 to 2.1 (SRS, Various Issues) (Figure 2). The TFR of Odisha is currently 2.1 children per woman (SRS, 2012), close to the RGI Population Projections (2006) for Odisha which projected the expected levels of TFR in Odisha between 2011 and 2015 at 2. As per these projections the TFR of Odisha will be 1.8 by 2025.

Figure 2: Trends in Total Fertility Rate in Odisha 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. In Odisha, as per DLHS-3 (2007–08) around 19.1 per cent girls get married before the age of 18 years, a lower percentage as compared to other empowered action group (EAG) states. Recent AHS (2011–12) data shows that 28.8 per cent of currently married women (ages 20–24 years) are married before the legal age of 18 years in Odisha, again much better figures compared to other EAG states. Girls completing schooling and higher education (Odisha has a female literacy rate of 64 per cent), 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 more 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, 44 per cent women ages 15–19 years in Odisha were already mothers or pregnant at the time of the survey. Improved health education and active 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. Odisha's maternal mortality ratio (MMR) was 358 in 2003. It has come down to 235 (SRS, 2013), a healthy improvement. 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 come close to the 12th Five-Year Plan goal of bringing down MMR to100 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 Odisha are 53 and 68 respectively (SRS, 2012) much higher than the infant mortality rate (IMR) and under-five mortality rate for India—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

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

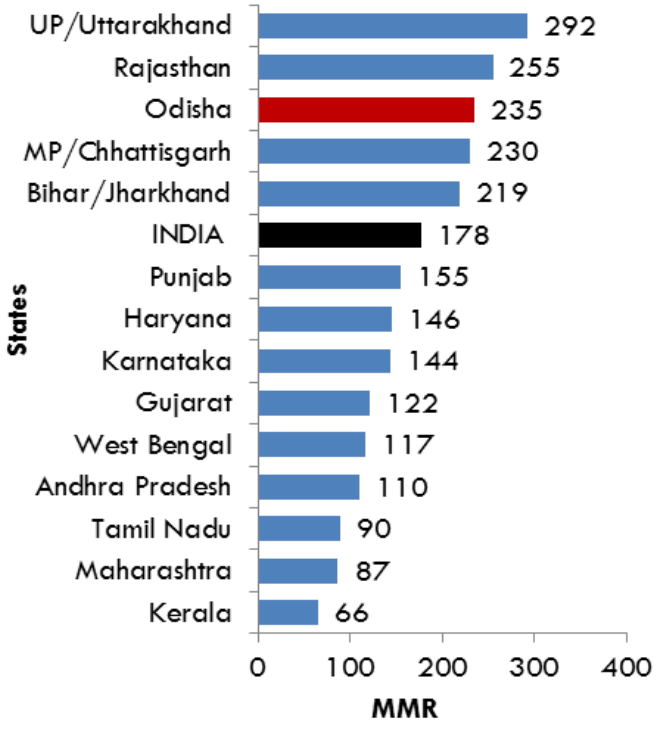
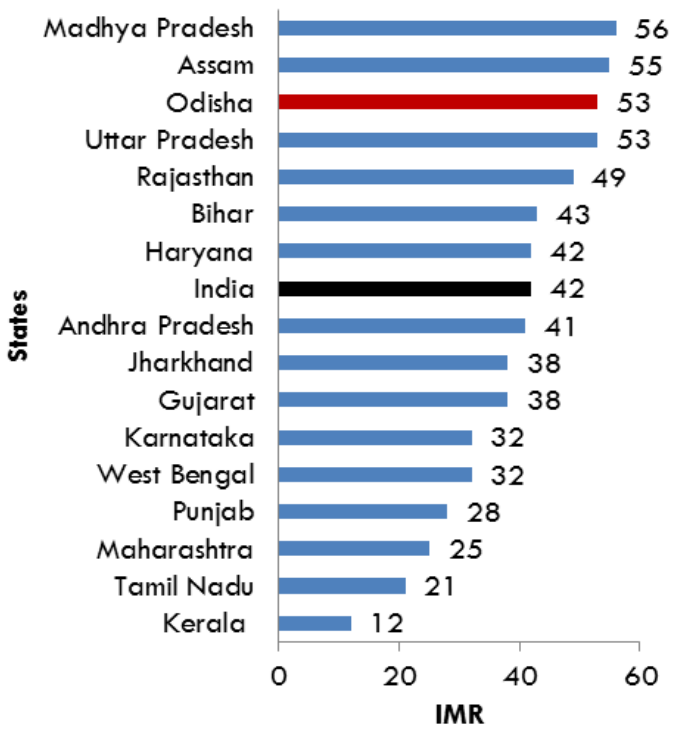


Figure 4: Infant Mortality Rate in select Indian states. (Source: SRS 2012).



treatment of diarrhoea, pneumonia and malnutrition; community activation for wellbeing of children through the Village Health and Nutrition Days; improved access to quality nutrition supplementation at the Anganwadi centres; and reduction in harmful traditional practices for treatment of childhood illnesses.

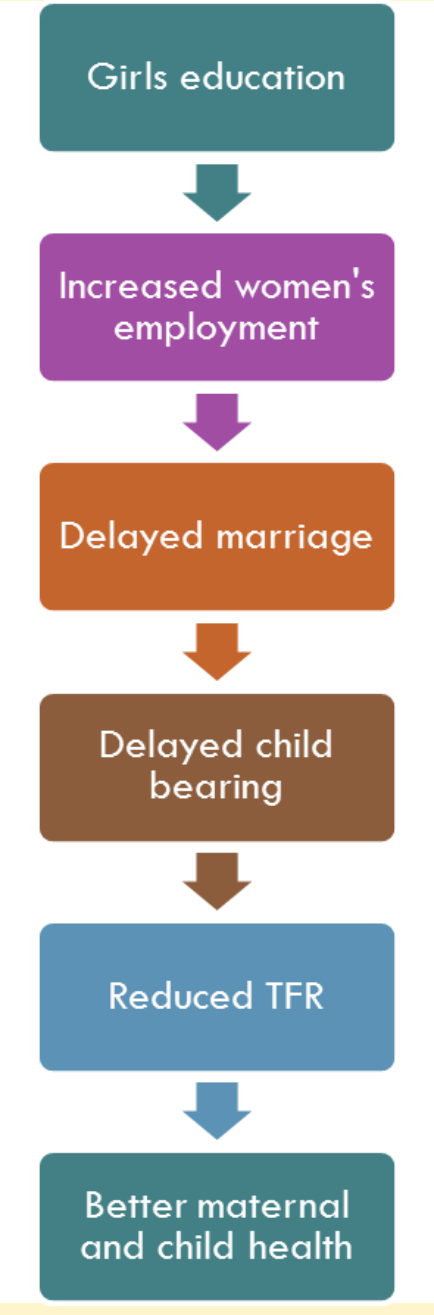
C5. Improving contraceptive use among currently married women: Contraceptive prevalence rate (CPR) is the proportion of women of reproductive age using (or whose partner is using) a contraceptive method at a given point of time. The CPR in Odisha is 46.8 per cent for any modern method (AHS, 2011–12), slightly lower than the CPR in India (as per DLHS-3, 2007–8 estimates the CPR for India is 47.1 per cent). The state health department needs to increase: access to quality contraceptive products and services through door-to-door delivery; postpartum intra-uterine contraceptive device (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, 19.1 per cent currently married women in Odisha have an unmet need for family planning. These figures are much better than 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 Odisha. In this direction following actions would be required:

- **Help couples in Odisha achieve desired family size.** About 70 per cent of currently married women and men ages 15–49 want no more children, are already sterilised, or have a spouse who is sterilised in Odisha (NFHS-3, 2005–06). Among those who want another child, 44 per cent of women and 40 per cent of men would like to wait at least two years before having another child. NFHS-3 findings point to a strong preference for sons in Odisha, as in other EAG states, with only two per cent men and women wanting more daughters than sons. The desire for more children is strongly affected by women's number of living sons. NFHS-3 findings also suggest that if all the women in Odisha were to have only the number of children they wanted, the TFR would be 1.8.
- **Reduce childbearing risks.** High-risk births are a major cause of illnesses, disability and premature death among mothers and children (Feranil and Borda, 2008). Children born to mothers under the age of 20 years are more likely to die in infancy than children born to mothers in the prime childbearing ages. The IMR is 91 per 1,000 for teenage mothers, compared to 60 for mothers ages 20–29 (NFHS-3). Children born to mothers under the age of 20 years are much more likely to die in infancy than children born to mothers in the prime childbearing ages.



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 twice 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.

◊ Infant mortality is more than 60 per cent higher for children whose mothers have no education than for children whose mothers have some education. Children from scheduled castes, scheduled tribes and other backward classes are at a greater risk of dying during the first year than children not belonging to any of these classes.

- **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 Odisha

This section presents the expected levels of achievement (ELA) for Odisha 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 Odisha 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 TFR estimates 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 50 per cent of the current unmet need for family planning (23.2%, AHS, 2010–11)." This will result in increasing the modern CPR from 40 per cent in 2010–11 to 55.6 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).

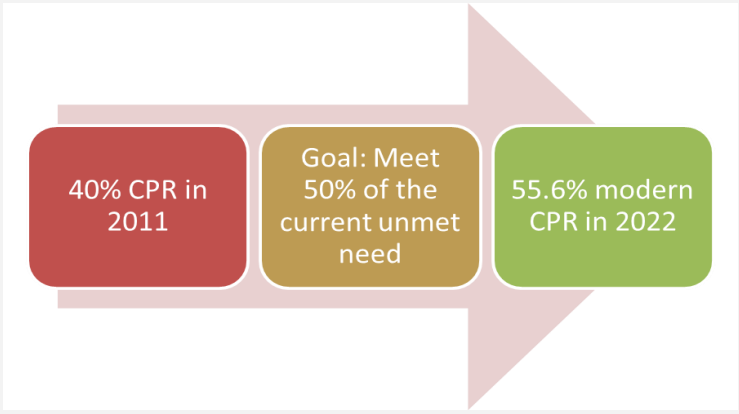
Scenario B: The method mix will remain unchanged during the projection period (2011–22).

Currently, the method mix in Odisha is 69.2 per cent (at the AHS, 2010–11 level) for limiting methods against 30.8 per cent for spacing methods.

If Odisha has to reduce 50 per cent of its current unmet need, the CPR will need to increase from the current 40 per cent (AHS, 2010–11) to 55.6 per cent in 2022 (projected figures).

For Odisha, 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 75 per cent of limiting methods and 25 per cent of spacing methods by 2022. Presently the unmet need for family planning in the state is skewed towards limiting methods, with more than 53 per cent of unmet need (12.4% of 23.2%, AHS 2010–11) for limiting methods. Scenario B proposes an unchanged method mix (69.2 per cent limiting methods and 30.8 per cent spacing methods).

D. Population projections

Table 2 presents the projected population for India and Odisha 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. Odisha will add 2.2 million by 2017, and an additional 1.3 million by 2022 (Scenario A) as per these population projections. The projections indicate that under both the scenarios, the population projection in Odisha is very close till 2017. As per Scenario A the population of Odisha would be 45.5 million in 2022, whereas the projections against Scenario B show the population at a close 45.6 million.

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

State	2011			2017			2022		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Odisha	21.2	20.8	42.0	22.3	21.9	44.2	23.0	22.5	45.5
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 Odisha and India (Millions)								
Odisha	21.2	20.8	42.0	22.3	21.8	44.1	23.1	22.5	45.6
India	623.1	587.4	1210.6	671.6	634.4	1306.1	709.1	670.2	1379.3

Photo Credits: Tanya Liberhan © Project Ujjwal.

E. Contraceptive method mix

If Odisha has to increase its modern CPR from current 40 per cent (AHS, 2010–11) to 55.6 per cent in 2022 (projected figures); reduce at least 50 per cent of its total unmet need; and meet the demand for limiting (total unmet need=23.2%; spacing=10.8% and limiting=12.4%, AHS, 2010–11), a change of current method mix is proposed.

Instead of the current method mix (69.2% limiting & 30.8% spacing—Scenario B), Odisha could adopt a method mix of 75 per cent limiting and 25 per cent spacing (Scenario A) to address the high unmet need for limiting, 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, 1.22 million women will require contraceptives for spacing and 0.2 million new acceptors will require limiting methods.

Table 3 and 4 present the projected number of acceptors of spacing and new acceptors of any 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 Odisha and India change the method mix (Odisha: Limiting= 75% and Spacing= 25%) (Numbers in millions)

State	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Odisha	1.14	1.18	1.19	1.21	1.22	1.22	1.23	1.23	1.23	1.23	1.22	1.22
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 Odisha and India continue as today (Odisha: Limiting= 69.2% and Spacing= 30.8%)

Odisha	1.14	1.17	1.21	1.25	1.29	1.32	1.36	1.4	1.43	1.46	1.5	1.53
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 Odisha and India change the method mix (Odisha: Limiting= 75% and Spacing= 25%) (Numbers in millions)

State	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Odisha	0.14	0.17	0.18	0.18	0.18	0.19	0.19	0.19	0.19	0.19	0.19	0.2
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 Odisha and India continue as today (Odisha: Limiting= 69.2% and Spacing= 30.8%)

Odisha	0.14	0.15	0.16	0.16	0.16	0.15	0.15	0.15	0.15	0.15	0.15	0.16
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. Odisha will have to ensure access to a wide range of quality contraceptive products and services.

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

State	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Odisha	8.4	8.5	8.6	8.7	8.8	8.8	8.9	8.9	8.9	9	9	9
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. In Odisha most of the infant deaths happen during the neonatal phase due to prematurity, low birth weight, respiratory infections, diarrhoea and malnutrition. They are higher in lower socioeconomic groups residing in backward tribal areas and home delivery by unskilled workers is a major cause of infant deaths. With lower contraceptive use, there are chances of higher IMR. Odisha 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 Odisha will have to plan for.

This indicates an urgent need to adopt strategies in a mission mode to address unmet need and socioeconomic issues such as increase in age of marriage and first birth, and engage multiple stakeholders in increasing access to quality family planning services, to address the high IMR and under-five mortality rate in Odisha.

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

	IMR			<5 MORTALITY		
	2012	2017	2022	2012	2017	2022
Odisha	55.7	48.5	41.7	74.3	63.2	52.9
India	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 Odisha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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 Odisha 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.
- Engaging private sector, through social marketing and social franchising public-private partnership models, e.g. DFID-funded Project Ujjwal.
- 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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For more information contact:
Policy Unit, National Institute of Health and Family Welfare, Baba Gang Nath Marg, Munirka, New Delhi–110067.
tel: 91 11 26165959/26166441/26188485 | fax: 91 11 2610 1623
web: www.nihfw.org

Health Policy Project, Futures Group, Plot No 359, 1st Floor, Udyog Vihar Phase – II, Gurgaon – 122016, Haryana, India
tel: +91 124 4702000 I fax: +91 124 4702042
web: www.futuresgroup.com