



POPULATION FOUNDATION
OF INDIA

JRD TATA MEMORIAL

A W A R D S
&
O R A T I O N

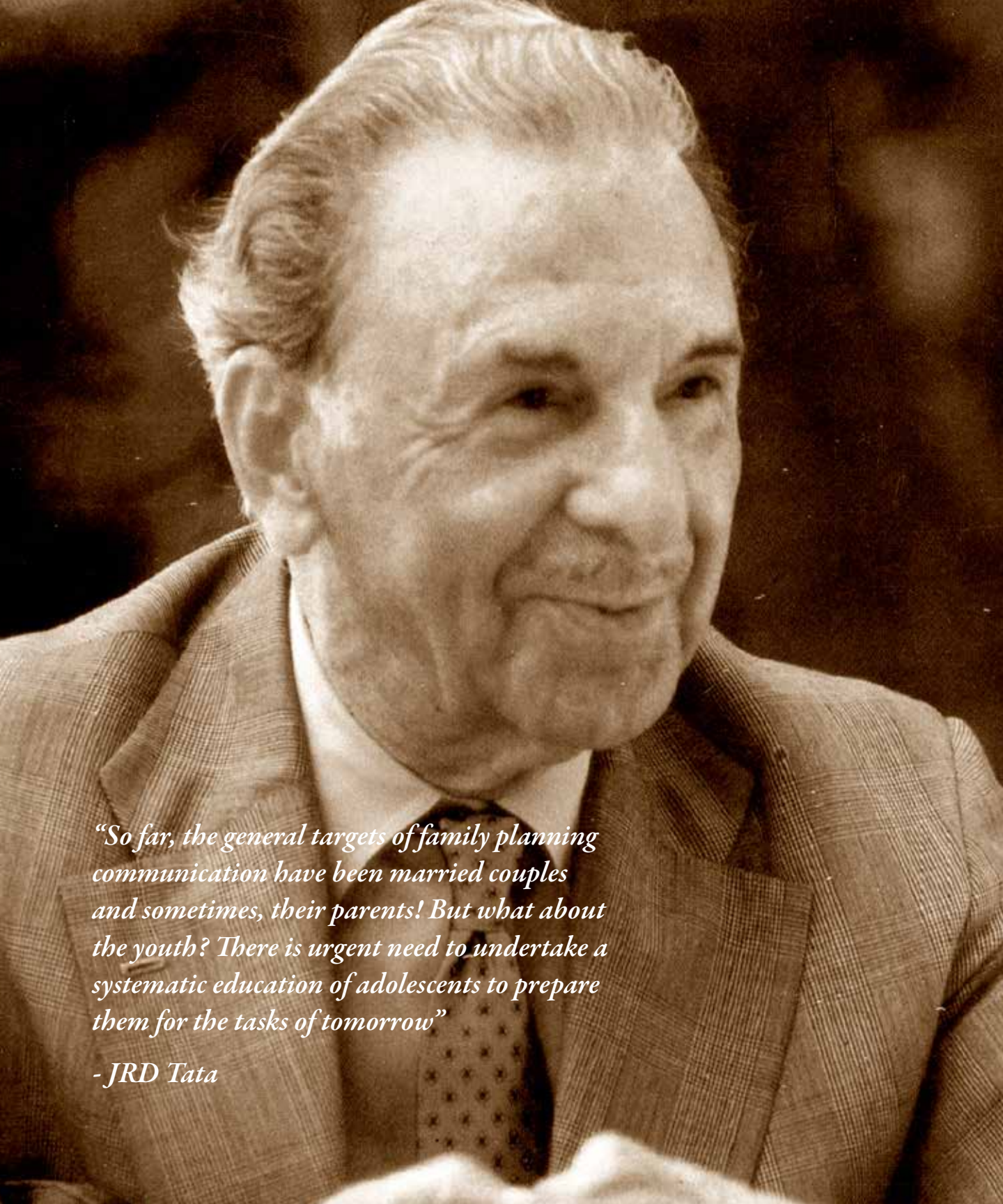
2018





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“So far, the general targets of family planning communication have been married couples and sometimes, their parents! But what about the youth? There is urgent need to undertake a systematic education of adolescents to prepare them for the tasks of tomorrow”

- JRD Tata

JRD Tata – The Man and His Vision

The late Mr JRD Tata was a stalwart among Indians of the 20th century. His influence and the stamp of his personality on the country's affairs were significant, both before and after independence. Mr Tata promoted and fostered several causes in the service of science and the nation. His holistic view of the population issue turned him into a strong humanist, deeply concerned with the problems of poverty and the environment. He was one of the first to bring to notice the issue of family planning, during a speech in 1951, where he highlighted the continuous and fast growth of India's population and its consequences on the country's economy and progress. He promoted the need for slowing India's rapidly increasing population and envisioned healthy and happy families which would take an active part in a growing economy.

Realizing the need for non-governmental action, he founded the Family Planning Foundation in 1970 and served as its Founder Chairman. Family Planning Foundation was rechristened the Population Foundation of India (PFI) in 1993 to reflect the wider dimensions of the population issue in a changing world.

Mr Tata's unique services to the cause of population were recognised by the United Nations and he was conferred with the prestigious Population Award in 1992. In the same year, for his many achievements and service to the nation, he was awarded the Bharat Ratna, India's highest civilian award.



JRD Tata lights the lamp to inaugurate the PFI office building in New Delhi
Photo: PFI

Population Foundation of India

The Population Foundation of India, formerly known as Family Planning Foundation, was established in 1970 by a dedicated group of industrialists and population activists led by Bharat Ratna the late Mr JRD Tata. He guided it as the Founder Chairman until his death in 1993, when Dr. Bharat Ram, noted industrialist and a founding member, became the Chairman of the Governing Board. After Dr. Bharat Ram's demise in 2007, Mr Hari Shankar Singhania took over as the Chairman. Currently the Governing Board is chaired by Mr. Keshav Desiraju, former Secretary, Ministry of Health and Family Welfare.

Today, PFI is a national NGO, which promotes and advocates for the effective formulation and implementation of gender sensitive population, health and development strategies, policies and programmes. It addresses population issues within the larger discourse of empowering women and men, so that they can take informed decisions related to their fertility, health and well-being. PFI works with the government, both at the national and state levels, and with NGOs, in the areas of community action for health, urban health, scaling up of successful pilots and social and behaviour change communication. Besides implementing projects, PFI has played a significant role in giving grants to Indian non-government organizations implementing and scaling up innovative projects.

PFI is guided by an eminent governing board and advisory council comprising distinguished persons from civil society, the government and the private sector.

The 14th JRD Tata Memorial Oration

In 1990, PFI instituted an annual lecture series 'Encounter with Population Crisis' and invited notable international and national guest speakers to deliver a lecture focusing on critical issues related to population and development. In 1995 (PFI's Silver Jubilee year), the series was rechristened as the 'JRD Tata Memorial Oration', in the memory of the late Mr. JRD Tata, the founder chairman of PFI.

The JRD Tata Memorial Oration is an important event for PFI. It is an occasion for PFI to pay tributes to one of its founders and to bring to the fore for discussion and advocacy key issues on population relevant to the times. The oration is followed by distinguished guests and experts raising pertinent issues, which the speaker responds to, creating a lively discussion and a diffusion of ideas.

Listed below are the topics and the speakers who delivered the Oration over the years:

1. Democratic Decentralisation and Population Stabilisation Strategies
by *Mr. Ramakrishna Hegde* (September 19, 1995)
2. Population and Development Crisis in India
by *Mr. Chandra Shekhar* (October 26, 1996)
3. Role of Empowerment of Women in Population Stabilisation.
by *Dr. Najma Heptulla* (November 29, 1997)
4. Thrust Areas for Population Stabilisation
by *Mr. I K Gujral* (January 15, 1999)
5. A 'New Woman' for India- A New India for Women
by *Dr Nafis Sadik* (December 13, 1999)
6. National Population Policy 2000 - Role of the National Commission on Population
by *Mr K C Pant* (November 3, 2000)
7. Role and Responsibilities of Panchayats in Population Health and Development
by *Mr Digvijay Singh* (December 4, 2001)
8. Population, Poverty and Sustainable Development
by *Dr Manmohan Singh* (February 3, 2003)
9. Towards Population Stabilization: Role of Good Governance
by *Mr Somnath Chatterjee* (March 30, 2005)

10. Corporate Social Responsibility and Issues of Population Stabilisation in India
by *Dr. Jamsbed J Irani* (July 22, 2008)
11. Demographic Dividend or Debt?
by *Dr. Nitin Desai* (March 26, 2010)
12. Women and Other People
by *Prof Amartya Sen* (July 31, 2012)
13. Dignity and Choice for girls and women in the post-2015 framework
by *Dr. Babatunde Osotimehin* (April 24, 2015)

The 14th JRD Tata Memorial Oration in 2018 will be delivered by *Dr Rajiv Kumar*, Vice-Chairman, NITI Aayog.

The Award

Mr JRD Tata through his life's work built a strong base for a social movement for stabilizing the growth of India's population towards the goal of securing a better quality of life for its people. PFI, as a tribute to its visionary leader, decided to institute a national award in his name that furthered the cause for which he was acknowledged as a champion across the world. In February 1996, the Governing Board formally instituted the JRD Tata Memorial Awards, a national level award for best state and best districts achieving outstanding performance in population, reproductive health, and family planning.

The selection of winners for the awards is dependent not just on current levels of performance on select key indicators but the emphasis has been on the change factor, signifying the pace of progress achieved over a period. It is well known that while there is slow progress in some states, there are states, which have made significant strides. This demonstrates that, given the leadership, will and conditions, such successes can be scaled up to other regions. The awards are a recognition of this sustained effort with the hope that this will generate the much-needed impetus and confidence among others to achieve the same standards. The criteria adopted for the selection covers various aspects of human development and reproductive health.

The Award Presenters

The awards have found staunch support from the government and civil society as is evident in the list of eminent persons who have presented these awards:

1997 - Prime Minister of India, *Mr. I. K. Gujral*

2001 - Union Minister of Health and Family Welfare, *Dr. C. P. Thakur*

2003 - Vice-President of India, *Mr. Bhairon Singh Shekhawat*

2009 - Vice-President of India, *Mr. M. Hamid Ansari*

2012 - *Professor Amartya Sen*

Table 1: An Overview of Award Winners 1997-2012

| Year | Best Performing State | Best Performing Districts | |
|------|-------------------------|---|--|
| | | District | Category |
| 1997 | Kerala | Palakkad, Kerala Thoothukudi, Tamil Nadu Kurukshetra, Haryana | Large population size Medium population size Small population size |
| 2000 | Tamil Nadu | Chennai, Tamil Nadu Alappuzha, Kerala Jorhat, Assam | Large population size Medium population size Small population size |
| | | <i>Dehradun, UP(now in Uttarakhand) Purbi Singhbhum, Bihar Cuttack, Odisha</i> | <i>Best performing district in not-so-good performing states</i> |
| 2003 | Himachal Pradesh | West Godavari, Andhra Pradesh Churu, Rajasthan Lahaul and Spiti, Himachal Pradesh | Large population size Medium population size Small population size |
| | | <i>Ri-Bhoi, Meghalaya Ranchi, Jharkhand Bhagalpur, Bihar</i> | <i>Best performing district in not-so-good performing states</i> |
| 2009 | Chhattisgarh Sikkim | - - | Large states Small states |
| 2012 | Mizoram (High Focus) | Varanasi, Uttar Pradesh Jajpur, Odisha Thoubal, Manipur | Large population size Medium population size Small population size |
| | Goa (Non-High Focus) | Ahmednagar, Maharashtra Firozpur, Punjab North Goa, Goa | Large population size Medium population size Small population size |

The 6th JRD Tata Memorial Awards, 2018

The Technical Advisory Committee

A Technical Advisory Committee (TAC) comprising of experts from diverse sectoral affiliations guided PFI in identifying the appropriate indicators and methodology for the selection of the states and districts for the awards.

- *Prof. P.M. Kulkarni*, Retired Professor, Centre for Study in Regional Development, Jawaharlal Nehru University, New Delhi: Chair of TAC
- *Mr Keshav Desiraju*, Former Secretary, Ministry of Health and Family Welfare, Government of India and Chairman, PFI's Governing Board
- *Dr Arvind Pandey*, Former Director, National Institute of Medical Statistics, Indian Council for Medical Research
- *Dr Shireen Jejeebhoy*, Demographer and Social Scientist, and Member of PFI's Governing Board
- *Dr Rajani R. Ved*, Executive Director, National Health Systems Resource Centre
- *Prof. Amitabh Kundu*, Retired Professor, Centre for the Study of Regional Development, School of Social Sciences, Jawaharlal Nehru University, New Delhi
- *Dr S. K. Sikdar*, Deputy Commissioner, Family Planning, Ministry of Health and Family Welfare, Government of India
- *Ms Poonam Muttreja*, Executive Director, Population Foundation of India

Categories

The states eligible for the award were categorized according to the classification under the National Health Mission (NHM) guidelines, with few modifications e.g. Assam has been included in 'High Focus Large States' and Delhi has been included in 'Non-High Focus Large States'. Further, districts were chosen based on wealth index in each state category.

Table 2: Classification of States and Union Territories

| State Category | State Name | District Category |
|--|---|--|
| High Focus Large States (11 states) | Assam; Bihar; Chhattisgarh; Himachal Pradesh; Jammu & Kashmir; Jharkhand, Madhya Pradesh; Odisha; Rajasthan; Uttar Pradesh; Uttarakhand | Wealth index ¹ <ul style="list-style-type: none"> • Low wealth level (113 districts) • Moderate wealth level (117 districts) • High wealth level (108 districts) |
| Non-High Focus Large States (12 states) | Andhra Pradesh; Delhi; Goa; Gujarat; Haryana; Karnataka; Kerala; Maharashtra; Punjab; Tamil Nadu; Telangana; West Bengal | Wealth index <ul style="list-style-type: none"> • Low wealth level (72 districts) • Moderate wealth level (74 districts) • High wealth level (85 districts) |
| High Focus North East States (7 states) | Arunachal Pradesh; Manipur; Meghalaya; Mizoram; Nagaland; Sikkim; Tripura | Wealth index <ul style="list-style-type: none"> • Low wealth level (21 districts) • Moderate wealth level (16 districts) • High wealth level (22 districts) |
| Union Territories (UTs) (6 UTs) | Andaman & Nicobar Islands; Chandigarh; Dadra & Nagar Haveli; Daman & Diu; Lakshadweep; Puducherry | |
| TOTAL TO BE SELECTED FOR THE AWARD – 3 STATES, 1 UT AND 9 DISTRICTS | | |

Indicators

The indicators selected have a bearing on water, sanitation and hygiene, women’s education and empowerment, gender-based violence, marriage and fertility, family planning, maternal health, child health and nutrition, anaemia, sex ratio, neonatal, infant and child mortality rates. This range is clearly indicative of PFI’s commitment to looking at family planning and population concerns holistically. The complete list of indicators is provided in the table below and a detailed description of indicators is given in Annexure 2.

¹Three classes were formed on the basis of percentage of households in the district in the lower two quintiles of wealth index. In the absence of data on income or consumption, percentage of households in a district in the lowest two quintiles of the wealth index was used as an indicator of the level of poverty and districts classified as those with High wealth level, Moderate wealth level, and Low wealth level.

Table 3: List of indicators at State/Union Territory and District level

| Broad Category | State and UT level | District Level |
|--|--|---|
| Water, Sanitation and Hygiene (WASH) | 1. Improved drinking water source 2. Improved sanitation facility 3. Menstrual protection*# | 1. Improved drinking water source 2. Improved sanitation facility |
| Women's Education | 4. Women with 10 or more years of schooling*# | 3. Women with 10 or more years of schooling*# |
| Marriage and Fertility | 5. Child marriage 6. Teenage childbearing*# 7. Birth order 3 and above | 4. Child marriage 5. Teenage childbearing*# |
| Family Planning | 8. Method mix (proportion of spacing methods) 9. Total unmet need for family planning 10. Modern contraceptive prevalence rate (mCPR)* | 6. Method mix (proportion of spacing methods) 7. Total unmet need for family planning 8. Modern contraceptive prevalence rate (mCPR)* |
| Maternal Health | 11. Full antenatal care (ANC) 12. Postnatal care within 42 days of delivery* 13. Out-of-pocket expenditure (OOPE) on delivery in public hospitals*# 14. Safe delivery 15. Institutional births in public facilities*# | 9. Full antenatal care (ANC) 10. Postnatal Care within 42 days of delivery 11. Out-of-pocket expenditure (OOPE) on delivery in public hospitals*# 12. Safe delivery 13. Institutional births in public facilities*# |
| Child Health and Nutrition | 16. Full immunization 17. Gender parity in full immunization *# 18. Children under 5 years who are stunted*# 19. Gender disparity in children under 5 years who are stunted*# 20. Percentage of children under age 6 months exclusively breastfed*# | 14. Children under 5 years who are stunted*# |
| Anaemia | 21. Anaemia among women*# | 15. Anaemia among women *# |
| Sex Ratio | 22. Sex ratio at birth*# | |
| Neonatal, Infant and Child Mortality Rates | 23. Infant Mortality Rate (IMR)* 24. Gender disparity in Infant Mortality Rate (IMR)* 25. Under-Five Mortality Rate (U5MR)* 26. Gender disparity in Under-Five Mortality Rate (U5MR)* 27. Neonatal Mortality Rate (NNMR)*# 28. Gender disparity in Neonatal Mortality Rate (NNMR)*# | |
| Women's Empowerment | 29. Women's employment* 30. Women's access to mobile for their own use*# 31. Women's freedom of movement*# 32. Women's participation in decision making*# | |
| Gender-based Violence | 33. Men's attitudes towards wife-beating*# 34. Spousal violence*# 35. Help seeking in case of experiencing physical and sexual violence*# | |

Note: * New indicators compared to the 5th JRD Tata Memorial Award
Never used for any of the JRD Tata Memorial Award series

Data Sources

At state level, NFHS-3 (2005-06) estimates were used as base and NFHS-4 (2015-16) estimates as final. At UT and district level, as estimates are not available for the base year (2005-06) and DLHS-3 is not comparable with NFHS-4, it was decided to assess only the recent performance for them, based on NFHS-4 (2015-16).

State Level Winners

Three winners were selected, one each from 'High Focus Large States', 'Non-High Focus Large States', 'High Focus North-East States'. The methodology used for selecting winners and arriving at a composite score is detailed in *Annexure 1*.

Table 4: Composite Scores of States

| State | Composite Score | Rank |
|--|-----------------|------|
| High Focus Large State | | |
| Chhattisgarh | 111.8 | 1 |
| Rajasthan | 110.63 | 2 |
| Jammu & Kashmir | 106.15 | 3 |
| Himachal Pradesh | 103.13 | 4 |
| Odisha | 98.74 | 5 |
| Uttarakhand | 96.41 | 6 |
| Bihar | 96.37 | 7 |
| Assam | 94.09 | 8 |
| Uttar Pradesh | 90.58 | 9 |
| Madhya Pradesh | 89.63 | 10 |
| Jharkhand | 87.74 | 11 |
| Non - High Focus Large State | | |
| Punjab | 119.66 | 1 |
| Goa | 107.60 | 2 |
| West Bengal | 100.73 | 3 |
| Maharashtra | 100.44 | 4 |
| Haryana | 98.85 | 5 |
| Kerala | 94.68 | 6 |
| Karnataka | 91.71 | 7 |
| Tamil Nadu | 90.74 | 8 |
| Gujarat | 86.67 | 9 |
| Andhra Pradesh | 85.91 | 10 |
| Telangana | 84.40 | 11 |
| Delhi | 70.40 | 12 |
| United Andhra (Andhra Pradesh + Telangana) | 85.45 | 13 |

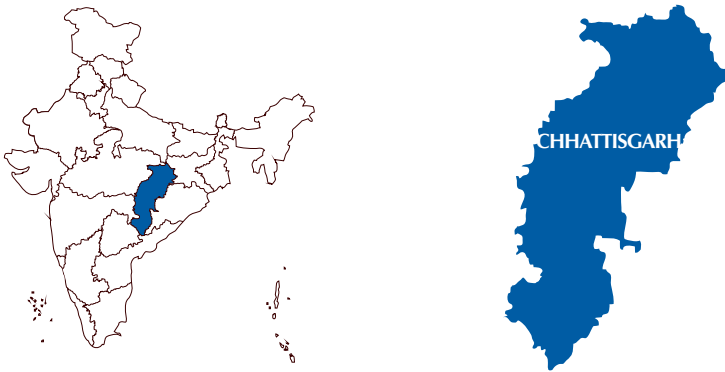
Note: Assam is included in 'High-Focus Large States' and Delhi is included in 'Non-High Focus Large States'

Table 4: Composite Scores of States (contd.)

| State | Composite Score | Rank |
|------------------------------------|-----------------|------|
| High Focus North-East State | | |
| Sikkim | 115.69 | 1 |
| Meghalaya | 108.93 | 2 |
| Tripura | 106.82 | 3 |
| Mizoram | 99.58 | 4 |
| Nagaland | 94.56 | 5 |
| Arunachal Pradesh | 84.27 | 6 |
| Manipur | 80.52 | 7 |

A snapshot of the three award winning states for the 6th JRD Tata Memorial Award is presented below:

Figure 1: Snapshot of Chhattisgarh, Winner: High Focus Large States








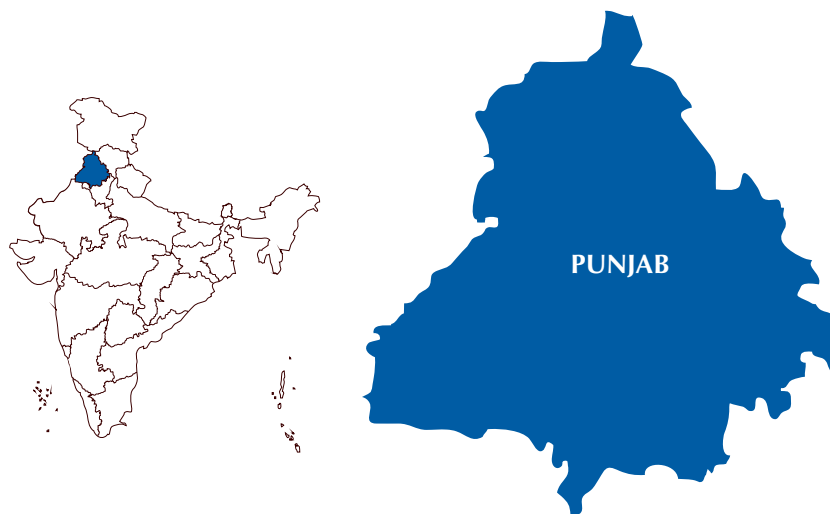
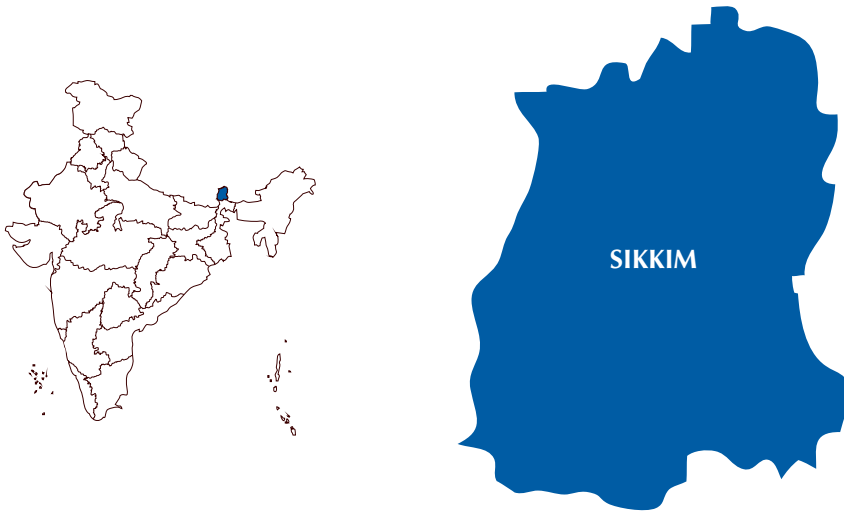
| CHHATTISGARH | | | | |
|---|---|---|---|---|
| Best Performing State Category - High Focus Large States | | Composite Score - 111.8 | | |
|  |  |  |  |  |
| Total Population | Decadal Population Growth Rate | Total Fertility Rate | Sex Ratio | Child Sex Ratio |
| 25,545,198 | Increased from 18.27 (2001) to 22.61 (2011) | Declined from 2.6 (2005-06) to 2.2(2015-16) | Increased from 989 (Census 2001) to 991(Census 2011) | Decreased from 975 (2001) to 969 (2011) |

Figure 2: Snapshot of Punjab, Winner: Non-High Focus Large States



| PUNJAB | | | | |
|---|--|--|---|---|
| Best Performing State Category - Non-High Focus Large States | | Composite Score - 119.66 | | |
| | | | | |
| Total Population | Decadal Population Growth Rate | Total Fertility Rate | Sex Ratio | Child Sex Ratio |
| 27,743,338 | Declined from 20.10 (2001) to 13.89 (2011) | Declined from 2 (2005-06) to 1.6 (2015-16) | Increased from 876 (Census 2001) to 895 (Census 2011) | Increased from 798 (2001) to 846 (2011) |

Figure 3: Snapshot of Sikkim, Winner: High Focus North-East States



| SIKKIM | | | | |
|--|--|--|---|---|
| Best Performing State Category - High Focus North-East States | | Composite Score - 115.69 | | |
| | | | | |
| Total Population | Decadal Population Growth Rate | Total Fertility Rate | Sex Ratio | Child Sex Ratio |
| 6,10,577 | Declined from 33.06 (2001) to 12.89 (2011) | Declined from 2 (2005-06) to 1.2 (2015-16) | Increased from 875 (Census 2001) to 890 (Census 2011) | Decreased from 963 (2001) to 957 (2011) |

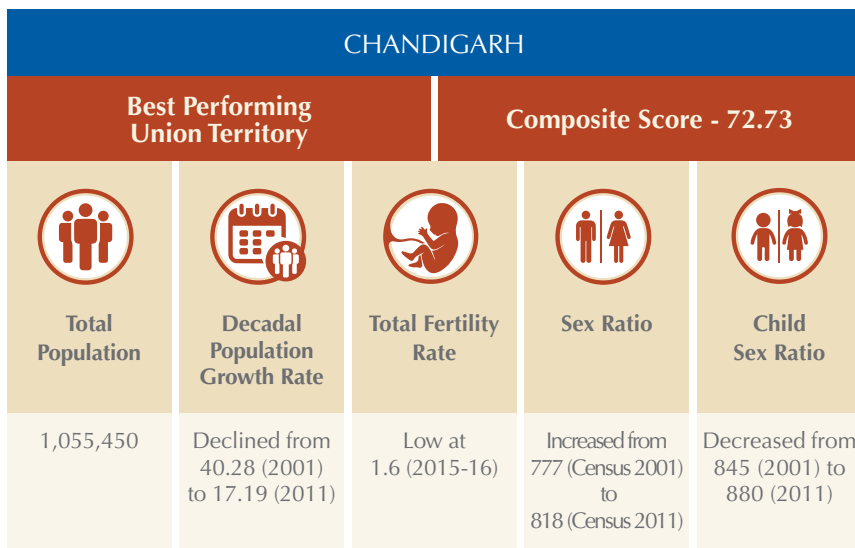
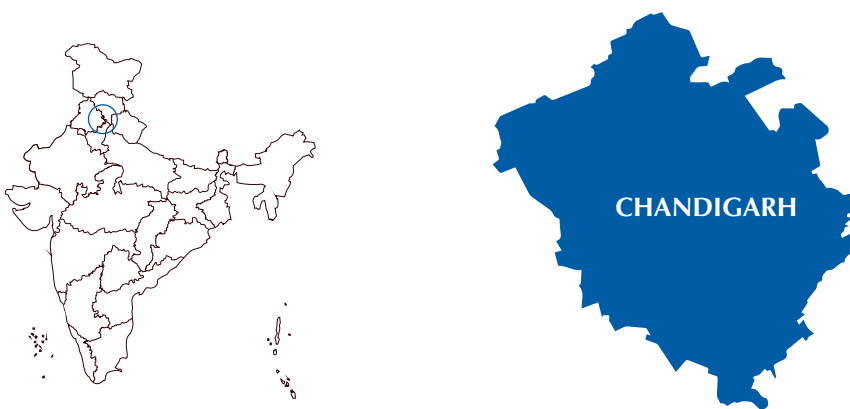
Union Territory Level Winner

One winner was selected under this category.

Table 5: Composite Scores of Union Territories

| State | Composite Score | Rank |
|---------------------------|-----------------|------|
| Chandigarh | 72.73 | 1 |
| Lakshadweep | 70.46 | 2 |
| Puducherry | 68.11 | 3 |
| Daman & Diu | 64.72 | 4 |
| Andaman & Nicobar Islands | 63.59 | 5 |
| Dadra & Nagar Haveli | 62.38 | 6 |

Figure 4: Snapshot of Chandigarh, Winner: Union Territories



District Level Winners

Originally, nine awards were planned for the district level – three each from ‘High Focus Large States’, ‘Non-High Focus Large States’ and ‘High Focus North-East States’ category. Each category was further divided into three more categories based on wealth index i.e. high wealth level, moderate wealth level and low wealth level. However, in the Low Wealth Level category under Non-High Focus Large States the award is being given to two districts as there was no difference in composite index for both the districts. Information on the 10 best performing districts under the different categories is provided below:

HIGH FOCUS LARGE STATES

Hamirpur, Himachal Pradesh (High Wealth Level): The district has a composite score of 71.9. The district’s population is 454,768. The overall sex ratio and child sex ratio are 1095 and 887 respectively. The male literacy rate is 94.4% and female literacy is 82.6% (Census 2011). As per NFHS-4, only 3% of women aged 20-24 years were married before attaining the legal age of marriage (18 years) and teenage childbearing² is 1.6%.

Jagatsinghpur, Odisha (Moderate Wealth Level): The district has a composite score of 66.3. The total population is 1,136,971, and the overall sex ratio and child sex ratio of this district is 968 and 929 respectively. The male and female literacy rate is 92.4% and 80.6% respectively (Census 2011). According to NFHS-4, 9.7% of women aged 20-24 years were married before attaining the legal age of marriage and teenage childbearing is 1.2%.

Baksa, Assam (Low Wealth Level): The district has a composite score of 59.5. The district’s population is 950,075. The overall sex ratio is 974 and child sex ratio is 966. The male and female literacy rate is 77.0% and 61.3% respectively (Census 2011). As per NFHS-4, about 27.4% of women aged 20-24 years were married before 18 years, which is the legal age of marriage and teenage childbearing is 11.1%.

²Women aged 15-19 years who were already mothers or pregnant at the time of the survey

NON-HIGH FOCUS LARGE STATES

Ernakulam, Kerala (High Wealth Level): It has a composite score of 79.5. The total population of the district is 3,282,388, sex ratio is 1027 and child sex ratio is 961. The district has high male and female literacy rate at 97.4% and 94.5% respectively (Census 2011). As per NFHS-4, the occurrence of teenage childbearing was 2.4 % and it is the only district which reports zero incidence of child age marriage.

The Nilgiris, Tamil Nadu (Moderate Wealth Level): The district has a composite score of 68.2. The district's population is 735,394, sex ratio is 1042 and child sex ratio is 985. Male and female literacy rate in the district are 91.7% and 79.0% respectively (Census 2011). As per NFHS-4, about 18.7% of women aged 20-24 years were married before 18 years, and teenage childbearing was 1.7%.

Nagapattinam, Tamil Nadu (Low Wealth Level): The district has a composite score of 64.0. Its total population is 1,616,450, sex ratio is 1025 and child sex ratio is 959. Male and female literacy rates in the district are 89.8% and 77.6% respectively (Census 2011). As per NFHS-4, about 7.1% of women aged 20-24 years were married before 18 years and teenage childbearing is 5.4%.

Akola, Maharashtra (Low Wealth Level): The district got the same composite score as Nagapattinam (64.0), therefore a joint award is given to both districts. Its total population is 1,813,906, sex ratio is 946 and child sex ratio is 912. Male and female literacy rates in the district are 92.3% and 83.5% respectively (Census 2011). As per NFHS-4, Akola has almost double the occurrence of child marriage and higher teenage childbearing rate than Nagapattinam which are 13.2% and 6.5% respectively. But Akola has better access to improved drinking water source (97.4 %) and mCPR (65.65%) than Nagapattinam, which are 91.4% and 56.39% respectively.

HIGH FOCUS NORTH-EAST STATES

Aizawl, Mizoram (High Wealth Level): The district has a composite score of 73.69. The total population of the district is 400,309. Its sex ratio is 1009 and child sex ratio is 979. Male and female literacy rate in the district are 98.1 and 97.7 respectively (Census 2011). As per NFHS-4, about 5.7% of women aged 20-24 years were married before 18 years and teenage childbearing was 6.9%.

Upper Siang, Arunachal Pradesh (Moderate Wealth Level): The district has a composite score of 66.14. Its total population is 35,320, sex ratio is 889, child sex ratio is 946, male literacy rate is 66.5 and female literacy rate is 52.6 (Census 2011). According to NFHS-4, about 18.8% of women aged 20-24 years were married before 18 years and teenage childbearing was 2.3%.

Phek, Nagaland (Low Wealth Level): The district has a composite score of 62.45. Its population is 163,418, sex ratio 951 and child sex ratio 913. Male and female literacy rates in the district are 83.7 and 72.2 respectively (Census 2011). According to NFHS-4, about 9% of women aged 20-24 years were married before 18 years and teenage childbearing was 5.5%.

Annexure 1: Methodology Followed for Selection of Winners

Method followed at State level:

1. At the state level, year 2005-06 was considered as the base year (Source: NFHS-3) and 2015-16 as the final year (Source: NFHS-4) based on data availability.
2. For each selected indicator, the index was computed based on the nature of the indicator for both the base and the final years:

CALCULATION FOR POSITIVE INDICATOR

where the higher the value, the better the performance:

$$\text{Index} = \frac{\text{State Value} - \text{Minimum Value}}{\text{Maximum Value} - \text{Minimum Value}} \times 100$$

CALCULATION FOR NEGATIVE INDICATOR

where the lower the value, the better the performance:

$$\text{Index} = \frac{\text{Maximum Value} - \text{State Value}}{\text{Maximum Value} - \text{Minimum Value}} \times 100$$

3. Further, a score was obtained for each broad category as the simple average of all the selected indicators within the broad category for both the base and the final years.
4. A composite index was obtained for the final year (2015-16) as the simple average of the scores for the broad categories.
5. Change from the base year to the final year was computed in the score for each broad category and a simple average of the change was computed as the composite index of progress. If data was not available for any indicator for the base year, that indicator was not considered for calculating the change between the base and final year.
6. For ranking the states in each category, a final composite index was obtained by combining the composite index at the final year recent levels (2015-16) and the composite index of progress during the past ten years (2005-06 to 2015-16) in the ratio of 1:4.

Method followed at UT and District level:

1. At the UT and district level, due to a lack of data availability only the recent performance was assessed from NFHS-4 data (2015-16).
2. For each selected indicator, the index was computed based on the nature of the indicator, positive or negative, as shown above for the indicators at the state level.
3. Further, a score was obtained for each broad category as the simple average of all the selected indicators within the broad category.
4. A composite index was computed for the final year (2015-16) as the simple average of the scores for the broad categories for ranking of UTs and districts.
5. UTs were ranked according to composite index.
6. The ranking of districts was computed within each state category (High Focus Large State, Non-High Focus State and High Focus North-East State), within three classes of wealth index.

Minimum and maximum values for indicators:

1. Most of the indicators are in the form of percentages, thus, the scaling for maximum and minimum values were taken as 100 and 0 respectively. For the indicators in proportions (e.g. proportion of spacing methods and gender disparities) 0 to 1 scale was used.
2. To have common scaling system, the uniform minimum and maximum values were used for all States/UTs/District categories in selected NFHS-4 and NFHS-3 indicators.
3. Indicators for which maximum and minimum value was not predefined, such as sex ratio at birth, infant mortality rate, under-five mortality rate, neo-natal mortality rate, and out-of-pocket expenditure on delivery, these have been fixed by analysing the minimum and maximum values across two rounds as shown below.

Table 6: Minimum and maximum values for indicators

| Indicators | Actual* | | Used in Calculation | |
|---|---------|------------|----------------------|----------------------|
| | Minimum | Maximum | Minimum ³ | Maximum ⁴ |
| Sex Ratio at Birth (SRB) | 742 | 1045 | 740 | 975 ⁵ |
| Infant Mortality Rate (IMR) | 6.0 | 83 | 0 | 100 ⁶ |
| Under-Five Mortality Rate (U5MR) | 7.0 | 112.4 | 0 | 150 ⁷ |
| Neo-natal Mortality Rate (NNMR) | 4.4 | 57.5 | 0 | 80 ⁸ |
| Out-of-Pocket Expenditure (OOPE) on delivery (to be transformed using natural logarithm) | INR 295 | INR 31,457 | | |
| ln (OOP expenditure) | 5.69 | 10.36 | 5 | 11 ⁹ |

Note: *Based on States/UTs NFHS-3 and NFHS-4 and Districts for OOP Expenditure

Further, for assessing gender equity, the ratios of rates for males to females (or vice-versa) were used. For these the range would be 0 to 1.

Table 7: Minimum and maximum values for equity indicators

| Indicators ¹⁰ | Index of gender equity | Minimum | Maximum ¹¹ |
|--|--|---------|-----------------------|
| Infant Mortality Rate (IMR) | Male IMR / Female IMR | 0 | 1 |
| Under-Five Mortality Rate (U5MR) | Male U5MR / Female U5M) | 0 | 1 |
| Neo-natal Mortality Rate (NNMR) | Male NNMR / Female NNMR | 0 | 1 |
| % children stunted | % Male children stunted / % Female children stunted | 0 | 1 |
| % of living children aged 12-23 months fully immunized | % Female children fully immunized / % Male children fully immunized | 0 | 1 |

³Any value above 100 was truncated to 100 and any value below 0 was truncated to 0

⁴Ibid

⁵Natural Sex Ratio at Birth is less than 975 in almost all populations. This is equivalent to SRB of 102.6 males per 100 females. A lower rounded value (740) was taken, since the range is based on states and districts can show greater variation

⁶The actual range is based on states. Higher rounded upper values were taken since for some smaller populations (say districts) the rates can be higher

⁷Ibid

⁸Ibid

⁹This is equivalent to Rs. 59874. A higher than actual value is proposed as amounts can rise in the future. Besides, since logarithm is taken, further increases do not show proportional rise in the index

¹⁰Note that the first four indexes use male to female ratios since these are negative indicators; a lower value for females implies a higher index value and gender equity. The last index has female to male ratio since this is a positive indicator; a higher value for females implies higher index and gender equity

¹¹Any value above 1 was truncated to 1



JRD Tata at a seminar on the findings of the International Development Research Centre (IDRC) project 'Infant Mortality in Relation to Fertility'
Photo: PFI

Annexure 2: Descriptions of Indicators

Table 8: Detailed description of indicators

| Broad Category | Indicator | Description | Type of indicator | Measurement | Values | Source(s) |
|--------------------------------------|---|--|-------------------|--|------------------------|-----------------|
| Water, Sanitation and Hygiene (WASH) | Households (HHs) with an improved drinking water source | Percentage of households having access to improved sources of drinking water (water facility from piped, public tap, stand pipes, tube wells, boreholes, protected dug wells and springs, rainwater, and community reverse osmosis (RO) plants) | Positive | (Households with improved sources of drinking water / Total number of households) x100 | Max. = 100 Min. = 0 | NFHS-4 & NFHS-3 |
| | HHs using improved sanitation facility | Percentage of households using improved sanitation facilities (include any non-shared toilet of the following types: flush/pour flush toilets to piped sewer systems, septic tanks, and pit latrines; ventilated improved pit (VIP)/biogas latrines; pit latrines with slabs; and twin pit/composting toilets) | Positive | (Households using improved sanitation facilities / Total number of households) x100 | Max. = 100 Min. = 0 | NFHS-4 & NFHS-3 |
| | Menstrual protection | Percentage of women aged 15-24 years who use locally prepared napkins, sanitary napkins, or tampons during their menstruation or period | Positive | (Women aged 15-24 years using locally prepared napkins, sanitary napkins, or tampons during their menstruation or period/ Total number of women aged 15-24 years) x100 | Max. = 100 Min. = 0 | NFHS-4 |
| Women's Education | Women with 10 or more years of schooling | Percentage of women aged 15-29 years who have completed 10 or more years of schooling | Positive | (Women aged 15-29 years who have completed 10 or more years of schooling / Total number of women aged 15-29 years) x100 | Max. = 100 Min. = 0 | NFHS-4 & NFHS-3 |
| Marriage and Fertility | Child marriage | Percentage of women aged 20-24 years, who were married before the age of 18 | Negative | (Women aged 20-24 years married before the age of 18 / Total women aged 20-24 years) x100 | Max. = 100 Min. = 0 | NFHS-4 & NFHS-3 |

Table 8: Detailed description of indicators (contd.)

| Broad Category | Indicator | Description | Type of indicator | Measurement | Values | Source(s) |
|---------------------------------|---|--|-------------------|---|------------------------|-----------------|
| Marriage and Fertility (contd.) | Teenage childbearing | Percentage of women aged 15-19 years who were already mothers or pregnant at the time of the survey | Negative | (Women aged 15-19 years who were already mothers or pregnant at the time of survey / Total number of women aged 15-19 years) x100 | Max. = 100 Min. = 0 | NFHS-4 & NFHS-3 |
| | Birth order 3 and above | Percentage of all births of women in the age group of 15-49 years, in preceding three years of the survey by birth order 3 and above | Negative | (Number of births to women aged 15-49 years during the last three years by birth order 3 and above / Total births taken place of women aged 15-49 during the last three years)x100 | Max. = 100 Min. = 0 | NFHS-4 & NFHS-3 |
| Family Planning | Method mix (proportion of spacing methods) | The proportion of current users of non-terminal (spacing) modern family planning methods out of the total modern family planning methods | Positive | Number of women currently using non-terminal modern family planning methods / Number of women currently using any modern family planning methods. | Max. = 1 Min. = 0 | NFHS-4 & NFHS-3 |
| | Total unmet need for family planning | Percentage of currently married women having an unmet need (both for spacing and limiting methods) for contraception | Negative | (Number of currently married women in the age group of 15-49 years having an unmet need (both spacing and limiting) for contraception / Total number of currently married women in the age group of 15-49 years) x100 | Max. = 100 Min. = 0 | NFHS-4 & NFHS-3 |
| | Modern contraceptive prevalence rate (mCPR) | Percentage of currently married women age 15-49 using any modern methods of contraception | Positive | (Number of currently married women in the age group of 15-49 using any modern methods of contraception / Total number of currently married women in the age group of 15-49 years) x100 | Max. = 100 Min. = 0 | NFHS-4 & NFHS-3 |

Table 8: Detailed description of indicators (contd.)

| Broad Category | Indicator | Description | Type of indicator | Measurement | Values | Source(s) |
|-----------------|--|--|-------------------|--|--|-----------------|
| Maternal Health | Full antenatal care (ANC) | Percentage of women aged 15-49 years who had a live birth in the five years before the survey and had at least four antenatal check-ups and one TT injection along with an intake of iron folic acid tablets or syrup for 100 or more days during their pregnancy for the last birth | Positive | (Number of women aged 15-49 years who had a live birth in the five years before the survey, and had at least four antenatal check-ups and one TT injection along with an intake of iron folic acid tablets or syrup for 100 or more days during their pregnancy for the last birth / Total number of women aged 15-49 years who had a live birth in the five years before the survey) x100 | Max. = 100 Min. = 0 | NFHS-4 & NFHS-3 |
| | Postnatal care within 42 days of delivery | Percentage of women aged 15-49 years who gave birth in the five years before the survey, and who had received any check up by a skilled health professional within 42 days of delivery | Positive | (Number of women aged 15-49 years giving birth in the five years before the survey, who had received any check up by a skilled health professional within 42 days of delivery / Total number of women aged 15-49 years giving birth in the five years before the survey) x100 | Max. = 100 Min. = 0 | NFHS-4 & NFHS-3 |
| | Out-of-pocket expenditure (OOPE) on delivery in public hospitals | Average out-of-pocket cost paid for the delivery of the most recent live birth among women aged 15-49 years who had a live birth in a public health facility in the five years preceding the survey (to be transformed using natural logarithm) | Negative | Total out-of-pocket cost paid for the delivery of the most recent live birth among women aged 15-49 years who had a live birth in a public health facility in the five years preceding the survey / Total number of women aged 15-49 years who had a live birth in a public health facility in the five years preceding the survey | Max. = 11 Min. = 5 (values are in natural logarithm) | NFHS-4 |

Table 8: Detailed description of indicators (contd.)

| Broad Category | Indicator | Description | Type of indicator | Measurement | Values | Source(s) |
|------------------------------------|---|---|-------------------|---|------------------------|-----------------|
| Maternal Health <i>(contd.)</i> | Safe delivery | Percentage of live births in the five years before the survey, assisted by doctors, auxiliary nurse midwives, nurses, midwives or lady health visitors | Positive | (Number of live births in the five years before the survey, assisted by doctors, auxiliary nurse midwives, nurses, midwives or lady health visitors / Total number of live births in the five years before the survey) x100 | Max. = 100 Min. = 0 | NFHS-4 & NFHS-3 |
| | Institutional births in public facilities | Percentage of live births in the five years before the survey, delivered in public health facilities | Positive | (Number of live births in the five years before the survey, delivered in public health facilities / Total number of live births in the five years before the survey) x100 | Max. = 100 Min. = 0 | NFHS-4 & NFHS-3 |
| Child Health and Nutrition | Full immunization | Percentage of living children aged 12-23 months fully immunized (BCG, measles, and 3 doses each of polio and DPT) at any time before the survey | Positive | (Number of living children aged 12-23 months fully immunized at any time before the survey / Total number of living children aged 12-23 months at the time of survey) x100 | Max. = 100 Min. = 0 | NFHS-4 & NFHS-3 |
| | Gender parity in full immunization | Ratio of female living children aged 12-23 months fully immunized (BCG, measles, and 3 doses each of polio and DPT) at any time before the survey vis-à-vis male living children | Positive | Female living children aged 12-23 months fully immunized at any time before the survey / Male living children aged 12-23 months fully immunized at any time before the survey | Max. = 1 Min. = 0 | NFHS-4 & NFHS-3 |
| | Children under 5 years who are stunted | Percentage of children under age five years classified as stunted whose height-for-age Z-score is below minus two standard deviations (-2 SD) from the median of the reference population | Negative | (Number of children under age five years stunted / Total number of children under age five years) x100 | Max. = 100 Min. = 0 | NFHS-4 & NFHS-3 |

Table 8: Detailed description of indicators (contd.)

| Broad Category | Indicator | Description | Type of indicator | Measurement | Values | Source(s) |
|--|--|---|-------------------|---|--------------------------|-----------------|
| Child Health and Nutrition (contd.) | Gender disparity in children under 5 years who are stunted | Ratio of male children under age five years stunted (height for age Z-score is below -2 SD) vis-à-vis female children age five years stunted | Positive | Male children under age five years stunted (height for age Z-score is below -2 SD) / Female children under age five years stunted (height for age Z-score is below -2 SD) | Max. = 1 Min. = 0 | NFHS-4 & NFHS-3 |
| | Children under age 6 months exclusively breastfed | Percentage of children under age 6 months exclusive breastfed | Positive | (Number of children under two years who were exclusively breastfed for first six months of age / Total number of children under two years) x100 | Max. = 100 Min. = 0 | NFHS-4 & NFHS-3 |
| Anaemia | Anaemia among women | Percentage of women aged 15-49 years (including currently pregnant and non-pregnant) who are anaemic (Haemoglobin level below which women are considered anaemic: <ul style="list-style-type: none"> • for pregnant women: less than 12 grams/decilitre • for non-pregnant women: less than 11 grams/decilitre) | Negative | (Number of women aged 15-49 years, including currently pregnant and non-pregnant, who are anaemic / Total number of women aged 15-49 years) x100 | Max. = 100 Min. = 0 | NFHS-4 & NFHS-3 |
| Sex Ratio | Sex ratio at birth | Sex ratio at birth for children born in the last five years at the time of the survey (females per 1,000 males) | Positive | (Females born in the last five years at the time of the survey / Males born in the last five years at the time of the survey) x1000 | Max. = 975 Min. = 740 | NFHS-4 & NFHS-3 |
| Neonatal, Infant and Child Mortality Rates | Infant Mortality Rate (IMR) | Infant mortality (dying between birth and first birthday) per 1000 live births in the five-year period before the survey | Negative | (Infant deaths in the last five years at the time of survey / Total number of live births in the last five years at the time of survey) x1000 | Max. = 100 Min. = 0 | NFHS-4 & NFHS-3 |

Table 8: Detailed description of indicators (contd.)

| Broad Category | Indicator | Description | Type of indicator | Measurement | Values | Source(s) |
|---|--|---|-------------------|---|------------------------|-----------------|
| Neonatal, Infant and Child Mortality Rates (contd.) | Gender disparity in Infant Mortality Rate (IMR) | Ratio of male infant mortality (dying between birth and first birthday) per 1000 female live births in the five-year period before the survey vis-à-vis female infant mortality per 1000 male live births in the five-year period before the survey | Positive | Male infant mortality per 1000 female live births in the five-year period before the survey / Female infant mortality per 1000 male live births in the five-year period before the survey | Max. = 1 Min. = 0 | NFHS-4 & NFHS-3 |
| | Under-Five Mortality Rate (U5MR) | Under-five mortality (dying between birth and the fifth birthday) per 1000 live births in the five-year period before the survey | Negative | (Under-five mortality in the last five years at the time of survey / Total number of live births in the last five years at the time of survey) x1000 | Max. = 150 Min. = 0 | NFHS-4 & NFHS-3 |
| | Gender disparity in Under-Five Mortality Rate (U5MR) | Ratio of male under-five mortality (dying between birth and the fifth birthday) per 1000 female live births in the five-year period before the survey vis-à-vis female under-five mortality per 1000 male live births in the five-year period before the survey | Positive | Male under-five mortality per 1000 female live births in the five-year period before the survey / Female under-five mortality per 1000 male live births in the five-year period before the survey | Max. = 1 Min. = 0 | NFHS-4 & NFHS-3 |
| | Neonatal Mortality Rate (NNMR) | Neonatal mortality (dying within the first month of life) per 1000 live births in the five-year period before the survey | Negative | (Neonatal deaths in the last five years at the time of survey / Total number of live births in the last five years at the time of survey) x1000 | Max. = 80 Min. = 0 | NFHS-4 & NFHS-3 |
| | Gender disparity in Neonatal Mortality Rate (NNMR) | Ratio of male neonatal mortality (dying within the first month of life) per 1000 female live births in the five-year period before the survey vis-à-vis female neonatal mortality per 1000 male live births in the five-year period before the survey | Positive | Male neonatal mortality per 1000 female live births in the five-year period before the survey / Female neonatal mortality per 1000 male live births in the five-year period before the survey | Max. = 1 Min. = 0 | NFHS-4 & NFHS-3 |

Table 8: Detailed description of indicators (contd.)

| Broad Category | Indicator | Description | Type of indicator | Measurement | Values | Source(s) |
|---------------------|---|---|-------------------|---|------------------------|-----------------|
| Women's Empowerment | Women's employment | Percentage of currently married women aged 15-49 years employed in the 12 months before the survey (Respondents are considered to be employed if they have done any work other than their housework in the 12 months before the survey) | Positive | (Currently married women aged 15-49 years employed in the 12 months before the survey / Total number of currently married women aged 15-49 years) x100 | Max. = 100 Min. = 0 | NFHS-4 & NFHS-3 |
| | Women having mobile phone for their own use | Percentage of women aged 15-49 years having a mobile phone that they themselves use | Positive | (Number of women aged 15-49 years having a mobile phone that they themselves use / Total number of women aged 15-49 years) x100 | Max. = 100 Min. = 0 | NFHS-4 |
| | Women's freedom of movement | Percentage of women aged 15-49 years allowed to go alone to all three of the following places: to the market, to the health facility, and to places outside the village or community | Positive | (Number of women aged 15-49 years allowed to go alone to all three of the following places: to the market, to the health facility, and to places outside the village or community / Total number of women aged 15-49 years) x100 | Max. = 100 Min. = 0 | NFHS-4 & NFHS-3 |
| | Women's participation in decision making | Percentage of currently married women aged 15-49 years making decision alone or jointly with their husband in all three of the following areas: woman's own health care, major household purchases, and visits to the woman's family or relatives | Positive | (Number of currently married women aged 15-49 years making decision alone or jointly with their husband in all three of the following areas: woman's own health care, major household purchases, and visits to the woman's family or relatives / Total number of currently married women aged 15-49 years) x100 | Max. = 100 Min. = 0 | NFHS-4 & NFHS-3 |

Table 8: Detailed description of indicators (contd.)

| Broad Category | Indicator | Description | Type of indicator | Measurement | Values | Source(s) |
|-----------------------|---|---|-------------------|--|------------------------|-----------------|
| Gender-based violence | Men's attitudes towards wife-beating | Percentage of men aged 15-49 years who agree that a husband is justified in hitting or beating his wife under at least one of following seven circumstances: she goes out without telling him, she neglects the house or the children, she argues with him, she refuses to have sex with him, she doesn't cook food properly, he suspects her of being unfaithful, and she shows disrespect for her in-laws | Negative | (Number of men aged 15-49 years who agree that a husband is justified in hitting or beating his wife under at least one of the mentioned seven circumstances / Total number of men aged 15-49 years) x100 | Max. = 100 Min. = 0 | NFHS-4 & NFHS-3 |
| | Spousal violence | Percentage of ever-married women aged 15-49 years who have experienced any of the specified acts of physical, sexual, or emotional violence committed by their current husband (if currently married) or their most recent husband (if formerly married), in the 12 months preceding the survey | Negative | (Number of ever-married women aged 15-49 years who have experienced any of the specified acts of physical, sexual, or emotional violence committed by their current husband (if currently married) or their most recent husband (if formerly married), in the 12 months preceding the survey / Total number of ever-married women aged 15-49 years) x100 | Max. = 100 Min. = 0 | NFHS-4 & NFHS-3 |
| | Help seeking in case of experiencing physical and sexual violence | Percentage of women aged 15-49 years who have ever experienced physical and sexual violence, have ever sought help from any source to stop the violence | Positive | (Number of women aged 15-49 years who have ever experienced physical and sexual violence, have ever sought help from any source to stop the violence / Total number of women aged 15-49 years who have ever experienced physical and sexual violence) x100 | Max. = 100 Min. = 0 | NFHS-4 & NFHS-3 |



JRD Tata with Harish Khanna, Executive Director of PFI (1986 - 1995)
Photo: PFI



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