Maternal & Child Mortality
and
Total Fertility Rates

Sample Registration System (SRS)

Office of Registrar General, India
7th July 2011

Sample Registration System (SRS) – An Introduction

- Sample Registration System (SRS) is designed for reliable estimates of fertility and mortality indicators at State and National level separately for rural and urban areas
- The only source for fertility and mortality data since 1969-70
- Largest demographic survey in the country covering about 1.4 million households and 7.01 million population in 7597 sample units across 35 States/UTs
- Since 2004, a system of collection of Causes of Death data through Verbal Autopsy has also been included under the domain of SRS
- This system allows for tracking Millennium Development Goals (MDG) on Child Mortality & Maternal Health on a regular basis

Millennium Development Goals (MDG)

- MDGs are a set of numerical & time-bound targets to measure achievements in human and social development laid down by the UN.
- Of the 8 MDGs, IMR, U5MR and MMR are generated by SRS.

Goal No.	Goals	Indicators	Targets by 2015
5	Improve maternal health	Maternal Mortality Ratio (MMR)	109
4	Reduce infant mortality	Infant Mortality Rate (IMR)	28
	Reduce child mortality	Under 5 Mortality Rate (U5MR)	42

MATERNAL MORTALITY RATIO (MMR)

Maternal Mortality Ratio (MMR); India, EAG & Assam, Southern States and Other States, 2004-06 and 2007-09

India & Major States	MMR 2004-06	MMR 2007-09
INDIA TOTAL	254	212
Assam	480	390
Bihar/Jharkhand	312	261
Madhya Pradesh/Chhattisgarh	335	269
Orissa	303	258
Rajasthan	388	318
Uttar Pradesh/Uttarakhand	440	359
EAG AND ASSAM SUBTOTAL	375	308
Andhra Pradesh	154	134
Karnataka	213	178
Kerala	95	81
Tamil Nadu	111	97
SOUTH SUBTOTAL	149	127
Gujarat	160	148
Haryana	186	153
Maharashtra	130	104
Punjab	192	172
West Bengal	141	145
Other	206	160
OTHER SUBTOTAL	174	149

MMR measures number of women aged 15-49 years dying due to maternal causes per 1,00,000 live births.

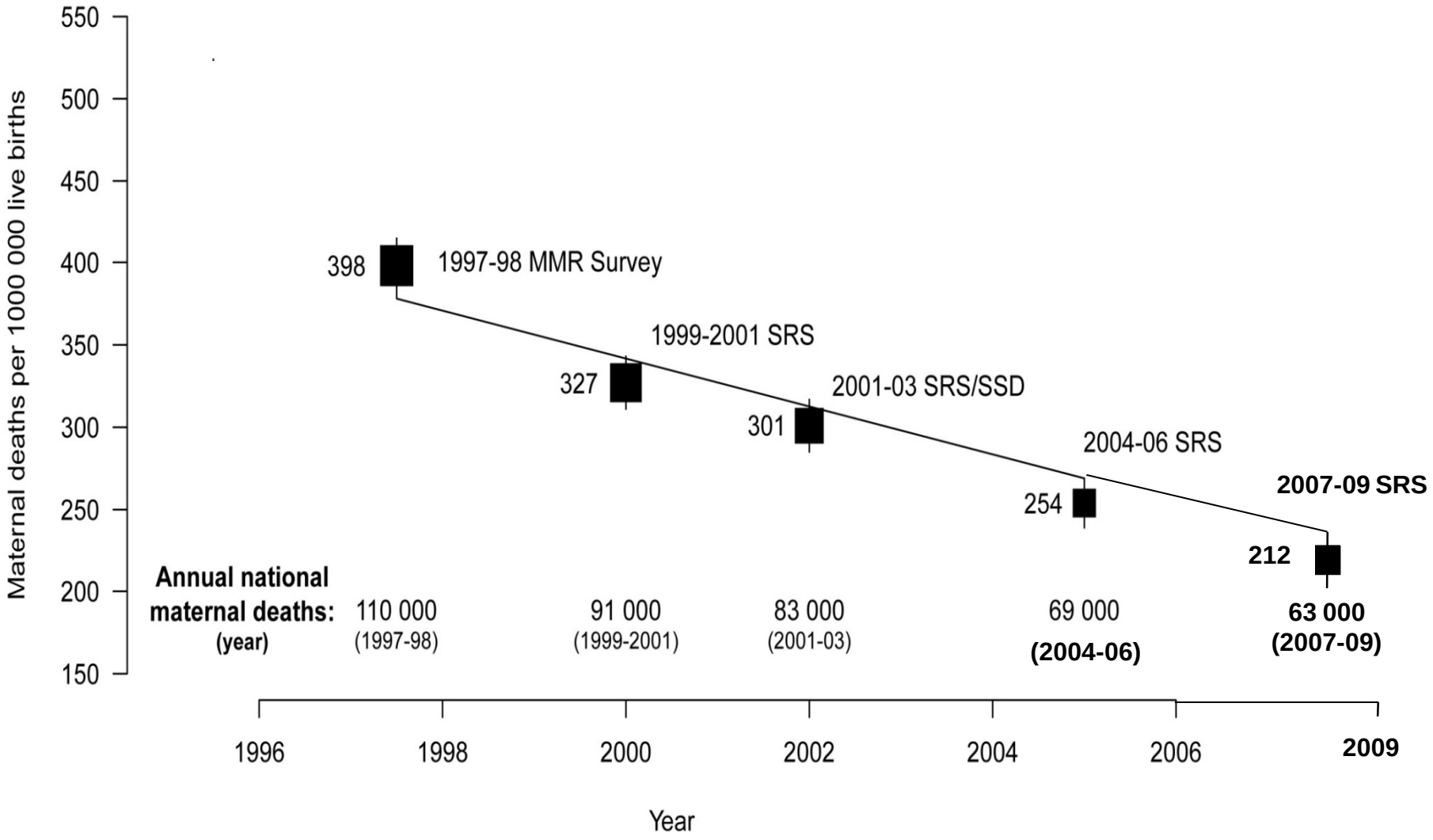
MMR estimates 2007-09: Highlights

- Decline in MMR estimates in 2007-09 over 2004-06:
  - For India: 212 from 254 (a fall of about 17%)
  - In Empowered Action Group (EAG) states & Assam: 308 from 375 (18%)
  - Among Southern States: 127 from 149 (15%)
  - In Other States: 149 from 174 (14%)

- States realizing MDG target of 109 have gone up to 3 with Tamil Nadu & Maharashtra (new entrants) joining Kerala

- Andhra Pradesh, West Bengal, Gujarat and Haryana are in closer proximity to achieving the MDG target.

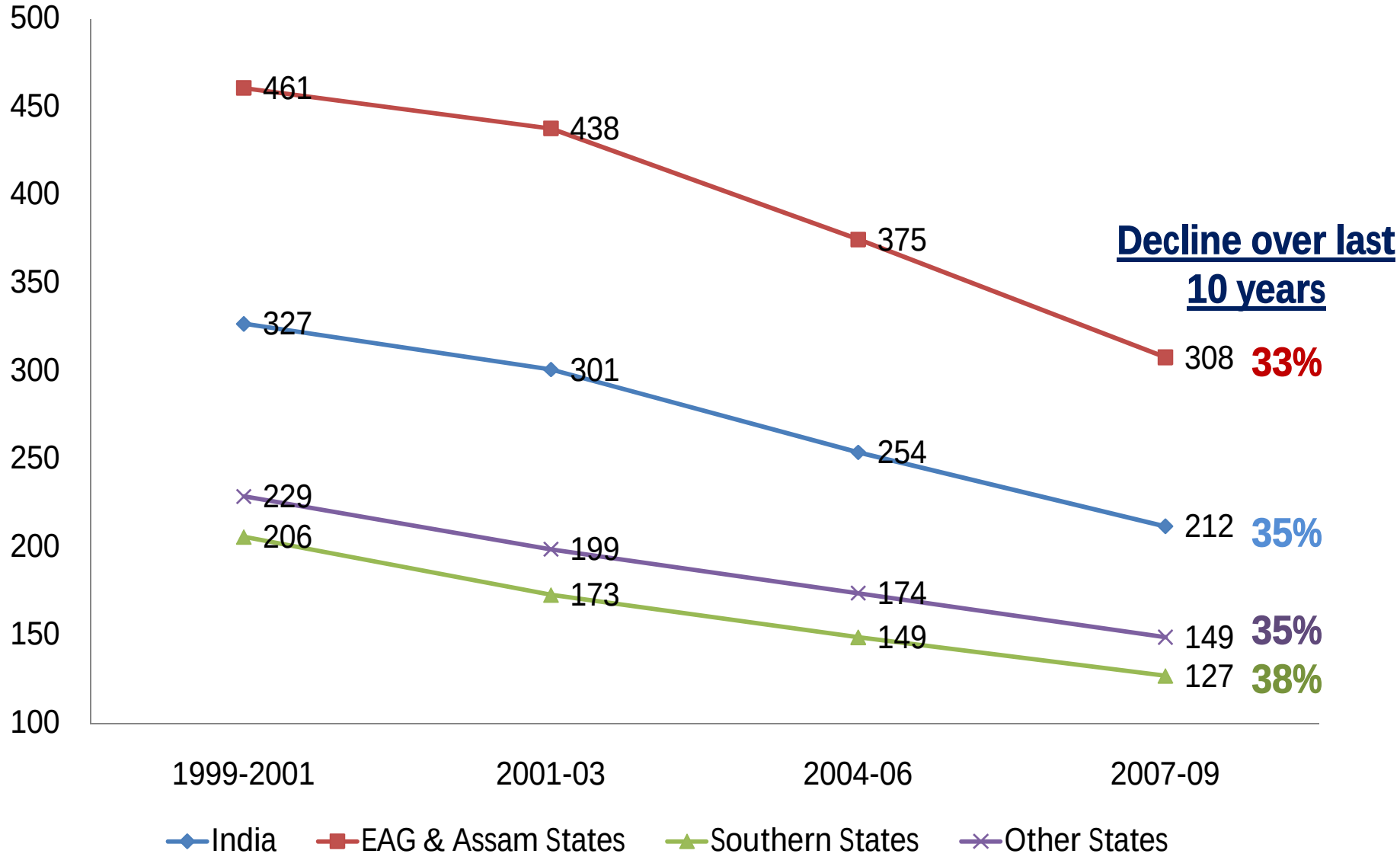
Trends in Maternal Mortality Ratio - India



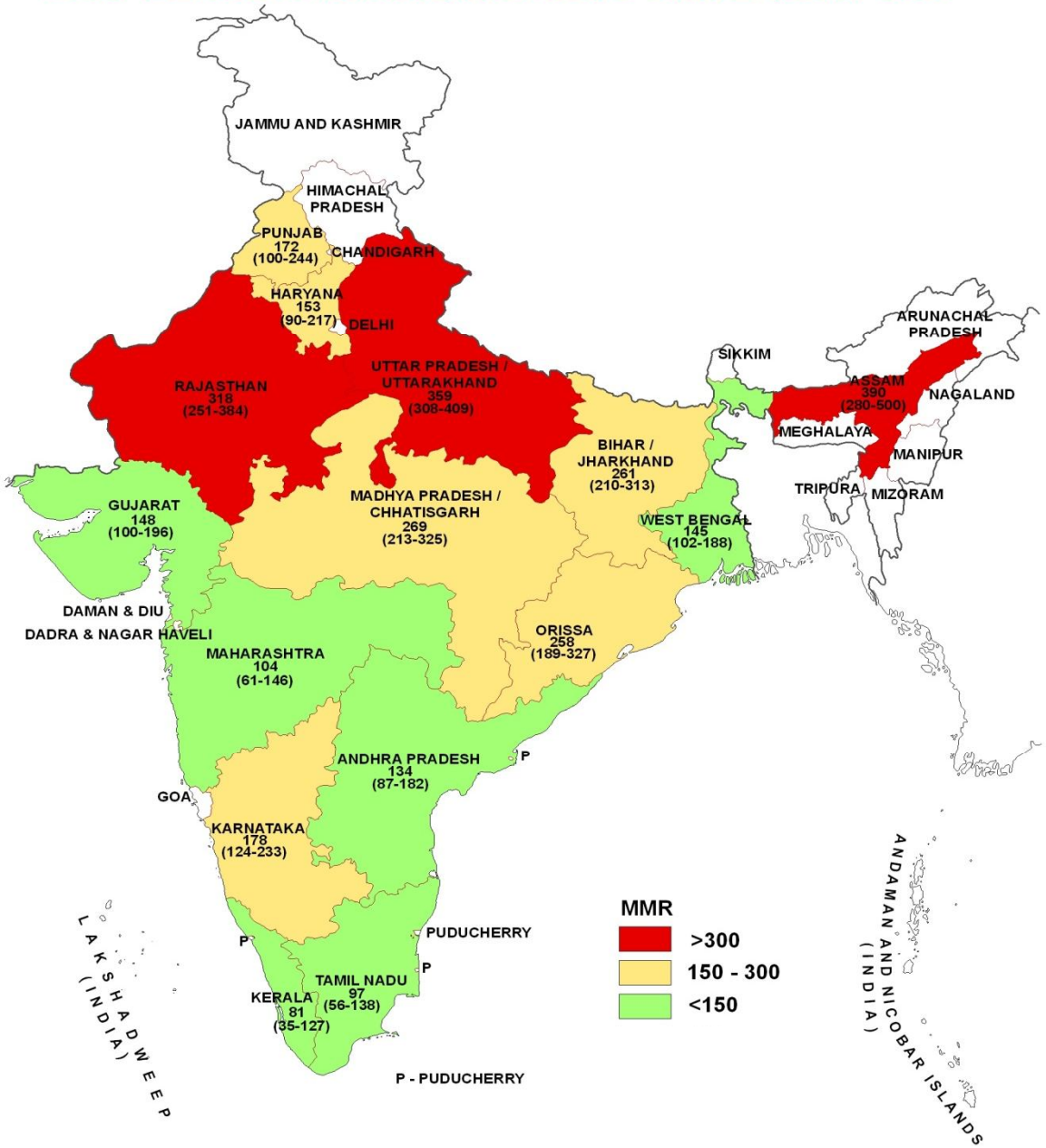
Levels of MMR by Regions, 2007-09

Region	MMR	Life time risk	% share of female Popln.	% to total maternal deaths
EAG states	308	1.1%	48.0	61.6
Southern states	127	0.3%	21.0	11.4
Other states	149	0.4%	31.0	27.0
India	**212**	**0.6%**	**100**	**100**

Levels of MMR by Regions, 1999-2009



MATERNAL MORTALITY RATIO (MMR) ALONG WITH 95% CONFIDENCE INTERVAL, INDIA AND STATES, 2007-2009

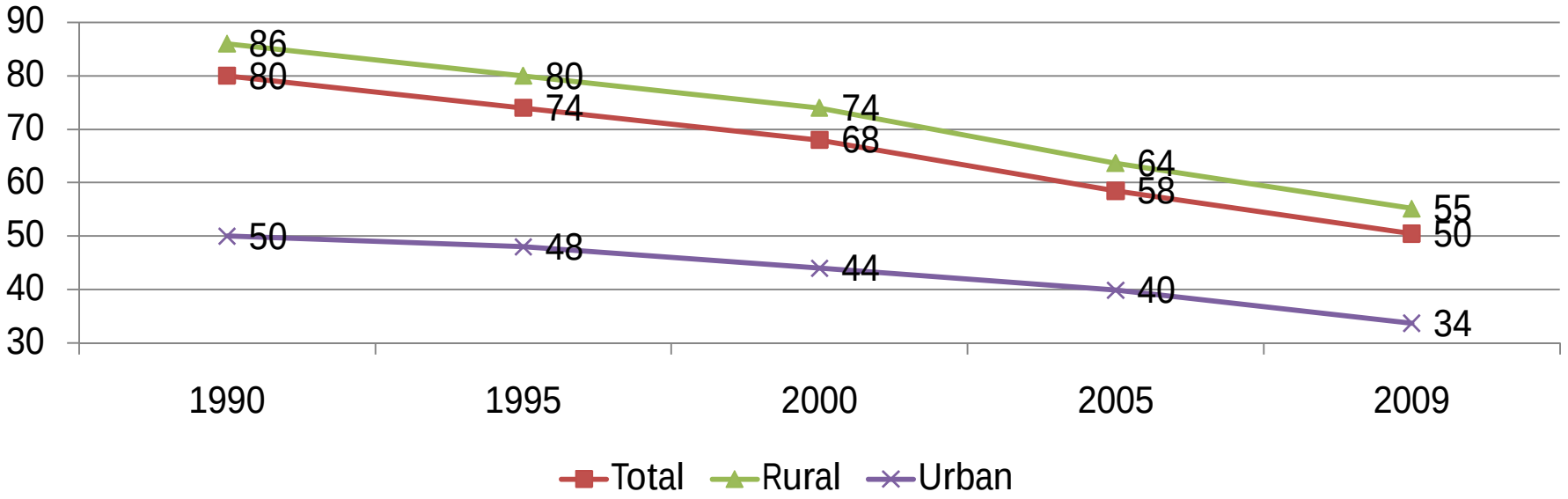


INFANT MORTALITY RATE (IMR)

IMR estimates 2009: Highlights

- IMR measures number of infant(< 1 year) deaths per 1000 live births.
- Every 6th death in the country pertains to an infant
- IMR in India has registered a 3 points decline to 50 from 53 in 2008
- Maximum IMR in Madhya Pradesh (67) and minimum IMR in Kerala (12)
- Neo-Natal Mortality Rate (<29 days) and Post Neo-Natal Mortality Rate (1 months to 11 months) has declined by 1 point and 2 points respectively
- Kerala (12) & Tamil Nadu (28) have achieved the MDG target (28 by 2015)
- Delhi (33), Maharashtra (31) and West Bengal (33) are in close proximity

Infant Mortality Rate (IMR) by residence, 1990–2009



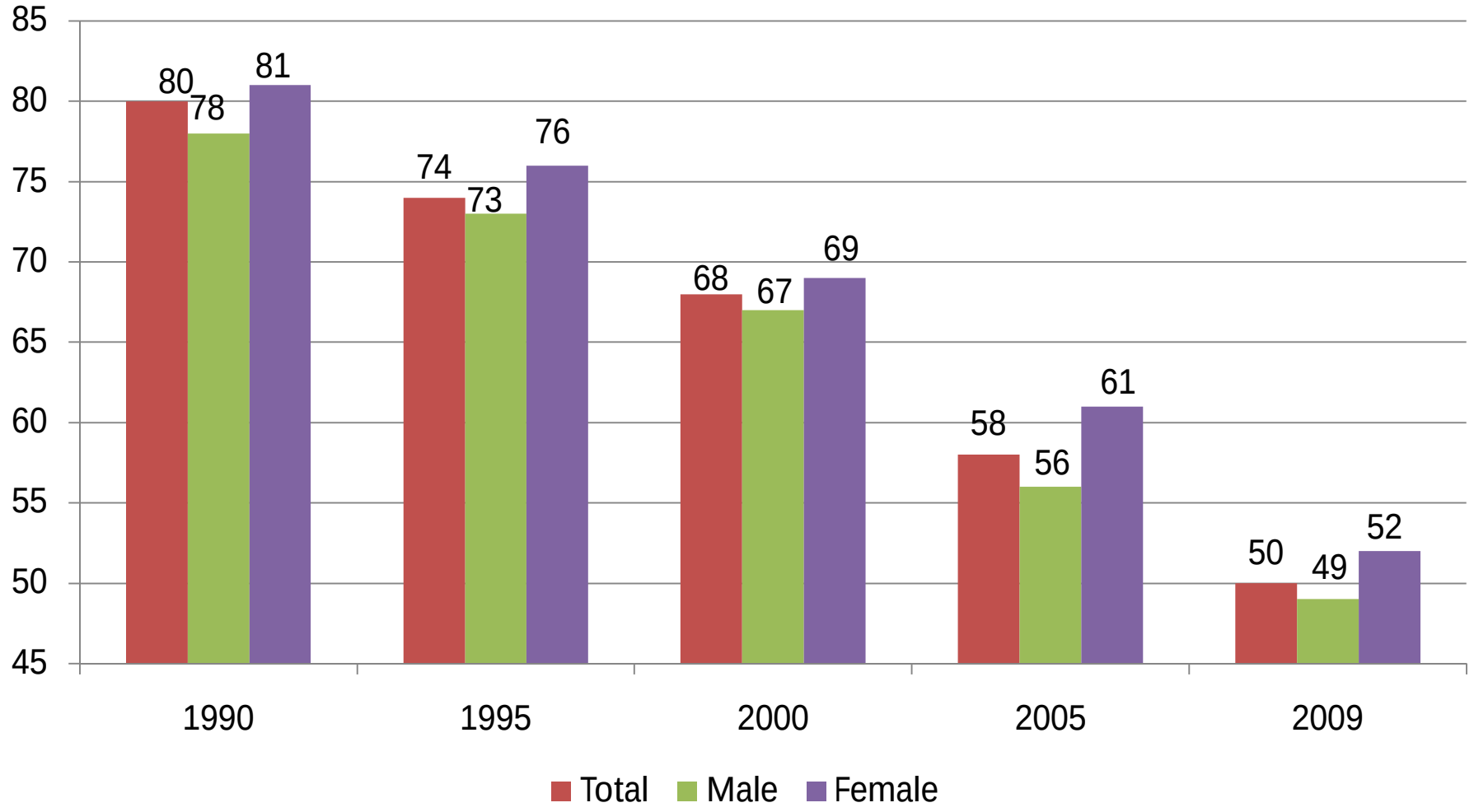
- IMR for the country declined by 30 points (rural IMR by 31 points vis-à-vis urban IMR 16 points) in the last 20 years at an annual average decline of 1.5 points
- Still, 1 in every 20 children - National level

  1 in every 18 children - rural area, and

  1 in every 29 children - urban area

  die within one year of birth (against 1 in 37 under MDG)

Infant Mortality Rate (IMR) by sex, 1990–2009



- **Female infants continue to experience a higher mortality than male infants**

UNDER 5 MORTALITY RATE (U5MR)

U5MR estimates 2009: Highlights

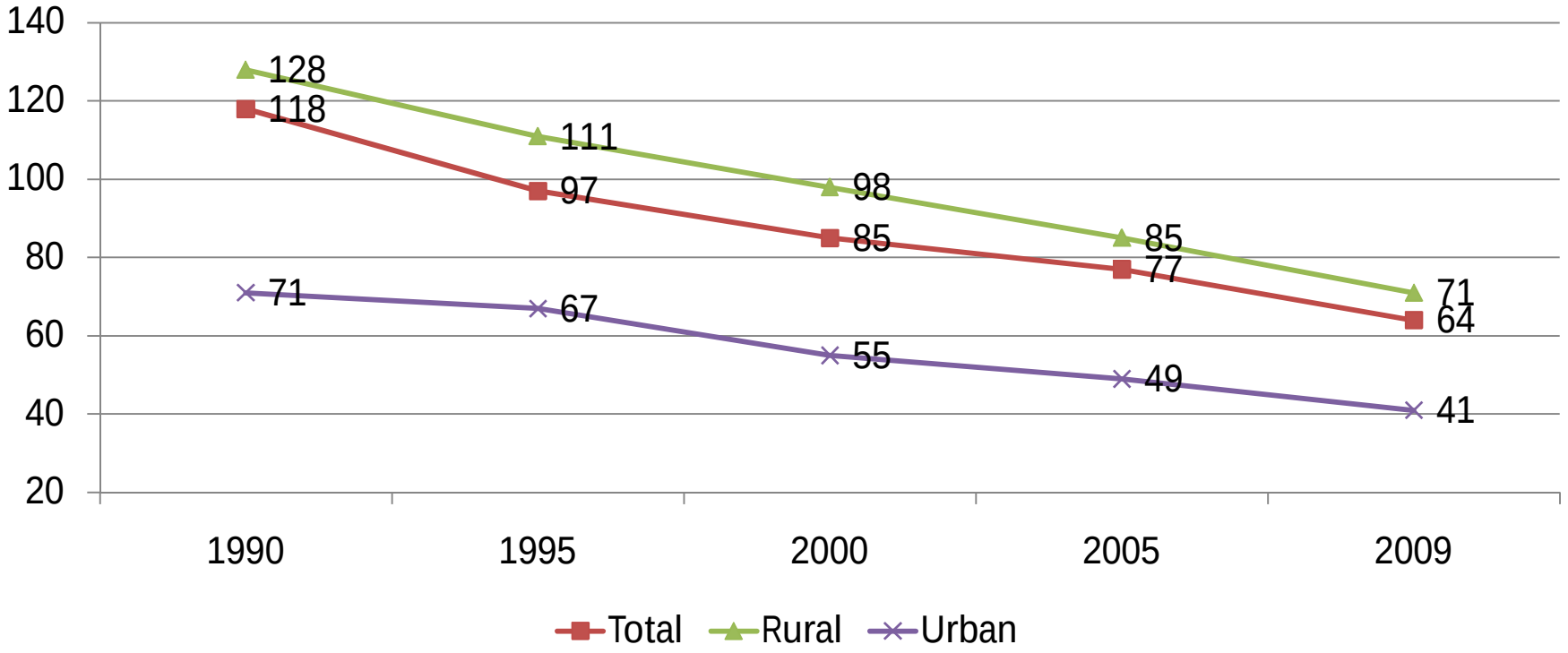
- U5MR denotes number of children (0-4 years) who died before reaching their fifth birthday per 1000 live births

- U5MR for the country has declined by 5 points over 2008 (64 in 2009 against 69 in 2008)

- A uniform decline of about 5 points is seen in male and female U5MRs.
- Maximum in Madhya Pradesh (89) and minimum in Kerala (14)

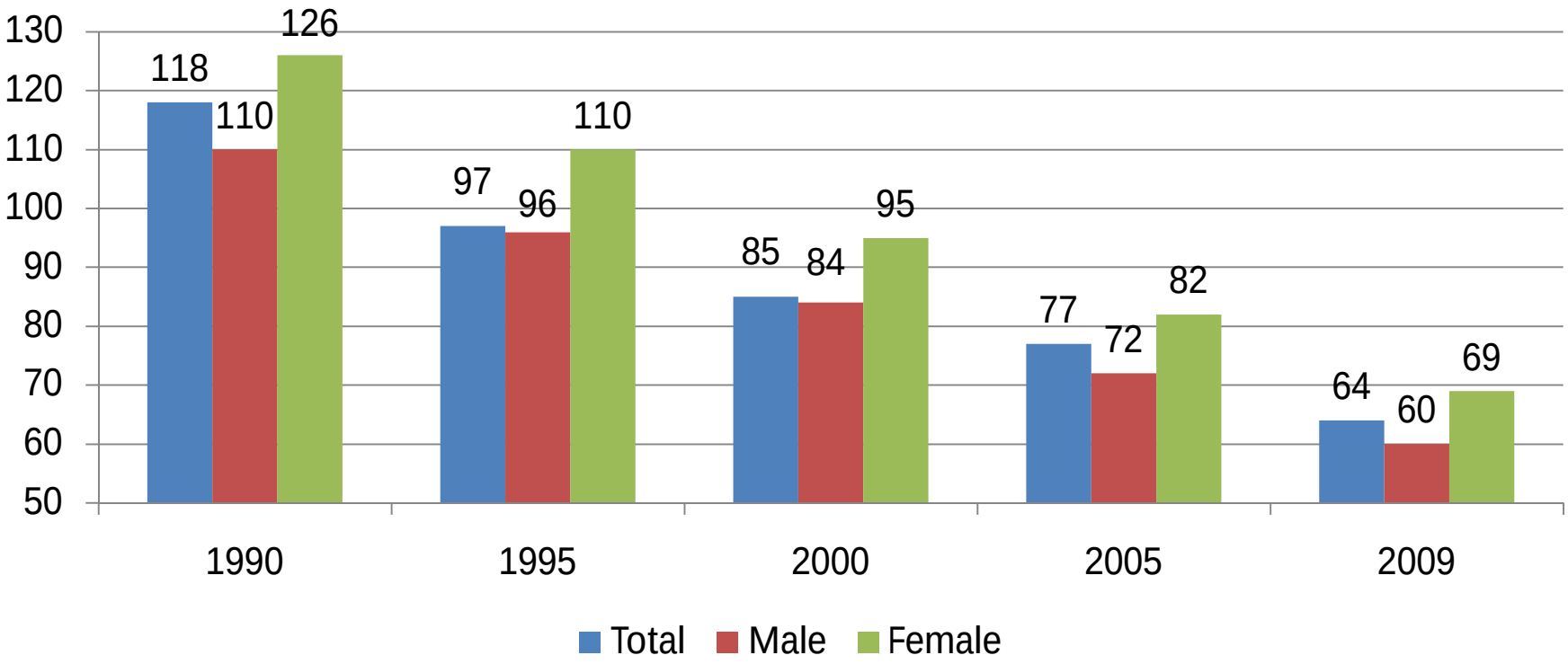
- Kerala (14), Tamil Nadu (33), Maharashtra (36), Delhi (37) & West Bengal (40) have already achieved the MDG target (42 by 2015)

Under 5 Mortality Rate (U5MR) by residence, 1990–2009



- U5MR for the country declined by 54 points (rural IMR by 57 points vis-à-vis urban IMR 30 points) in the last 20 years at an annual average decline of 2.7 points
- Urban U5MR has already achieved the MDG target (42 by 2015)
- Rural U5MR is still 71

Under 5 Mortality Rate (U5MR) by sex, 1990–2009



- Male-female mortality differential has narrowed down over the years, yet the gap remains significant

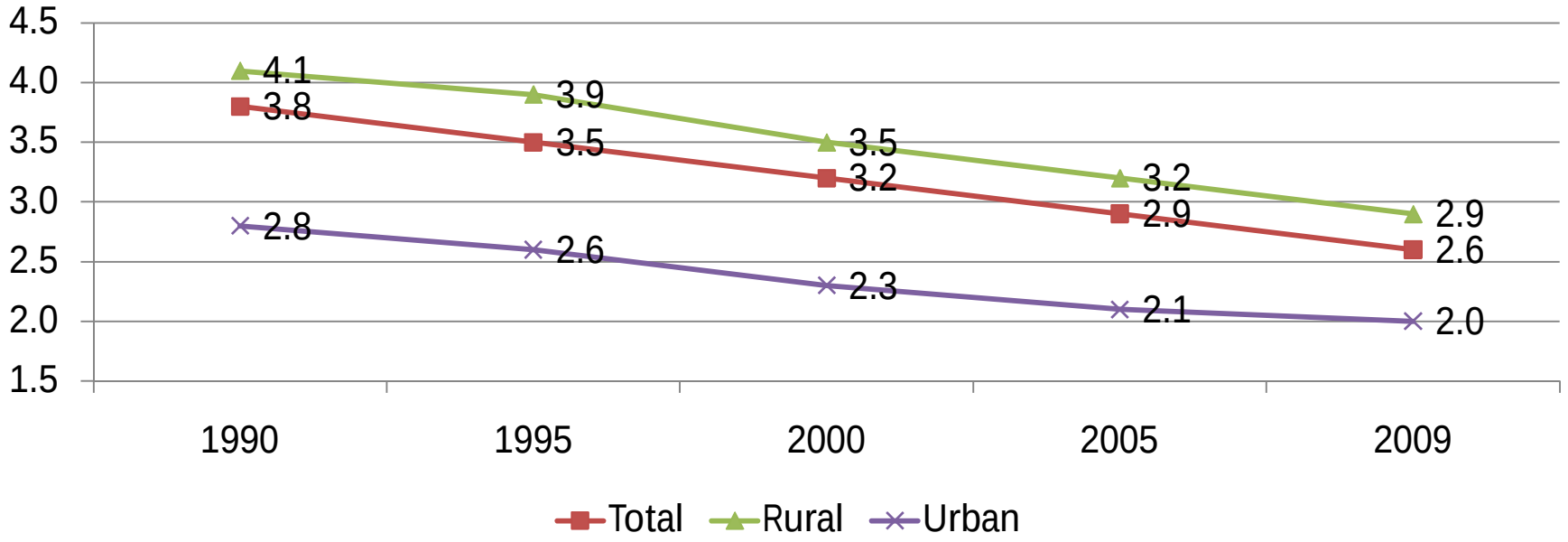
“ Child deaths are falling, but not quickly enough to reach the MDG target”

TOTAL FERTILITY RATE (TFR)

Total Fertility Rate (TFR) estimates 2009: Highlights

- TFR measures average number of children born to a woman during her entire reproductive period
- TFR for the country remained stationery at 2.6 during 2008 to 2009
- Bihar reported the highest TFR (3.9) while Kerala and Tamil Nadu, the lowest (1.7)
- Replacement level TFR, viz 2.1, has been attained by Andhra Pradesh (1.9), Delhi (1.9), Himachal Pradesh (1.9), Karnataka (2.0), Kerala (1.7), Maharashtra (1.9), Punjab (1.9), Tamil Nadu (1,7) & West Bengal (1.9)
- At present, a rural woman (having a TFR of 2.9) at the National level would have about one child more than an urban woman (having a TFR of 2.0), on average

Total Fertility Rate (TFR) by residence, 1990–2009



- TFR for the country declined by 1.2 points (down by more than a child), rural TFR also by 1.2 points and urban TFR by 0.8 point over last 20 years
- Another 10-12 years to achieve the replacement level of 2.1 at the current fertility rates

THANK YOU