CHILD SEX RATIO (0-6 YEARS)

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OBJECTIVES

- Establish the need to monitor Child Sex Ratio
- Highlight that targets should be set at disaggregated level (district/sub district level) in place of State level
- Urge for a holistic approach that would simultaneously monitor related indicators IMR,U5MR,MMR SRB

Sources of Data on Child Sex Ratio

Source	Periodicity	Lowest Level of data availability	Age Group
Census	Decadal	Village/Ward	Any age
SRS	Annual	State	0-4@/SRB
AHS	Annual	District#	0-4/SRB

@: Three years moving average
#: Available for 9 States (EAG & Assam)

WHAT IS SEX RATIO?

- **Sex ratio, in India, is defined as the number of females per 1000 males in the population.**
- **Whereas, Internationally, Sex ratio is defined as number of males per 100 females.**

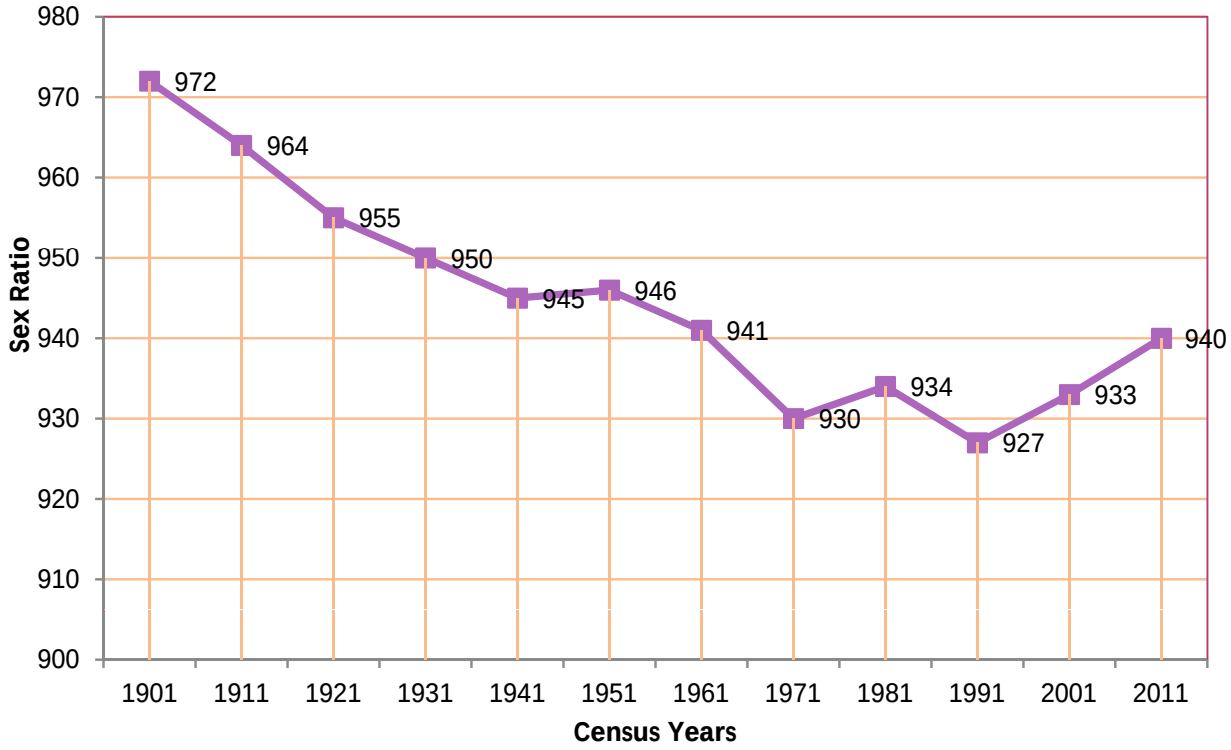


Trends in Sex Ratio

- **Historically sex ratio in India as remained favourable to males**
- **Sex ratio of total population has seen upward surge in the last two consecutive censuses**
- **In 2011 Census , Sex ratio in India increased to 940 from 934 recorded in the 2001 Census.**



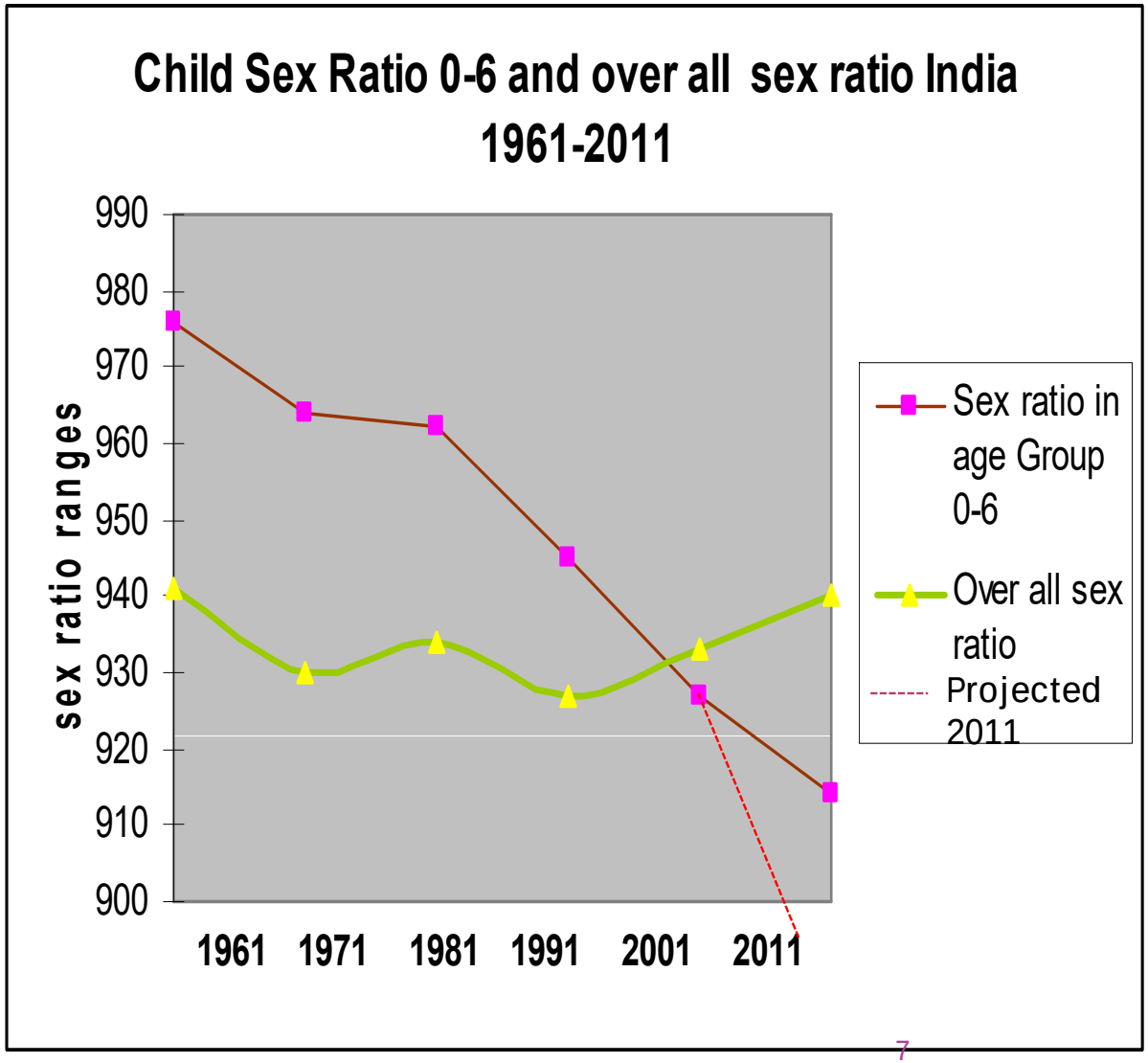
TRENDS OF SEX RATIO IN INDIA :1901-2011*



*: Census of 2011 data is provisional

Trends in over all & Child Sex Ratio (0-6 yrs): 1961-2011

Projected value of Child Sex Ratio for India worked out on the basis of Census 2001 was 889



Trends in over all & Child Sex Ratio (0-6 yrs): 1961-2011

Good News from Census 2011 (8 States have shown improvement)

1. **Punjab : 846 (from 798 in 2001 – Increase 48 points)**
2. **Chandigarh: 867 (from 845 in 2001 – Increase 22points)**
3. **Haryana: 830 (from 819 in 2001 – Increase 11 points)**
4. **Himachal Pradesh 906 (from 896 in 2001 – Increase 10 points)**
5. **A & N Islands : 966 (from 957 - Increase 9 points**
6. **Mizoram: 971 (from 964 in 2001 - Increase 7 points)**
7. **Tamil Nadu: 946 (from 942 in 2001 - Increase 4 points)**
8. **Gujarat : 886 (from 883 in 2001 - Increase 3 points)**

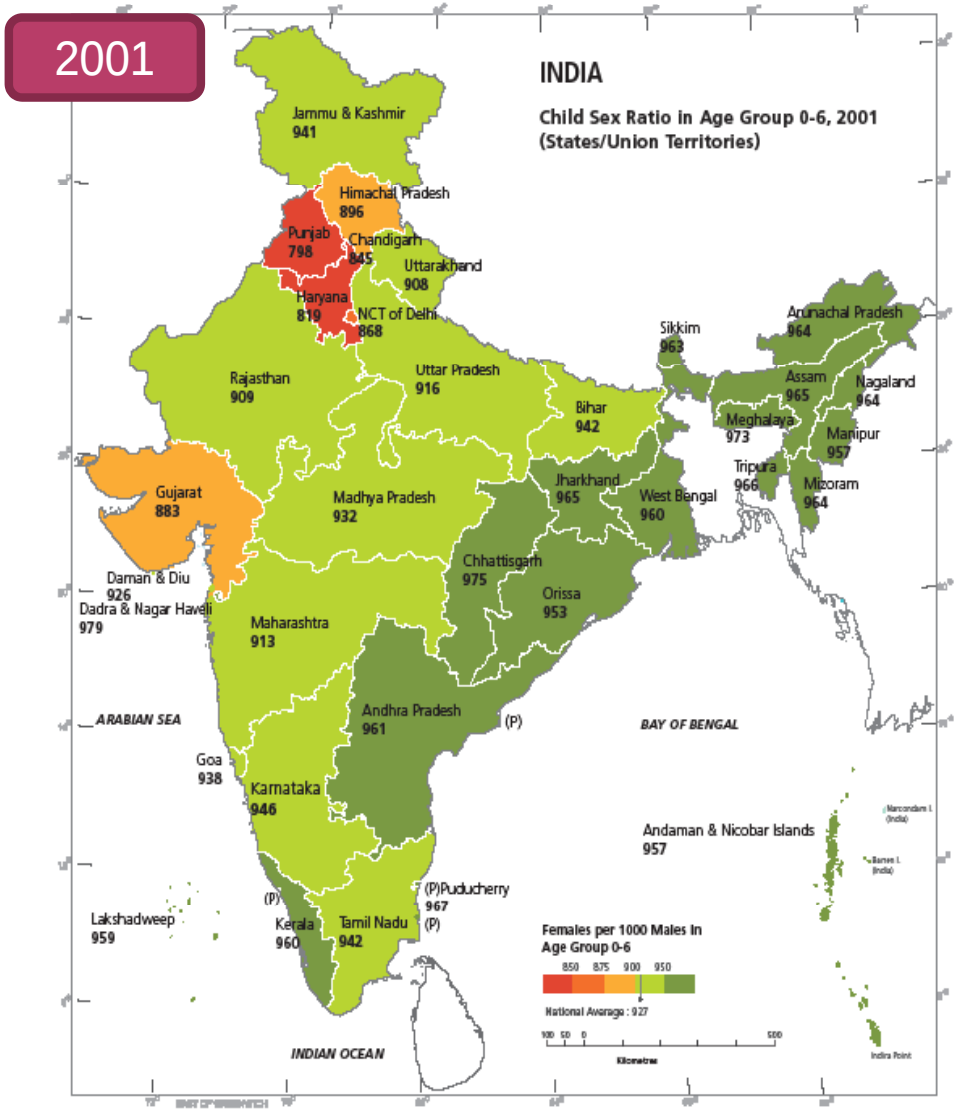
Bad News declined in 27 states,

J&K : 88 pts, Maharashtra (30), Rajasthan (26), Manipur (23), Uttarakhand (22), Jharkhand (22), Madhya Pradesh (20) and others

Child Sex Ratio in Age Group 0-6

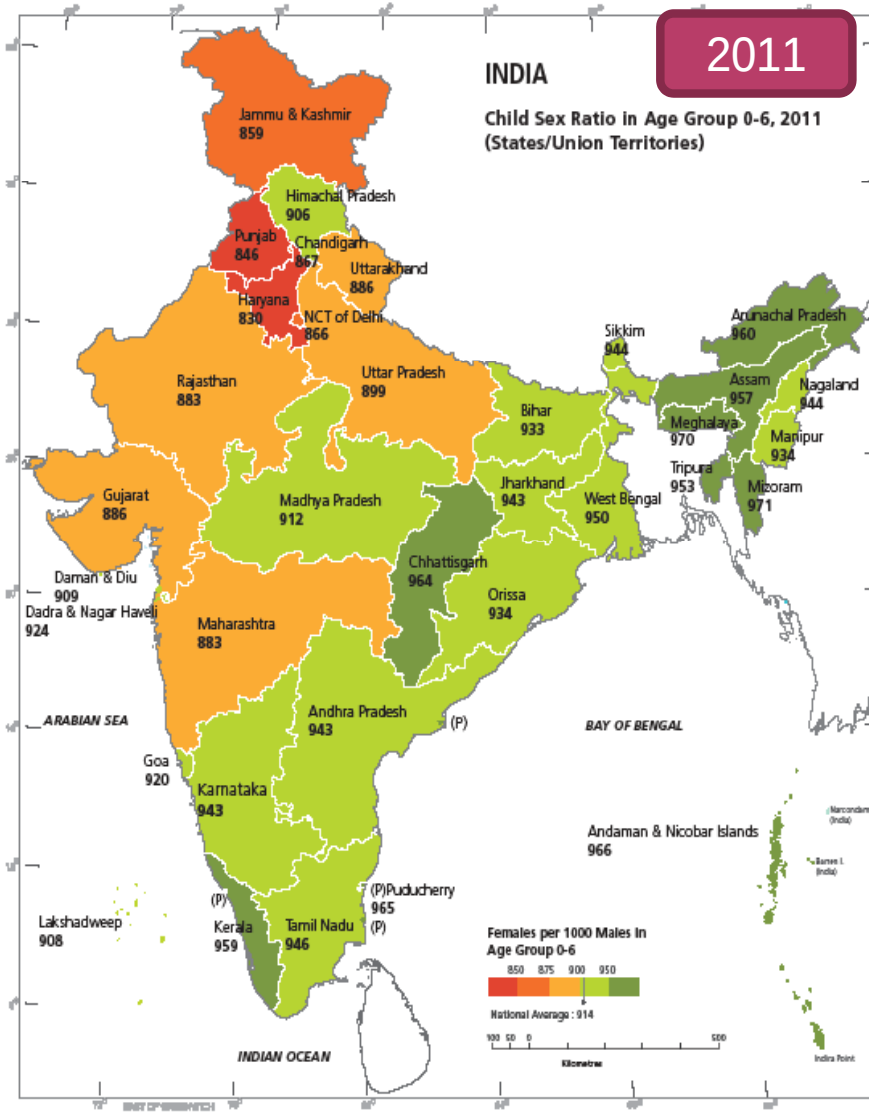
MAP 14

2001



MAP 15

2011



Trends in Child Sex Ratio (0-6) in Major States (2001 & 2011)

State	Child Sex Ratio (0-6 yrs) 2001	Child Sex Ratio (0-6 yrs) 2011*	Change in CSR (0-6 yrs) 2001 to 2011
India	927	914	-13
J & K	941	859	- 82
Himachal Pradesh	896	906	+10
Punjab	798	846	+48
Uttarakhand	908	886	-22
Haryana	819	830	+11
Delhi	868	866	-2
Rajasthan	909	883	-26

*Provisional population totals-Census 2011

Trends in Child Sex Ratio (0-6) in Major States (2001 & 2011) (contd)

State	Child Sex Ratio (0-6) 2001	Child Sex Ratio (0-6) 2011*	Change in CSR (0-6 yrs) 2001 to 2011
Uttar Pradesh	916	899	-17
Bihar	942	933	-9
Assam	965	957	-8
West Bengal	960	950	-10
Jharkhand	965	943	-22
Orissa	953	934	-19
Chhattisgarh	975	964	-9
Madhya Pradesh	932	912	-20

*Provisional population totals-Census 2011

Trends in Child Sex Ratio (0-6) in Major States (2001 & 2011) (contd)

State	Child Sex Ratio (0-6 yrs) 2001	Child Sex Ratio (0-6 yrs) 2011	Change CSR (0-6 yrs) 2001 to 2011
Gujarat	883	886	+3
Maharashtra	913	883	-30
Andhra Pradesh	961	943	-18
Karnataka	946	943	-3
Kerala	960	959	-1
Tamil Nadu	942	946	+4

*Provisional population totals-Census 2011

Child Sex Ratio

Rural –Urban Areas

Child Sex Ratio (0-6 years) 1991-2011 - India

Census	Total	Rural	Urban
1991	945	948	935
2001	927	933	906
2011	914	919	902

- Child Sex Ratio has declined in both Rural and Urban areas
- This decline in Rural India is more than three times as compared to drop in Urban India in 2011 – a matter of great concern.

Rural Urban differentials in Child Sex Ratio

- In the rural areas Child Sex Ratio is higher as compared to urban areas in 26 States/UTs in 2011 Census
- In urban areas of 9 States/UTs CSR is higher when compared to their rural areas
  - These are:
    - Highly urbanized NCT Delhi, Chandigarh, Puducherry
    - Punjab, Maharashtra, Andhra Pradesh and Tamil Nadu
    - Mizoram & Manipur.

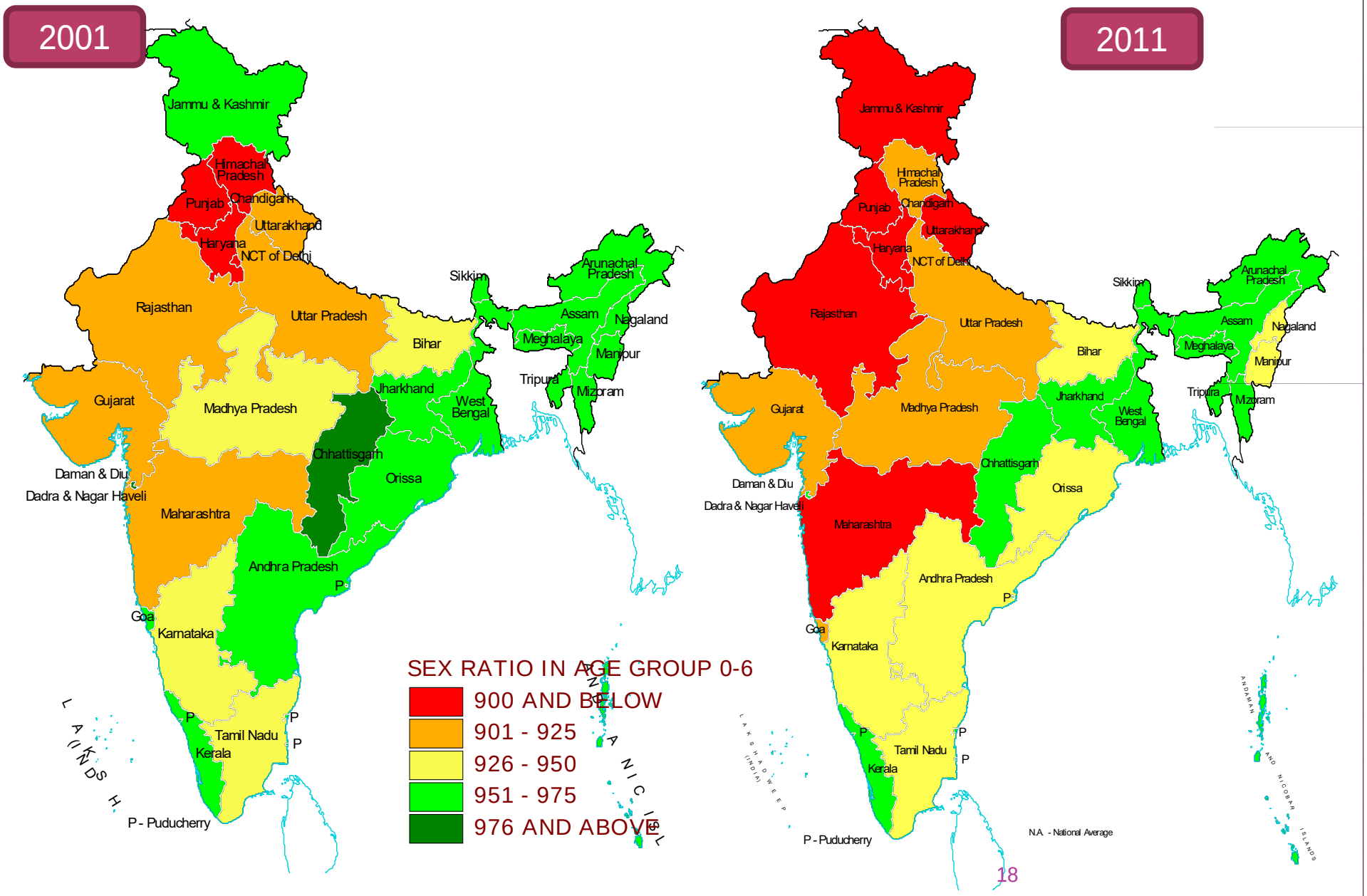
Change in Child Sex Ratio in Rural & Urban Areas

- Rural areas:
  - In 25 States/UTs, the Child Sex Ratio (0-6yrs) has declined in 2011 Census over 2001Census
  - In 9 States/Uts Child Sex Ratio has improved in 2011 Census
  - No change in one State (Gujarat)

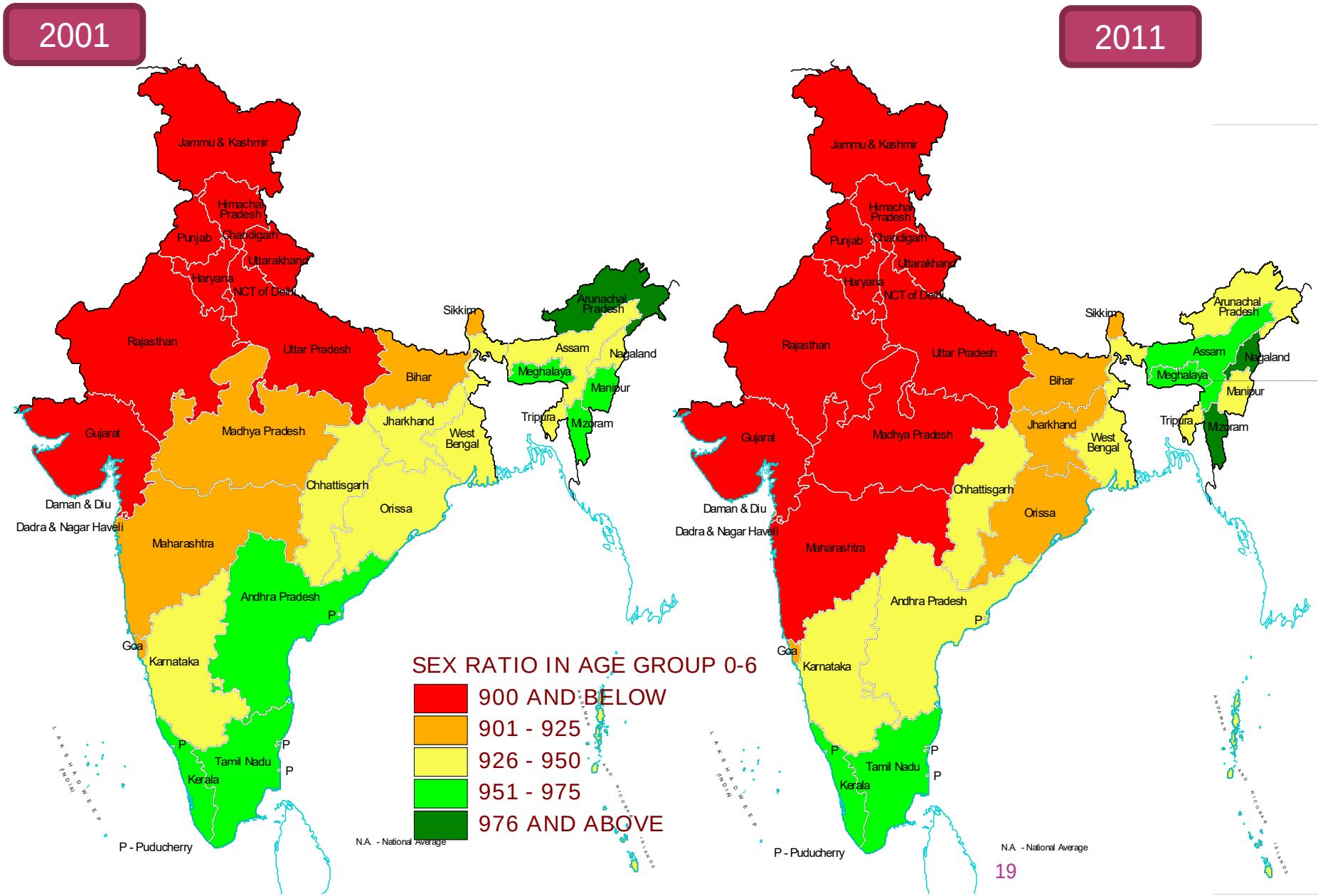
Rural Urban differentials in Child Sex Ratio

- Urban areas:
  - Trend is slightly better in Urban Areas as compared to Rural Areas
    - In 21 States/Uts, CSR (0-6yrs) has declined
    - In 13 States/Uts this has improved
    - In one State (Kerala) there is no change

Child Sex Ratio (0-6) Rural



Child Sex Ratio (0-6) Urban



Districts by ranges of Child Sex Ratio - India, 2001 & 2011

- Decline in the lowest range is due to increase in the child sex ratio in Punjab
- Increase in 900-949 is primarily due to decline in the next higher range categories

Ranges of CSR (0-6 years)	Census Year	
	2001	2011
Total	640	640
<800	18	6
800-849	36	52
850-899	71	135
900-949	224	266
950-999	279	178
1000+	12	3

Districts by ranges of Child Sex Ratio in Rural India, 2001- 2011

- Nine are totally urban districts
- Increase in 900 and below categories is primarily due to decline in the next higher range categories

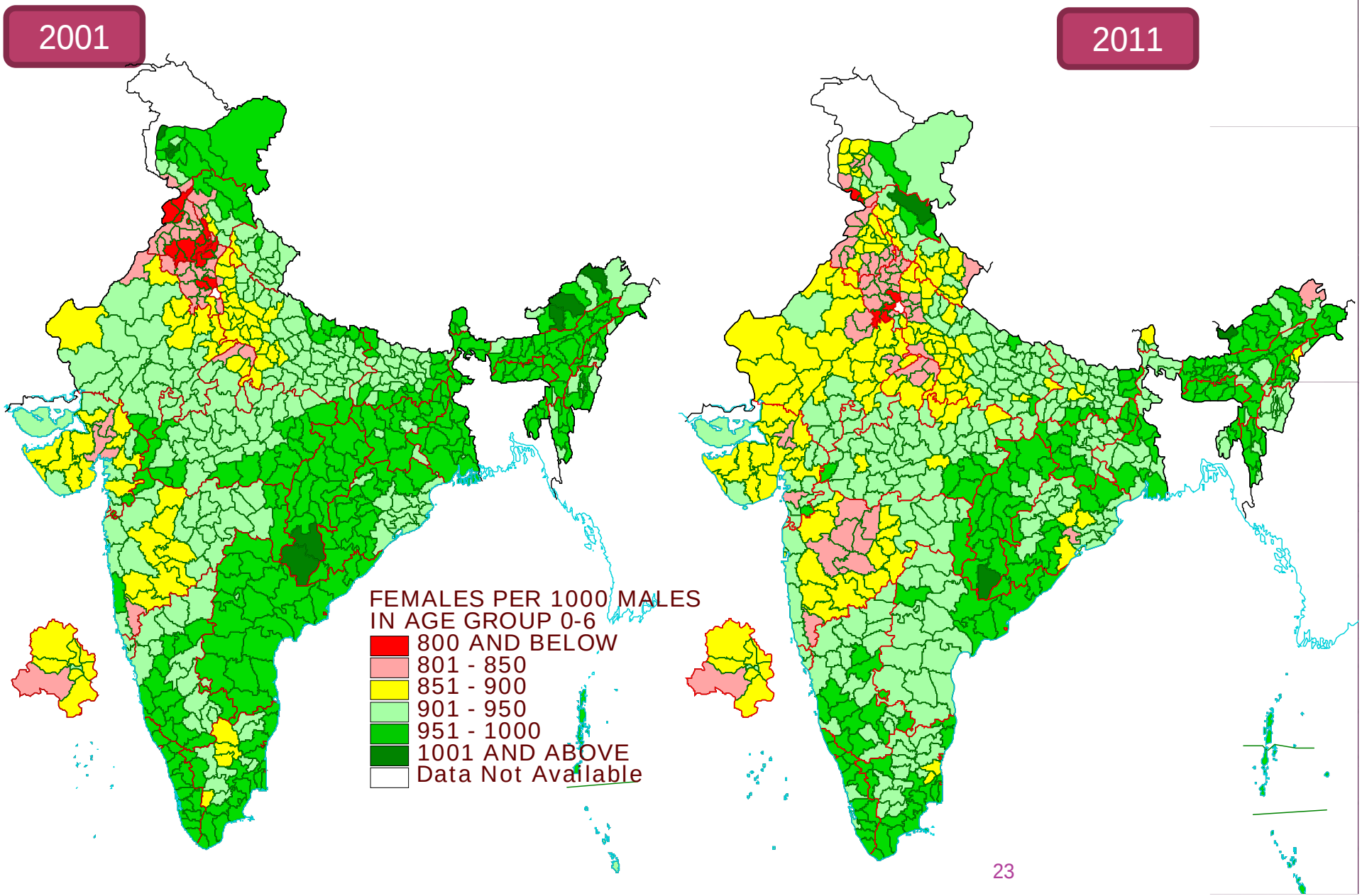
Ranges of CSR (0-6 years)	Census Years	
	2001	2011
Total	640	640
Nil (No rural)	9	9
Up to 850	54	74
851-900	61	188
901-999	500	363
1000+	16	12

Districts by ranges of Child Sex Ratio in Urban India, 2001- 2011

- **18 in 2001 and 9 in 2011 are totally rural districts**
- **Decline in 850 and below categories at District level in 2011 due to increase in urban sex ratio in 13 states, there is**
- **Increase in 900 -999 also positive trend unlike rural areas**

Ranges of CSR (0-6 years)	Census Years	
	2001	2011
Total	640	640
Nil (No urban)	18	9
<=850	86	59
851-900	110	121
901-999	417	447
1000+	9	4

Child Sex Ratio (0-6) - District

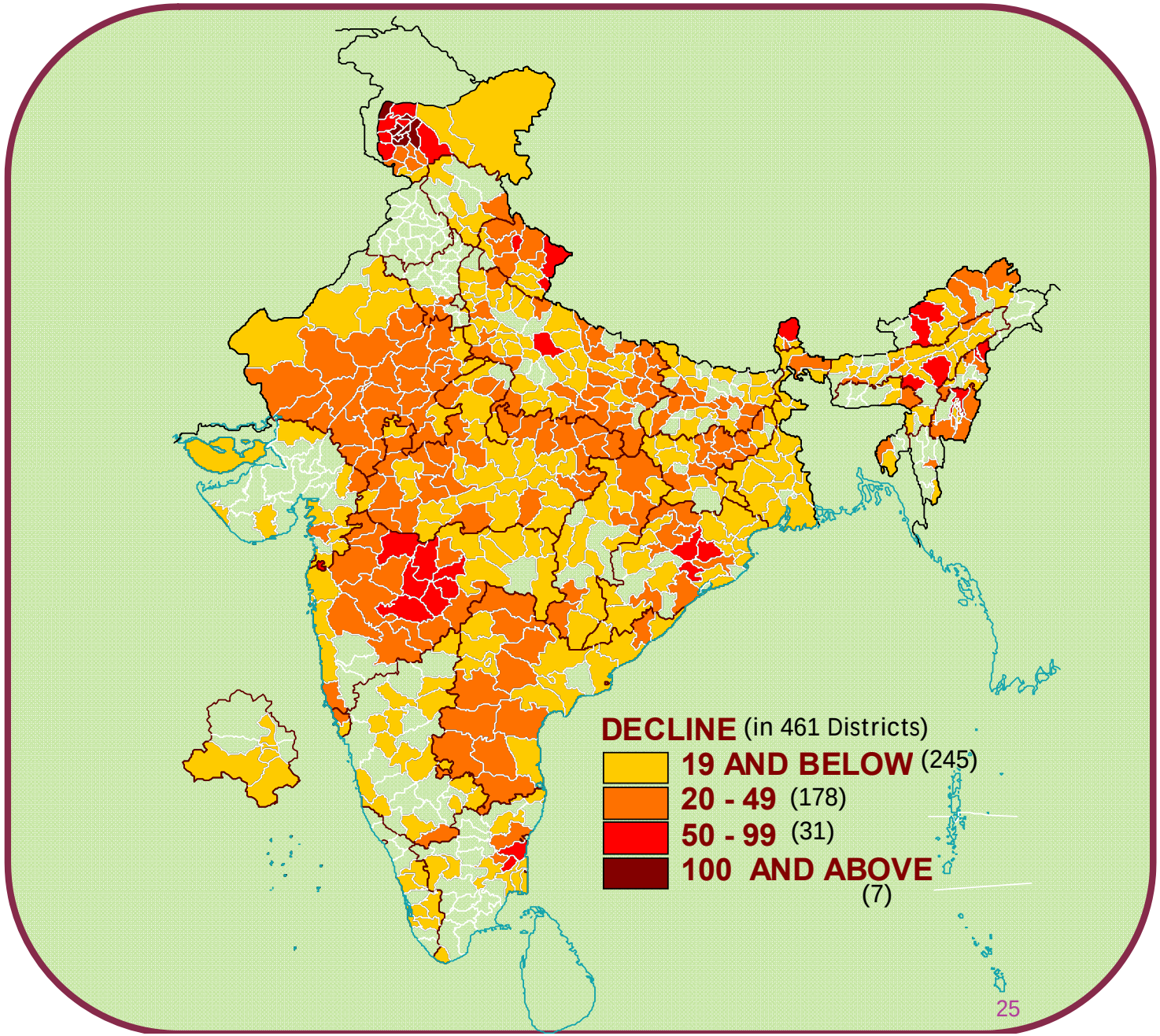


Change in CSR (0-6) 2001-2011- Districts

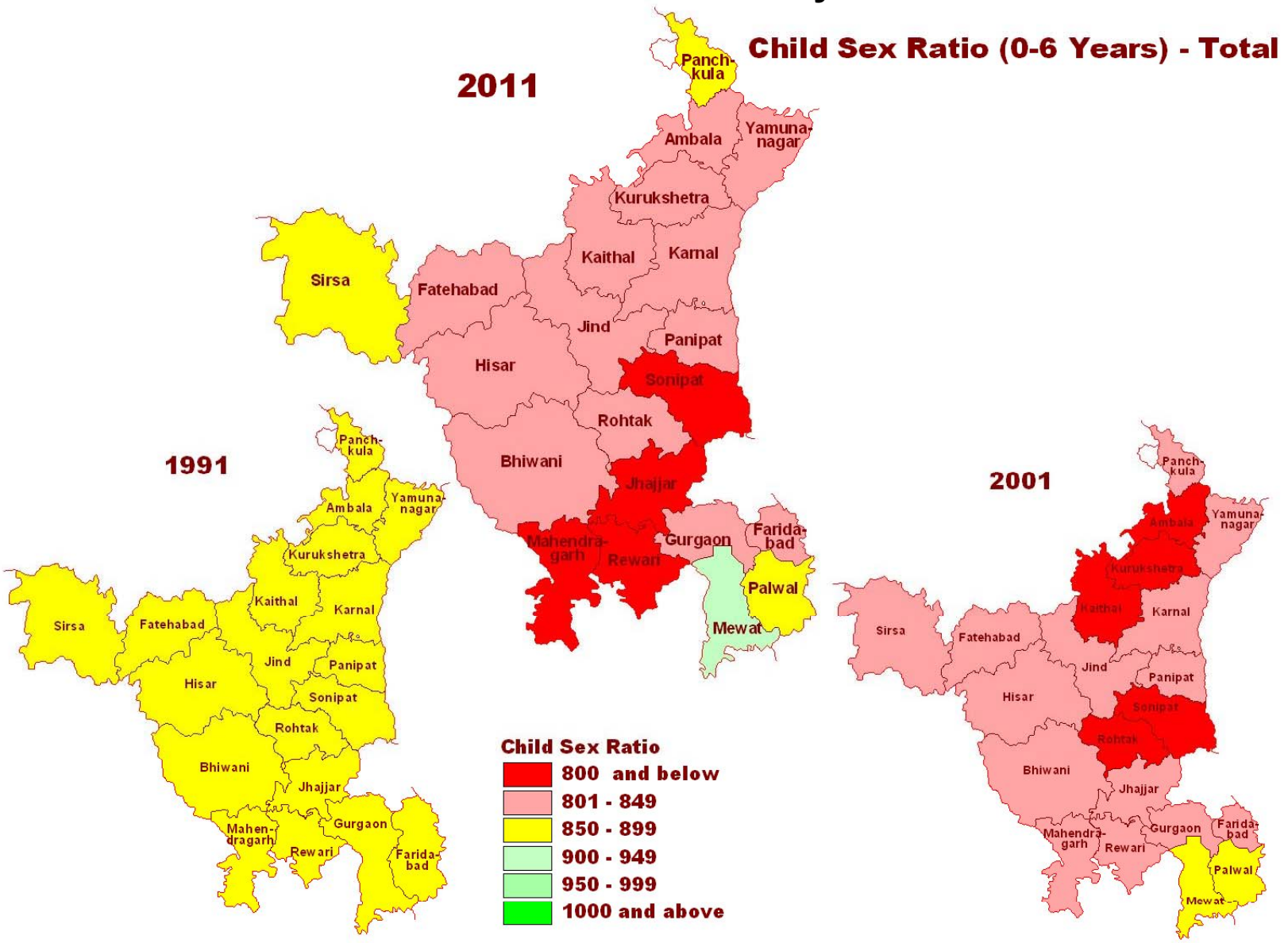
- The child sex ratio declined in 461 districts which is about three fourth of total districts in the country
- In 38 districts decline has been more than 50 points
- On positive side in 51 districts increase has been 20 or points

Total number of districts	640
Decline	**461**
More than 100 points	7
50 to 99 points	31
20 to 49 points	178
1 to 19 points	245
No Change	**20**
Increase	**159**
Up to 10 points	74
11 to 20 points	34
21 to 30 points	17
31to 49 points	19
50+	15

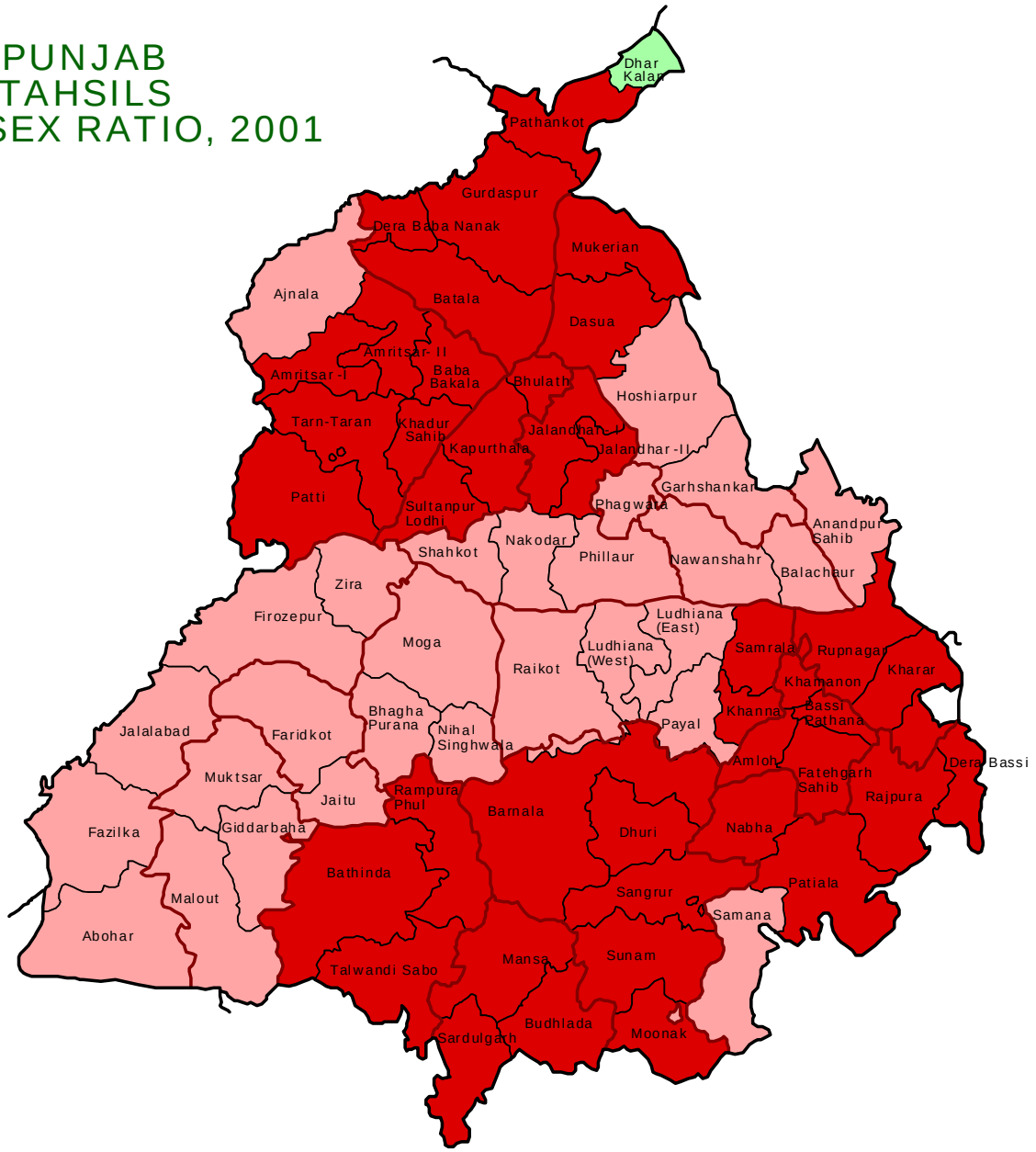
Decline in Child Sex Ratio (0-6 Years) 2001-11



Haryana


Child Sex Ratio (0-6 Years) - Total
2011
Panch-kula
Ambala
Yamuna-nagar
Kurukshetra
Kaithal
Karnal
Sirsa
Fatehabad
Jind
Panipat
Hisar
Sonipat
Rohtak
Bhiwani
Jhajjar
Mahendra-garh
Rewari
Gurgaon
Farida-bad
Palwal
Mewat
1991
2001
Child Sex Ratio
800 and below
801 - 849
850 - 899
900 - 949
950 - 999
1000 and above

PUNJAB
TAHSILS
CHILD SEX RATIO, 2001



CHILD SEX RATIO

- 800 AND BELOW
- 801 - 850
- 851 - 900
- 901 AND ABOVE

Punjab–Fatehgarh Sahib
(An example)

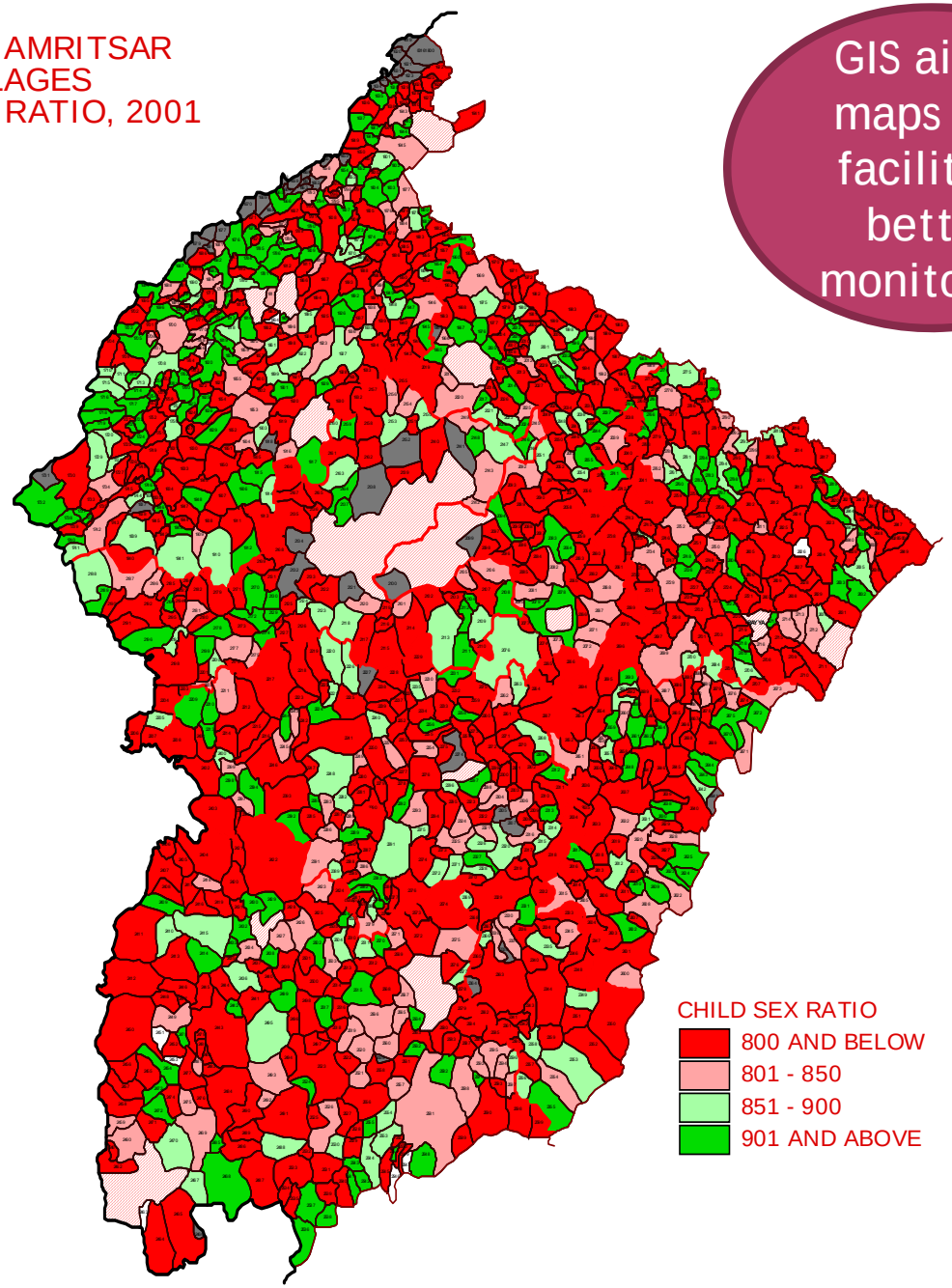
District/Tehsil	2001	2011	change
Fatehagarh saheb	766	843	+77
Bassi Pathana	744	867	+123
Fatehagarh	758	832	+74
Amroh	781	844	+63
Khamam	779	840	+61

- Close monitoring and advocacy at the grass root level by different stake holders helped Punjab in arresting the declining trend in CSR.
- Fatehagarh saheb district which recorded the lowest CSR in 2001 has improved by 77 points in 2011

Distribution of villages by ranges of Child Sex Ratio, 1991 & 2001 Census : PUNJAB

Ranges of Child Sex Ratio (0-6)	Number of villages	
	2001	1991
Less than 800	6376	3853
800 - 849	1621	1464
850 - 899	1263	1655
900 - 949	882	1402
950 - 999	813	1360
1000 +	1323	2694
Total	12278	12428

DISTRICT AMRITSAR
VILLAGES
CHILD SEX RATIO, 2001



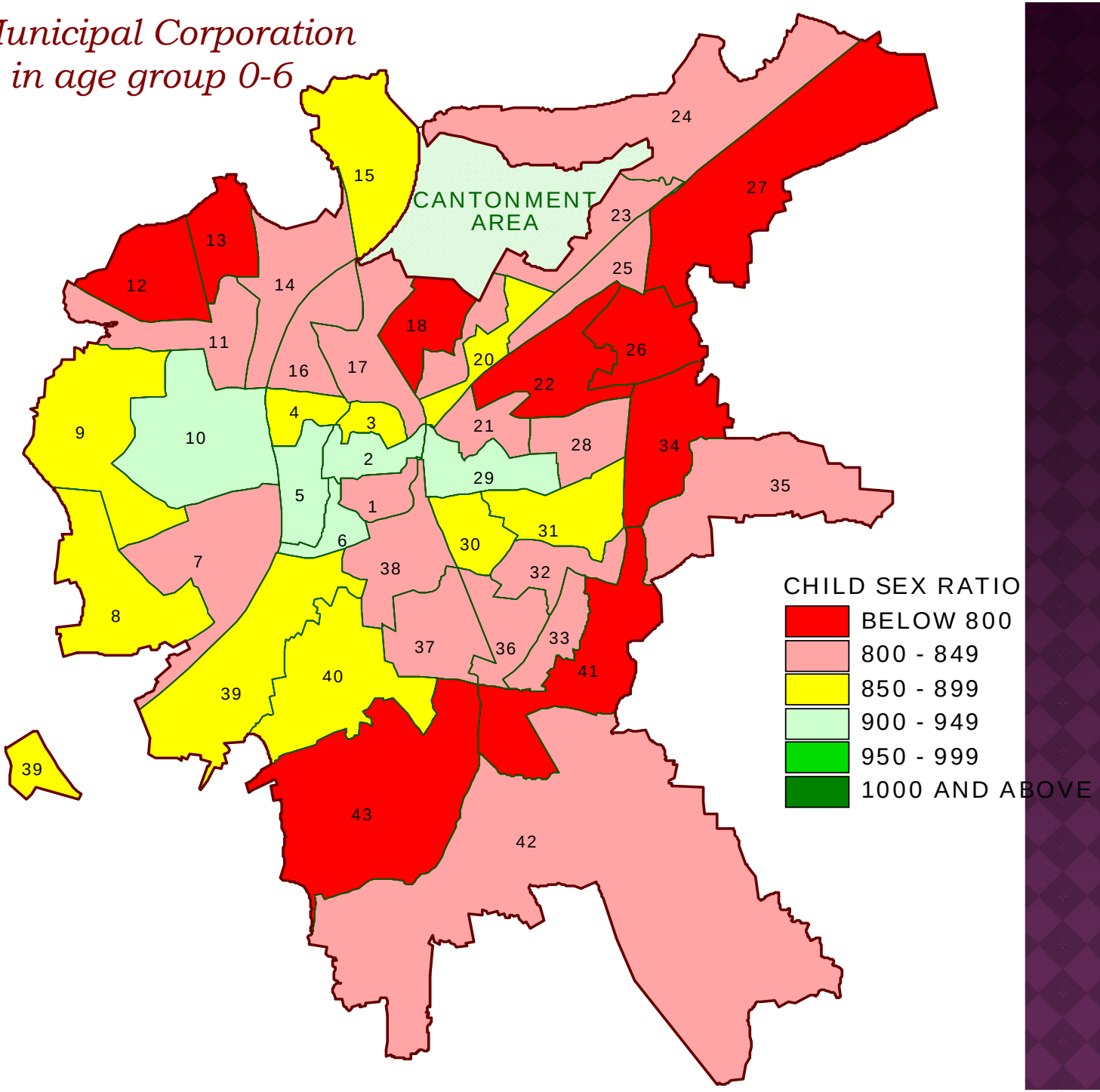
GIS aided maps will facilitate better monitoring

Amritsar District:

- **2001: 792**
- **2011: 824**

VILLGAE LEVEL DATA WOULD BE AVAILABVLE ONLY BY 2012 END

Ahmadabad Municipal Corporation
Child sex ratio in age group 0-6
(Wards)



2001-822
2011-850

11th Plan Goals

Sex ratio in the age group 0-6 years 2001 & 2011 and goals set by Eleventh Plan 2011-12 India/States/Uts

	India/state/Uts#	Sex ratio (0-6) Census 2001	Sex ratio (0-6) 2011	11th Plan goals 2011-12	Gap (column 5-4)
1	2	3	4	5	6
	INDIA	**927**	**914**	**935**	21
1	Jammu & Kashmir	941	859	949	90
2	Himachal Pradesh	896	906	904	**-2**
3	Punjab	798	846	850	4
4	Chandigarh #	845	867	875	8
5	Uttarakhand	908	886	916	30
6	Haryana	819	830	850	20
7	NCT of Delhi	868	866	875	9
8	Rajasthan	909	883	917	34
9	Uttar Pradesh	916	899	924	25
10	Bihar	942	933	950	17
11	Sikkim	963	944	971	27
12	Arunachal Pradesh	964	960	972	12
13	Nagaland	964	944	972	28

11th Plan has set monitorable goals for

Sex ratio in the age group 0-6 years 2001 – 2011 and goals set by Eleventh Plan 2011-12 India/States/Uts

	India/state/Uts#	Sex ratio (0-6) Census 2001	Sex ratio (0-6) 2011	11th Plan goals 2011-12	Gap (column 5-4)
1	2	3	4	5	6
14	Manipur	957	934	965	31
15	Mizoram	964	971	972	**1**
16	Tripura	966	953	974	21
17	Meghalaya	973	970	981	11
18	Assam	965	957	973	16
19	West Bengal	960	950	968	18
20	Jharkhand	965	943	973	30
21	Orissa	953	934	961	27
22	Chhattisgarh	975	964	983	19
23	M.P	932	912	940	28
24	Gujarat	883	886	891	**5**
25	Daman & Diu	926	909	934	25
26	D & N.Haveli	979	924	987	63
27	Maharashtra	913	883	921	38
28	A.P	961	943	969	26
29	Karnataka	946	943	954	11
30	Goa	938	920	946	26
31	Lakshadweep	959	908	967	59
32	Kerala	960	959	968	9
33	Tamil Nadu	942	946	950	**4**
34	Puducherry	967	965	975	10
35	A &N Islands	957	966	965	**-1**

Status

- Himachal Pradesh and Andaman & Nicobar Island have achieved 11th Plan goals set for sex ratio in the age group 0-6 years.
- Four states (Punjab, Mizoram, Tamil Nadu and Gujarat) are close to the targets with difference of 1-5 percentage points.
- Due to decline in CSR (0-6 years) in majority of states/UTs (27), the gap between Census 2011 11th Plan goals has further widened

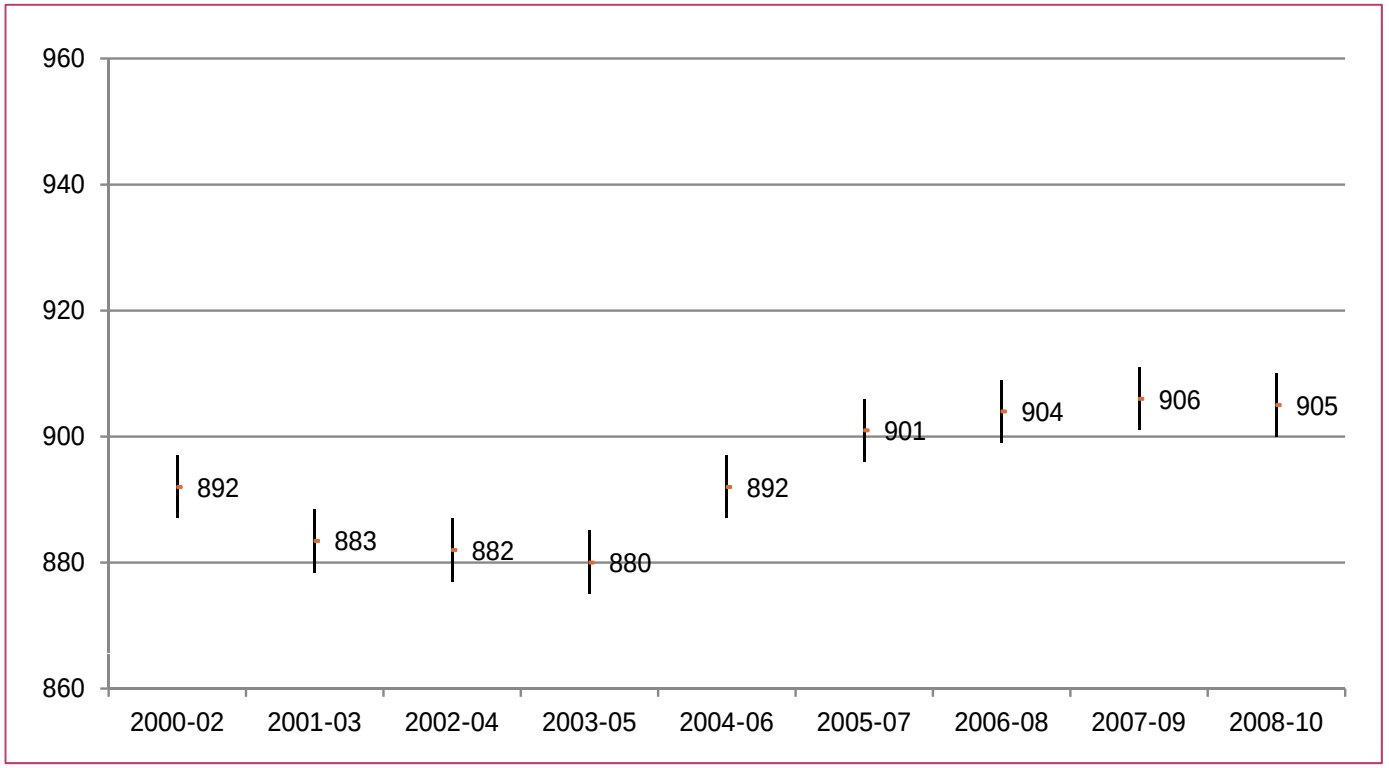
Sex Ratio at Birth (SRS & Annual Health Survey)

Sample Registration System

- Since year 2000, Sex Ratio at Birth (SRB) is being published under SRS for India and bigger States
- Starting from Year 2002, Sex Ratio (0-4 years) is also being published under SRS for India and bigger States
- These estimates are based on three-year moving averages in order to ward off sampling fluctuations

- Starting from 2002, the Estimates on Child Sex Ratio (0-4 years) are also being generated for India and bigger States.
- In order to ward off sampling fluctuations, these Estimates are based on 3 year moving averages rather than annual estimates.
- As per the present Tabulation Plan, it is not possible to generate Child Sex Ratio (0-6 years) under SRS. The same can be done under the revised frame based on Census 2011 results.
- SRB as well as Child Sex Ratio (0-4 years) have been released at the district level under Annual Health Survey for the 8 EAG States and Assam.

Trends in Sex Ratio at Birth, India- SRS



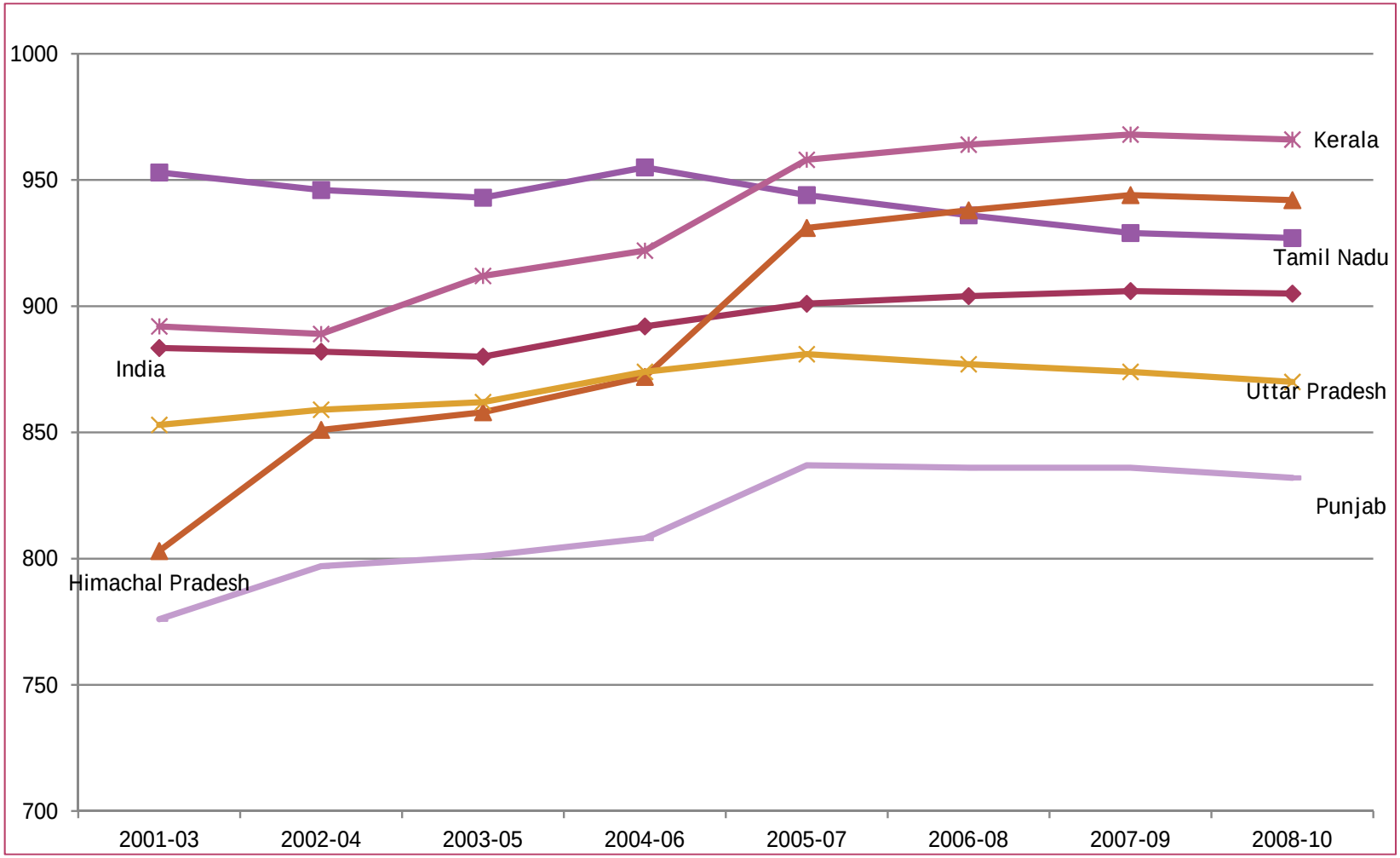
SRB has begun to improve since 2004-06, however, it is still a far cry from the normal SRB.

Sex Ratio at Birth, India and bigger States-SRS

India and bigger states	2002-04	2006-08	2008-10
India	**882**	**904**	**905**
Andhra Pradesh	916	917	920
Assam	915	933	928
Bihar	863	914	912
Chhattisgarh	964	975	985
Delhi	835	877	884
Gujarat	855	898	903
Haryana	821	847	848
Himachal Pradesh	851	938	942
Jammu & Kashmir	816	862	873
Jharkhand	865	922	919
Karnataka	923	935	943
Kerala	889	964	966
Madhya Pradesh	916	919	921
Maharshtra	878	884	895
Orissa	944	937	938
Punjab	797	836	832
Rajasthan	838	870	877
Tamil Nadu	946	936	927
Uttar Pradesh	859	877	870
West Bengal	931	941	938

All States, except Tamil Nadu, have shown an increase in the SRB in 2008-10 over 2002-04

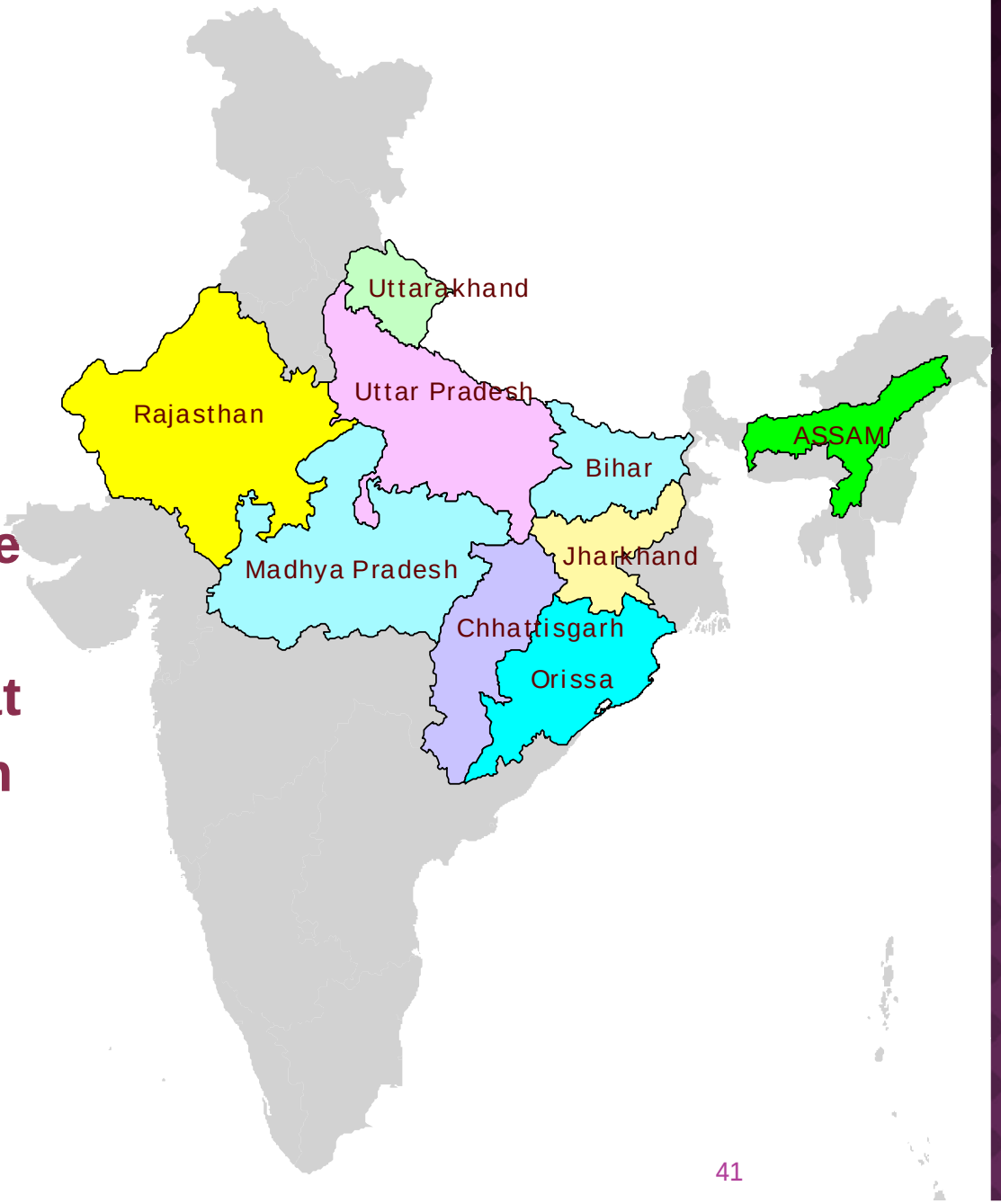
Sex Ratio at Birth, few Selected States – SRS(2001-03 to 2008-10)



Variation across States is clearly visible from the gap in the estimates of Kerala & Tamil Nadu and Uttar Pradesh & Punjab

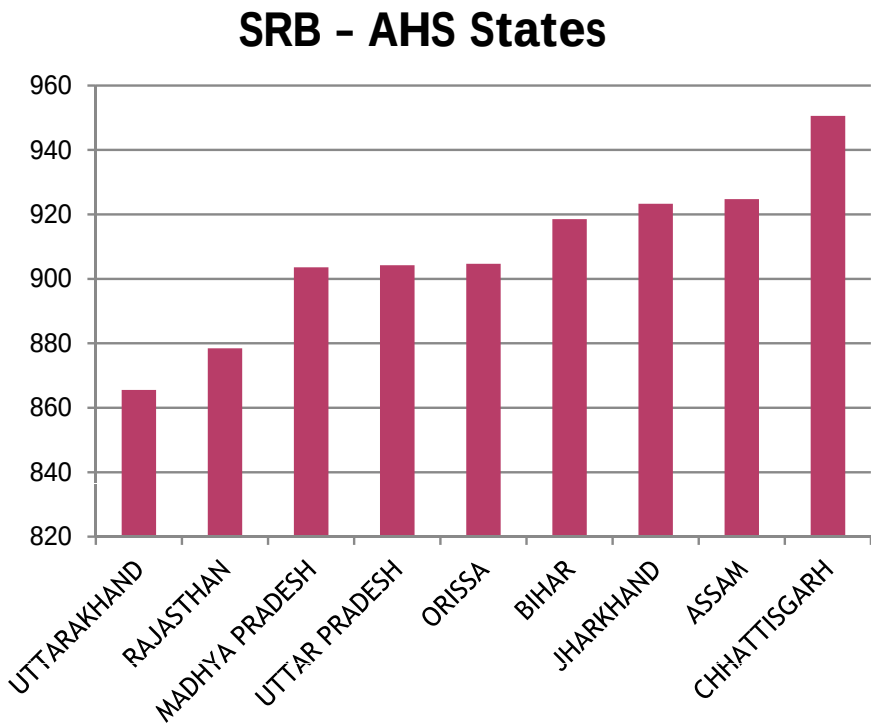
About AHS

Annual Health Survey (AHS) is a sample survey initiated to provide information on health indicators at the district level in EAG States and Assam (9 States)



- One of the key determinants affecting Child Sex Ratio is Sex Ratio at Birth
- The information on Sex Ratio at Birth is available in AHS at District level for 8 EAG States and Assam
- Facilitates comparison with Census 2011 results and to an extent explains the reason behind the declining trend from another independent source

SEX RATIO AT BIRTH (SRB)



- SRB denotes number of female Live Births per 1000 male Live Births
- Uttarakhand records the lowest SRB while Chhattisgarh, the highest
- Across all 9 AHS States, SRB in rural areas is significantly higher than that of urban areas. In UP, rural SRB is 911 compared to 873 in urban

SEX RATIO AT BIRTH (SRB)

State	Total no. of districts	Districts with minimum SRB	Districts with maximum SRB	Range
UTTARAKHAND	13	Pithoragarh (764)	Nainital (918)	154
RAJASTHAN	32	Sawai Madhopur (782)	Bhilwara (968)	186
UTTAR PRADESH	70	Mathura (790)	Moradabad (1030)	**240**
BIHAR	37	Sitamarhi (869)	Buxar (989)	120
ASSAM	23	Hailakandi (810)	Lakhimpur (984)	174
JHARKHAND	18	Purbi Singhbum (884)	Giridih (985)	**101**
ORISSA	30	Nayagarh (832)	Nabrangapur (951)	119
CHHATTISGARH	16	Koriya (876)	Kawardha (1008)	132
MADHYA PRADESH	45	Gwalior (807)	Dindori (1006)	199

- SRB across 284 districts ranges between 764 (Pithoragarh, Uttarakhand) & 1030 (Moradabad, UP)
- SRB in rural areas of districts is generally higher than in urban areas

SEX RATIO AT BIRTH (SRB)

State	Frequency Range					
	751 - 800	801 - 850	851 - 900	901 - 950	951 - 1000	1001 - 1050
UTTARAKHAND	1	2	9	1		
RAJASTHAN	1	8	14	8	1	
UTTAR PRADESH	2	11	22	22	11	2
BIHAR			11	17	9	
ASSAM		1	5	14	3	
JHARKHAND			5	9	4	
ORISSA		2	10	17	1	
CHHATTISGARH			1	7	5	3
MADHYA PRADESH		5	15	17	7	1
Total	4	29	92	112	41	6

44% of districts have SRB less than 900

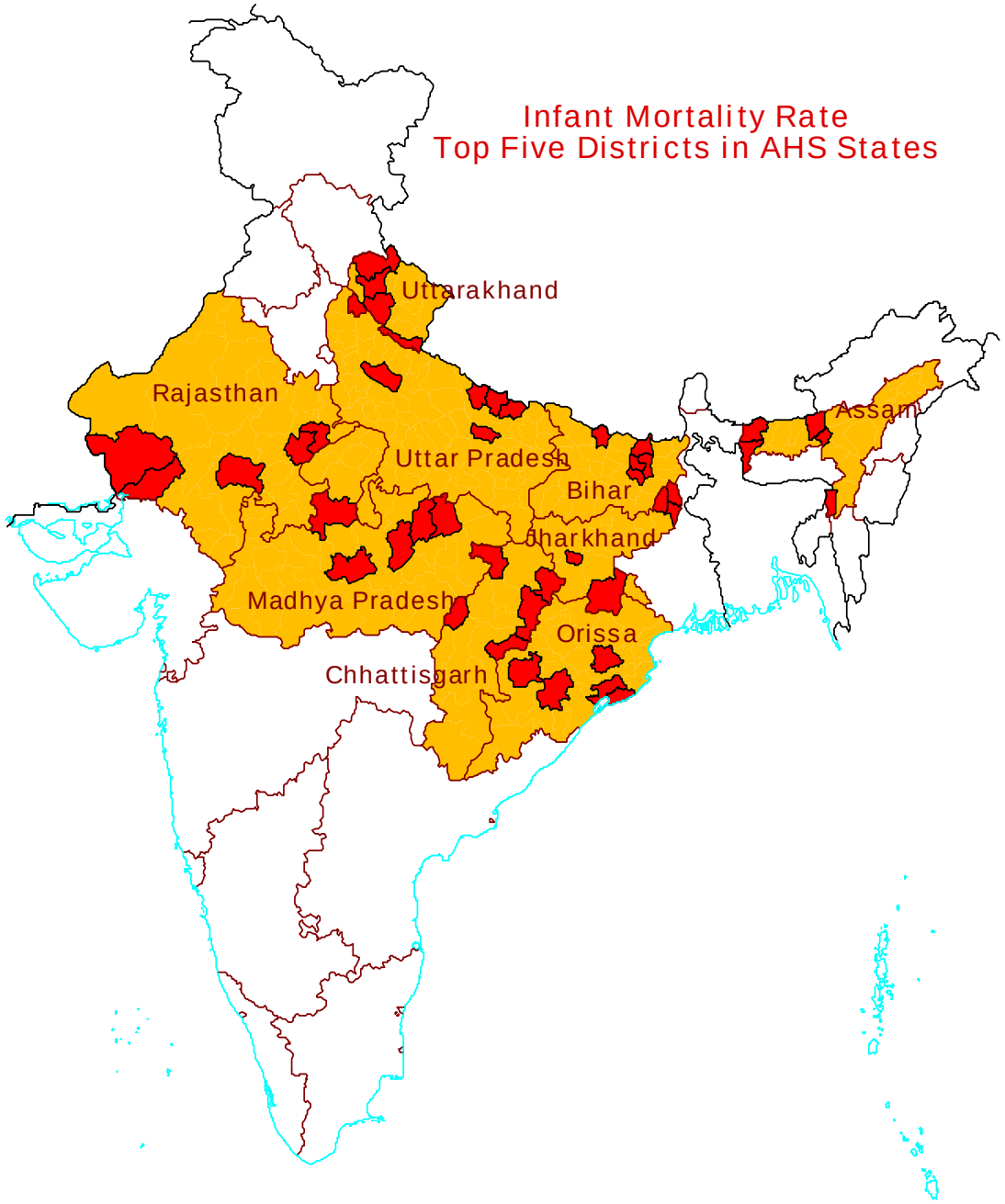
Child Sex Ratio (0-6) – Comparison : (AHS in EAG States & Assam)

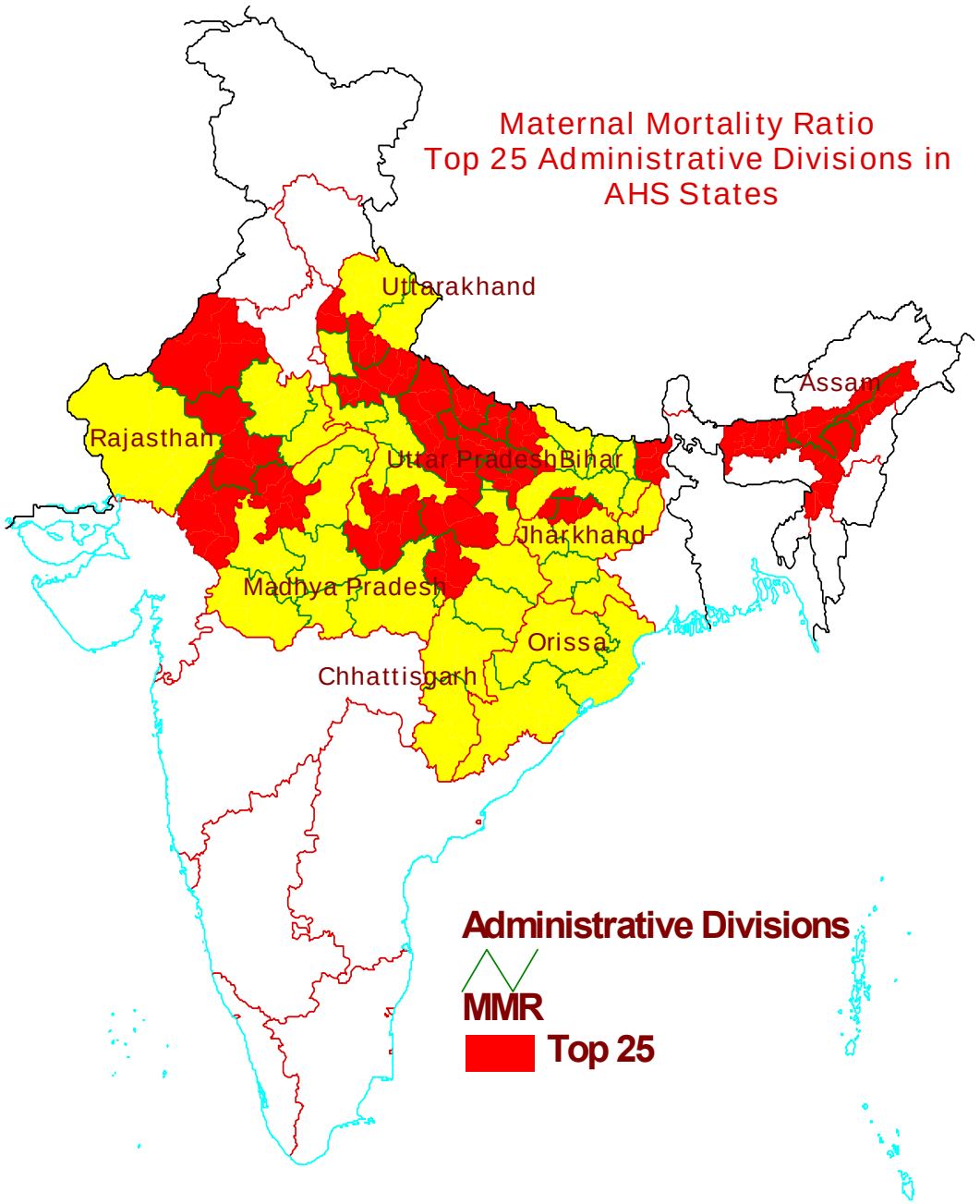
State	Child Sex Ratio (0-6 yrs) Census 2011	Sex Ratio(0-4 yrs- AHS)	Sex Ratio at Birth (AHS)
Uttarakhand	886	877	866
Rajasthan	883	870	878
Uttar Pradesh	899	913	904
Bihar	933	931	919
Assam	957	956	925
Jharkhand	943	937	923
Orissa	934	933	905
Chhattisgarh	964	978	951
Madhya Pradesh	912	911	904

SRB & Child Sex Ratio 0-4 years by AHS is in sync with 0-6 years 2011 census (provisional)

KEY CONCERNS

- Top 100 districts in order of IMR constitute about 50 percent of total Infant Deaths across 9 States
- Top 25 Administrative Divisions (comprising 104 districts) in order of MMR constitute 41 percent of the total Maternal Deaths
- Top 100 districts in order of U5MR account for 63 percent of total child deaths.
- 57 districts are in common – Hot Spots
- SRB in 33 districts is below 850 and 127 districts, below 900.

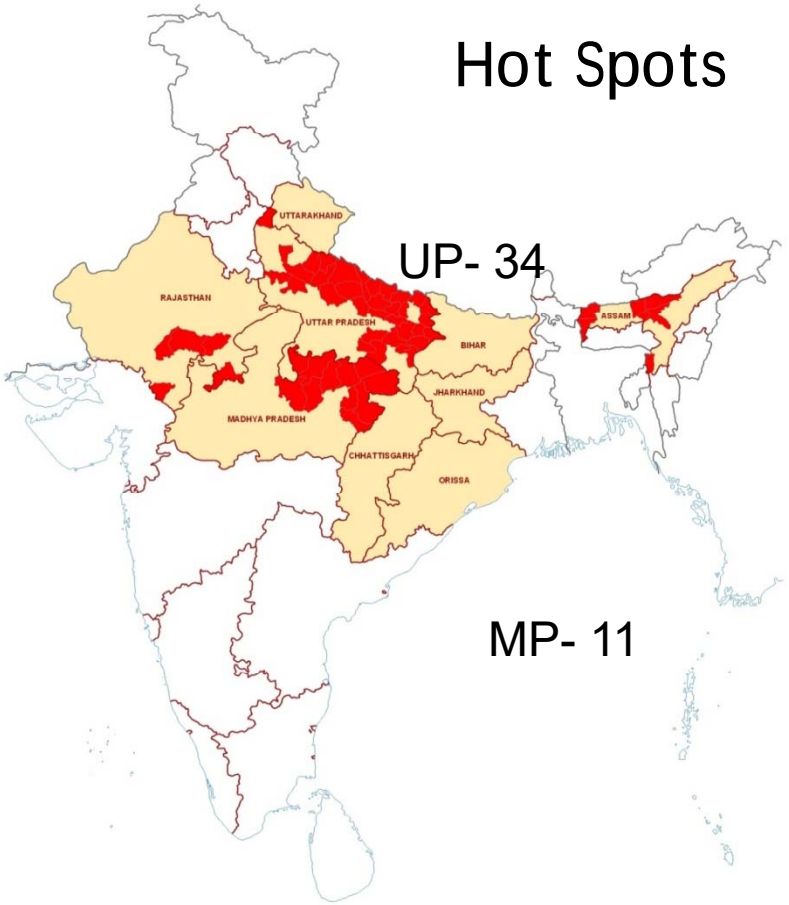

Infant Mortality Rate
Top Five Districts in AHS States
Uttarakhand
Rajasthan
Assam
Uttar Pradesh
Bihar
Jharkhand
Madhya Pradesh
Orissa
Chhattisgarh


Maternal Mortality Ratio
Top 25 Administrative Divisions in
AHS States
Uttarakhand
Assam
Rajasthan
Uttar Pradesh
Bihar
Jharkhand
Madhya Pradesh
Orissa
Chhattisgarh
Administrative Divisions
MMR
Top 25

Hot Spots

Rajasthan- 5

Assam- 7



UP- 34

MP- 11

In conclusion

- Census 2011 shows that though there are decline in both rural and urban areas of the country, the pace of decline is three times higher in the rural areas, a paradigm shift to note
- As per the report on Population Projection (2001-2026), the Child Sex Ratio in Census 2011 in India was estimated at 889. The results as per Census 2011 (Provisional) has shown a 25 points increase (to 914).
- The decline in Child Sex Ratio has been arrested due to the concerted efforts and advocacies by all the stakeholders at the grass root level
- District/sub districts/village showing low sex ratio
- Similar efforts in other States are required to reverse the declining trend in Child Sex Ratio.

In conclusion

- Increase in over all Sex Ratio in Census 2011 indicates improved visibility of women in the country
- Paradoxically, the Child Sex Ratio (0-6) continues to decline in the successive censuses
- In Census 2011 Child Sex Ratio in 27 States /Uts has declined. Decline is also noted in 461 districts
- The disturbing feature in Census 2011 has been the spread of declining trend in new areas
- Importantly there has been reversal of trend in 8 States/ UTs where Child Sex Ratio have actually improved in Census 2011. This includes States like Punjab and Haryana where decline in CSR in 2001 assumed alarming level.

In conclusion

- **Need to follow holistic approach concerning issues of birth, survival and development of Girl Child**
- To monitor Sex Ratio at Birth intensely and sustain over period of time
- To ensure:
  - Complete registration of Births and Deaths specially of girls
  - Immunization, Nutrition, health care equality to reduce Infant, Child, Maternal Mortality Rates
  - Registration and tracking of pregnancies
- AHS will provide District level hot spots.

For more information please visit:

censusindia.gov.in

Thank you.