CHAPTER 1
INTRODUCTION

1 INTRODUCTION

1.1 BACKGROUND

India was the first country in the world to launch a national programme emphasizing family planning to stabilize the population at a level consistent with the requirements of the national economy. Since then, the family welfare programme has always been the one of the highest priority programmes in India.

The International Conference of Population and Development (ICPD) in Cairo 1994 established a growing international consensus on population and sustainable development and policies to achieve population stabilization. A broad and comprehensive definition of "Reproductive Health" was accepted by all participating countries including India. This marked a turning point in the approach of the family welfare programme of India. After the Cairo ICPD, India has respected the ICPD framework, and in conjunction with the Programme of Action adopted at the ICPD, it has promoted comprehensive reproductive health, improved access to health services, improvement of women's status, and strengthening of women's right. These were clearly described in the Ninth National Development Plan. In addition, community needs assessments were implemented and programmes with a bottom up focus rather than the hitherto top down focus were promoted. In some states of India, however, these reproductive health policies and national plans have not been fully implemented as expected, and still more efforts will be needed at the implementation level to achieve reproductive health goals.

Japan has had a serious concern for population and AIDS as issues common to all humanity that must be tackled immediately. It announced **Japan's Global Issues Initiative (GII) on Population and AIDS** in 1994, prior to the series of conferences of ICPD (Cairo), the AIDS Summit (Paris), and the World Women's Conference (Beijing), in order to actively confront these global issues. It has pursued a policy of actively promoting the Programme of Action that was set forth at the ICPD. Japan has sent a Project Formulation Mission to various countries, beginning with the 12 priority countries with high assistance needs in the areas of population, reproductive health, and AIDS, and has continued to actively provide development assistance in these sectors to the present.

India is one of the 12 priority countries named in the GII, and Japan sent a Project Formulation Mission to India in 1995 to study the assistance needs in these sectors and to hold discussions with the Indian government. Based on these discussions, it was agreed between the Japanese and Indian governments that assistance was needed to improve women's health status with the approach of integrated reproductive health and women's empowerment in accordance with the international consensus in the Cairo Conference, and a project for implementation of technical cooperation to develop a master plan (the "development study") for improvement of women's reproductive health at the district level was formulated for the state of Madhya Pradesh (MP) in northern India, which has poor indices of human development and women's health.

After the Cairo ICPD, the government of MP has promoted health, nutrition and women's programmes to improve reproductive health as a priority area along with the national policies and programmes. In 2000, the MP government formulated the state population policy that respected the reproductive health framework.

Under these circumstances, the Government of India requested the Government of Japan to provide technical cooperation to develop a district plan for improvement of reproductive health. In response to the request, based on the prevailing conditions in MP state, the Japanese government concluded that improvement of women's health in the state was exceedingly important for the state's development and dispatched a preliminary study team, which resulted in the Scope of Work (S/W) for the "Development Study on Reproductive Health in the State of Madhya Pradesh, India" signed by the respective representatives of the Government of MP and Japanese International Cooperation Agency (JICA) on the 20th of April 2000.

1.2 OBJECTIVES OF THE STUDY

The objectives of the Study were,

(1) To formulate District Plans for Improvement of Reproductive Health for Damoh and Tikamgarh districts of Sagar division, the state of Madhya Pradesh, India, primarily based on the current situation/problem analysis related to women's health, nutrition, hygiene, education, and the labour environment.

The District Plans will mainly target women in reproductive age group and extend to 2010.

(2) To carry out technical transfer to the Indian counterpart personnel throughout the Study.

1.3 STUDY AREA

The geographical study area is Sagar Division of the State of Madhya Pradesh. The Division consists of five districts: Chhatarpur, Damoh, Panna, Sagar and Tikamgarh.

The study was to be conducted in all five districts of Sagar division, and emphasis is put on the studies and surveys in the districts of Damoh and Tikamgarh.

The population of the total area is approximately 6.6 millions in total, 1.2 and 1.1 millions respectively in Tikamgarh and Damoh districts.

1.4 TIME FRAME OF THE STUDY

The study spans 14.2 months, taking place from mid-November 2000 to the end of March 2002. The Study was implemented in two phases: Phase I from November 2000 to June 2001 and Phase II from July 2001 to March 2002.

A diagram outlining the overall study process is given on the last page of this chapter.

1.5 STUDY APPROACH AND METHODOLOGY

1.5.1 Phased Approach of the Study

The study was implemented in two phases; each phase covered the following areas.

(1) Phase I   (November 2000 – April 2001)

In Phase I, the situation analysis of reproductive health (mainly of women) and related issues was conducted. The past, on-going and planned projects/programs and studies related to reproductive health issues were also reviewed. Based on these analyses and findings, the constraints and issues in improving reproductive health were identified, and strategies for the district plans for improving reproductive health were elaborated.

(2) Phase II   (July 2001 – March 2002)

Based on the results of the Phase I study and the strategies elaborated, supplementary field studies were conducted and data/information were collected as necessary, and the district plans for improving reproductive health at district level were formulated.

1.5.2 Study Methodology

The methodologies used in the study are:

(1) Study on secondary sources:
- Review of documents and publications from international agencies, NGOs and Government.
- Analysis of existing secondary statistical data
- Review of existing project and programmes

(2) Collection of primary data/qualitative information:
- Qualitative assessment of health system and RCH services provision was conducted through direct observation, in-depth interviews, and discussions with health staff, other stakeholders and key informants in communities.
- Rapid assessment of RCH service delivery by using simple questionnaires in the field.
- Focus group discussions with community people which were conducted by a subcontracted local consulting firm
- Review of existing projects and programmes related to RCH
- Exchange of opinions in meetings and workshops with health administrative staff and health care providers.

(3) Collection of primary data/quantitative information:

Four surveys were subcontracted to a local consulting firm. These studies gathered statistical data using structured questionnaires.

(a) Knowledge, attitude and practice (KAP) study on health care seeking behaviour in Damoh and Tikamgarh Districts: 1,080 ever-married women (age 15-49) and 976 of their husbands were interviewed.

(b) Beneficiary interview survey at health facilities and at home in five districts in Sagar Division: 387 clients visiting government health facilities (CHC, PHC and SC) and 216 clients who received care at home from health workers were interviewed.

(c) Health facility and human resource survey in five districts in Sagar Division: 75 government facilities including district hospital, CHC, PHC and SC were surveyed. A total of 174 health care providers working at health facilities were interviewed.

(d) A community survey in five districts in Sagar Division, including interviews with women's groups and community health providers: 13 urban communities and 80 rural communities (villages) were surveyed.

(4) Meetings and Workshops

To present and share the team's work plan and findings of the study, several meetings and workshops were held at state, district and block level through the study period. Participants' opinions and inputs were taken into consideration in analysis of the current situation of reproductive health, and particularly in developing strategies and district plans for improving reproductive health.
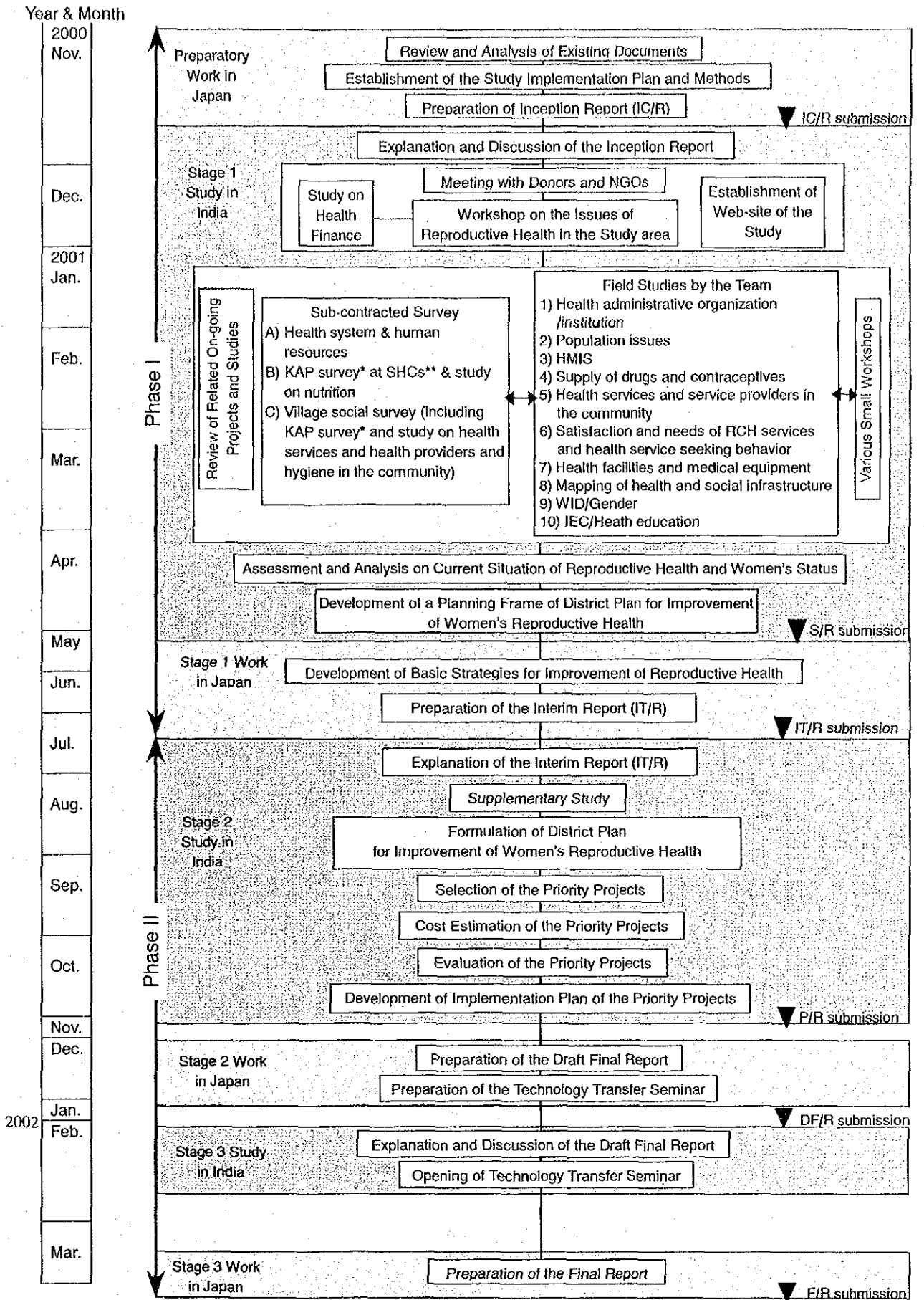
(5) Development of geographical information system (GIS) for Tikamgarh and Damon district

Basic GIS maps of Tikamgarh and Damoh were developed and available data mainly from 1991 census data were incorporated in the GIS. However, due to difficulties in obtaining data and the poor quality of the data, only limited data from each district were utilized.

- Analysis of accessibility of SCs using GIS was conducted.
- Training on the basics of GIS was conducted for state level health officers and computer programmers.

1.5.3 Project Website

A domain name has been obtained and a website has been established with the project information (www.jica-rchstudy-India.org). It has been regularly updated with the study progress (workshops, visits, reports).

Year & Month

Preparatory Work in Japan

Review and Analysis of Existing Documents

Establishment of the Study Implementation Plan and Methods

Preparation of Inception Report (IC/R)

▼ IC/R submission

Phase I

Stage 1 Study in India

Explanation and Discussion of the Inception Report

Study on Health Finance

Meeting with Donors and NGOs

Workshop on the Issues of Reproductive Health in the Study area

Establishment of Web-site of the Study

Review of Related On-going Projects and Studies

Sub-contracted Survey
A) Health system & human resources
B) KAP survey* at SHCs** & study on nutrition
C) Village social survey (including KAP survey* and study on health services and health providers and hygiene in the community)

Field Studies by the Team
1) Health administrative organization /institution
2) Population issues
3) HMIS
4) Supply of drugs and contraceptives
5) Health services and service providers in the community
6) Satisfaction and needs of RCH services and health service seeking behavior
7) Health facilities and medical equipment
8) Mapping of health and social infrastructure
9) WID/Gender
10) IEC/Heath education

Various Small Workshops

Assessment and Analysis on Current Situation of Reproductive Health and Women's Status

Development of a Planning Frame of District Plan for Improvement of Women's Reproductive Health

▼ S/R submission

Stage 1 Work in Japan

Development of Basic Strategies for Improvement of Reproductive Health

Preparation of the Interim Report (IT/R)

▼ IT/R submission

Phase II

Explanation of the Interim Report (IT/R)

Supplementary Study

Stage 2 Study in India

Formulation of District Plan for Improvement of Women's Reproductive Health

Selection of the Priority Projects

Cost Estimation of the Priority Projects

Evaluation of the Priority Projects

Development of Implementation Plan of the Priority Projects

▼ P/R submission

Stage 2 Work in Japan

Preparation of the Draft Final Report

Preparation of the Technology Transfer Seminar

▼ DF/R submission

Stage 3 Study in India

Explanation and Discussion of the Draft Final Report

Opening of Technology Transfer Seminar

Stage 3 Work in Japan

Preparation of the Final Report

▼ F/R submission

* KAP: Knowledge, attitude and practice, **SHCs: Sub-health centers

(IC/R: Inception report, S/R: Status report, IT/R: Interim report, P/R: Progress report, DF/R: Draft final report, F/R: Final report)

Fig. 1-1   Study Activities Flowchart

CHAPTER 2
GENERAL PROFILE OF THE STUDY AREA

2 GENERAL PROFILE OF THE STUDY AREA

2.1 GENERAL PROFILE OF MADHYA PRADESH

2.1.1 Geography and Climate

The State of Madhya Pradesh (MP)[1] occupies a central location in India. For this reasons it is nicknamed "the heart of India." The state is landlocked and bounded by seven states. Its terrain is quite diverse, ranging from wide plains to mountains and ravines. It is also a state of rivers and lakes.

The forest occupies 32.8% of the geographical area of the state, whereas the cultivated area is about 44.9%. The eastern part of the state has the highest percentage of the forest, which shelters the wild animal reserve and soil fertility.

There are two climatic seasons. During the rainy season (or monsoon), from June to October, temperatures range between 19 and 30 centigrade; rain falls abundantly, particularly between June and September. The dry season is mostly dry and mild with temperatures between 10 and 27 centigrade from November to February, yet becomes very hot and dry from March to May.

2.1.2 Population and Demography

Prior to being divided Madhya Pradesh was the largest state in India with approximately 81 millions of population. The bifurcated state is the second largest in terms of land area and seventh in terms of population size. Population density is comparatively low among other states and union territories in India (Rank in 2001 is 23rd out of 35 states and union territories).

Table 2-1 Population of Madhya Pradesh and Chhattisgarh

	Current MP	Chhattisgarh	India
No. of District	45	15	-
Population (thousand)	60,385	20,796	1,027,015
% Share in total population of India	5.9 %	2.0 %	100.0 %
Population density (/km^2)	196	154	324
% Urban population (1991)	23.2 %		26.1 %
% Decennial population growth 1991-2001	24.3 %	18.1 %	21.3 %
% ST population (1998-99)	20.0 %	32.5 %	9.1 %
% SC population (1991-99)	15.4 %	12.2 %	18.7 %

Source: 1) Provisional Population Totals; India. Census of India 2001, Office of the Registrar General, India
2) Madhya Pradesh Population Policy January 2000, Government of Madhya Pradesh
3) National Family Health Survey (NFHS-2) 1998-99

Nearly three-quarters of the state population resides in rural areas. One of the demographic characteristics of the former MP is a high proportion of tribal people in the population. Although the districts with a high proportion are now in Chhattisgarh, the current MP has still a high proportion of ST. Scheduled tribes (ST) form 20% and scheduled castes (SC) another

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[1] On 1st November 2000, the Sate of Madhya Pradesh was divided into two states: Madhya Pradesh and Chhattisgarh. In this Chapter "Madhya Pradesh (MP)" refers the former state of Madhya Pradesh unless otherwise specified.

15% of the population of the current MP. The northern, central and northwestern districts have a high proportion of SC, while the southern and southeastern districts have a high proportion of ST.

2.1.3 Political and Administrative System

The state government is headed by a Chief Minister and has 50 departments including the Department of Public Health and Family Welfare, the Department of Women's and Child Development, and the Department of Medical Education and Indian System of Medicine.

The state is divided into 12 divisions and the division divided into districts. There are 45 districts in MP. At the divisional level, there is a divisional commissioner who supervises and controls all administrative aspects of the division. A district controller (I.A.S. officer position) is administrative head of a district and chairs the District Planning Committee (DPC) where the annual district plan and budget are reviewed and decided.

Political decentralization is being promoted through elected bodies: Panchayat Raj Institutions (PRIs) for rural areas and Nagar Palika / Nagar Panchayat for urban areas.

2.1.4 Socio-economic Profile

The 1998/99 per capita Net Domestic Product (NDP) was Rs. 7,350 (approximately US $163 at the 2000 rate of exchange 45:1), 75% of the national NDP. More than 40% of the population lives below the poverty line (BPL) with a per capita income of less than Rs. 5,000 (about US$100).

The economy is agricultural and three-fifths of the workforce is employed in agricultural and related sectors. Due to the poor yield and cultivation of low value crops, the agriculture sector suffers from the low productivity. Although various methods of irrigation such as canals, tank, and wells have been utilized, irrigation systems are inadequate. Many areas of MP suffer from drought in the dry season. Major agriculture products include wheat, rice, jowar, pulses, soybean, niger, mustard and other vegetables. The MP government has promoted rural based industries such as sericulture and pisciculture.

Since the central government's liberalization policy started in 1991, new large and medium sector units have come up mostly in the state's new industrial centres. However, industries in MP still depend on small-scale production. These are divided into three categories: mineral based industry, forest based industry, and agriculture based industry. At present, industries in MP rely on the basic metal and alloys, food product, chemical products, cotton textiles, non-metallic mineral products, and electrical products. Iron ore, leather, cotton, oil-seeds, tobacco, gum, vegetable oil, manganese and china clay are the main exports of the state mostly to other Indian states, principally Rajasthan, Uttar Pradesh, Bihar and Orissa. Electric machinery, leather and tobacco are also exported to foreign countries.

2.1.5 Socio-cultural Profile

MP is known as a part of the "Hindi belt," a region of Northern India inhabited predominantly by Hindus. The Hindu population of MP is 92.2% of the state total, but only 72.3% in Bhopal, the capital city of MP, where Muslims are 23.4% of the population.

Casteism[1] is widely practiced and traditional habits in daily life are very popular in the whole state, particularly in rural areas.

There are still many pre-Aryan Gond and Bhil tribes in the state. According to the 1991 census, the ST population of the current MP was over 15 millions which was about 20% of the total population of the state. The ST population in MP consists of 46 different groups.

Discrimination against women lies at the root of many social and health problems. The sex ratio of the current MP is much lower than Chhattisgarh state and India as a whole. Overall literacy rate is 76.8 %, but the rate for women is lower at 50.3 % (2001), and still lower in rural area. The literacy rate among the most disadvantaged groups like SC and ST was also low: in 1991, 21.3% and 9.5% respectively.

Table 2-2 Demographic and Social Indicators of MP

Indicators			Current MP	MP	Rank *	India	Data Source
Crude birth rate		(1997)	-	31.9		27.2	5)
Crude death rate		(1997)	-	11.0		8.9	5)
TFR		(1993)	-	4.2		3.5	6)
Life expectancy - Male		(1989-93)	-	54.1		59.0	2)
(years) - Female		(1989-93)	-	53.8		59.7	2)
Sex ratio (females / 1,000 males)		(1998-99)		941	23 in 35	933	3)
Literacy rate** - Male	(%)	(2001)	76.8	58.0	20 in 35	75.9	2) and 4)
- Female	(%)	(2001)	50.3	29.0	28 in 35	54.2	2) and 4)
% Population below poverty line				42.5		36.0	4)
HDI		(1997)	-	0.349	15 in 16	0.423	1)
GDI		(1997)	-	0.312	15 in 16	0.388	1)

Note: * Rank in India
** The literacy rates for India have been worked out by excluding entire Kachchh district, Morvi, Maliya-Miyana, and Wankaner talukas of Rajkot district, Jodiya taluka of Jamnagar district of Gujarat State and entire Kinnaur district of Himachal Pradesh where population enumeration of Census of India, 2001, could not be conducted due to natural calamities.

Source: 1) The Road to Human Development, India Development Forum, Paris, 23-25 June 1997
2) Census of India 1991: Madhya Pradesh District Profile
3) National Family Health Survey (NFHS-1) 1992-93
4) Census of India 2001
5) Madhya Pradesh Population Policy, January 2000
6) Sample Registration Bulletin, Part 31, January 1997, New Delhi
7) Compendium of India's Fertility and Mortality Indicators 1971-1997, based on SRS

2.2 GENERAL PROFILE OF SAGAR DIVISION

2.2.1 General Outline

Sagar division is located in northern MP. It consists of five districts: Sagar, Damoh, Tikamgarh, Panna and Chhatarpur. Sagar city is the administrative centre of the Division; the office of the Revenue Commissioner for the division is located in Sagar city. However, Sagar does not seem to be functioning as a centre of the division, partly due to a long distance and bad road

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[1] The practice of treating people differently according to the caste to which they belongs.

conditions between the districts, and partly because there are no local industries or commercial businesses there to be a regional centre.

The division is one of the less developed areas in the state as indicated in rank of HDI and GDI in the 45 districts in the state[1] (Table 2-2).

2.2.2 Population and Political and Administrative Units

(1) Population and Demography

The estimated total population of the division in 2001 is approximately 6.6 millions, 11.0% of the total population of MP.

In Sagar district 15.3% of the population and 13.9% in Chhatarpur district reside in urban slums, while the other three districts do not have any true urban slums.

Table 2-3 Administrative Unit in Sagar Division

District	Area (km²)	Population ('000)	Pop. Density (/ km²)	Number of:				
				Tasils *	Blocks **	Nagar (urban) Panchayat	Gram (rural) Panchayat	Villages
Tikamgarh	5,048	1,203	238	6	6	12	443	863
Chhatarpur	8,687	1,475	170	7	8	13	558	1,076
Panna	7,135	854	120	5	5	5	378	939
Damoh	6,306	1,082	172	7	7	3	456	1,205
Sagar	10,252	2,022	197	8	11	4	753	1,868
Division total	37,428	6,636	177	33	37	37	2,588	5,951
MP total	308,000	60,385	196	260	313	235	22,029	51,806

Note: * Political and administrative unit for tax collection
** Administrative unit for health, education and others
Source: National Census 2001, Government of Madhya Pradesh

Table 2-4 Demographic Profile of Sagar Division

		Tikam-garh	Chhatar-pur	Panna	Damoh	Sagar	Sagar Div.	MP
Population (2001)	-Total	1,203	1,475	854	1,082	2,022	6,636	60,385
in thousand	- Male	638	789	448	569	1,073	3,517	31,457
	- Female	565	686	406	513	949	3,119	28,928
Share in Sagar Population (%)		12.9	30.5	18.1	16.3	22.2	100.0	-
% Urban population (1991)		16.9	19.3	13.0	18.1	26.2	20.0	23.2
% SC Population (1991)		20.8	23.7	20.4	20.1	21.1	-	15.4
% ST Population (1991)		4.1	3.7	14.9	12.4	8.5	-	19.9
% Decennial population growth (1991-2001)		27.9	27.3	24.2	20.5	22.7	-	24.3
Annual population growth rate (%) (1991-2001)		2.50	2.45	2.19	1.88	2.07	2.21	
Population density (/km²) (2001)		238	170	120	148	197	173	196
Sex Ratio (Females/1,000 Males) (2001)		886	869	907	902	884	929	920

Source: 1) Information provided by the Directorate of Health Services, MP, in 2001
2) Human Development Report of MP, 1998
3) National Family Health Survey 1992-93 (NFHS-1)

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[1] HDI and GDI Rank in MP in 1998 show a rank among the all districts of the former MP.

(2) Village Size

In rural area, villages generally have small population (the average population per village is 700-1,100) and are scattered. According to the 1991 census data, almost 60% of the villages have less than 500 inhabitants (approximately 100 households) in Sagar, Damoh and Panna, and around 40% in Tikamgarh and Chhatarpur; more than 90% of the villages have less than 1,000 inhabitants (approximately 200 households) in Panna, 84% in Sagar and Damoh, and 70% in Tikamgarh and Chhatarpur.

2.2.3 Socio-economic Profile

The forests occupy 32.0% of the geographical area of the division. Out of the five districts in Sagar division, Panna has the largest forest area that occupies 55.3% of the district's area.

Table 2-5   Land Resources in Sagar Division

	Tikamgarh	Chhatarpur	Panna	Damoh	Sagar	MP
Total Area ('000 km^2)	5,048	8,687	7,135	6,306	10,252	308,000
Total Forest (%) [1]	11.2	18.3	55.3	41.2	31.9	32.8
Land Holding per Capita* (ha) [2]	1.9	2.6	2.4	2.4	2.9	---
Irrigated Area (%) [3]	43.5	23.1	7.6	12.3	12.7	24.6
Gini Coefficient [4]	0.473	0.511	0.524	0.585	0.566	0.293[5]

Source: 1) NRSA, Report on Area Statistics of Land Use /Land Cover by Remote Sensing Technique, 1995
2) Environment Planning and Co-ordination Organization, Madhya Pradesh, 1991
3) Commissioner Land Records
4) MP Human Development Report 1998
5) Chakrabarty and Pal 1995

In the division, the land has been predominantly used for agriculture, suffering from low productivity, inequitable land distribution, and insufficient irrigation, which have kept agriculture at a subsistence level.

Tikamgarh district has the largest irrigated area amongst the five districts. The past rulers' constructed dams, and man-made lakes contribute to the water supply even in the dry season.

Damoh's leading industries are soybean processing and manufacture of cement. Forest in these districts has been a major source of livelihood for the less affluent people. Bidi making provides a livelihood for a large number of poor families in the region, particularly in Sagar and Damoh districts.

According to employment patterns reported in the 1991 census, the five districts seems to be divided into two groups: one includes Tikamgarh, Chhatarpur and Panna with higher share of employment in the primary sector (86.4%, 82.6% and 86.3% respectively) and in the farm sector (86.3%, 82.5% and 84.5% respectively), the other includes Sagar and Damoh with lower share of employment in the primary sector (57.4% and 63.8%) and in the farm sector (57.0% and 63.7%).

In all the five districts of Sagar division the distribution of wealth is markedly unequal. With a Gini Coefficient of operational holdings ranging between 0.494 and 0.585 and a Lorenz curve showing a cumulative percentage of land holdings highly distant from the 0-100-reference line.

2.2.4 Socio-cultural Profile

(1) Culture and History

Since the target districts have a long history of dynasties of different type of rulers, they enjoy a profound cultural heritage with archaeological monuments and places of pilgrimage. Chandelas and Bundelas, that is, rulers of Bundelkand, created numerous forts, palaces and temples in these districts. These resources, which the other regions do not possess, have potential to contribute to regional development.

(2) Language and Religion

The socio-cultural characteristics of the five districts in the division vary. Tikamgarh, Chhatarpur, Panna are a part of the Bundelkand Region where the population has its own language and culture, particularly in rural areas. Northern Damoh, southern Chhatarpur and Panna have numerous tribes, such as the Saur, Sonta, Sonr, Kol, Mawasi, Agaria, Saharia.

The people of this division are Hindu (93% in the 1991 Census) with a small percentage belonging to the Muslim and Jain religions. Hindi is the main language and is the official language. The major non-Hindi language spoken is Bundelkhandi, which is used primarily in Tikamgarh, Chhatarpur and Panna districts.

(3) Social Structure

The proportion of SC population of the division is higher than the average of MP, and it is slightly higher in Tikamgarh and Chhatarpur amongst the five districts in Sagar Division. Rural traditional society is still influenced by feudalistic characteristics that remain from pre-independence days.

Sagar Division has a low percentage of ST population in a comparison with the average of MP, although Panna and Damoh districts have a higher proportion of ST population among the five districts. The main tribe in the Bundelkand area is the Gond Tribe. In this region, many of tribals do not live in separate villages and very often mingle with lower castes in the villages. As a result, many of their physical characteristics as well as their culture are not as marked as in other parts of Madhya Pradesh. They depend on forest products and agricultural work. Higher castes, namely OBC (other backward classes) and General Castes do not accept water or food from them.

Table 2-6   Scheduled Caste and Tribes in Sagar Division

	Tikamgarh	Chhatarpur	Panna	Damoh	Sagar	MP
SC (%) [1]	22.8	23.7	20.4	20.1	21.1	15.4
ST (%) [1]	4.1	8.5	14.9	12.4	3.7	19.9
Name of Major ST [1,2]	Sonr	Saur Gond Sonr	Gond Bhunia	Gond	Gond Saur Sonr	---
Name of Minor ST [1,2]	Saur Saharia	Khaiwar	Saur Sonr	Saur Sonr	Saharia	---

Source: 1) Census of Madhya Pradesh. Primary Census Abstract, 1991
2) Human Development Report 1998

(4) Social Gender Situation

There are inter-district and inter-regional variations amongst the five districts. Chhatarpur and Panna districts are the most backward districts amongst the five in terms of their HDI and GDI. However, Tikamgarh has lagged behind the others in reducing the TFR, sex ratio, and mean age at marriage.

Table 2-7   Comparison of Districts by Social and Gender Indicators in Sagar Division

		Tikamgarh	Chhatarpur	Panna	Damoh	Sagar	MP
Mean Age at Marriage 1986-91 [1]		16.0	16.2	16.5	16.8		17.4
TFR [2]		6.2	5.6	5.7	5.1	5.5	4.2
Literacy Rate [3]	(male)	68.8	65.5	74.0	75.1	80.0	76.8
	(female)	41.0	39.4	47.8	47.5	54.5	50.3
Life Expectancy at birth [1]	(male)	59.5	56.2	63.3	64.7	62.7	66.8
	(female)	53.7	51.8	61.9	64.3	65.0	65.2
Sex Ratio * in 1991 [1]		883	864	913	925	881	931
in 2001 [3]		886	869	907	902	884	920
Rank ** in HDI [2]		34	40	43	35	29	-
Rank ** in GDI [2]		36	41	40	31	20	-

Note: * Number of females to males per 1,000 population
** Among districts in the former Madhya Pradesh

Source: 1) Census of India 1991; Madhya Pradesh District Profile 1991
2) Madhya Pradesh Human Development Report 1998
3) Provisional Population Totals: India. Census of India 2001

2.2.5   Access to and Availability of Basic Services

As seen in Table 2-8, adequate sanitation is available only in 6% to 15% of the households in Sagar Division, and only 23% - 43% of the population have access to safe drinking water.

The main sources of drinking water in rural areas of Tikamgarh are the dug well (61%) and hand pump (29%). In urban areas, private taps are also an important source, serving 26% of households to 30% served by hand pumps and 24% served by dug well (Table 2-9). The same sources are the principal ones in Damoh district except that 23% of urban households and 9% of rural households obtain water from a river. Two-thirds of the households in Damoh and three-quarters in Tikamgarh do nothing to purify their water beyond what may already have been done by the community. Those who do something strain their water (>90%), a practice they learned in childhood.

Most of the population live in rural areas, and their households do not have in a large majority drinking water, electricity or sanitation. Only about 9% are favoured with all these utilities.

Rural areas have few facilities for disposing of human waste. Fully 90% of rural households in Tikamgarh and Damoh districts use the bush or an open field. In urban areas, households are about equally divided between those that have no toilet facilities and those that have a septic system (37% each in Tikamgarh and 42% and 45% in Damoh), while about a tenth of urban households in each district have a single pit.

Communication and public transportation infrastructure is very poor, and roads are kept in very bad condition in most areas. There are no usable roads serving many villages in Sagar

Division. These facts, together with poverty and traditional/cultural isolation, make it very difficult to improve the development of remote settlements, like many tribal villages.

Table 2-8   Access and Availability of Basic Services

		Tikamgarh	Chhatarpur	Panna	Damoh	Sagar	MP
Households with access to safe water (%)	(1991)	25	23	28	38	43	53
Households with access to electricity (%)	(1991)	30	32	21	36	47	43
Households with access to toilet (%)	(1991)	6	8	6	10	15	15
Pucca roads / 100km²	(1994)	24	17	12	17	16	22

Source: 1) The Madhya Pradesh Human Development Report 1998, Government of Madhya Pradesh
2) Madhya Pradesh Population Policy 2000, Government of Madhya Pradesh, January 2000

Table 2-9   Source of Drinking Water in Tikamgarh

	Well	Hand pump	Private tap
Urban (%)	24	30	26
Rural (%)	61	29	---

Source: The Madhya Pradesh Human Development Report 1998, Government of Madhya Pradesh

2.3 REPRODUCTIVE HEALTH PROFILE OF THE STUDY AREA

Regarding health status, MP is ranked as one of low performing states (Table 2-10). Infant mortality rate (IMR), under-five child mortality rate (U5MR) and maternal mortality ratio (MMR) are unacceptable level and more than half of children are malnourished. Other reproductive and child health indicators obtained from surveys also show MP is one of low performing states.

Table 2-10   MP Health Status in India

Sector	Population BPL (%)	IMR ('99SRS)	U5MR (NFHS-2)	Weight for Age: % of Children Under 3 years (<-2SD)	MMR (SRS 1997)	Leprosy Cases per 10,000 Population	Malaria + Cases in 2000 ('000)
India	26.1	70	945	47	408	3.7	2,200
Rural	27.1	75	104	50	-	-	-
Urban	23.6	44	63	38	-	-	-
Better Performing States							
Kerala	12.7	14	19	27	87	0.9	5
Maharastra	25.0	48	58	50	135	3.1	138
Tamir Nado	21.1	52	63	37	79	4.1	56
Low Performing States							
Orissa	47.2	97	104	54	498	7.1	483
Bihar	42.6	63	105	54	707	11.8	132
Rajasthan	15.3	81	115	51	607	0.8	53
Uttar Pradesh	31.2	84	123	52	707	4.3	99
Madhya Pradesh	**37.4**	**90**	**138**	**55**	**498**	**3.8**	**528**

Source: Draft National Health Plan 2001, GOI *(http://mohfw.nic.in/np2001.htm)*

There are two type major survey results available to understand reproductive health status in Madhya Pradesh and Sagar Division. These are National Family Health Survey (NFHS) – Madhya Pradesh and District-wise Rapid Household Survey (RHHS) conducted under the RCH Programme.

NFHS conducted in 1992-93 and 1998-98 does not show any district-wise data, however, it gives us an overview of reproductive health status and problems of the state. RHHS conducted for each district, and this is the only study providing the district-level reproductive health data although there are some questions in data credibility.

Below are comparative statistics for the five districts in Sagar Division. Maternal and child mortality rates are very high and mostly due to preventable causes like puerperium infections and neo-natal tetanus. RCH status of Sagar Division is worse than MP average.

In the 5 districts in Sagar Division, malaria is present during the rainy season and tuberculosis cases are not rare. Most rural households have had at least a case of child death.

Poverty and some cultural habits do facilitate a chronic status of malnutrition, under nourishment, and lack of essential vitamins, minerals and proteins. Avitaminosis, anaemia and disproteinemia are endemic.

Table 2-11   IMR and MMR in Sagar Division

	Chhatarpur	Damoh	Panna	Sagar	Tikamgarh	MP
IMR (1991)	150	123	133	116	132	97
MMR (1997)	1,172	856	1,052	1,086	1,178	498

Source: SRS

Table 2-12   RCH Key Indicators of the Study Area (1)

District	% of Girls Marrying below 18 Years	% of Births of Order 3 and Avove	CPR (Any)	Unmet Need	% of Pregnant Women with any ANC	%of Pregnant Women with full ANC	% of Institutional Delivery	% of Safe* Delivery
Tikamgarh	70.0	49.6	45.5	12.7	23.0	2.5	21.5	29.5
Chhatarpur	73.0	51.8	32.8	35.0	53.8	15.2	19.1	24.4
Damoh	54.7	45.9	41.6	24.5	49.0	12.2	8.5	29.1
Panna	58.0	49.2	26.8	44.0	36.8	9.2	10.1	13.5
Sagar	60.4	44.9	44.1	23.4	68.4	25.2	24.4	43.0
MP Total	43.7	45.2	47.2	27.2	60.0	22.4	22.6	29.3

Source: Rapid Household Survey, GOI

Table 2-13   RCH Key Indicators of the Study Area (2)

District	% of Child with Complete Immunization	% of Children with no Immunization	% of Female with Symptoms RTI/STI	% of Male with Symptoms RTI/STI	% of Female Aware of HIV/AIDS	% of Male Aware of HIV/AIDS
Tikamgarh	17.3	27.9	36.0	23.8	15.4	37.8
Chhatarpur	29.5	8.4	42.3	1.5	8.6	24.0
Damoh	27.2	13.9	40.5	4.3	16.3	37.1
Panna	10.7	12.0	35.9	6.3	5.7	20.5
Sagar	32.4	3.7	42.8	8.0	27.2	47.8
MP Total	50.3	9.9	25.0	7.7	23.5	43.2

Source: Rapid Household Survey, GOI

Table 2-14   Results of the Rapid Household Survey in Tikamgarh and Damoh District conducted in RCH Programme

Key Indicator	Tikamgarh			Damoh		
	Total	Rural	Urban	Total	Rural	Urban
1. 1991 Population Data						
A. Total population (in thousand)	941			898		
B. % urban	16.9			18.1		
C. % scheduled caste	22.8			21.1		
D. % scheduled tribe	4.1			12.4		
E. Population growth rate (1981-91) (Annual exponential)	2.44			2.19		
2. Sample Population						
A. Number of households surveyed	1,049	885	164	967	795	172
B. Total population covered in survey						
Male	3,629	3,065	564	3,135	2,558	577
Female	3,255	2,748	507	2,790	2,248	542
Total	6,884	5,813	1,071	5,925	4,806	1,119
C. Number of men (age 20-54 years) interviewed	861	728	133	256	215	41
D. Number of eligible women age 15-44 years						
Total	1,266	1,089	177	1,071	884	187
Interviewed	964	821	143	924	756	168
3. Background Characteristics of Women Interviewed						
% Hindus	95.0	97.6	79.7	92.9	95.2	82.7
% Muslims	3.5	1.1	17.4	3.6	1.3	14.2
% Scheduled Caste	19.0	18.6	21.6	16.5	16.5	16.5
% Scheduled Tribe	3.1	2.6	5.5	5.6	6.2	2.9
% Other Backward Classes	60.6	63.8	42.6	57.4	58.3	53.5
4. Marriage Age						
A. Mean age at first cohabitation for women interviewed	15.4	15.3	16.3	15.4	15.2	16.3
B. % of boys married at age less than 21	77.7	80.0	65.0	52.7	56.8	36.0
C. % of girls married at age less than 18	69.4	74.2	37.5	54.7	60.2	29.4
5. Fertility						
A. Mean number of children ever born to women age 40-44 yrs	5.7	5.7	5.5	4.7	4.8	4.4
B. For period	(1.1.96 to 31.12.98)			(1.1.95 to 30.6.98)		
a) Average Crude Birth Rate	51.9	50.9	57.1	29.3	30.0	26.2
b) Average General Marital Fertility Rate (GMLFR)	282.4	272.0	346.0	162.8	164.0	156.9
c) % distribution of total births by order						
i) 1	25.6	27.0	18.6	25.0	26.0	20.0
ii) 2	24.7	25.3	21.7	29.1	26.8	40.0
iii) 3&above	49.6	47.5	59.6	45.9	47.0	39.9
6. Mortality (Number)						
A. Infant deaths among children born	(1.1.96 ~ 31.12.97)			(1.1.95 ~ 30.6.97)		
	49	38	11	1	0	1
B. Neonatal deaths among children born due to tetanus	(1.1.96 ~ 31.12.98)			(1.1.95 ~ 30.6.98)		
	23	14	9	2	1	1
C. Total maternal deaths	(since 1.1.96)			(since 1.1.95)		
	9	6	3	3	3	0

Key Indicator	Tikamgarh			Damoh		
	Total	Rural	Urban	Total	Rural	Urban
7. Morbidity (Number of cases reported)						
A. Leprosy	7	6	1	5	4	1
B. Malaria (3 months prior to survey)	429	347	82	285	254	31
C. Tuberculosis	24	14	10	11	7	4
8. A. Knowledge of Family Planning % of eligible women:						
a) knowing all modern methods	19.4	17.1	32.1	23.3	19.1	42.2
b) knowing any modern spacing method	73.2	71.9	80.4	55.4	50.5	77.3
c) knowing any modern method	99.4	99.3	100.0	99.3	99.2	100.0
d) knowing any modern	99.4	99.3	100.0	99.8	99.8	100.0
B. % of eligible women / their husbands						
a) Currently using any method	45.5	46.6	39.1	41.6	41.5	42.2
b) Female sterilization	35.7	37.5	25.8	38.3	39.1	34.5
c) Male sterilization	0.4	0.4	0.0	0.2	0.2	0.0
d) IUD	0.6	0.6	0.7	0.9	0.6	2.3
e) Pills	0.8	0.7	1.4	0.8	0.5	2.3
f) Condom	1.4	1.2	2.8	1.0	0.7	2.3
g) Any traditional method	6.4	6.0	8.3	0.2	0.1	0.6
C. % of eligible women saying unmet need for						
a) limiting	12.5	11.9	16.0	13.6	12.0	20.8
b) spacing	0.2	0.2	0.0	21.2	21.6	19.0
c) total	12.7	12.1	16.0	34.8	33.7	39.8
# total (JICA Study)	9.9	10.4	7.5		1.0	
9. Maternal Health Care % of eligible women with live/ still birth since...	*since 1.1.96*			*since 1.1.95*		
A. ANC Check-up						
a) who had ANC check up	23.0	21.7	29.7	49.0	48.9	50.0
b) who had 3 or more check-up	1.9	1.6	3.2	9.6	8.9	13.0
c) who had ANC check up at home	12.7	14.5	2.7	27.3	30.6	10.3
B. T.T. injection during pregnancy						
a) who had none*	35.1	35.3	33.7	30.7	33.5	16.6
b) who had one	17.0	17.6	13.5	21.6	22.2	18.5
c) who had two or more	47.8	46.9	52.7	38.7	34.3	61.1
C. IFA tablets during pregnancy:						
a) who were given IFA tablets	24.7	22.0	39.1	38.7	36.8	48.1
b) who consumed one IFA tablet regularly	9.9	10.0	9.4	27.4	26.6	31.4
c) who consumed two IFA tablet regularly	7.1		13.5	7.6	6.9	11.1
D. Institutional delivery:						
a) Total	21.5	19.7	31.0	8.5	7.6	12.9
b) Government	15.3	13.8	22.9	6.1	5.1	11.1
c) Private	6.2	5.9	8.1	2.4	2.5	1.8
E. Delivery at home and attended by Doctor/Nurse/TBA	7.9	5.1	23.0	20.6	19.1	27.7
F. Total safe delivery (D+E)	29.4	24.8	54.0	29.1	26.7	40.6
G. Visited by ANM within two weeks of delivery:	7.1	8.2	1.3	14.6	12.7	24.0
10. Child Care						
A. % of children age 0-4 months on exclusive breast milk	*since 1.1.1996*			*since 1.1.1995*		
(Relates to the youngest child born since ....)	93.8	95.5	85.7	90.3	89.1	100.0
B. % of children who got colostrums (Relates to the youngest	*since1.1. 1996*			*since1.1. 1995*		
child born since ...)	18.1	16.0	28.7	49.2	51.1	39.2
C. % of children age 12-36 months who received (Relates to two children born since ...)	*since 1.1.1996*			*since 1.1.1995*		
a) BCG	43.7	38.2	72.0	60.7	60.9	60.0
b) DPT						
i) Three injections	32.4	27.9	55.8	41.1	39.8	48.0
ii) No Injection	62.6	68.0	34.8	44.3	46.6	32.0
c) Polio						
i) Three doses	49.0	48.2	53.4	52.5	51.8	56.0
ii) No dose	38.1	40.0	27.9	17.7	17.2	20.0
d) Measles	31.7	26.5	58.1	37.3	36.0	44.0
e) Complete immunization (BCG, 3 DPT, 3 Polio & Measles)	17.3	13.0	39.5	27.2	26.3	32.0
f) At least one dose of Vitamin A	5.9	3.0	20.8	5.6	3.7	16.0

Note: *Includes those 'who do not remember'- Total 5.8, Rural 5.9, Urban 5.4 in Tikamgarh

Key Indicator	Tikamgarh			Damoh		
	Total	Rural	Urban	Total	Rural	Urban
D. %age of babies weighed and babies below 2.5 kg						
a) % of babies weighed	7.3	6.4	12.1	9.8	10.6	5.6
b) % below 2.5 kg out of babies weighed	5.5	3.1	10.7	3.1	3.4	0.0
E. % of eligible women whose children ** had diarrhoea and who were treated with ORS	born after 1.1.96			born after 1.1.95		
a) Had diarrhoea	34.5	34.8	32.8	14.3	15.6	7.8
b) Treated with ORS	7.2	5.4	16.6	4.3	4.7	0.0
F. % of eligible women whose children** had breathing problems and treated	born after 1.1.96			born after 1.1.95		
a) % who had breathing problem**	64.5	64.8	63.0	31.8	30.1	41.1
b) % of mothers of children with breathing problem who got their children treated by ANM/Govt. facility***	6.0	7.1	0.0	5.8	5.6	7.6
11 Reproductive Morbidity						
A. % of eligible women who had their last pregnancy since ..., having	since 1.1.96			since 1.1.95		
a) Abortion complications	100.0	100.0	100.0	0.0	0.0	0.0
b) Pregnancy complications	81.0	83.5	67.5	56.4	55.4	61.1
c) Delivery complications	97.2	96.6	100.0	35.9	37.2	29.6
d) Post-delivery complications	51.7	52.8	45.9	42.6	41.2	50.0
B. % of eligible women having						
a) Contraceptive side effects						
i) Female sterilization	27.2	27.9	21.6	11.5	11.1	13.7
ii) IUD	50.0	60.0	0.0	11.1	20.0	0.0
iii) Pills	25.0	16.6	50.0	25.0	25.0	25.0
b) Any symptom of reproductive tract infection	36.0	37.6	26.5	40.5	40.7	39.8
C. % of males having any symptom of reproductive tract infection	24.2	21.9	36.8	4.3	5.1	0.0
D. % of house hold in which adolescent girls were suffering from Anaemia				4.4	4.9	3.1
12 Awareness on RCH						
A. % of eligible women (who had their last live birth/still birth since...) aware of:	since 1.1.96			since 1.1.95		
a) Pregnancy complications	91.8	92.0	90.5	70.4	71.1	66.6
b) Treatment/practices to be followed in diarrhoea episodes	62.5	62.9	60.2	20.0	17.1	35.2
c) Danger signs of Pneumonia	75.2	74.6	78.0	37.1	35.3	47.0
B. % of eligible women who were aware of:						
a) Reproductive Tract Infection (RTI)	9.7	6.8	26.5	0.2	0.1	0.6
b) Sexually Transmitted Infection (STI)	5.8	3.6	18.1	0.2	0.1	0.6
c) HIV(AIDS)	15.4	11.6	37.0	16.3	10.8	41.0
C. % males age 20-54 having knowledge of						
a) Reproductive Tract Infection (RTI)	15.9	12.5	34.5	13.6	14.4	9.7
b) Sexually Transmitted Infection (STI)	11.7	9.0	26.3	13.6	14.4	9.7
c) HIV(AIDS)	38.1	31.5	73.6	37.1	33.0	58.5
13 Home Visit by Health Worker						
A. % of households visited by ANM/Health Worker three months prior to survey date	10.0	11.6	0.7	-	17.8	
B. % of households where ANM/Health Worker counselled unmarried adolescent girls	6.0	4.8	9.3	-	9.2	-
C. % of households where ANM/Health Worker distributed IFA tablets to unmarried adolescent girls	0.0	0.0	0.0	-	0.9	-

Note: **   Relates to women who are aware of difficulty in breathing as one of the danger signs of ARI.
           ***   Relates to women whose children suffered from pneumonia and were treated in government hospital.

Key Indicator	Tikamgarh			Damoh		
	Total	Rural	Urban	Total	Rural	Urban
14 Utilization of Government Health Services						
A. % induced abortion of last pregnancy since 1.1.96 by						
a) Doctors				-	-	-
b) Nurses	0.0	0.0	0.0	-	-	-
c) Others				-	-	-
B. % of eligible women who sought treatment* for complications during						
a) Pregnancy	17.9	14.7	40.0	29.1	23.6	54.5
b) Post-delivery period	20.9	16.0	41.6	34.2	30.9	48.1
C. % of eligible women who sought treatment**** for side effects/health problem due to the use of						
a) Female sterilization	26.2	28.0	0.0	6.5	5.4	12.0
b) IUD	0.0	0.0		0.0	0.0	0.0
c) Pills	100.0		100.0	0.0	0.0	0.0
D. % of respondents with RTI who sought treatment*						
a) Males	24.4	18.9	38.8	90.9	90.0	0.0
b) Females	11.8	12.0	11.1	34.9	31.8	49.2

Note: **** From government doctors only

Source: 1) RCH Project: Rapid Household Survey - Phase II: Madhya Pradesh, Tikamgarh, Socio-Economic Research Centre, New Delhi (sponsored by Ministry of Health and Family Welfare, Government of India)

2) RCH Project: Rapid Household Survey 1998, Madhya Pradesh, Damoh, Socio-Economic Research Centre, New Delhi (sponsored by Ministry of Health and Family Welfare, Government of India)

CHAPTER 3
POPULATION AND DEMOGRAPHY

3 POPULATION AND DEMOGRAPHY

3.1 INTRODUCTION

Stabilization of population is one of the crucial issues for improvement of the quality of life and for development. This chapter aims to analyse population growth and demographic features in the study area, conduct population projections, and examine the January 2000 Population Policy of Madhya Pradesh.

Major statistics concerning population and vital indices used for this study were gathered from the Census of India and Sample Registration System. The Census of India has been conducted once every ten years since 1901. The latest census was held on March 1, 2001 and some provisional figures are available at present. Therefore, most of this analysis is based on the 1991 Census. The Sample Registration System (SRS) is a large-scale sample survey covering the whole country and has been conducted by the Office of Registrar General, India every year since 1971. Vital indices from SRS are available only for the whole of India and major states, and they are not applicable to smaller regional units such as a division or district.

The state of Madhya Pradesh in this chapter means the former Madhya Pradesh state before separating out Chhattisgarh in 2000.

3.2 POPULATION GROWTH AND DEMOGRAPHIC FEATURES

3.2.1 Population Growth

(1) Population Growth in Madhya Pradesh

According to the 2001 Census, the total population of Madhya Pradesh was 81.1 million as of March 1, 2001 and accounted for 7.9% of India. The annual population growth rate of the state declined sharply from 2.4% for the period 1981-1991 to 2.1% for 1991-2001. It was, however, still higher than the National average of 1.95%.

The annual population increase of the state was 1.50 million for 1991- 2001, which was slightly higher than the increment of 1.40 million per annum for 1981-1991, which implies population momentum.

Table 3-1   Population Indices in Madhya Pradesh, 1991 and 2001

	India		M.P.	
	1991	2001	1991	2001
Population ('000)	846,303	1,027,015	66,181	81,181
Density (per sq. km)	267	324	149	183
Annual increment ('000)	-	18,071	-	1,500
Annual Growth Rate (%)	-	1.95	-	2.06

Source: Census of India, 2001

(2) Population Growth in Sagar Division

The population of Sagar division increased steadily from 2.1 million to 6.6 million for a half century from 1951 to 2001. During the last decade of 1991-2001, the annual population growth

rate in the division was 2.21 %, being slightly lower than the annual average of 2.33% during the 50 years.

Among the five districts in the division, Sagar had the largest population with 2.2 million inhabitants (31 % of the division) in 2001, followed by Chhatarpur with 1.5 million, Tikamgarh with 1.2 million, Damoh with 1.1 million, and Panna with 0.9 million. For the decade 1991-2001, Chhatarpur and Tikamgarh showed the highest annual growth rates of 2.49 % and 2.45% respectively. The growth rate of Damoh, on the other hand, was the lowest at 1.88 % per annum.

Table 3-2   Population Indices in Sagar Division, 1991 and 2001

		Sagar Div.	Tikamgarh	Chhatarpur	Panna	Sagar	Damoh
Population ('000)	1991	5,333	941	1,158	688	1,648	898
	2001	6,636	1,203	1,475	854	2,022	1,082
Density (per sq. km)	1991	139	186	133	96	161	123
	2001	173	238	170	120	197	148
Annual Increment ('000)		130	26	32	17	37	18
Annual Growth Rate (%)		2.21	2.49	2.45	2.19	2.07	1.88

Source: Census of India, 2001

(3) Population by Rural and Urban

The urban population of the division in 1991 was 1.1 million, which accounted for 20% of the total. The annual growth rate of the urban population in the division was as high as 4.9%, 4.5% and 3.7% for 1961-71, 1971-81 and 1981-91 respectively. These high growth rates imply migration of population from rural to urban areas.

Table 3-3   Population by Rural and Urban in Sagar Division, 1951-1991

		1951	1961	1971	1981	1991
Population ('000)	Rural	1,842	2,312	2,868	3,466	4,266
	Urban	259	297	478	742	1,066
Population share (%)	Rural	87.7	88.6	85.7	82.4	80.0
	Urban	12.3	11.4	14.3	17.6	20.0
Annual growth rate (%)	Rural	-	2.30	2.18	1.91	2.10
	Urban	-	1.39	4.87	4.51	3.69

Source: Census of India, 2001

3.2.2   Demographic Features of Madhya Pradesh and Sagar Division

(1) Sex Composition of the Population

Sex ratio, defined as a number of females per 1,000 males in the population, is suggestive of the extent of social equity between males and females. The sex ratio of the state has shown a long term declining trend, as has that of India.

The sex ratios in 2001, however, made a turnaround and increased.   They were 937 and 887 for the state and the division respectively. However, the sex ratios in the age group of 0-6

declined for the period 1991-2001 in both the state and the division.

Table 3-4　Sex Ratio of Population

Year	Total			Age group of 0-6		
	India	M.P.	Sagar Div.	India	M.P.	Sagar Div.
1951	946	967	929	-	-	-
1961	941	953	921	-	-	-
1971	930	941	895	-	-	-
1981	934	941	892	-	-	-
1991	927	931	880	952	945	929
2001	933	937	887	940	927	929

Source: Census of India, 2001

(2) Age Distribution of the Population

Major features on the age distribution of the population in the division are summarized below.

- The proportion of the population aged 0-14 is high in comparison with the whole of India and the state. In the division, the specialization ratio[1] of age group 0-4 is as high as 1.17.
- In India, the proportion of the population aged 0-4 is smaller than age group 5-9 by 1.1 percentage points. In the division the proportion of the population aged 0-4 is the highest of all five-year age groups.
- The proportion of the population aged 30-49 is low compared to all India and the state.
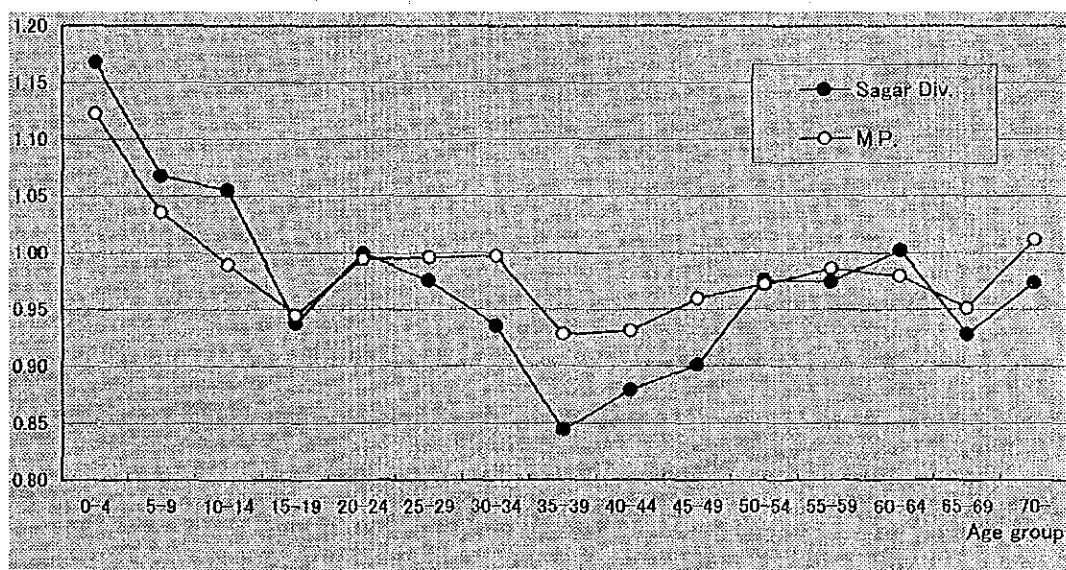
Figure 3-1　Specialisation Ratio of Population by Age Group, 1991

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[1] The specialisation ratio indicates the extent to which an age group is specialized in the objective area compared to India as a whole. A value greater than 1.00 indicates higher specialization than the national average. The formula used for this ratio is as follows: (share of population of a age group i in the objective area) / (share of population of a age group i in India).

3-3

Table 3-5 Proportion of Population in the Age Group of 0-4 and 5-9, 1991

(Unit: %)

	Total			Rural			Urban		
	Age Group		(a)-(b)	Age Group		(a)-(b)	Age Group		(a)-(b)
	(a) 0-4	(b) 5-9		(a) 0-4	(b) 5-9		(a) 0-4	(b) 5-9	
India	12.3	13.3	-1.1	12.8	13.8	-1.0	10.7	12.0	-1.3
M.P.	13.7	13.7	0.0	14.1	14.0	0.1	12.1	12.6	-0.5
Sagar div.	14.2	14.1	0.1	14.5	14.4	0.1	13.2	13.1	0.1

Source: Census of India, 2001

(3) Female Nuptiality

Early marriage is one of major population features of the division, especially in the rural areas. The marriage ratio[1] aged 15-19 in 1991 is 35%, 51% and 65% for India, the state and the division respectively. The marriage ratio for the 15-19 age group is 74% in rural areas and 37% in urban areas of the division.

Between the 1981-86 and 1986-91 periods, female age at marriage in the state was increasing, but change in the rural areas was quite slow. (See Supporting Report, A, Table 1-14)

Around 30% of females in the state who married during 1995 and 1996 were under 18 years of age, and half of all females married between 18 and 20 years of age.

Table 3-6 Age Distribution of Females Married during 1995 and 1996

(Unit: %)

	Total			Rural			Urban		
	<18	18-20	21+	<18	18-20	21+	<18	18-20	21+
India	19.7	53.5	26.9	23.3	55.5	21.2	10.6	47.9	41.6
M.P.	29.0	50.6	20.5	34.2	52.4	13.5	15.6	44.7	39.7
Tamil Nadu	5.8	49.6	44.7	8.1	55.5	36.5	2.6	41.1	56.3
Kerala	6.7	30.0	63.4	6.9	30.2	63.0	6.0	29.8	64.3

Source: SRS

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[1] Marriage ratio is defined as a proportion of currently married females to the total females.
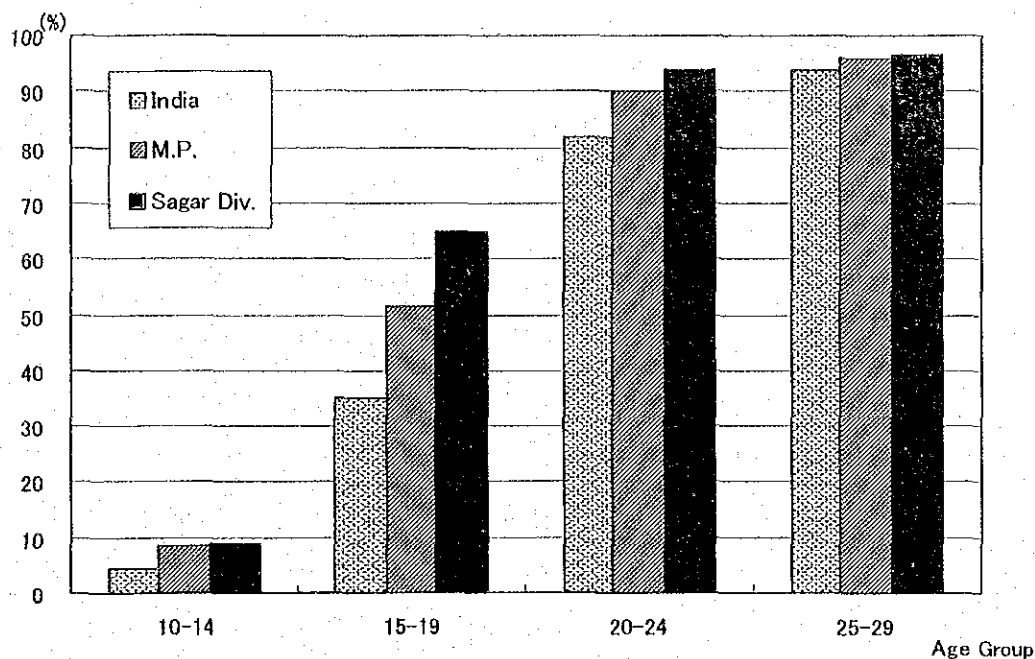
Figure 3-2 Proportion of Currently Married Females by Age Group, 1991

3.2.3 Vital Statistics

(1) Rate of Natural Increase

The Natural Growth Rate (NGR) of the population is the difference between births and deaths, excluding population change caused by migration. The NGR can be obtained by subtracting the Crude Death Rate (CDR)[1] from the Crude Birth Rate (CBR)[2]. These annual estimates are available from the Sample Registration System (SRS). Major features of NGR in the state are summarized below.

- In the rural areas, the CBR declined from 39.6 in 1971-73 to 31.1 in 1997-99, and the CDR declined from 17.1 to 10.9 for the same period. The NGR, however, fluctuated between 2.0% and 2.5% because the declines in the CBR and CDR cancelled each other out.
- In the urban areas, the CDR decreased slightly from 10.9 to 7.6 for the period from 1971-73 to 1997-99, but the CBR declined from 33.4 to 23.2 during these 26 years. As a result, the NGR decreased by 0.7 of a percentage point to 1.6% in 1997-99.
- The decline in the NGR in urban areas took place mostly in the five years from 1990 to 1995 and seems to have stabilized recently.

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[1] Crude Death Rate (CDR) is defined as a number of deaths per 1,000 population.
[2] Crude Birth Rate (CBR) is defined as a number of live births per 1,000 population.
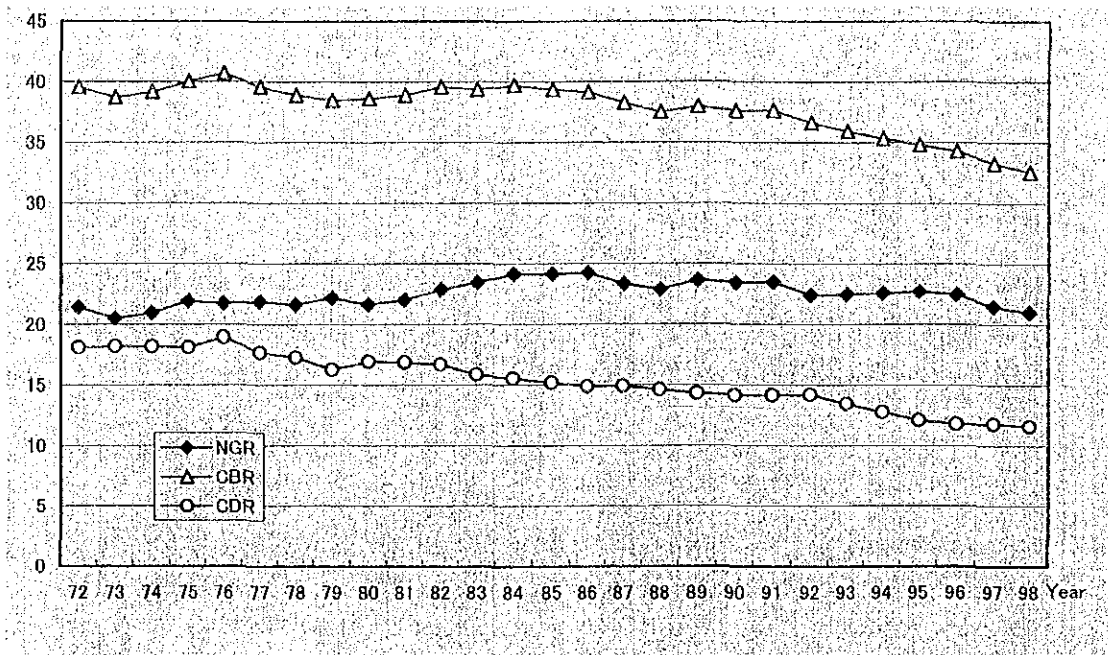
Figure 3-3   Three-year Moving Average of NGR (Rural), 1971-73 to 1997-99
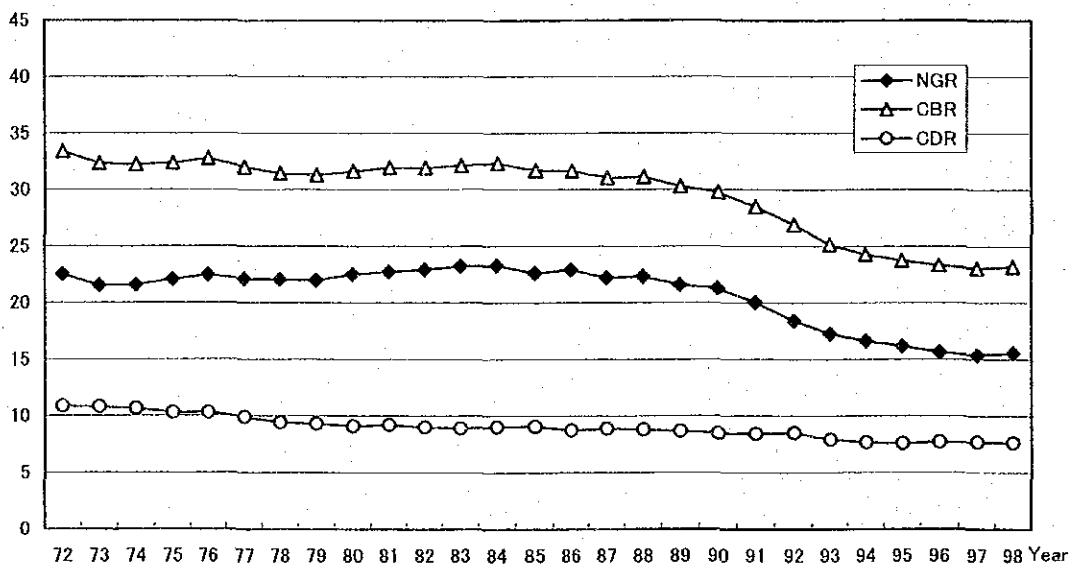
Figure 3-4   Three-year Moving Average of NGR (Urban), 1971-73 to 1997-99

(2) Total Fertility Rate

The Total Fertility Rate (TFR) indicates the average number of children a woman would have assuming that current age-specific rates remain constant throughout her childbearing years. Annual estimates of TFR are available from the SRS for major states and for India. NFHS also presented TFR data. The SRS, however, is deemed to be more reliable, and the analysis presented here was conducted based on the data from the SRS.

Major features of fertility rates in the state are shown below.

- The TFR has been gradually declining from 1972 to 1996. The TFR in 1996 was 4.4 and 2.6 for rural and urban areas respectively.
- In rural areas, the TFR is higher than that of India by 0.7-1.0. In urban areas, the TFR is almost the same as that of India in recent years.
- As for the five districts in the Division, the TFR in 1991 was 6.2 for Tikamgarh, 5.7 for Panna, 5.6 for Chhatarpur, 5.5 for Sagar and 5.1 for Damoh. These rates are rather high compared with the Madhya Pradesh average of 4.9. (See Supporting Report, A, Table 1-20)
- In rural areas, the age-specific fertility rate (ASFR) for the age group 20-24, which is the highest among all reproductive age groups, remained unchanged on the whole for the 15 years from 1981 to 1996.
- The ASFR of other age groups decreased during the same period, and the ASFR of age groups 30-34 and 35-39 showed a very large decline.
- The age-specific marital fertility rate (ASMFR) in rural areas had a similar trend to the ASFR in rural areas.
- In urban areas, the ASFR and ASFMR have been decreasing on the whole.
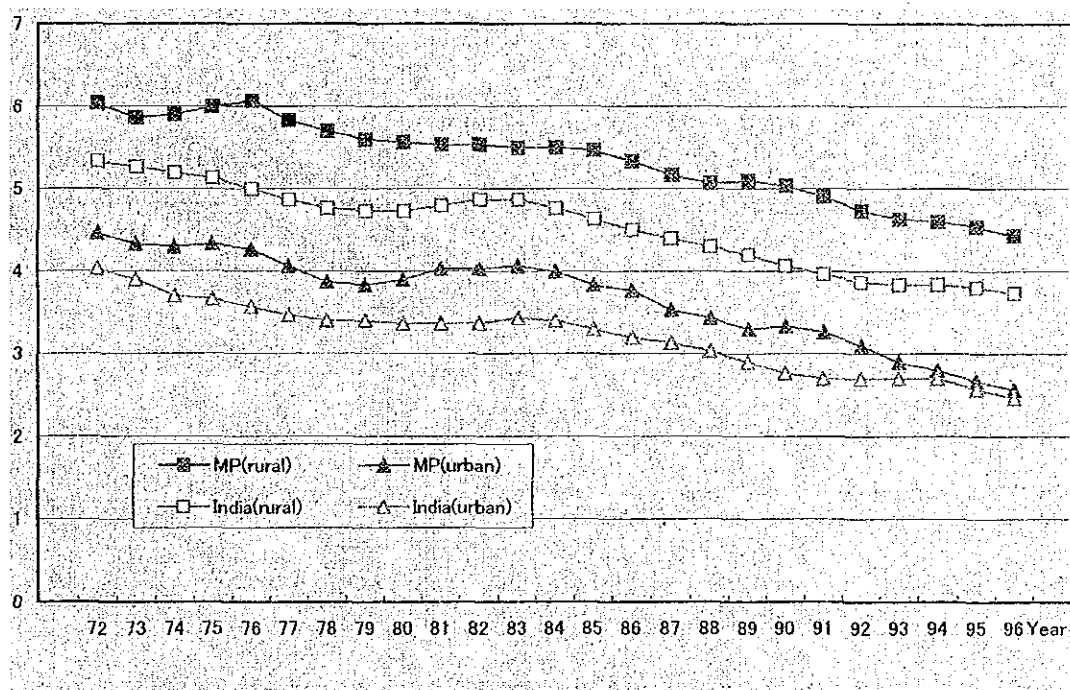
Figure 3-5   Three-year Moving Average of TFR, 1971-73 to 1996-98
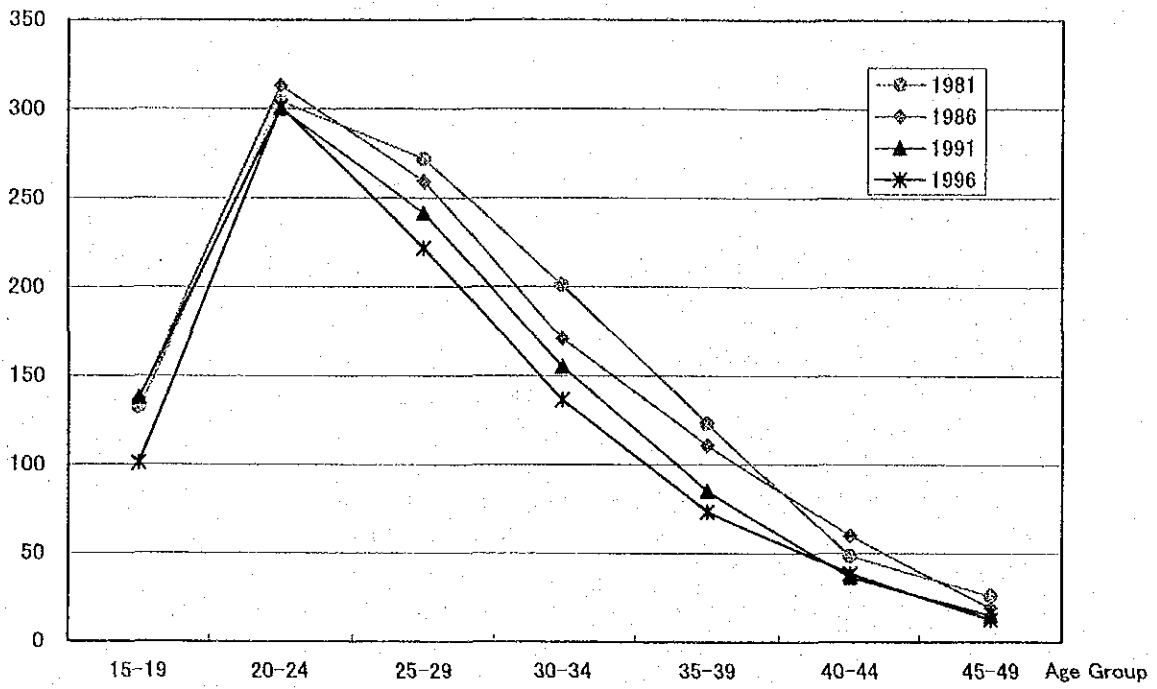
Figure 3-6　Age-specific Fertility Rate in Madhya Pradesh (Rural)
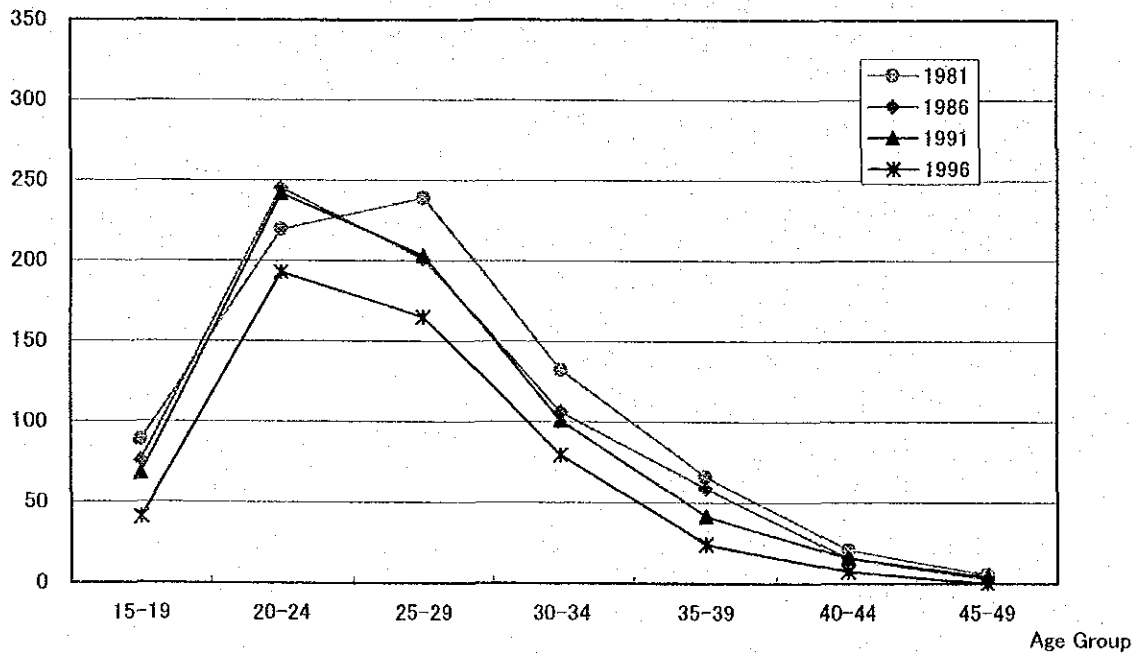
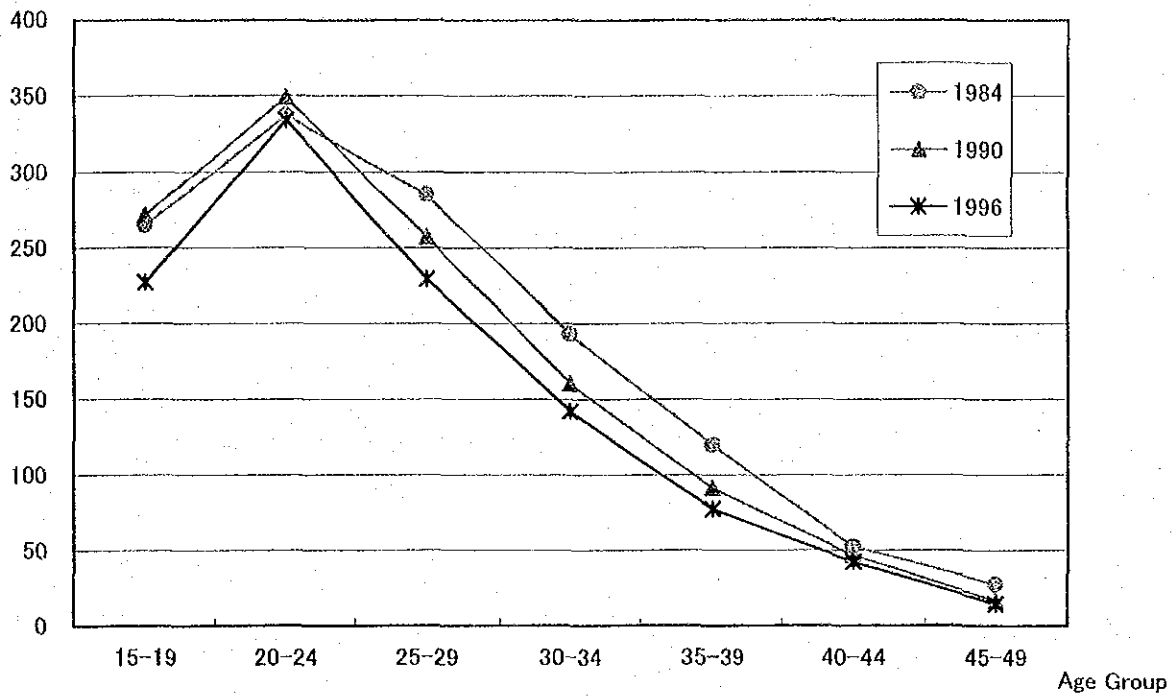**Figure 3-7　Age-specific Fertility Rate in Madhya Pradesh (Urban)**

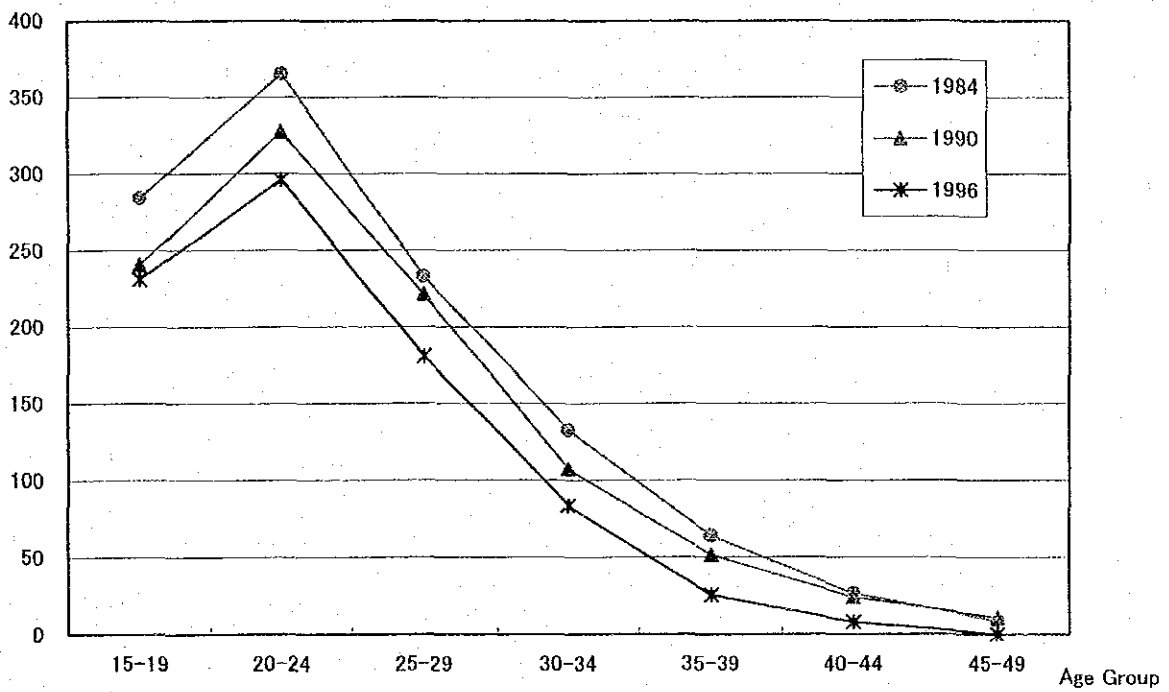**Figure 3-8   Age-specific Marital Fertility Rate in Madhya Pradesh (Rural)**

Figure 3-9   Age-specific Marital Fertility Rate in Madhya Pradesh (Urban)

(3) Infant Mortality Rate

The Infant Mortality Rate (IMR)[1] comprises two parts, the Neo-natal Mortality Rate (NNMR) [2]and Post Neo-natal Mortality Rate (PNMR)[3]. Major features of the IMR, NNMR and PNMR in the state are discussed below.

- The IMR decreased from 1972 to 1998 on the whole. The difference between the IMRs of the state and India, however, increased in the 1990's compared with the1970's, especially in rural areas.
- The rural and urban NNMR stagnated during these years.
- The PNMR of the state showed a rapid decrease since 1990. The urban PNMR of the state has been nearly the same level as that of India in recent years.
- In the state, 2/3 of the IMR is contributed by the NNMR and 1/3 is from the PNMR. Therefore, it is crucially important to decrease the NNMR to achieve a decline in the IMR.
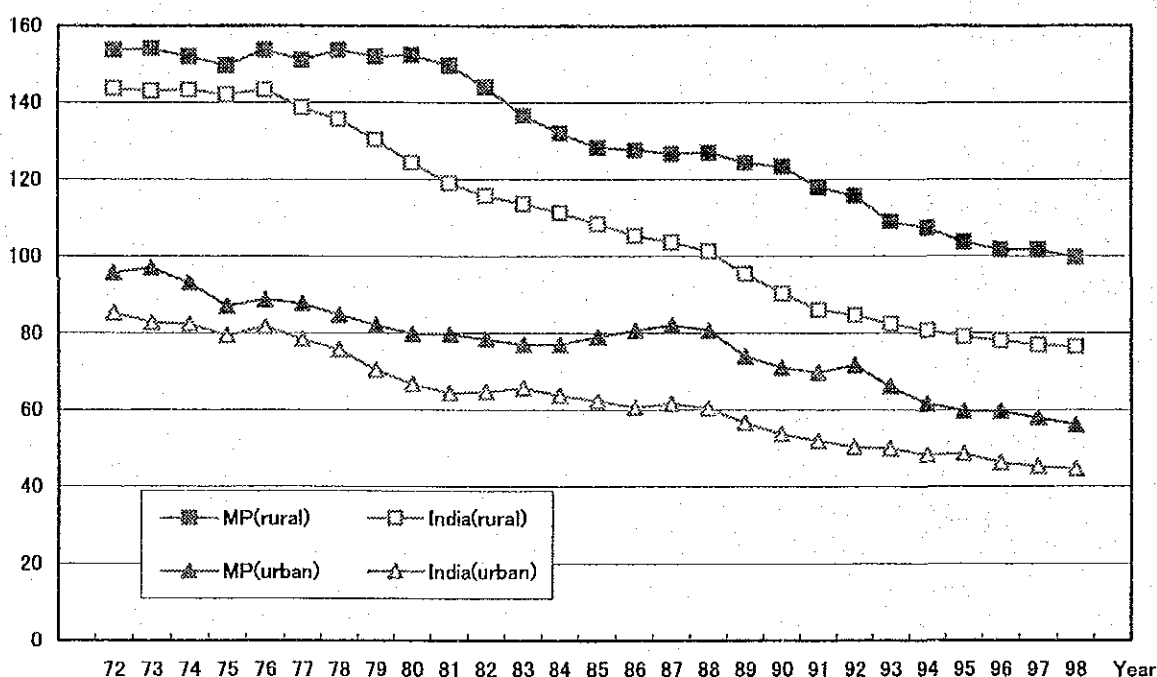
Figure 3-10   Three-year Moving Average of IMR, 1971-73 to 1997-99

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[1]   Infant Mortality Rate (IMR): a number of infant deaths (under one year) per 1,000 live births.
[2]   Neo-natal Mortality Rate (NNMR): a number of infant deaths of less than 29 days per 1,000 live births
[3]   Post Neo-natal Mortality Rate (PNMR): a number of infant deaths of 29 days to less than one year per 1,000 live births.
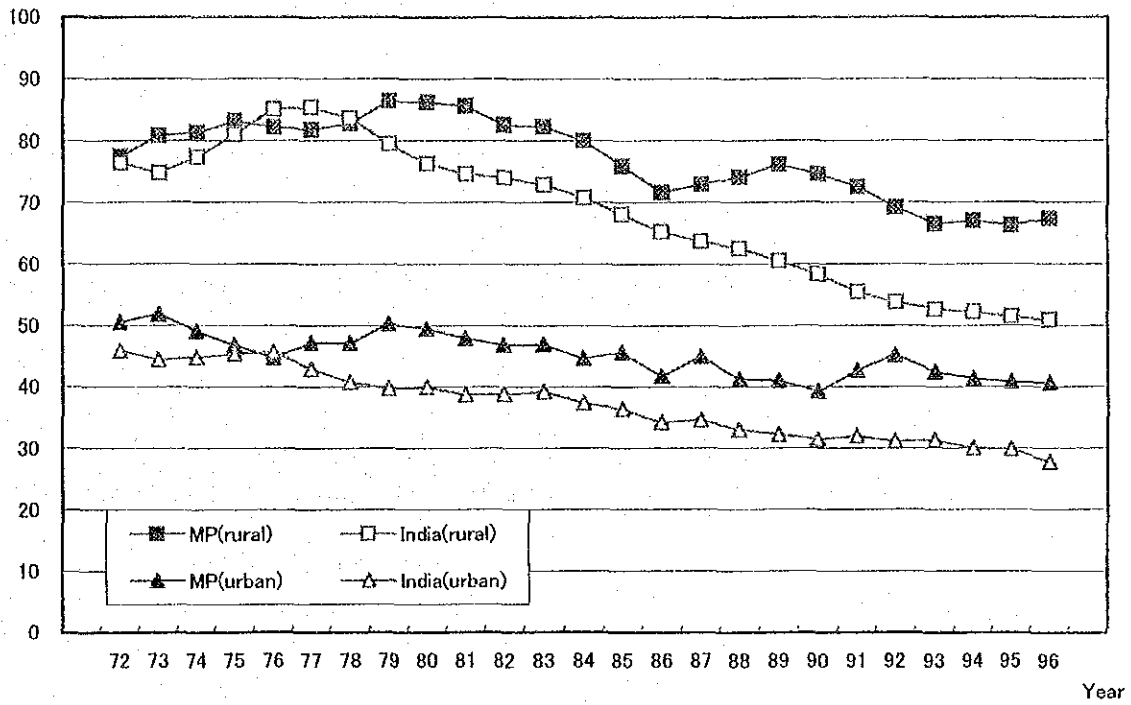
Figure 3-11   Three-year Moving Average of NNMR, 1971-73 to 1996-98
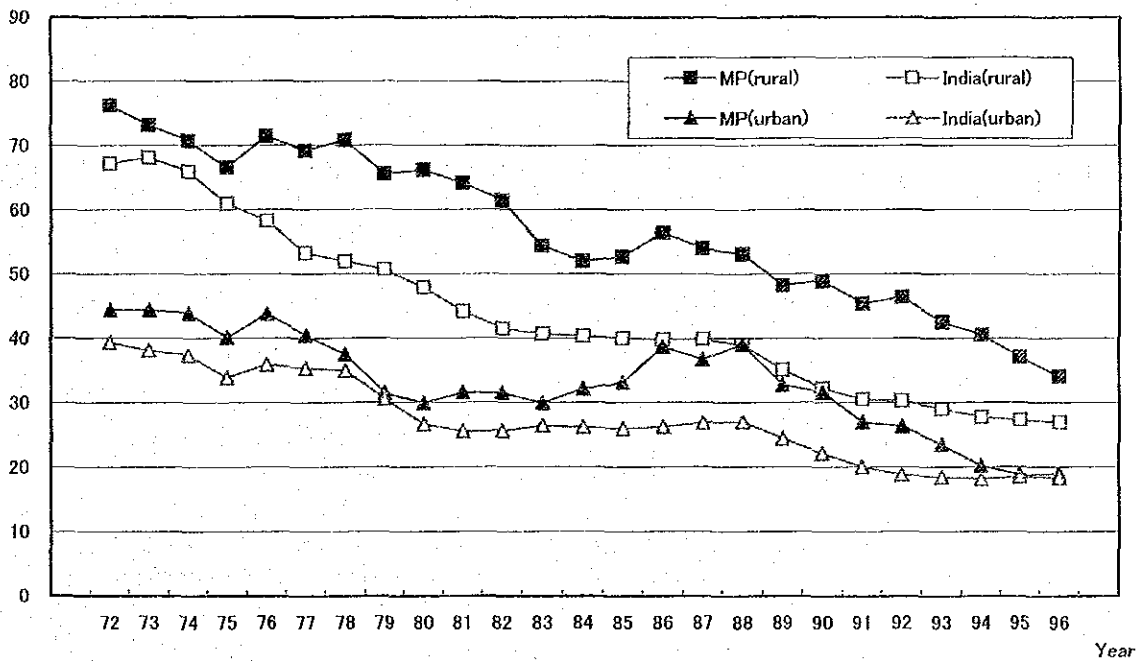

Figure 3-12   Three-year Moving Average of PNMR, 1971-73 to 1996-98

3.3 FACTOR ANALYSIS OF POPULATION GROWTH IN MADHYA PRADESH

3.3.1 Introduction

Mortality and fertility are decisive factors for population stabilization. Reductions in mortality, which is crucial for improvement in quality of life, contribute to population growth. Therefore, a reduction in fertility is essential for population stabilization.

In this section the fertility rate is analysed, and implications for policy-making are examined taking the following steps.

- First, we consider the Total Fertility Rate (TFR) and analyse it theoretically to identify decisive factors in the TFR.
- Second, present conditions of the above-said decisive factors in the state are examined in comparison with the preceding state and the national average of India.
- Last, implications for reduction in the TFR are examined based on the qualitative analysis.

3.3.2 Decisive Factors in TFR

Definition of TFR can be transformed as shown below.

TFR = (number of live birth) / (female population)
= (Marital Fertility Rate) x (Marriage Ratio)

Thus, the followings are the two decisive factors, which are independent to each other, are the followings.

- Marital fertility rate (MFR)
- Marriage ratio (MR)

Furthermore, the following formula is introduced in order to measure quantitatively the effects of changes in the marriage ratio and/or the marital fertility rate.

TFR (MFR_0, MR_0) − TFR (MFR_1, MR_1)
= TFR (MFR_0, MR_0) − TFR $(MFR_0 - \Delta MFR, MR_0 - \Delta MR)$
= $MFR_0 \cdot \Delta MR + \Delta MFR \cdot MR_0 - \Delta MFR \cdot \Delta MR$
where MFR_0 : MFR at present,
MR_0 : MR at present,
$MFR_1 = MFR_0 - \Delta MFR$: MFR in future, smaller than MFR_0 by ΔMFR,
$MR_1 = MR_0 - \Delta MR$: MR in future, smaller than MR_0 by ΔMR

In the above formula, the first term of $MFR_0 \cdot \Delta MR$ shows the contribution from change only in the marriage ratio and the second term of $\Delta MFR \cdot MR_0$ shows contribution from change only in marital fertility rate. The third term of $-\Delta MFR \cdot \Delta MR$ shows the secondary effect, which is usually smaller than the first and the second terms.

The values of these two factors, the marital fertility rate and the marriage ratio, are dependent on female age. Accordingly, we examine the following indicators in the next step.

- Age-specific Marital Fertility rate (ASMFR)

■ *Age-specific Marriage Ratio (ASMR) obtained dividing ASFR by ASMFR.*

3.3.3 Comparison of ASMFR and ASMR

In the following pages, ASFR, ASMFR and ASMR of the state are compared with those of Tamil Nadu, Kerala and India. Major features in the state are shown below.

Table 3-7　TFR in 1996-97

	M.P.	Tamil Nadu	Kerala	India
Rural	4.4	2.1	1.8	3.7
Urban	2.5	1.8	1.8	2.4

Source: SRS

In comparison with India, the difference in the rural TFR for the age group 15-24 is larger than the difference in the age group over 25 for both ASMFR and ASMR. In comparison with Tamil Nadu and Kerala, for the age group 15-24, the difference in ASMR is larger than in ASMFR. On the contrary, in the age group 25-44, the difference in ASMFR is larger than that in ASMR.

As for the urban TFR, in comparison with India, the patterns of ASMFR and ASMT are quite similar to each other. In comparison with Tamil Nadu, the difference in the ASMR is larger than the ASMFR. On the other hand, in comparison with Kerala, the difference in the ASMFR is larger than the ASMR.

3.3.4 Implications of Analysis

Based on the qualitative analysis, effective age-groups for reduction in TFR are calculated and the implications are shown below.

■ In rural areas, a decline in the marriage ratio in the age group 15-24 and decline in the marital fertility rate in the age group 20-29 will reduce the TFR to the average of the country. Furthermore, to reduce the TFR to the replacement level of 2.1, a decline in the fertility rate of the age group 25-39 will play an important role, and a decline in the fertility rate of married females will contribute more in comparison with a decline in the marriage ratio.

■ In urban areas, a decline in the marriage ratio in the age group 15-24 and decline in the fertility rate in the age group 25-34 will reduce the TFR.

Table 3-8　Age-Group Effective for Reduction in TFR

Area and Target of TFR	Rural (from 4.4 to 3.7)	Rural (from 4.4 to 2.1)	Urban (from 2.4 to 2.1)
Reduction in ASMFR	20-29	25-39	25-34
Reduction in ASMR	15-24	15-24	15-24

Note: In urban area, two alternatives are available, one is Kerala-type approach emphasizing ASMR reduction and another is Tamil Nadu type approach emphasizing ASMFR reduction, but effective group is the same.
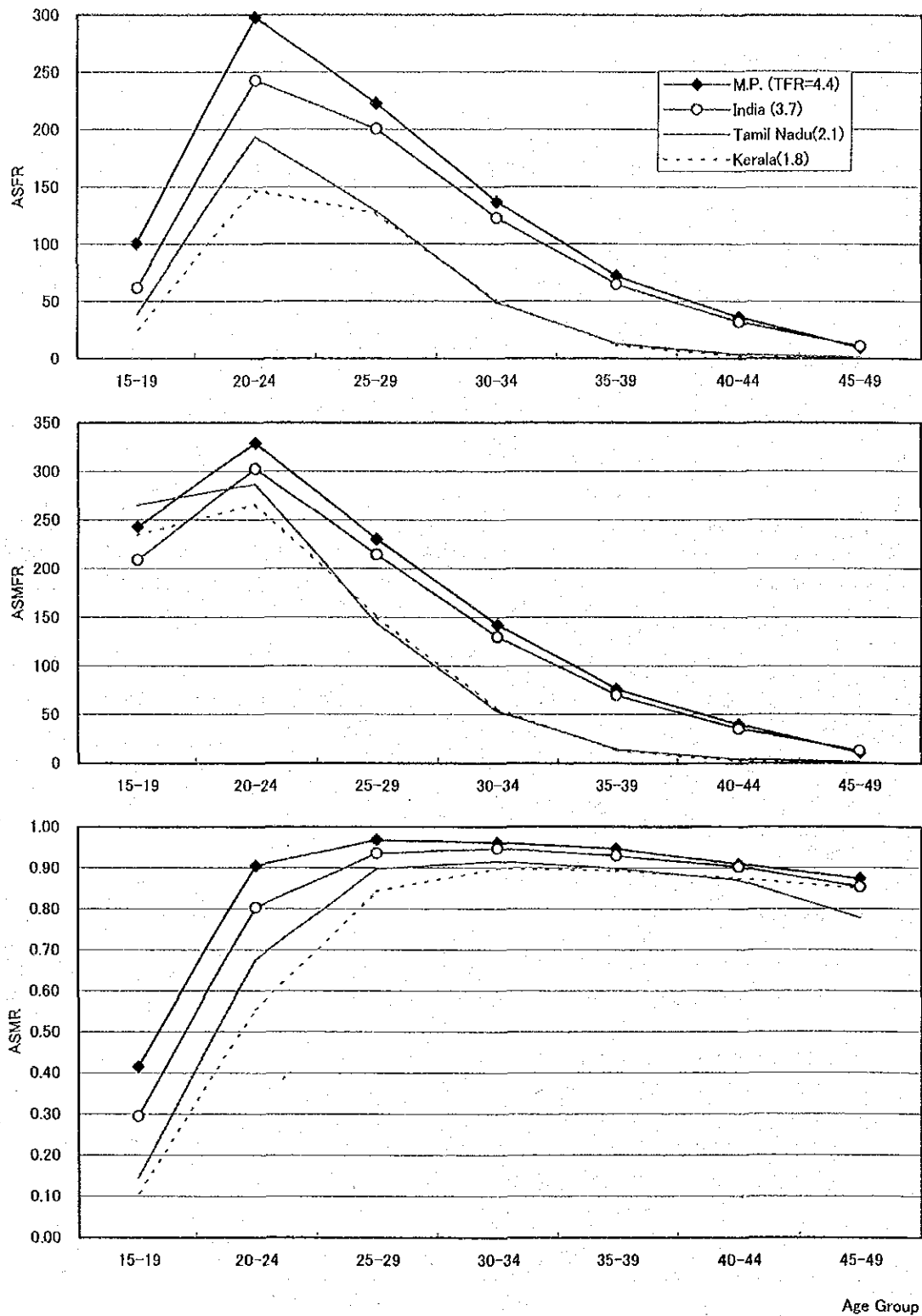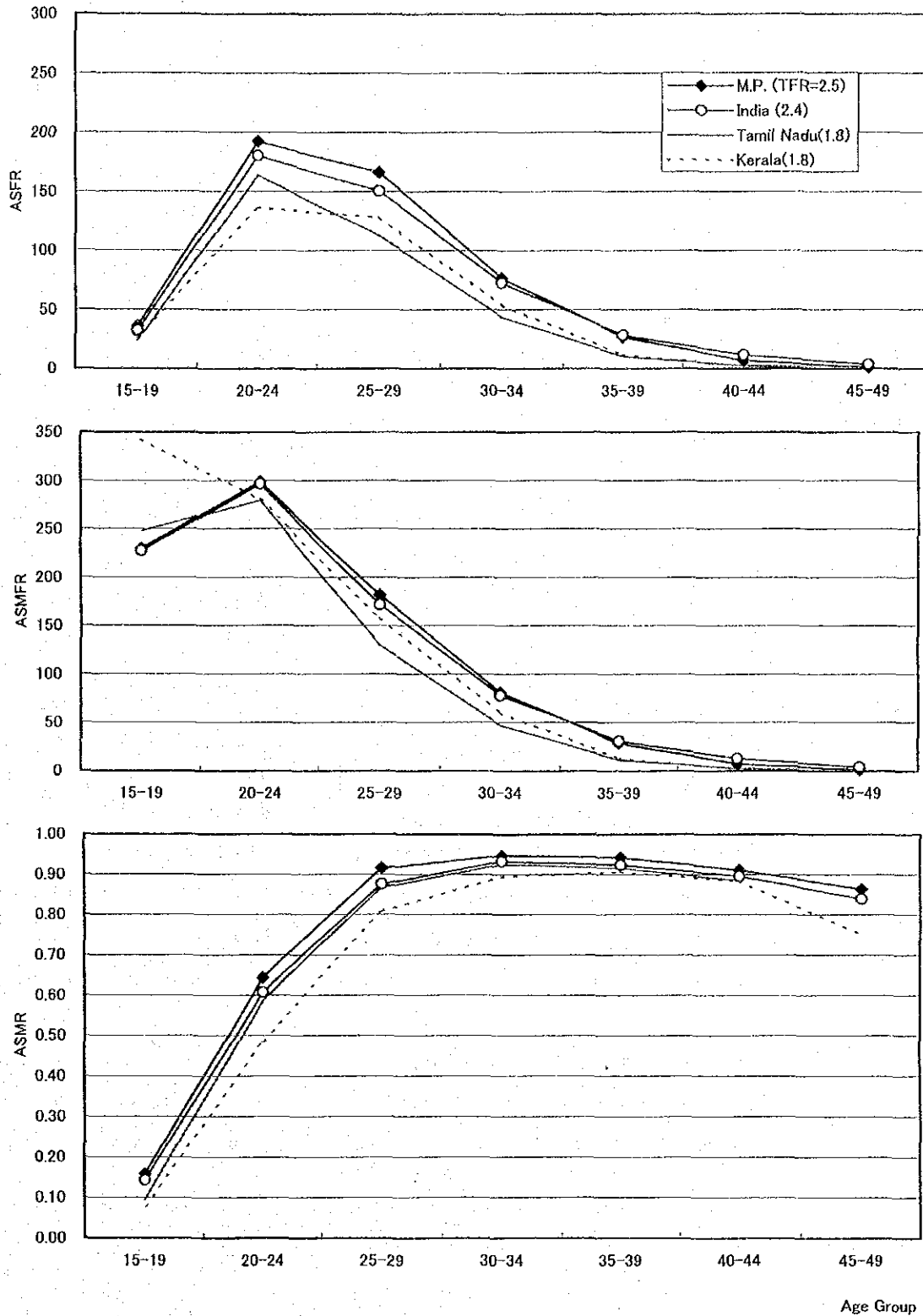
Figure 3-13   ASFR, ASMFR and ASMR (Rural)

Figure 3-14   ASFR, ASMFR and ASMR (Urban)

Table 3-9   Quantitative Analysis of TFR of Madhya Pradesh (Rural), 1996-97

Compared With	Age Group	Contribution from difference in		Secondary Effect	Total
		ASMR	ASMFR		
India*	15-19	0.15	0.07	-0.02	0.20
(TFR=3.7)	20-24	0.17	0.12	-0.01	0.27
	25-29	0.04	0.08	0.00	0.11
	30-34	0.01	0.06	0.00	0.07
	35-39	0.01	0.03	0.00	0.04
	40-44	0.00	0.02	0.00	0.02
	45-49	0.00	-0.01	0.00	-0.01
	Total	0.37	0.37	-0.04	0.70
Kerala**	15-19	0.37	0.02	-0.01	0.38
(TFR=1.8)	20-24	0.58	0.28	-0.11	0.75
	25-29	0.14	0.39	-0.05	0.48
	30-34	0.04	0.42	-0.03	0.43
	35-39	0.02	0.30	-0.02	0.30
	40-44	0.01	0.17	-0.01	0.17
	45-49	0.00	0.04	0.00	0.04
	Total	1.17	1.61	-0.22	2.56
Tamil Nadu***	15-19	0.33	-0.05	0.03	0.31
(TFR=2.1)	20-24	0.38	0.19	-0.05	0.52
	25-29	0.08	0.42	-0.03	0.47
	30-34	0.03	0.43	-0.02	0.44
	35-39	0.02	0.29	-0.01	0.30
	40-44	0.01	0.16	-0.01	0.16
	45-49	0.01	0.04	0.00	0.04
	Total	0.85	1.49	-0.10	2.24

Note: *:   If ASMFR of the state remains at present level and ASMR of the state declines to the level of India, TFR of the state will decrease by 0.37, of which major contributions are from the age group of 20-24 with 0.17 and from the age group of 15-19 with 0.15. If ASMR of the state remains at present level and ASMFR of the state declines to the level in India, TFR of the state will decrease by 0.37, of which major contributions are from the age group of 20-24 with 0.12, from the age group of 25-29 with 0.08 and from the age group of 15-19 with 0.07.

Note: **:   If ASMFR of the state remains at present level and ASMR of the state declines to the level in Kerala, TFR of the state will decrease by 1.17, of which major contributions are from the age group of 20-24 with 0.58 and from the age group of 15-19 with 0.37. If ASMR of the state remains at present level and ASMFR of the state declines to the level in Kerala, TFR of the state will decrease by 1.61, of which major contributions are from the age group of 30-34 with 0.42, from the age group of 25-29 with 0.39, from the age group of 35-39 with 0.30 and from the age group of 20-24 with 0.28.

Note: ***: If ASMFR of the state remains at present level and ASMR of the state declines to the level in Tamil Nadu, TFR of the state will decrease by 0.85, of which major contributions are from the age group of 20-24 with 0.38 and from the age group of 15-19 with 0.33. If ASMR of the state remains at present level and ASMFR of the state declines to the level in Tamil Nadu, TFR of the state will decrease by 1.49, of which major contributions are from the age group of 30-34 with 0.43, from the age group of 25-29 with 0.42 and from the age group of 35-39 with 0.29.

Source: prepared by JICA study team based on SRS data

Table 3-10 Quantitative Analysis of TFR of Madhya Pradesh (Urban), 1996-97

Compared With	Age Group	Contribution from difference in Secondary			
		ASMR	ASMFR	Effect	Total
India*	15-19	0.02	0.00	0.00	0.02
(TFR=2.4)	20-24	0.05	0.01	0.00	0.06
	25-29	0.04	0.05	0.00	0.08
	30-34	0.01	0.01	0.00	0.02
	35-39	0.00	-0.01	0.00	-0.01
	40-44	0.00	-0.03	0.00	-0.02
	45-49	0.00	-0.01	0.00	-0.01
	Total	0.12	0.02	0.00	0.13
Kerala**	15-19	0.09	-0.09	0.04	0.05
(TFR=1.8)	20-24	0.23	0.06	-0.01	0.28
	25-29	0.10	0.11	-0.01	0.19
	30-34	0.02	0.10	-0.01	0.11
	35-39	0.01	0.07	0.00	0.08
	40-44	0.00	0.02	0.00	0.02
	45-49	0.00	0.00	0.00	0.00
	Total	0.45	0.28	0.01	0.74
Tamil Nadu***	15-19	0.07	-0.01	0.01	0.06
(TFR=1.8)	20-24	0.09	0.06	-0.01	0.14
	25-29	0.04	0.24	-0.01	0.27
	30-34	0.01	0.16	0.00	0.17
	35-39	0.00	0.08	0.00	0.08
	40-44	0.00	0.02	0.00	0.02
	45-49	n.a.	n.a.	n.a.	n.a.
	Total	0.21	0.55	-0.02	0.75

Note: * If ASMFR of the state remains at present level and ASMR of the state declines to the level in India, TFR of the 25-29 with 0.04. If ASMR of the state remains at present level and ASMFR of the state declines to the level in India, TFR of the state will decrease by 0.02, of which major contributions are from the age group of 25-29 with 0.05.

Note: ** If ASMFR of the state remains at present level and ASMR of the state declines to the level in Kerala, TFR of the state will decrease by 0.45, of which major contributions are from the age group of 20-24 with 0.23. If ASMR of the state remains at present level and ASMFR of the state declines to the level in Kerala, TFR of the state will decrease by 0.28, of which major contributions are from the age group of 25-29 with 0.11 and from the age group of 30-34 with 0.10.

Note: *** If ASMFR of the state remains at present level and ASMR of the state declines to the level in Tamil Nadu, TFR of the state will decrease by 0.21, of which major contributions are from the age group of 20-24 with 0.09 and from the age group of 15-19 with 0.07. If ASMR of the state remains at present level and ASMFR of the state declines to the level in Tamil Nadu, TFR of the state will decrease by 0.55, of which major contributions are from the age group of 25-29 with 0.24 from the age group of 30-34 with 0.16

Source: prepared by JICA study team based on SRS data

3.4 POPULATION PROJECTION

3.4.1 Methodology

(1) Basic Concept for Population Projections

Population projections for the state and the Division were conducted in order to assess the trend of population growth and to clarify the population structure in the future.

For population projection the cohort component method was applied. The method provides information on future populations, such as population distribution by sex and age, number of live births, and so on. However, the method requires relatively large amounts of data for projections, such as life tables, fertility rates, and so on.

"Population Projections for India and States 1996-2016 — Report of the Technical Group on Population Projections Constituted by Planning Commission on August 1996" was published by the Office of Registrar General, India and contains a great deal of population data and information and elaborated many parameters for population projections. These data and parameters are examined and quoted for projections in the Study.

(2) Base Year of Projection and Base Level Population

The base year of projection is set as the year 2001.

The latest statistics on population are found in the 2001 Census, which shows total population and much more. But only limited data is available to date from the 2001 Census, and the age distribution of the population is not available at present. Therefore, based on the 1991 Census and "Population Projections for India and states 1996-2016", sex and age distribution of the population in 2001 is estimated for the states and the five districts in the Division.

(3) Assumptions

1) Fertility rate

The Age-Specific Fertility Rate (ASFR) obtained from the SRS is analysed. Then an ASFR pattern is set up to calculate projections for the state and the five districts.

2) Sex ratio at birth

In India, the observed sex ratio at birth of 106 is much higher than internationally accepted sex ratios at birth. For the projection, a sex ratio at birth of 108.2, which is the estimate for Madhya Pradesh by "Population Projections for India and states 1996-2016", was adopted.

3) Mortality

The survivorship ratios for Madhya Pradesh projected by "Population Projections for India and states 1996-2016" were adopted.

4) Migration

Migration is negligible for state level population projections as stated in "Population Projections for India and states 1996-2016". As for the five districts, around 4% of the population was in-migrants during 1981-1991 according to the Census 1991. No available data, however, exists for out-migrants. Therefore, migration was not taken into consideration for the population projections.

(4) Set up of Projection Case

Two cases for population projection are set up as shown below.

1) Case 1 (Current Trend Case)

The first case is based on the current trend of fertility.

In this case, TFR is projected based on trend analysis in terms of a log linear time model. Regression analysis was conducted using TFR of the state for the period 1981-1997 from the SRS.

As for the five districts, TFRs are available from the Census 1991 only for 1991. Therefore, the ratio of TFR of the state to TFR of each district in 1991 was used for the projection of TFR of the five districts. Assumed TFRs are shown below.

Table 3-11 Assumption on TFR (Case 1)

	2001-2006	2006-2011	2011-2016	2016-2021	2021-2026
M.P.	3.71	3.46	3.24	3.05	2.88
Tikamgarh	4.71	4.39	4.11	3.87	3.65
Chhatarpur	4.19	3.91	3.66	3.44	3.25
Panna	4.28	4.00	3.74	3.52	3.32
Sagar	4.16	3.88	3.63	3.42	3.22
Damoh	3.87	3.61	3.38	3.18	3.00

Source: JICA study team

2) Case 2 (Objective Set Case)

The second case is set up based on the objective of the Population Policy of Madhya Pradesh.

In accordance with the Population Policy, TFR is set at 2.1 in 2011 for the state and for the five districts in the Division. TFR from 2001 to 2011 is calculated by linear interpolation and TFR beyond 2011 is assumed to be 2.1. Assumed TFR are shown below.

Table 3-12 Assumption on TFR (Case 2)

	2001-2006	2006-2011	2011-2016	2016-2021	2021-2026
M.P.	3.41	2.54	2.10	2.10	2.10
Tikamgarh	4.18	2.79	2.10	2.10	2.10
Chhatarpur	3.78	2.66	2.10	2.10	2.10
Panna	3.85	2.68	2.10	2.10	2.10
Sagar	3.75	2.65	2.10	2.10	2.10
Damoh	3.53	2.58	2.10	2.10	2.10

Source: JICA study team

3.4.2 Result of Projections

According to the projection in Case 1, where the assumption that fertility decreases at current rates is adopted, the population in the Division increases from 6.6 million in 2001 to 8.3 million

in 2011. On the other hand, according to the projection of Case 2, where the assumption that TFR decreases to 2.1 in 2011 is adopted, the population of the Division increases from 6.6 million in 2001 to 7.8 million in 2011. It implies that the population increases continuously because of population momentum, even if the main objective of the Population Policy is achieved. The results of population projections are presented below.

Table 3-13 Projected Population
(Unit: million)

		2001	2006	2011	2016	2021	2026
M.P.	Case 1	81.2	89.1	97.6	106.7	115.6	123.9
	Case 2	81.2	88.1	93.8	98.7	103.8	108.6
Sagar div.	Case 1	6.6	7.4	8.3	9.2	10.1	11.0
	Case 2	6.6	7.3	7.8	8.2	8.7	9.1

Source: JICA study team

Table 3-14 Projected Annual Growth Rate of Population
(Unit: %)

		2001-2006	2006-2011	2011-2016	2016-2021	2021-2026
M.P.	Case 1	1.87	1.85	1.79	1.61	1.41
	Case 2	1.66	1.25	1.02	1.01	0.91
Sagar div.	Case 1	2.29	2.20	2.06	1.93	1.81
	Case 2	1.97	1.35	0.99	1.05	1.03

Source: JICA study team

Table 3-15 Projected Annual Increment of Population
(Unit: 1,000)

		2001-2006	2006-2011	2011-2016	2016-2021	2021-2026
M.P.	Case 1	1,579	1,712	1,814	1,774	1,671
	Case 2	1,390	1,130	979	1,020	963
Sagar div.	Case 1	159	171	178	184	189
	Case 2	136	102	79	88	91

Source: JICA study team

Table 3-16 Projected Annual Live Births
(Unit: 1,000)

		2001-2006	2006-2011	2011-2016	2016-2021	2021-2026
M.P.	Case 1	1,237	1,316	1,382	1,377	1,345
	Case 2	1,132	994	919	956	953
Sagar div.	Case 1	115	121	126	130	134
	Case 2	105	95	80	75	80

Source: JICA study team

3.5 POPULATION POLICY AND ITS PROGRESS IN MADHYA PRADESH

3.5.1 Outline of Population Policy in Madhya Pradesh

The Population Policy of Madhya Pradesh was established on January 2001, the mission of which is to improve the quality of life of the people in the state by achieving a balance between population, resources and environment. The outline is shown below.

The main objective of the Population Policy is to reach a TFR of 2.1 by 2011.

To attain the main objective, specific objectives are set up for 23 items in four fields as follows:

- reduction in fertility : use of modern contraceptive methods, proportion of couples having an unmet need, proportion of male sterilization acceptors, use of spacing methods, age at marriage for girls, age of the mother at the birth of her first child, gap between the first and the second child, and so on,
- reduction in maternal mortality : registration of pregnant women, proportion of institutional deliveries, assistance of trained birth attendant, pregnancy testing facility, institutions for emergency obstetric care and medical termination of pregnancy, and so on,
- reduction in infant and child mortality : total immunization, use of oral rehydration salts (ORS) packets, incidence of acute respiratory infection (ARI), facilities for treatment of ARI, receipt of all required doses of vitamin A, and so on,
- provision of other services : provision of quality services to infertile couples, primary education, and so on.

Key policy initiatives are identified as follows:

- creating an environment conducive to a planned family and creating demand for family planning and reproductive health,
- increasing collaboration with Panchayati Raj Institutions, the private sector and the non-government sector in community mobilization and programme implementation,
- improving the management of the family welfare programme to achieve excellence in meeting the needs of clients,
- developing appropriate implementing structures.

It is recommended that each of the concerned departments will finalize the activity plan, implement it and monitor the progress on a regular basis.

To strengthen political support, ensure inter-sectoral coordination, and institutionalise integration at district level and below, the following new mechanisms will be put in place:

- The State Population and Development Council (SPDC)
- State Population Policy Implementation Committee (SPPIC)
- District Population and Development Coordination Committee (DPDCC)

3.5.2 Progress of Population Policy in Madhya Pradesh

The Population Policy emphasizes the role of the departments concerned in achieving replacement level fertility and they are expected to work out their roles by themselves, though a number of measures are presented in the Population Policy.

The activity plan of the Population Policy for the year 2001-02 was already prepared, and in the activity plan, activities to be carried out were categorized and presented, though every activity does not have definite shape.

Involvement of the district level and below was inadequate in the process of preparation of the activity plan. Improvement, however, is expected in near future because Guidelines for District Health Planning are being prepared, and the first draft was issued in May 2001.

On the other hand, introduction of implementation mechanisms has proceeded as shown below.

- The State Population and Development Council (SPDC) is the apex body for implementation of the Population Policy. This body will review and adopt policies consistent with the state's socio-economic goals and reproductive health programme objectives. The SPDC chaired by the Chief Minister with more than 50 members has been established already, and the first meeting was held in May 2001.
- State Population Policy Implementation Committee (SPPIC) is to be constituted to coordinate and monitor implementation of the Population Policy. This committee under the chairmanship of the Chief Secretary has not been established formally. Informal meetings of the members have been held.
- District Population and Development Coordination Committee (DPDCC) is to achieve convergence at the district level and below and will function under the leadership of the Chairperson of the District Planning Committee. A proposal for formation of this committee was submitted and is under examination.
- State Population Resource Centre (SPRC) is to strengthen monitoring and evaluation for effective programme management and to support planners and programme administrators. This centre is under preparation.