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Development of Health Infrastructure and its Impact in South –West Madhya Pradesh

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ABSTRACT

Today the health infrastructure in South-West M.P. is in pathetic condition, it needs radical reforms to deal with new emerging challenges. On the one hand the role of private players is continuously increasing in healthcare sector, but simultaneously healthcare facilities are getting costly, and becoming non-accessible for the poor. The government hospitals are facing the problem of lack of resources and infrastructure**;** there are inadequate number of beds, rooms, and medicines. In this research paper the authors have discussed the present scenario of healthcare facilities and personnel. On the part of government there is lack of monitoring of the funds and resources, which are devoted towards the improvement of healthcare sector. The authors have suggested a model healthcare plan which devolves around preparing a long term strategy for qualitative as well as quantitative improvements in our healthcare infrastructure by focusing on workforce capacity and competency, information and data systems, and organizational capacity with the help of the local people**;** it must prepare a decentralized structure which would be district based, involving active role for the local level institutions like Panchayats. It has been further observed by the authors that every year many people die because of the spread of different epidemics, and till now the government has failed to create a proper strategy which can prevent the spread of these epidemics and can provide for emergency measures in the affected areas.

Key Words: health, longevity, Health Infrastructure, Infant Mortality, Maternal Mortality Rate, Per capita income.

Introduction:

Improvement in the quality of man power through investments in health is an important aspect of human capital formation. Good health is one of the primary concerns of every man, woman and child, not only for its own sake but because it is an essential pre-condition for the physical, mental and spiritual wellbeing and happiness both of the individual as well as society. The popular instinct is right in linking together health, wealth, and happiness. In any country capital formation lies not in its factories and mines, its gold reserves or its favorable balance of trade, but in the physical, mental, moral and spiritual health of its citizens. Indeed, good health is of fundamental importance for the future welfare of the world. Peace and security**"** can be obtained only in a world community composed of countries whose people are physically and mentally healthy.

Health is not only absence of disease but also the ability to realize one's potential. It is a yardstick of one's well being. Health is the holistic process related to the overall growth and development of the nation. Though the twentieth century has seen a global transformation in human health unmatched in history, it may be difficult to define the health status of a nation in terms of a single set of measures. Generally scholars assess people's health by taking into account indicators like infant mortality and maternal mortality rates, life expectancy and nutrition levels, along with the incidence of communicable and non-communicable diseases.

Good health plays a vital role in economic and human development. Good health optimal spending on it contributes to economic growth in the following four ways.

(i) Gains in workers' productivity
(ii) Improved utilization of natural resources
(iii) Benefits in the next generation through education
(iv) Reduced cost of medical care

Better health conditions increase workers productivity, reduce days spent in illness and increase working capacity of the labour by reducing morbidity and disability. Education which plays a vital role in economic development can only be effective if there is good health. It is true that schooling pays off in terms of higher incomes, but such gain is bounded by good health. Poor health and malnutrition reduce the gains of schooling in three areas, enrolment, ability to learn and participation by girls, poor health children lagged behind in education and learning. Therefore, health and education are inter-linked and can only maximize benefits.

Development of health infrastructure ensures a country of healthy manpower for production of goods and services. In recent times, scholars argue that people are entitled to health care facilities. It is the responsibility of the government to ensure the right to healthy living. Health infrastructure includes hospitals, doctors, nurses and other Para-medical professionals, beds, equipment required in hospitals and a well-developed pharmaceutical industry. It is also true that mere presence of health infrastructure is not sufficient to have healthy people: the same should be accessible to all the people. Since, the initial stages of planned development, policy-makers envisaged that no individual should fail to secure medical care, curative and preventive, because of the inability to pay for it. But are we able to achieve this vision?

Health Infrastructure in South –West Madhya Pradesh

Health Institutions in South -West M.P in 2013:

Table 1.1

District	No. of Beds	No. of Blocks	District Hospital	Civil Hospital	CHC	PHC	SHC	Urban FW Centre			UHP	Civil Disp.
								Type I	Type II	Type III		
Barwani	300	7	1	1	8	29	232	-	1	-	-	1
Burhanpur	200	2	1	0	4	13	97	-	-	-	-	-
Dhar	300	13	1	0	15	46	394	-	-	1		3
Khargone	300	9	1	2	10	54	273	1	-	1	-	2
Indore	100	4	1	3	4	25	93	-	-	15	13	13
Jhabua	200	6	1	0	7	19	190	-	-	1	-	-
Khandwa	400	7	1	0	6	30	173	-	-	2	14	-
Southwest MP	1800	48	7	6	54	216	1452	1	1	20	27	19
MP	13400		50	56	333	1155	8659	16	7	73	80	92

Source: (1) Joint director health, Indore division, 2013
(2) Department of public health, GOMP 2013

State is committed to provide health care facilities to the poorest of the poor in the society through primary health care including preventive, curative and promotive care. State has 8659 Sub Centers, 1155 Primary Health Centers and 333 Community Health Centers to cater the health needs of the community in rural areas. The public health in MP has 50 district hospitals, 56 civil hospitals. These numbers do not satisfy the population norms for such centres, and the gap in centres itself is pretty large as seen in table. Table shows that the health institutions in the South – West MP. Each district has one districts hospital. There are 6 civil hospitals in the region in which Indore district has 3 civil hospitals followed by Khargone with 2 hospitals and district Barwani has 1 civil hospital. The districts Burhanpur, Dhar, Jhabua, and Khandwa have no any civil hospitals. The number of community health centres in the region is 54 in which Dhar has highest that are 15 followed by district Khargone with 10 community health centres. The district Indore and Burhanpur have least number of community health centres that is 4. In the region total numbers of primary health centres is 216. The district Khargone has the highest number of primary health centres which are 54 followed by district Dhar with 46. Districts Burhanpur and Jhabua have less number of PHCs. The region has 1452 sub health centres in which the district Dhar has highest number of sub health centre which are 394 followed by district Khargone with 273. Indore has least number of sub health centres. South – West MP has 19 civil dispensaries in the region in which only Indore district have 13 civil

dispensaries. Followed by Dhar with 3 and districts Burhanpur, Jhabua and Khandwa have no such hospitals. In Indore district Maharaja Yashwant Rao Holkar is one of the hospitals which serve in whole area of South – West MP. Primitive Tribal Group in Jhabua, Barwani, Khandwa, Dhar, Burhanpur and Khargone faces enormous health problems and while responding to these critical lives threatening conditions, State provides them – Dreams. Three out of the four positions of doctors at the Community Health Center are vacant. There is no gynecologist or even women doctor. The controversy regarding the discrepancy and issues should not remain limited to statistics because the medical infrastructure in the state clearly reveals a far bleaker scenario. An analysis based on state government figures shows that one hospital bed is available for every two villages. There are 18 lakh births in the state every year and out of that 8.84 lakh births take place in poor families, but out of that only 3.5 lakh could be covered under the maternity schemes. And various macro studies show that the expenditure on health is a biggest cause of indebtedness among the tribal people. The government provides only Rs 160 per person per year as health budget, of which Rs 126 is spent on salaries and other infrastructure costs.

Health infrastructure in South- West MP, 2013

Table 1.2

District	Population per health centre	Rural population per PHC	PHC per lakh rural population	Rural population served per SHC	Average area (in 100sq.km) serviced per Health no.	PHC 100 sq. km Rural area
	Total	Rural	Urban	Total	Rural	Urban
Barwani	3846	31993	3.1	3691	6.1	0.61
Burhanpur	7222	51123	2.0	6235	2.1	0.32
Dhar	4363	33452	3.0	4014	5.7	0.59
Khargone	1.369	73014	1.4	10141	2.1	0.25
Indore	13440	52612	1.9	4362	5.6	0.41
Jhabua	8459	74448	1.3	8732	2.8	0.28
Khandwa	7632	55094	1.8	6436	2.3	0.23
Southwest MP	7904	53105	2.07	6230	3.8	0.38
MP	6645	42665	2.3	5563	3.4	0.37

Source: (1) Joint director health, Indore division.2013

(2) Department of public health and family welfare, GOMP

Table 1.2 shows the health infrastructure in South – West MP. It shows the availability of health centre for population. In MP population per health centre are 6645 and in the region South – West MP 7904 which shows that the higher number of population served per health centre. The population served in per health centre in district Indore is highest in the region with 13440. Indore district is densely populated as well as its major population resides in city area. The number of private health institutions is also located in this area. The public sector health institutions are also there. MYH is one of the big hospitals which provide the health services to large number of population in the region. In Jhabua district rural population served at per PHC is 7448 which is much higher than the MPs average as well as government standard 30,000. Followed by Khargone with 73014 persons per PHC according to the population norms are available in Barwani district population served per sub health centre is 5563. The district Khargone has comparatively less number of sub health centres according to the population standard norm of 5000 per sub health centre serve 10141 person which is double of the standard norm. The population served per sub health centre in district Barwani, Dhar and Indore is less than 5000.

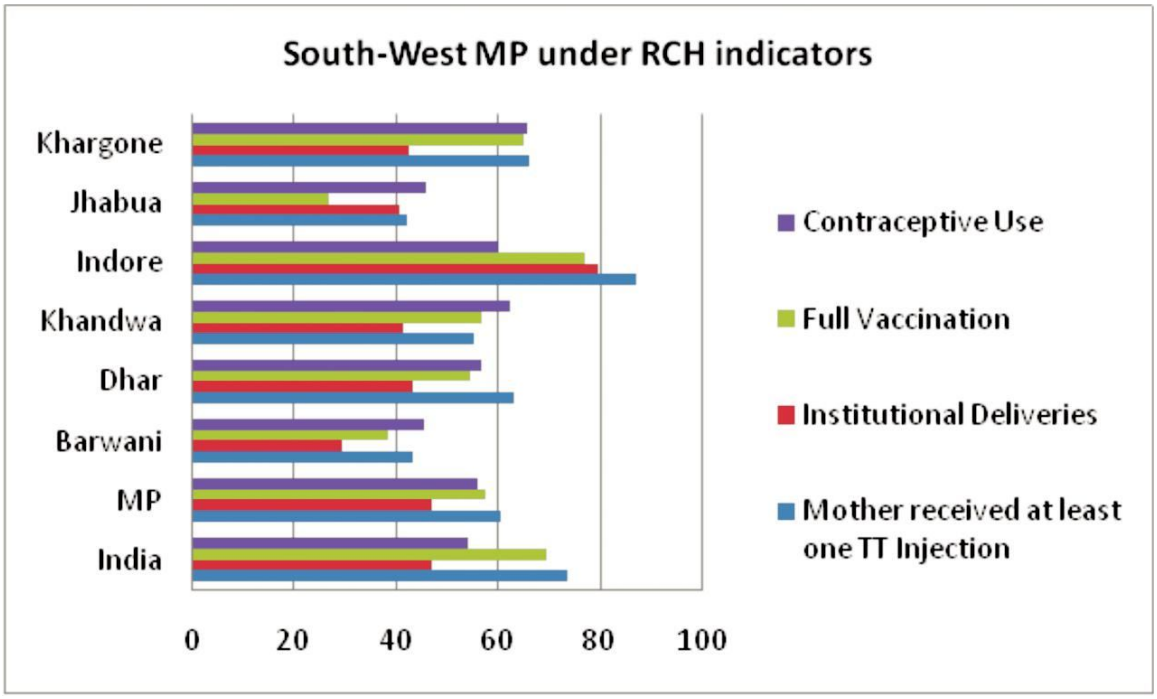
South-West MP under RCH indicators

Table 1.3

District/state/India	Mother received at least one TT Injection	Institutional Deliveries	Full Vaccination	Contraceptive Use
India	73.5	47	69.6	54.1
MP	60.4	47.1	57.7	56.2
Barwani	43.3	29.4	38.3	45.6
Dhar	63.2	43.1	54.5	56.8
Khandwa	55.4	41.3	56.7	62.5
Indore	87.1	79.7	76.9	60.1
Jhabua	42	40.5	26.7	45.7
Khargone	66.3	42.3	64.9	65.7

Source: DLHS- -III, 2012-13

Chart 1.1



The above table 1.3 and chart 1.1 reveals the some indicators under RCH in which mother received at least one TT injection, institutional deliveries and full vaccination contraceptive use. The data has been taken from DLHS – III which shows that the tribal region of South – West MP shows a grim result. At the National level mother received at least one TT injection is 73.5% institutional deliveries are 47% full vaccination is 69.6% and contraceptive use is 54.1%. In MP there are 60.4, 47.1, 57.7 and 56.2 percent respectively. The district Indore is higher than the national and MP level which are 87.1, 79.7, 76.9 and 60.1 respectively. The districts Jhabua and Barwani is showing poor performance. District Khargone is also showing the best performance in mother received at least one TT injection, Institutional deliveries, full vaccination and contraceptive use.

DEVELOPMENT IN NUMBER OF DOCTORS

Growth in number of Medical Colleges in South-West M.P.

Table 1.4

Country/state/Districts	Number of Medical colleges		
	1980-81	2006-07	2012-13
India	106	260	314
M.P.	06	08	11
Indore	01	02	03
Burhanpur	-	-	-
Khandwa	-	-	-
Barwani	--	-	-
Jhabua	-	-	-
Dhar	-	-	-
Khargone	-	-	

Source: 1. for 1981 statistics, GOI, CBHI, Health statistics in India, 1981
2. Medical Council of India, 2013
3. Medical Council of State, MP 2013

Table 1.4 shows the growth of medical colleges in the South – West MP. It reveals that there were 106 medical colleges in the country in 1980 – 81 which increased and become 260 in 2006 – 07 and presently these are 314. There are 327 dental colleges, 214 Ayurvedic colleges and other colleges which show a significant growth in the country. Madhya Pradesh is presently second largest state as well as having the population of 7.25 crore have only 11 medical colleges with 1320 seats which are imparting the medical education. In 2006 – 07 there were only 8 medical colleges in the state. Presently apart from this these medical colleges 15 dental and 14 Ayurvedic colleges are in the state. The region of South – West MP is showing a dissatisfactory picture. In the region there is great disparity among the districts related with medical education. In the region only Indore district has the medical colleges which are imparting medical education with 390 seats. In Indore district 4 dental colleges, 1 Ayurvedic, 1 Unani, 2 Homeopathic colleges are there. In the region Burhanpur district has 1 dental college which is private owned,1 Unani and 1 Ayurvedic college District Dhar has only one Homeopathic college, other districts in the region have no any colleges which are imparting medical education in discipline . From this table we can conclude that there is great disparity among the districts of South – West MP for medical education.

Painting a grim picture on the healthcare sector, the Planning Commission has blamed the shortage of medical professionals for the dismal scenario. There is only one allopathic doctor for over 2300 patients. One reason given for this ratio is the mal-distribution of doctors between the rural and urban areas.

"For 20-30 per cent population in the urban areas, a large chunk of doctors are available. But what about rural areas where above 70 per cent of the population has no medical help available to it. The situation is particularly bad in the public healthcare sector. The public healthcare has been on a serious decline during the last two or three decades because of non- availability of medical and paramedical staff, diagnostic services and medicines. The situation in availability of specialist manpower in Community Health Centers is particularly bad as against the sanctioned posts. About 59.4 per cent surgeons, 45 per cent obstetricians and

gynecologists, 61 per cent physicians and 53 per cent pediatricians were not in position in south west mp. The number of dental surgeons registered in India stood at 73,271 against the requirement of 282,130.

GROWTH OF NURSING IN SOUTH-WEST M.P.

Distribution of nursing educational institutions recognized by INC & Nursing council of MP, 2013 – 14

Table 1.5

District	ANM Training		GNM Training		B.Sc. Nursing Colleges		P.B. B.Sc. colleges		M.Sc. Nursing colleges	
	No.	Seats	No.	Seats	No.	Seats	No.	Seats	No.	Seats
Barwani	01	60	-	-	-	-	-	-	-	-
Burhanpur	01	40	-	-	01	40	-	-	-	-
Dhar	02	80	-	-	-	-	-	-	-	-
Khandwa	-	-	01	10	01	10	-	-	-	-
Indore	07	185	04	155	16	755	02	45	04	71
Jhabua	01	30	-	-	-	-	-	-	-	-
Khargone	01	29	01	50	01	50	01	30	-	-
South -West MP	13	415	06	215	19	855	03	75	04	71
MP	91	3320	60	2352	88	4305	20	560	16	236

Source: Mahakoshal nurses registration council MP, 2013

Table 1.5 reveals the information regarding the colleges and institutions which are imparting nursing education in South – West MP. It shows that there are 91 Training centres with 3320 seats which are Training Auxiliary Nursing Midlife (ANM) Previously they were known as female health workers. Now they are known as ANM. In the South – West region of MP there are 13 Training centres with 415 seats Indore district is at the top in training of ANM. There are 7 Training centres with 185 seats. District Dhar is at second place with 2 centres and 80 seats. District Khandwa has no any centres to train ANM. The districts Barwani, Burhanpur, Jhabua and Khargone each have one centre with 60, 40, 30 and 20 seats respectively. Similarly the nursing schools which are imparting education and training the GNM (General Nursing Midwifes) the total number of institutions in MP are 60 with 2352 seats. In which 11 institutions with 277 seats are from public sector and 49 institutions with 2075 seats are private sector. The Indore district is at the top in imparting training to GNM. It has 4 institutions with 155 seats followed by Khargone with one institution with 50 seats and Khandwa institution with 10 seats. Districts Barwani, Burhanpur, Dhar and Jhabua have no any institutions which can impart the training to GNM. There are 88 Nursing colleges in the state which are running the B.Sc. nursing 4 years programs. The number of B.Sc. nursing seats in the state is 4305. The maximum colleges are from private sector. The district Indore has the highest number of nursing colleges. It has 16 colleges with 755 seats. District Khargone, Burhanpur and Dhar each have one college with 50, 40 and 10 seats respectively. The region has 19 colleges with 855 seats which are imparting education in 4 years B.Sc. Nursing Programmes.

In the state there are 20 colleges which provide the degree in post Basic B.Sc. Nursing (P.B B.Sc.) two years programmes. The number of seats is 560. The district Indore has 2 colleges with 45 seats followed by Khargone with 1 college and 30 seats. Other districts in the region have no such colleges which impart education in P.B B.Sc. There are 16 colleges in the state which provide education for M.Sc. Nursing with 236

seats. Indore district has 4 colleges with 71 seats. Other districts have no college. We can conclude that there is growth/development in the nursing human resources which is very important to provide the health services in the region and the state. There is a great disparity between the districts of the region. Indore district has the majority of infrastructural facilities followed by Khargone at second place. Other districts are neglected with these infrastructural facilities. The one and most important region is in Indore most of the colleges are private and private college owners has the objective of profit to run these colleges.

DEVELOPMENT IN PARA-MEDICAL AREA IN SOUTH-WEST M.P:

"The stock of all individuals engaged in the promotion, protection or improvement of population health" are Health workers. This includes both private and public sectors and different domains of health systems, such as:

- personal curative and preventive care,
- non-personal public health interventions,
- disease prevention,
- management and support services,
- health promotion services,
- health

"Human resources actually engaged in the health system can be referred to as the health system workforce or health workforce"

The paramedical experts are the backbone of the medical colleges as they are responsible for conducting X-ray and other pathological .0tests. The paramedical council for regulatory purposes and the proposed institute of Paramedical Sciences should be established at the earliest to cope with the shortage of paramedical staff. Madhya Pradesh Paramedical Council Adhiniyam was passed in 2003.Paramedical council of MP has scheduled number of programme in which the affiliated institutes can impart the Para-medical courses in these areas.

GROWTH IN PARA-MEDICAL INSTITUTES IN SOUTH-WEST M.P.

Recognized Para-Medical institutes in south-west Madhya Pradesh

Table 1.6

Districts	2004-2005		2007-2008		2012-2013	
	No of Colleges	Seats	No of Colleges	Seats	No of Colleges	Seats
Barwani	1	25	2	200	3	400
Burhanpur	1	50	3	500	4	650
Dhar	1	200	1	200	3	600
Khandwa			1	150	2	500
Indore	5	1285	13	2410	14	3325
Jhabua					1	150
Khargone	1	150	1	150	1	150
South-West MP	10	1710	21	3610	28	5745
MP	46	7227	84	13649	123	29456

Source: Madhya Pradesh Para-medical council, Bhopal, 2013

Table 1.6 shows that the growth in Para-medical in Madhya Pradesh and the region of south-west M.P. Table reveals that the number of Para-medical colleges in MP in 2004-05 was 46 with the permitted seats of 7227. In the South-West M.P. the number of these colleges is only 10 with total seats of 1710. The Indore district has the highest number of colleges that is 5 with 1285 seats. District Jhabua and Khandwa have no colleges. The

districts Barwani, Burhanpur, Dhar and Khandwa each have 1 college with 25, 50, 200 and 150 seats respectively. In the year 2007-08 it shows the growth in number of colleges as well as number of seats. The total number of colleges in MP became 84 with 13649 seats which are doubled in comparison of 2004-05. Similarly district Indore has highest number of colleges which are imparting Para-medical education. These became 13 with 2410 seats. Followed by Burhanpur with 3 colleges and 500 seats. The district Jhabua has not shown any growth and has no colleges in this period. District Barwani with 2 colleges and 200 seats are at third position. District Khargone, Dhar and Khandwa each have one college with 150,250 and 150 seats respectively. Presently there are 123 colleges with 29456 seats which are imparting the Para-medical education in the state which shows more than two and half time growth in number colleges and four times increase in the number of seats. In the south-west region of MP is also showing the significant growth in Para-medical education. Presently in the region there are 28 colleges with 5745 seats are imparting Para-medical education. The district Indore is at the top with 14 colleges and 650 seats. The districts Dhar and Barwani each have 3 colleges with 600 and 400 seats respectively. The district Jhabua and Khargone each have only one college with 150 seats. I can conclude that the south-west region has shown the growth in the area of Para-medical education but there is a great disparity in the region. Indore district has got more privilege in the area of Para-medical education. The backward districts like Jhabua, Khargone, and Khandwa show the least growth in the region. The above mentioned institutes in South-West MP are imparting education in scheduled areas.

HEALTH SYSTEM IN SOUTH-WEST M.P

South-West MPs health infrastructure and health care is made up of a three-tier system- primary, secondary and tertiary. Primary health care includes education concerning prevailing health problems and methods of identifying, preventing and controlling them; promotion of food supply and proper nutrition and adequate supply of water and basic sanitation; maternal and child health care; immunization against major infectious diseases and injuries; promotion of mental health and provision of essential drugs.

Auxiliary Nursing Midwife (ANM) is the first person who provides primary healthcare in rural areas. In order to provide primary health care, hospitals have been set up in villages and small towns which are generally manned by a single doctor, a nurse and a limited quantity of medicines. They are known as Primary Health Centres (PHC), Community Health Centres (CHC) and sub-centres. When the condition of a patient is not managed by PHCs, they are referred to secondary or tertiary hospitals. Hospitals which have better facilities for surgery, X-ray, Electro Cardio Gram (ECG) are called secondary health care institutions. They function both as primary health care provider and also provide better healthcare facilities. They are mostly located in district headquarters and in big towns. All those hospitals which have advanced level equipment and medicines and undertake all the complicated health problems, which could not be managed by primary and secondary hospitals, come under the tertiary sector. The tertiary sector also includes many premier institutes which not only impart quality medical education and conduct research but also provide specialized health care. Some of them are - All India Institute of Medical Science, New Delhi; Post Graduate Institute, Chandigarh; Jawaharlal Institute of Postgraduate Medical Education and Research, Pondicherry; National Institute of Mental Health and Neuro Sciences, Bangalore and All India Institute of Hygiene and Public Health, Kolkata ect.

GREAT DISPARITIES BETWEEN RURAL AND URBAN HEALTH INFRASTRUCTURE IN SOUTH-WEST M.P.

Seventy percent of M.P.s population lives in rural areas, only one-fifth of its hospitals are located in rural areas. Rural India has only about half the number of dispensaries. Roughly 11 percent beds are available in rural areas. Thus, people living in rural areas do not have sufficient medical infrastructure. This has led to differences in the health status of people. As far as hospitals are concerned, there are only 0.36 hospitals for every one lakh people in rural areas while urban areas have 3.6 hospitals for the same number of people. The PHCs located in rural areas do not offer even X-ray or blood testing facilities which, for a city dweller, constitutes basic healthcare. Villagers have no access to any specialized medical care like pediatrics, gynecology, anesthesia and obstetrics.

The poorest 20 per cent of Indians living in both urban and rural areas spend 12 per cent of their income on healthcare while the rich spend only 2 per cent. What happens when the poor fall sick? Many have to sell their land or even pledge their children to afford treatment. Since government run hospitals do not provide sufficient facilities, the poor are driven to private hospitals which make them indebted forever. Or else they opt to die.

WOMEN'S HEALTH IN SOUTH-WEST M.P

Women constitute about half of the total population in region. They suffer many disadvantages as compared to men in the areas of education, participation in economic activities and health care. The deterioration in the child sex ratio in the country from 945 in 1991 to 927 in census of 2001 and in census 2011 it indicates some improvement and showing 930 female compared to male. More than 50 per cent of married women between the age group of 15 and 49 have anaemia and nutritional anaemia caused by iron deficiency, which has contributed to 19 per cent of maternal deaths. Abortions are also a major cause of maternal morbidity and mortality in MP. Low nutritional status of women emerges as the most pervasive cause of low birth-weight babies and poor growth. Presently 30% of the new-born are with low birth weight. A study of 36 developing countries found that most countries had substantially less underweight than overweight among women. The exception was India where very high prevalence of undernourished women was found (23.1% of urban and 48.2% of rural women). As per a recent study, if women and men had equal status, there would be 13.4 million fewer malnourished children in the 0-3 age group. Women with low status tend to have weaker control over household resources, less access to information and health services, no control over spacing of child births, low marriage age which affects her nutritional status.

The first 2 years of life is the most critical phase for nutrition, which leads to irreversible damage into adult life. However, the major focus on food supplements. There is a need to focus impact of under nutrition across women's life cycle and not just on pregnant and lactating women. The focus should be on improving the status of women, under nutrition in women, children younger than 2 years old, particularly from the marginalized communities. This calls for tracking of health status of women and under 2 years old better home visits by trained health and nutrition workers to ensure antenatal and postnatal care, systematic monitoring of services to track the dropouts, quality of care and the coverage.

Roughly 60% of the under-fives are under weight in South-West M.P. and there have been no signs of improvements over the last seven years. A recent World Bank study says that the loss of human potential due to under-nutrition would lead to a GDP loss of 2-3% and can lead to 10% reduction in lifetime earnings. Also, the nutrition related factors are responsible for 50% of the 2.1 million under 5 deaths in India each year; 40 million populations suffer from energy deficiency owing to malnutrition in India. The millions of children who do survive childhood will be forever affected by malnutrition. Children who have been malnourished in the first 5 years of life will have limited mental and physical growth capacity as compared to a well-nourished child. There is evidence that a malnourished child will someday have children with low birth weights, perpetuating the cycle of malnutrition. Malnutrition is one of the most serious and large scale health problems facing the Indian state today. 46% of children under 5 in India are malnourished. Over 60% of the children less than 5 years in Madhya Pradesh are malnourished which the country's highest malnutrition rate is. Out of these 6 million malnourished children in M.P., 1.3 million has severe acute malnutrition (SAM) and another 1 million have moderate acute malnutrition (MAM). Tribal districts of South-West M.P. are worst hitted in the country because of their cultural, geographical, and economical isolation with up to 100% malnutrition in some villages. Children with severe acute malnutrition have extremely high mortality rates. Malnutrition is closely tied to M.P's infant mortality: One of the highest in India, with 70 out of 1000 children dying every year. This rate translates into an estimated 1, 30,000 children who will die every year. Malnutrition is one of the largest contributors to this alarming rate, constitutes 22% of the country's disease burden because it severely weakens a child's immune system, raising their mortality rates from common diseases such as pneumonia, malaria, and diarrhea. Malnutrition is rampant throughout almost every town in South-West M.P. While traveling through the districts of Jhabua, Alirajpur, Khandwa, and Khargone this June we found malnourished children in every other household at best, in every household at worst.

According to National Family Health Survey-III, malnutrition in the State has increased from 54% to 60%, making MP children the most undernourished in India. Madhya Pradesh also tops the list of States in infant mortality rate (IMR), with 70 deaths per 1,000 live births, according to the Sample Registration. Survey 2013. Madhya Pradesh average of 60% children under 5 years is already "extremely alarming" according to the Global Hunger Index. South-West M.P. has been one of the region of state worst affected by malnutrition in India for decades. Malnutrition in the South-Western tribal areas of the state is even more concerning. According to Rural Health Commission the proportion of underweight children in these districts can range from 61-96%.

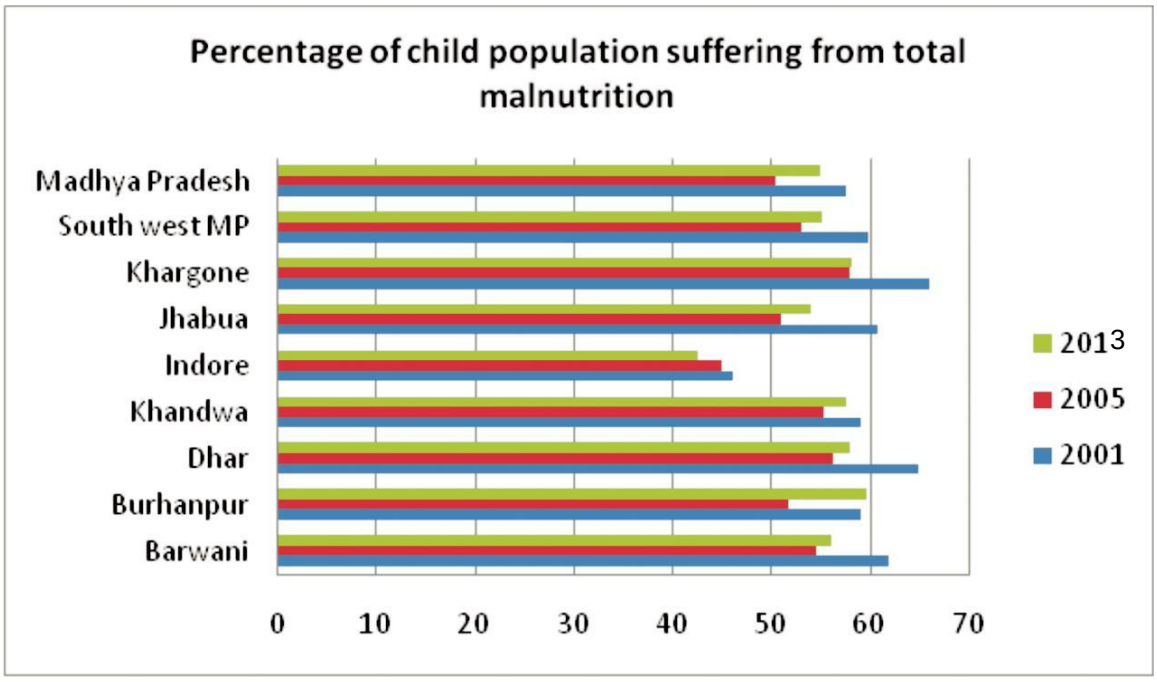
Percentage of child population suffering from total malnutrition

Table 1.7

District	2001	2005	2013
Barwani	61.86	54.58	56.03
Burhanpur	Included in Khandwa	51.82	59.6
Dhar	65.00	56.17	58.0
Khandwa	59.10	55.26	57.5
Indore	46.05	44.97	42.53
Jhabua	60.78	51.08	54.0
Khargone	65.98	57.90	58.2
South west MP	59.80	53.11	55.2
Madhya Pradesh	57.57	50.38	55.0

Source: Department of women and child development, Bhopal, 2013

Chart 1.2



Forget Palamu and Kalahandi in Jharkhand and Orissa, respectively. Over the years, persisting hunger and malnutrition has added another name to its kitty- Madhya Pradesh (MP). In recent times, there has been a spate of hunger-related deaths of children, mostly from tribal communities, in a number of districts of the state including South –West region. In fact in 2008 the Right to Food campaign identified that at least 163 children died of malnutrition within a span of four months during 2008 in four districts of Madhya Pradesh- Satna,

Khandwa, Shivpuri and Sheopur. And all the children belonged to tribal/indigenous communities– Kol, Mawasi, Saheriya and Korku (Mahaprashasta 2008). Districts with significant tribal population (Jhabua, Barwani, Dindori, Mandla, Dhar) in MP also figure at the bottom in human development indicators is not mere coincidence. Table indicates the high level of malnutrition in Indore division. Except Indore district all other districts condition is very poor in case of malnutrition. More than 50% of children are suffering from malnutrition.

Conclusion:

We can conclude that healthier workers are physically and mentally more energetic and robust, so they are less likely to miss work due to illness, either of themselves or their families. They are more productive, and earn higher wages; they also help to attract foreign direct investment. Ill health may mean that people who are able to work have a reduced productivity, shortened working lives, and increased numbers of days lost to illness. Health and success in education are also clearly linked. Healthy children are able to learn better, and they become better-educated and higher-earning adults. In a healthy family, children's education is less likely to be interrupted due to their ill health or the ill health of their family. The importance of hookworm and its attendant anaemia is shown in another one of the more classic examples of ill health interfering with productive activity. Higher life expectancy implies a higher rate of return on human capital investment: the value of education depends on future earnings gains, and it is obvious that these gains can be realized only if the person lives long enough to enjoy them. Furthermore, by allowing a worker to live longer, that longer life also directly raises his productivity as he gets a chance to become more productive by accumulating more experience. Raising life expectancy can then be expected to be channeled into better trained workers.

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