

**Evils And Planning Onspatio - Functional Gap of Community
Health Carearrangementin Solapur District (Ms)**

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Abstract

Availability of health care amenities and facility may not be regarded as good indicators of human resource development until and unless their optimum distribution, accessibility and allocation with to threshold population and range of goods. The main aim of this research paper is, to evaluate the status and planning of primary health centres in Solapur district for their optimum distribution, accessibility.

Sangola and Mangalwedha tahsil have more deficit of PHC this districts have an urgent need of establishment of PHC. This district will have deficiency of more than 5 PHC for each tahsil in the year 2041. Health is one of the basic determinants of social well-being and development of human resource. Availability of health care amenities and facility may not be regarded as good indicators of human resource development until and unless their optimum distribution, accessibility and allocation with to threshold population and range of goods. There has been significant development in the health sector in India in the recent years. Primary health care services in the public sector in rural areas in Solapur district is provided through a network of 431 Sub-centres, 77 PHCs and 14 rural health centres 2011.

Adequacy and inadequacy of facilities of facilities have been examined through the analysis of spatio-functional gaps. Fnctional weightage of each facility and proposed of new location of facility has been estimated based on threshold population estimated based on the technique of Reed Muench Method. Present study gives an idea of real situation of Health Care service availability of primary health centres planning of Primary Health Center in Solapur district. It also helps to planners, Health scientists and research scholars. Further, this study has shown that there is a need of policy change regarding the new sitting location.

Key Words: Regional imbalance, Human Resource, Threshold Population, Social-well-being

Introduction

Health is one of the basic determinants of social well-being and development of human resource. Biggest enemy of health in the developing world is poverty. India is developing country. Because of this that is essential tothere is need to develop adequate and logically sound conceptual structure of organization of public health care system and delivery system design in the present period because of better health is central to human happiness and wellbeing.

Objectives

The main objective of this paper is to find out various problems andto planof primary healthcare system in Solapur district.

Study Area

Solapur district of stateMaharashtrahas been taken as the study area. It is situated on the south east fringe of Maharashtra state. It lies between17⁰ 10' to 18⁰ 32' north latitude and 74⁰ 42' to 76⁰ 15' east longitude. The district is bounded on the north by Ahmednagar and Osmanabad districts, on the east by Gulbarga districts (Karnataka state), on the south by Sangali and Bijapur (Karnataka state) and on the west by Satara and Pune districts. It comprises about 14895 sq.kms along with eleven tahsil out of which 338.8 sq.km is urban (2.28%) and 14505.8 sq.kms. (97.72%) is rural area. The maximum temperature of the district is 40.1⁰ C while minimum is 16.1⁰ C respectively. (Socio-economic Abstract of Solapur District 2011-12). The total population of Solapur district is 4317756 (2011) out of total population 68.17 per cent population lives in rural

area and 31.83 per cent population lives in urban area. Density and literacy of population of Solapur district is 290 persons per sq.km and 71.2 percent respectively.

Database and Methodology

The study was based on the secondary information supplied with primary data collected through field survey. Obtained data has been analysed based on both qualitative and quantitative methods. Cumulative frequency graphs have been used to visually interpret the distribution based on Mather's model of mean spacing as follows

$$S = 1.0746 \sqrt{A/N}$$

Where, S = Mean Spacing, A = Area of the given region, N = Total health centres of the region, and 1.0746 = Spacing constant.

Functional weightage of each facility and proposed of new location of facility has been estimated based on threshold population estimated based on the technique of Reed Muench Method. (Hagget, P. and Gunawardena, K.A. (July-1964) Determination of population threshold for settlement function by Reed-Muench Method) Threshold population of any function is the midpoint of its entry level which is specified by a lower population level at which no settlements has that size have that function. The calculated median population Threshold has been given in Table 1.

Adequacy and inadequacy of facilities of facilities have been examined through the analysis of spatio-functional gaps. It is a comparison of accessibility of facilities between the complementary region of service centre and whole study area. The model is thus;

$$R_{ij} = P/P_1 \times f_1/f$$

where, R_{ij} is the relative level of its function, P is population of study area, P_1 is population of complementary region of service centre, f_1 is total functional weightage in complementary region of service centre and F denote total functional weightage study area. According to the method, the area with ratio of **more than 1** is said to adequately served, while area with **less than 1** is said to be inadequately served by the particular facility.

$$P_n = \frac{P_0 \times \text{Initial Year} + n\sigma}{\text{Initial Year} - n\sigma}$$

Population projection

Any long term planning approach may to be realistic without estimation of future population growth. The estimated growth trend of future population is known as population projection. The projected population at district level has been obtained by using the formula.

Primary Health Care Facilities/Services

The first tier of public health services known as primary tier has been developed to provide health care services to the vast majority of rural peoples. The primary tier comprises three types of health care institution: Sub-centre (SC), Primary Health Center (PHC) and Community Health Center (CHC/RH). The primary health care infrastructure provides the first level of contact between the population and healthcare providers. Realizing its importance in the delivery of health Services, the centre, states and several

government related agencies simultaneously started creating primary health care infrastructure and manpower. This has resulted in substantial amount of duplication of the infrastructure and manpower.

Primary health care services in the public sector in rural areas in Solapur district is provided through a network of 431 Sub-centres, 77 PHCs and 14 rural health centres 2011.

Table 1
Solapur District: Public Health Services, 2011

Health Services Level	Primary Health Care services			Hospital services		
	Primary Health centres	Primary Health Sub-Centres	Z.P. Dispensaries	Rural Hospital	Sub-District Hospital	District Hospital
India	23887	148124	75783	4809	2709	837
Maharashtra	1816	10580	3442	365	112	29
Solapur	77	431	107	14	04	01

Source: Compiled by Researcher, 2013

Table2
Population Norms for Health Facilities in Different Geographical Areas

Centre	Population norms	
	Plain areas	Hilly/Tribal/desert areas
Sub-centre	5000	3000
Primary Health Centre	30,000	20,000
Rural health centre/RH	1,20,000	80,000

Source: Maharashtra State Government, IPHs Guideline,2012

Primary Health Center is the first contact point between village community and doctor (National norms population covers 30,000 in plain areas and 20.000 in hilly/tribal area).PHC is a referral unit for six sub-centres. All PHCs provide outpatient services; a majority has four to six in-patient beds. According to the norms they have one medical officer, 14 Para-medical and other supporting staff.

Primary Health Centre (PHC)

Primary health centre is the first contact point between village, community and medical officer manned by a medical officer and fourteen other staff, it acts as a referral unit for six curative, preventive, promotive and family welfare services. (Akhtar, R. and Izhar, N. 1986).Here are established and maintained by the state government under the Minimum Needs Programme. There has been serious criticism of the functioning of PHCs in the district. The biggest challenge is to ensure the availability of services of doctors in the PHCs. Although the numbers of doctors sanctioned are less than requirement. About sixteen PHCs are without doctors because of misdistributions, lack of basic amenities and lack of incentives for working in the rural areas. Appropriate health manpower policy is needed.

That is necessary to public health care system creating of district cadres for doctors, decentralizing recruitment process to the district levels, contractual appointment, increasing the retirement age of doctors, choice of positioning in urban areas after certain years of services in rural and difficult areas. Other suggestion include both financial and non-financial incentives such as giving priority for the spouse in same area, reservation of seats in idea is to attract doctors to work in rural and difficult areas and make the doctors stay in PHC head quarter.

Table 3 Public Health Facility in Solapur District: 2011

Sr.No	Name of the Facility	Mean Spacing
1	Primary Health Sub-Centres (PHSC)	6.30km
2	Primary Health Centres (PHC)	14.93km
3	Rural Hospitals	36.36km
4	Ayurvedic Centre	58.65km

Source:Compiled by Researcher,2015

Table-4: Solapur District: Spatio - Functional Gap of Primary Health Centres 2011 & 2021

Sr. No	Tahsil	Existing in 2011	Estimated to be exist in 2021
		Primary Health centres	Primary Health centres
1	Akkalkot	0.89	0.86
2	Barshi	0.68	0.66
3	Karmala	0.73	0.69
4	Madha	0.83	0.81
5	Malshiras	0.66	0.61
6	Mangalwedha	0.74	0.77
7	Mohol	0.61	0.65
8	N.Solapur	0.88	0.85
9	Pandharpur	0.81	0.87
10	Sangola	0.89	0.92
11	S.Solapur	0.77	0.86

Note: P=Based on Projected PopulationSource: Computed by Author, 2015

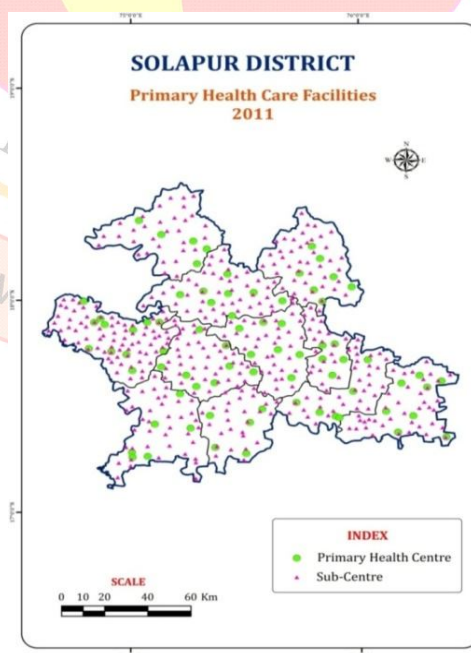


Fig.1

Evils In Health Care System

A major problem is the planning and organization of the health care system is the diversity in the range of services provided. In relation to spatial scale, these typically can be divided into different specialties and the specialties which would normally be not found in every tahsil (general medicine, surgery, gynecology, etc.). Although this hierarchical system implies that every facility cannot be provided in every location. Over all observation of health facilities it concludes at the time of field observations. Generally in the rural public health system found some major and minor problem is as given below.

1. Non – Availability of doctor's at some primary health centres and sub-centres in the study region. Doctor does not stay at his headquarter in the campus of health centres. Lack of physical facilities like waiting hall, waiting room, ambulance or staff quarter etc. Inadequate quantity of drugs and hygiene especially sub-centres like Madha and Mangalwedha tahsil. Lack of accountability to public, community participation and empathy set standard for monitoring quality care and funding, training for doctor, common and basic training especially nurses.
2. Most people don't know health care centres are there located for our society. Inadequate number of personnel in centres viz – ANM, MPW etc. No updated technology i.e. X-ray should be all PHCs. Problem about sanitary issues. No provision of accurate diet for the patient being admitted. Inadequacy of bed facility is a major problem in PHCs and sub – centres serving to total population in study area. No commitment between patient and staff.
3. Poor physical infrastructure lies in sub – centres, poor road access and no electricity supply. Poor laboratory services some in health centres in Pandharpur, Mangalwedha, Madha and Mohol tahsil. No family planning services since people are shy total about it. Lack of basic sterilization equipment including ECG, X-ray, facility. Cleanliness about PHCs major problem related to ward and toilet maximum percentage of patient is unsatisfied.
4. Less number of 4th grade staff hence impossible to maintain perfect cleanliness in health centre. Work pressure on nurse is very high. Not display poster in all PHC that's why how to get information regarding health education. Shortages of Medicine - the district supplies of several medicines is not commensurate with the requirement and significant quantity of medicines and is inadequately supplied, hence are being purchased in large quantities from flexible funds or are even being obtained from the RH.
5. Less count of Primary health centres and primary health sub centres as compare to population Proportion and norms of IPHS. here is less proportion of primary health centres and sub-centres in relation to area, villages and population. Unavailability of some essential medicines on major health care needs. Proper new Born care hasn't taken in Civil hospital, Vacancies for the post of Physicians are still not filled. Ambulance service is not up to the mark. Many Primary health sub centres are running without doctors.

Planning For Primary Health Centres (PHCs)

The table no.5 projected population up to the year 2041 and the projected estimated PHC and required PHC as per projected population up to the same time. The difference between these two projections is the status of facility in the study region.

There is no tahsil having the facility as per the norms except North Solapur and Akkalkot tahsil. The table no.6 show the estimation of facility required in rural areas and it also shows the status of facility available in the study region. Sangola and Mangalwedha tahsil have more deficit of PHC this districts have an urgent need of establishment of PHC. This district will have deficiency of more than 5 PHC for each tahsil in the year 2041.

The tahsil Akkalkot and North Solapur shows threat of increase in the facility, which is more than the population. So, the existing population is deficient but the projected position shows the excess facility. Fig. no .2 depicts the probable addition of PHCS in the rural areas in the district. It shows that all districts are

indefinite in the year 2021 and the condition will remain constant in the future except Akkalkot tahsil. All other tahsil is far depicting. So allotting new PHCs, more attention should be given this tahsils. North Solapur tahsil only one tahsil in the year 2021 there is no required single PHC.

TABLE 5
Solapur District: Location of the Proposed Primary Health Centre Facilities, 2011

Tahsil	Sr.No of proposed Facilities	Name of the Proposed New Sites	Location code (Village No)	Total no of proposed Facilities-2011
Akkalkot	-	00		Nil
Barshi	-	00		Nil
Karmala	1	Ghargaon	561815	03
	2	Khadaki	561811	
	3	Parewadi	561778	
Madha	1	Papnas	561912	02
	2	Tulshi	561957	
Malshiras	1	Dhanore	562494	02
	2	Neware	562479	
Mangalwedha	1	Gharniki	562619	01
Mohol	1	Kurul	562264	02
	2	Bitale	562233	
N.Solapur	Nil	00		Nil
Pandharpur	1	Bhose	562315	03
	2	Mundhewadi	562366	
	3	Palshi	562339	
Sangola	1	Bamani	562543	03
	2	Hatid	562596	
	3	Nazare	562563	
S.Solapur	1	Achegaon	562727	03
	2	Rampur	562720	
	3	Gunjegaon	562769	
Total Number of Proposed Facilities				19

Source: Computed by Author, 2015

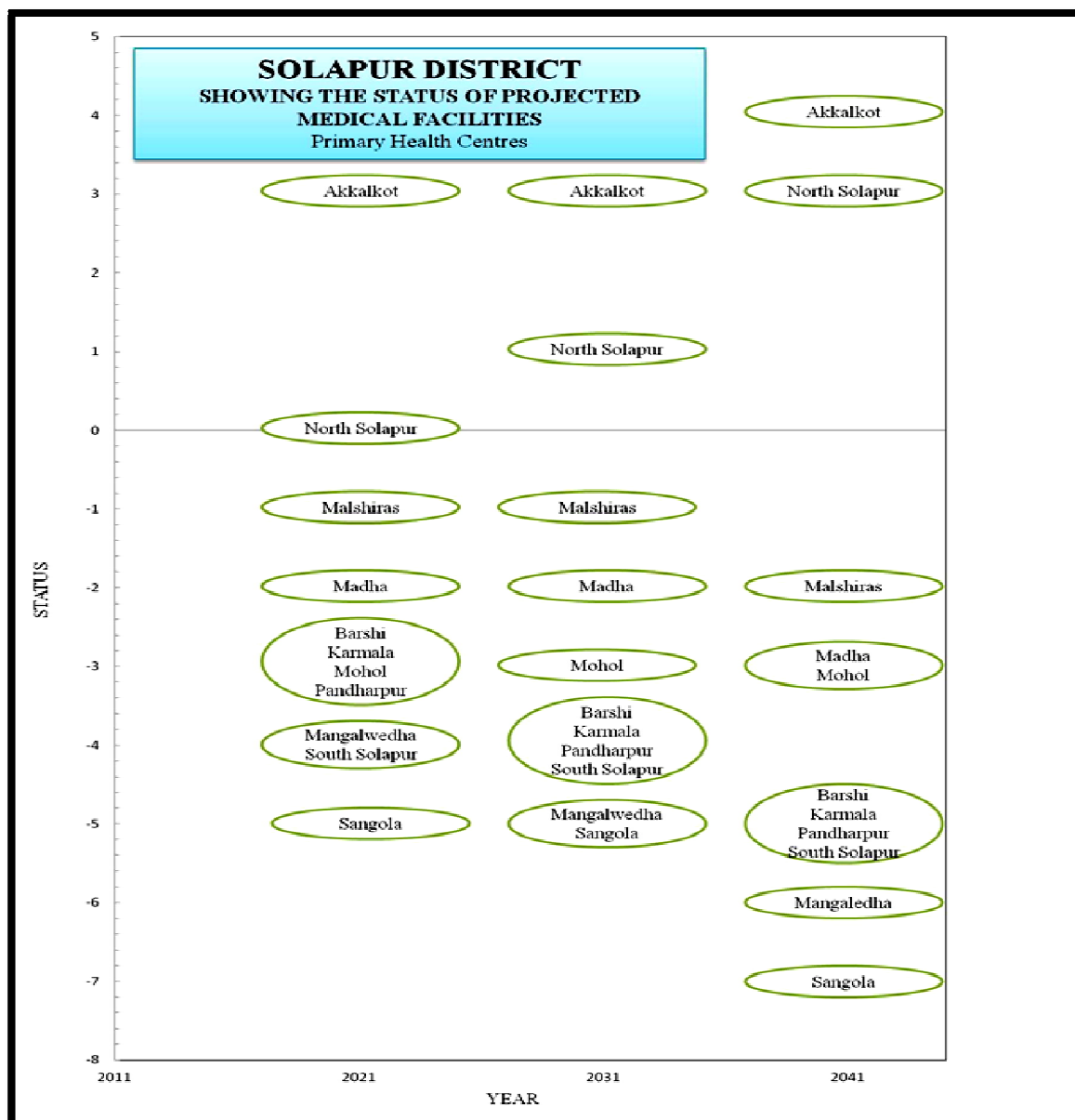


Fig.2

Concluding Remark

More ever with passage of time due to growth of population existing Spatio-functional gap estimated to be widening in 2021 might a threat on social-well-being. Viewing the existing and estimated to be exist the problem of Spatio-functional gap leading to wide regional imbalances and inequalities of human resource development, based on the criteria of threshold population, accessibility and connectivity, a district level locational planning model for 2021 has been proposed for all tahsil wherever there are no medical facilities in 2011, but with its projected population have been identified to sustain three types of health care facilities. i.e. PHSC, PHC, Dispensary etc and they becomes higher order service centre to provide health care facilities to mass of population of its surrounding settlements.

The threshold population for PHC is 30000 in plain area and 20000 in hilly, backward and tribal area. There is no tahsil having the facility as per the norms except North Solapur and Akkalkot tahsil. The table no.6 show the estimation of facility required in rural areas and it also shows the status of facility available in the study region. Sangola and Mangalwedha tahsil have more deficit of PHC this districts have an urgent need

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