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Hindu-Muslim Fertility Differentials in Major States of India: Indirect Estimation at District Level from Census 2011

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Abstract

This paper estimates the Total Fertility Rate (TFR) for the overall population in 14 states of India by employing Arriaga variation of P/F ratio method and relational Gompertz model. The paper uses Census 2011 data on average parity and current fertility schedule. Estimation of TFRs at state level by employing Arriaga variation of P/F ratio method strongly corresponds with Sample Registration System (SRS) compared to those derived from relational Gompertz model. Thus, Arriaga variation of P/F ratio method was retained to estimate the Hindu-Muslim fertility differentials for 422 districts in India from 13 states except Jammu & Kashmir. Comparing the TFRs obtained from the analyses with the indirect estimates of TFRs from Census 2001, the analysis reveals that the overall fertility transition in India has been steady during the last decade. Fertility transition has been underway for both Hindus and Muslims at a varying pace when compared to the state-level indirect estimates of Census 2001. Though the overall convergence of fertility between Hindus and Muslims has been underway, significant regional variations persist.

Key words: Indirect Estimation, P/F Ratio Method, Hindu-Muslim Fertility Convergence

Introduction

Like earlier decades, the data from Census of India 2011 show a higher growth rate of the Muslim population compared to that of the Hindu, which has fuelled an intense controversy among academicians and policy makers in India. The Census Commissioner of India has not only published the population figures by religious affiliation at the state and district levels but also the data on the number of children ever born and the number of births in the last year (before the census year) bythe number of women in the five-year age interval (Government of India (GoI), 2016a, 2016b). These disaggregated data on religious demography have only been made available since 2001, which are helpful to policymakers (GoI, 2004).

Using these data, the paper estimates the TFR for the overall population at the state level for 14 states by employing Arriaga variation of P/F ratio method (Arriaga, 1983; Brass, 1964; Brass & Coale, 1968) and relational Gompertz model (Zaba, 1981; Brass, 1996) to check their validity with the data obtained from SRS for the same year (Registrar General of India (RGI), 2013). Estimates for all religions and for Hindus and Muslims were then derived to assess the fertility differentials at the district level by Arriaga variation of P/F ratio method as such estimates of TFRs have a close correspondence with the estimates obtained from the SRS, except for a few large states in general and for Jammu & Kashmir in particular. Analysis of the district-level data for Jammu & Kashmir was thus dropped because of its in appropriateness. The state-level TFR estimates of Hindus and Muslims were further compared with the indirect estimates of TFR of Hindus and Muslims from Census 2001 data by Rajan (2005) who employed reverse survival method to ascertain the extent of fertility transition among these religious groups in different states of India.

We have deliberately restricted our analyses and discussions in comparing Hindu-Muslim fertility differentials obtained from the 2011 and 2001 censuses (Rajan, 2005) and have not focussed on factors contributing to such differentials as detailed discussion on this issue is available elsewhere (Alagarajan & Kulkarni, 2008; Bhat & Zavier, 2005; Kulkarni & Alagarajan, 2005; Alagarajan, 2003; Jeffery & Jeffery, 2000; Dharmalingam et al., 2005; Dharmalingam & Morgan, 2003; James & Nair, 2005; Moulasha & Rao, 1999; Bhat, 1996; Bhat & Rajan, 1990; Shariff, 1996). These studies have not only established the role of different socio-demographic, economic and cultural factors, contributing to Hindu-Muslim fertility differentials, but have also focussed on inter(-) and intra-state variations in such differentials. In view of the intra-state variation infertility according to religion, our current endeavour should help policymakers to assess community-specific family planning needs and accordingly redesign family welfare programmes at the district level.

We have chosen those states which comprise at least 2.5 percent of Muslims to their total population in India and can have discernible influence on religious demography in future

decades. The selected states together have more than 95 percent of Muslims in India (see Table 1).

Table 1: Share of Muslim Population in different states of India		
	Share in respective states	Share in all-India
India/States	% Muslim	%Muslims
India	NA	14.2
Jammu & Kashmir	68.3	5.0
Rajasthan	9.1	3.6
Uttar Pradesh	19.3	22.3
Bihar	16.9	10.2
Assam	34.2	6.2
West Bengal	27.0	14.3
Jharkhand	14.5	2.8
Madhya Pradesh	6.6	2.8
Gujarat	9.7	3.4
Maharashtra	11.5	7.5
Andhra Pradesh	9.6	4.7
Karnataka	12.9	4.6
Kerala	26.6	5.2
Tamil Nadu	5.9	2.5
Rest of the states and UTs	NA	4.9

Source: Calculated from Census 2011 by the author; NA: Not Applicable

Method

One could directly calculate the TFR of Hindus and Muslims from the data on the number of women by present age, religious affiliation, number of births in the last year (before the census year), since TFR is calculated as the sum of age-specific fertilities multiplied against the width of the five-year age interval. However, the birth counts a year prior to the census year, as reported in Census 2011, are in complete as only about 79 percent of births have been covered, possibly because of reference period errors[1]. Therefore, not much confidence can be placed in applying the direct method for calculating TFR. A similar observation was noted by Kulkarni (2007) while estimating 'missing girls' from Census2001 data.

It may be worth pointing out that under Census of India definitions, religious faith and persuasions are reported by household members themselves and remain unverified. It is

generally observed that while the majority of the Scheduled Castes report themselves as Hindus, a substantial proportion of the Scheduled Tribes report as Christians.

The P/F ratio method obtains current fertility by comparing the cumulative fertility equivalent derived from recent fertility data "F", trusting the age-pattern of fertility but not level and life-time average parities "P", trusting the overall level of fertility but not the age distribution (Brass, 1964; Brass & Coale, 1968; United Nations, 1983). The method is very useful to adjust estimates of current fertility level, which is computed from the data on recent births from incomplete census or civil registration. The method requires data regarding the total number of children ever born by five-year age intervals of mother, recent fertility by five-year age intervals of mother measured either by births in the previous year or from vital registration system and the total number of women in each 5-year age group. The assumptions in employing this method are – misreporting of current fertility remains constant across all age-groups; increasing under-reporting of parity by women's age; and, constant fertility for the youngest age-group to 35 years or so. With perfect data, ratio should be the same for all age groups and close to 1; however, in practice, it is quite perfect if the ratios for 20-24, 25-29, and 30-34 age groups are close. Typically, P/F ratio will decrease with women's age and deviation from this pattern indicates violations of assumptions or different patterns of under-reporting.

However, some imperfections have been noticed in the P/F ratio method. For example, Zlotnik & Mill (1981: 104) noticed that the original P/F ratio method may not provide the true picture satisfactorily and is thus likely to lead to biased estimates. Such biases arise because of simplified assumptions inherent in the application of this method, particularly the assumption of constant fertility for a sufficiently long period (more than 20 years or so) preceding the survey date so that the cohort and the cumulated period fertility are equal, and have proved to be flawed (Feeney, 1998).

Arriaga (1983) proposed a modification of the aforesaid Brass P/F ratio method. This modification makes a provision of changing fertility levels by using a linear interpolation of children ever born by age of the mother from two or more censuses (Arriaga, 1983). The method provides estimates of children ever born for one year prior to the census date. Arriaga (1983) extension was included in FERTPF procedure of MORTPAK and used in the current analyses. It takes the combinations of P2/F2, P3/F3 and P4/F4 by default.

Another modification of Brass P/F ratio method is the relational Gompertz model. The model is used as a diagnostic tool and estimation technique for the evaluation and adjustment of fertility estimates obtained from retrospective reports on period and recent fertility (Brass, 1981; Zaba, 1981). The model is generally used not only for the sake of veracity of the fitting method but also for parsimonious estimates of parameters. It fits the Gompertz function to reported recent fertility rates (ASFRs) and the average parity. ASFRs provide the shape of fertility distribution, and data on average parities give corrected age-

specific fertility rates. The method does not require an assumption of constant fertility, as it compares/replaces recent fertility data with model fertility schedules to check accuracy and relies on parity data for all age groups (not just younger ones)[2].

Results

Table 2 provides the estimates of TFR at the all-India level and also for major states as obtained by Arriaga version of P/F ratio method, relational Gompertz model and estimates provided by SRS for the same year to check the validity of our estimates. This was done as SRS has been regarded as the most reliable source of demographic indicators since 1980s. It can be observed from Table 2 that the TFR derived from the census by employing Arriaga version of P/F ratio method corresponds with the SRS estimates not only at the all-India level but also for most major states. The census estimates put India's TFR lower by only 0.2 point than that in SRS ones. Further, ratios of age-specific fertility rates based on adjustment factors (P/F ratios) for the age groups 20-25 to 30-35 were found to be very close to unity, which establishes the efficacy of the method. Contrary to SRS estimates, estimated TFR at the all-India level as obtained from relational Gompertz model were found to be substantially high – 0.7 children per woman. Even for states that have already witnessed fertility transition, such as the southern Indian states, Maharashtra and West Bengal, relational Gompertz model provides considerably higher estimates of TFRs (Table 2).In case of the northern states, where fertility transition is underway, estimates of relational Gompertz model depict higher estimates as compared to SRS. It seems that relational Gompertz model puts more emphasis on average parity rather than current fertility level since estimated TFRs in all the states were found to be higher in comparison to the SRS estimates of current fertility.

Table 2: Differences of TFR in Major States of India using Arriaga Variation of P/F Ratio Method and Relational Gompertz Model as Estimated from Census 2011 and SRS 2011

India/States	Arriaga variation of P/F Ratio method, Census 2011	Relational Gompertz Model, Census 2011	SRS 2011	Difference in Estimation (P/F Ratio method, Census 2011-SRS 2011)	Difference in Estimation (Relational Gompertz Model, Census 2011-SRS 2011)
India	2.2	3.1	2.4	-0.2	0.7
Jammu & Kashmir	3.0	3.8	1.9	1.1	1.9
Rajasthan	2.8	3.7	3.0	-0.2	0.7
Uttar Pradesh	2.6	4.0	3.4	-0.8	0.6
Bihar	2.9	3.9	3.6	-0.7	0.3
Assam	2.2	3.3	2.4	-0.2	0.9
West Bengal	1.7	2.5	1.7	0.0	0.8
Jharkhand	2.6	3.7	2.9	-0.3	0.8
Madhya Pradesh	2.6	3.6	3.1	-0.5	0.5
Gujarat	2.0	2.9	2.4	-0.4	0.5
Maharashtra	1.9	2.6	1.8	0.1	0.8
Andhra Pradesh	1.6	2.3	1.8	-0.2	0.5
Karnataka	1.8	2.6	1.9	-0.1	0.7
Kerala	1.8	2.2	1.8	0.0	0.4
Tamil Nadu	1.6	2.3	1.7	-0.1	0.6
Correlation between SRS estimates and P/F Ratio Method = 0.76					
Correlation between SRS estimates and Gompertz Relational Model = 0.84					
Correlation between SRS estimates and P/F Ratio Method excluding Jammu & Kashmir = 0.96					
Correlation between SRS estimates and Gompertz Relational Model excluding Jammu & Kashmir = 0.95					

On the other hand, except for large states like Uttar Pradesh, Bihar, Madhya Pradesh and Gujarat, the differences in estimates obtained from the SRS and Arriaga version of P/F ratio method are extremely small, generally. There are two states, Kerala and West Bengal,

where no difference in estimates derived from both these sources are found. Further, there are three more states, where differences in estimates were only ±0.1 point. Although an examination of the reasons for higher differences in larger states in both rural as well as urban areas (not shown in the Table) is beyond the scope of this paper, it seems that Arriaga version of P/F ratio method actually reflects rapid fertility decline in the majority of the aforementioned states.

To note, for Jammu & Kashmir, the TFR estimates derived from Census 2011 using both the indirect methods are substantially higher as compared to SRS estimates. If Jammu & Kashmir is excluded from our analysis, the correlation coefficients between SRS and census estimates derived from Arriaga variation was found to be 0.96 for the total population, while the correlation coefficient was 0.95 for relational Gompertz model (Table 1). However, if we include Jammu & Kashmir, then the correlation coefficients between the two estimates reduced to 0.76 and 0.84, respectively. Guilmoto and Rajan (2013) have argued that a deliberate over-reporting of children in Jammu and Kashmir could be the reason and have questioned the quality of data for Jammu and Kashmir in Census 2011. In congruence with the above-mentioned argument, we have also noticed such improbable TFR for Jammu & Kashmir and have thus excluded Jammu & Kashmir from the rest of our analyses. As we found that Arriaga variationof P/F ratio method provides more robust estimates of TFRs over relational Gompertz model when compared with SRS estimates, we have retained Arriaga variation of P/F ratio in the rest of the analyses.

Estimate of TFRs for Hindus and Muslims and comparison with 2001 estimates

The data in Table 3 shows TFR estimates by religion for 13 states of India obtained by employing Arriaga version of P/F ratio method and compares the estimates derived from Census 2001 data by Rajan (2005) using reverse survival method. Both the estimates are not strictly comparable with each other for obvious reasons. Nonetheless, we have compared these estimates in Table 3 to get a sense of the extent of fertility decline for both the religions and also at the aggregate level.

At the all-India level, the decline of TFR was 1.0 child per woman between 2001 and 2011. The TFRdeclined from 3.1 to 2.1 (i.e. at the replacement level) among Hindus and 4.1 to 2.7 among Muslims – i.e. a decline of 1.4 children per woman. Apart from all southern states, most eastern states have achieved the replacement level fertility in 2011 at the aggregatelevel. It is important to note that, at the aggregate level, the decline of TFR is found to be one or more children per woman in Rajasthan, Uttar Pradesh, Bihar, Assam,

Jharkhand and Madhya Pradesh during 2001-2011, though these states are yet to attain the replacement level fertility.

Table 3 also reveals that apart from the southern states, TFR among Hindus is at or below the replacement level (replacement level of fertility is defined as TFR = 2.1) in the eastern states. Though the TFR among Hindus has not reached the replacement level in states of Rajasthan, Uttar Pradesh, Bihar, Jharkhand and Madhya Pradesh, an absolute decline of one or more children per woman has been observed among Hindus in these states.

TFR among Muslims is at or below the replacement level in Andhra Pradesh and Tamil Nadu. Also, there are a number of states such as West Bengal, Gujarat, Karnataka and Kerala where TFRs among Muslims are close to the replacement level. The decline in the number of children per Muslim woman was found to be substantial in states like Assam, West Bengal and Jharkhand (almost two children per woman).

Table 3 also depicts the gap between the TFR of Muslims and that of Hindus for 2001 and 2011. At the all-India level, this gap has been reduced by 0.4 children per woman between 2001 and 2011. The gap of TFR between these two religions has narrowed between 2001 and 2011 in most states. Reduction in the gap between Hindus and Muslims is found to be more than one child or very close to one child per woman in the eastern states of West Bengal and Assam. A similar reduction was also noticed in Kerala. However, the pace of narrowing of this gap has remained slow in the central provinces which have relatively higher fertility and a larger share of Muslims. Though the gap between the TFR of Muslims and that of Hindus remained same in Madhya Pradesh and Gujarat, these states have a low share of Muslims.

Thus, comparing state-level fertility differentials between Hindus and Muslims as estimated from Census 2011 and Census 2001, it can be ascertained that though the overall convergence of fertility between Hindus and Muslims has been underway, significant regional variations persist in the process of convergence since different states and religious groups are at different stages of transition as has also been observed in earlier studies (for example, Alagarajan & Kulkarni, 2008). Those states, which have achieved fertility transition during the last decade, the reduction of gap in the fertility of Muslims and Hindus was also faster compared to those states which were in the middle or early stages of fertility transition.

Table 3: Estimates of TFRs for All Religion, Hindus and Muslims by Major States (excluding Jammu & Kashmir) according to Census 2011 and Comparison with Estimates from Census 2001											
	All Religion			Hindus			Muslims				
	TFR (2011)	TFR (2001)	Absolute decline	TFR (2011)	TFR (2001)	Absolute decline	TFR (2011)	TFR (2001)	Absolute decline	Gap in TFR between Muslims & Hindus (2011)	Gap in TFR between Muslims & Hindus (2001)
India/States	2.2	3.2	1.0	2.1	3.1	1.0	2.7	4.1	1.4	0.6	1.0
Rajasthan	2.8	4.2	1.4	2.8	4.1	1.3	3.4	4.8	1.4	0.6	0.7
Uttar Pradesh	2.6	4.4	1.8	2.6	4.1	1.5	2.9	4.8	1.9	0.3	0.7
Bihar	2.9	4.5	1.6	2.9	4.5	1.6	3.3	5.1	1.8	0.4	0.6
Assam	2.2	3.2	1.0	1.7	2.8	1.1	3.1	5.1	2.0	1.4	2.3
West Bengal	1.7	2.6	0.9	1.5	2.2	0.7	2.2	4.1	1.9	0.7	1.9
Jharkhand	2.6	4.1	1.5	2.5	3.8	1.3	3.2	4.9	1.7	0.7	1.1
Madhya Pradesh	2.6	3.9	1.3	2.6	3.9	1.3	2.6	3.8	1.2	0.0	-0.1
Gujarat	2.0	2.6	0.6	2.0	2.9	0.9	2.2	3.1	0.9	0.2	0.2
Maharashtra	1.9	2.6	0.7	1.9	2.6	0.7	2.4	3.4	1.0	0.5	0.8
Andhra Pradesh	1.6	2.3	0.7	1.6	2.3	0.7	1.8	2.8	1.0	0.2	0.5
Karnataka	1.8	2.4	0.6	1.8	2.3	0.5	2.2	3.2	1.0	0.4	0.9
Kerala	1.8	1.7	-0.1	1.5	1.5	0.0	2.3	2.6	0.3	0.8	1.1
Tamil Nadu	1.6	1.8	0.2	1.6	1.8	0.2	1.9	2.1	0.2	0.3	0.3

Souce: Census 2001 estimates are obtained from Rajan (2005) and Census 2011 estimates are calculated by the author

Estimates of Fertility at District Level from Census 2011

Table 4 presents the percentage of districts that fall under different fertility levels for Hindus and Muslims by States and Union Territories. District-level TFRs for total population and for Hindus and Muslims for 422 districts are available on request. Out of 422 districts, TFR of Hindus has reached at or below the replacement level of fertility in 46.2 percent districts (195 districts), while TFR of Muslims has attained such a level in 32.5 percent districts (137 districts). After calculating the district-level TFR from Census 2001, Rajan (2005) found that TFR among Hindus had attained the replacement level in 79 districts and among Muslims in 26 districts only out of the 594 districts covered in the census.

TFR among Hindus has reached or is below the replacement level in all the districts of the three southern Indian states except Karnataka. TFR among Hindus has attained this level in more than 90 percent of the districts in Assam and West Bengal. On the other extreme, fertility among Hindus has attained such a level only in a few districts in states lying in the north-central region. Notably, none of the districts in Bihar has attained such low levels of fertility for Hindus. However, in majority of the districts (more than 70 percent) in these states, where fertility transition is underway among Hindus, the TFR for Hindus is between 2 and 3. There are also about 18-30 percent of the districts in the north-central region states where TFR among Hindus is between 3 and 4.

In all the districts of Andhra Pradesh and Tamil Nadu, TFR among Muslims has reached or is below the replacement level. Besides, TFR among Muslims attained such a level in a significant proportion of the districts in West Bengaland Kerala. In almost all remaining districts in these states, TFR among Muslims is between 2 and 3 and approaching the replacement level. Only in a few districts (and no district in Bihar) in these states, TFR among Muslims is at a low level. Also, there are substantial proportions of the districts in these states where TFR among Muslims is between 2 and 3 as well as 3 and 4. There also exist few pockets (10 districts) of very high fertility (TFR>4) that are located in Rajasthan and Jharkhand.

Generally, it has been observed that, in areas with considerable decline in fertility, there is hardly any district that has a very high fertility level among Muslims. Notable exception here is Assam.

Table 4: Number and Percentage of Districts Falling under Different Levels of Fertility for Hindus and Muslims for Major States in India (excluding Jammu & Kashmir)																
		TFR < =2.1				TFR > 2.1 & TFR < =3.0				TFR > 3.0 & TFR < =4.0				TFR > 4.0			
		Hindus		Muslims		Hindus		Muslims		Hindus		Muslims		Hindus		Muslims	
	Total number of districts	Number of districts	Percentage	Number of districts	Percentage	Number of districts	Percentage	Number of districts	Percentage	Number of districts	Percentage	Number of districts	Percentage	Number of districts	Percentage	Number of districts	Percentage
Rajasthan	33	3	9.1	1	3.0	20	60.6	18	54.5	10	30.3	8	24.2	0	0.0	6	18.2
Uttar Pradesh	71	8	11.3	7	9.9	53	74.6	41	57.7	10	14.1	23	32.4	0	0.0	0	0.0
Bihar	38	0	0.0	0	0.0	27	71.1	18	47.4	11	28.9	20	52.6	0	0.0	0	0.0
Assam	27	26	96.3	6	22.2	1	3.7	10	37.0	0	0.0	11	40.7	0	0.0	0	0.0
West Bengal	19	18	94.7	12	63.2	1	5.3	6	31.6	0	0.0	1	5.3	0	0.0	0	0.0
Jharkhand	24	4	16.7	2	8.3	17	70.8	12	50.0	3	12.5	6	25.0	0	0.0	4	16.7
Madhya Pradesh	50	4	8.0	10	20.0	37	74.0	34	68.0	9	18.0	6	12.0	0	0.0	0	0.0
Gujarat	26	18	69.2	10	38.5	7	26.9	16	61.5	1	3.8	0	0.0	0	0.0	0	0.0
Maharashtra	35	24	68.6	14	40.0	11	31.4	21	60.0	0	0.0	0	0.0	0	0.0	0	0.0
Andhra Pradesh	23	23	100.0	23	100.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Karnataka	30	21	70.0	12	40.0	9	30.0	18	60.0	0	0.0	0	0.0	0	0.0	0	0.0
Kerala	14	14	100.0	8	57.1	0	0.0	6	42.9	0	0.0	0	0.0	0	0.0	0	0.0
Tamil Nadu	32	32	100.0	32	100.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Total	**422**	**195**	**46.2**	**137**	**32.5**	**183**	**43.4**	**200**	**47.4**	**44**	**10.4**	**75**	**17.8**	**0**	**0.0**	**10**	**2.4**

Source: Calculated from Census 2011 data

Conclusions

The paper estimates the Hindu-Muslim fertility differentials in 422 districts from 14 major states by using Arriaga variation of P/F ratio method. In the absence of a sound civil registration system, SRS has been the major source of fertility estimates at the state level. However, SRS neither provides fertility estimates by religion nor at the district level. The results of this exercise, by and large, appear to be reliable as state-level TFR strongly corresponds with SRS, except for a few large states. The major outcome of the current analyses is to provide an in-depth picture of Hindu-Muslim fertility differentials at the district level and trends at the state level.

It may be ascertained from the present analysis that fertility transition in India has been steady during the last decade. Moreover, such transition has been underway for both Hindus and Muslims at a varying pace when compared to the state-level indirect estimates of the 2001 census. It has also been observed that though the overall convergence of fertility between Hindus and Muslims has been underway, significant regional variations persist.

If such transition is sustained, the national-level TFR will reach the replacement level within just next few years. This corresponds to the projection of TFR by Bhat (2009); however, this decline is faster than the projection provided by the Population Division of United Nations. There are many districts across India where a decrease in TFR levels greater than one child per woman is discernible for both Hindus and Muslims. We have also observed 'ultra-low' fertility zones in the southern districts of West Bengal where TFR is 1.0 or just above this mark for both the religions. Further studies may explore why these 'ultra-low' fertility zones exist for both the religious groups in these districts.

Endnotes

1. The number of births last year is given as 20.9 million whereas the expected number of births computed by applying the SRS estimate of crude birth rate to population is over 26.4 million.
2. The Excel Sheet "FE_RelationalGompertz.xlsx", (available online at: http://demographicestimation.iussp.org/content/relational-gompertz-model)was used for the current estimation. Detailed description of the methods along with formulae of computations are given in Manual X (United Nations, 1983).

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The Centre for Health Policy (CHP) at the Asian Development Research Institute (ADRI) has been set up with support from the Bill & Melinda Gates Foundation to strengthen the health sector in Bihar with a multidimensional and multi-disciplinary approach. Its aim is to engage in rigorous analysis of the health system and inform policy makers to fine-tune interventions for even stronger outcomes.

- Research and Analytical Studies

  It constitutes the core of CHP's activities. The areas of research include health infrastructure and delivery with emphasis on equity, health outcomes such as IMR, MMR, TFR and its predictors, health financing, private-public partnerships, regulatory framework and its implementation, and other issues which might emerge.

- Informing Policymakers on Strengthening the Existing Health System

  CHP aims to be the trusted partner of the state Government in providing evidence-based inputs in making the health system stronger, resilient and equitable.

- Sustainable Health Solutions

  CHP recognizes the need for establishing a strong health system which will be self-sustaining. It means immunity to natural disasters/calamities, financial uncertainties and other unanticipated factors. These pillars may be interrelated; CHP will provide a framework of synergy among actors working on these pillars.

- Collaboration

  CHP engages in collaboration with an extensive network of academic and policy research institutions both in India and abroad in health and the broader social sciences.