Religious Demographics in Kerala

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Abstract

Religion is the central element within the lifetime of civilization. Generally religious beliefs or faith also provide natural boundaries for the development of communities. This study aims to explore the demographic, socio-economic profile of the three main religious groups in Kerala specifically focusing to the segregation of population by religion, variations in mortality and longevity of life and future population by religion. The required data for this study are taken from Annual Vital Statistics report (2006-2016), Census data of Kerala, 1961 to 2011 and SRS data of 2011. Univariate and Bivariate analysis, Segregation Index, Life table techniques and exponential method of projection are the different methods used in the study. According to results of the analyses, there are considerable differences in the demographic, socio-economic characteristics among religions. The analysis shows that residential segregation at different levels exist in the districts of Kerala. The variations in mortality and life expectancy may be due to the socio-demographic composition of each religion.

Introduction

Religion is an integral part of life for many people. Even people who are not all religious by nature consider it to be important. The biggest reason that society needs religion is to manage behavior. Religion can have great importance for a variety of reasons. Depending on the culture and governmental style it can range from an easy influence to an entire control of society. People who live within the social confines of one specific belief tend to simply accept others who are in agreement and help one another

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out. Religion is additionally accepted together of the strongest sources and means of group action. It is considered together of the earliest institutions of mankind and is found altogether the societies of the past and present. Religion has a potential impact on the health and well-being of people. They integrate essences from different religious traditions, build social as well as spiritual relationships, encourage an active lifestyle among participants, and create positive expectations. Religion is a key factor in demography, important for projections of future population growth as well as for other social indicators.The religious profile of the world is rapidly changing, driven primarily by differences in fertility rates and the size of youth populations among the world's major religions, as well as by people switching faiths. In addition to fertility rates and age distributions, religious switching is likely to play a role in the growth of religious groups. But conversion patterns are complex and varied. In some countries, it is fairly common for adults to leave their childhood religion and switch to another faith(Pew Research Centre, 2015).

India isn't a spiritual nation, it's a secular state. It is the land where most the main religions of the world are practiced by their respective followers. Nevertheless the religious diversity has been a serious source of disunity and disharmony within the country. This is often because in India religious affiliation appears to be overemphasized and many a time people seem to forget the national unity and express their loyalty more towards their own religion. According to 2011 census, about 80 percent of the Indian population practices Hinduism and about 14 percent adheres to Islam, while the remaining 6 percent adheres to other religions (Christianity, Sikhism, and Buddhism etc.). Christianity is the third largest religion in India.

The past few years have witnessed substantial progress in our understanding of how religious factors influence economic and demographic factors. Religious differentials in the demographic features can be seen in all

the aspects of Kerala's scenario, mainly emerging from socio-cultural and historical reasons. Residential segregation, the spatial separation of population sub-groups within a given geographical area, is a phenomenon which is prevalent in the whole world. People segregated across the country are mainly on the basis of religion.One of the important phenomenons of demography is mortality. Studies on Mortality differentials by sex, socioeconomic status, race and ethnicity, and many other characteristics are there, but less is known about the relationship between religion and mortality.

The disparity in mortality is believed to have its roots in differential socio-economic backgrounds of different social groups since socio-economic factors do influence the biological processes that eventually lead to illness and health. Due to improvement in health, medical services and technology we witnessed a remarkable decline in mortality and considerable advancement in life expectancy during the last century. While it has led to survival of children, it has also prolonged life in the older generation. Understanding more about how different religious affiliations impact health and mortality can follow many directions. Life expectancy at birth, a summary measure of health is the most popular and widely used indicator using across the disciplines. The estimation of life expectancy at birth among the religious groups is useful to assess the impact of various programs and policies designed to improve the wellbeing of the population subgroups.Members of different religions in Kerala have documented differences in demographic composition. Knowledge about the characteristics of religious groups is an important area that needs to be studied inorder to improve the effectiveness of policies for the wellbeing of people. This study provides an overview of recent trends in the Kerala's religious demography. Considering the lack of comprehensive study on the change in longevity in Kerala, this study focuses on discovering the mortality differentials among the various religious groups and the variations in their longevities. The major religions that are analyzed in this study are Hinduism, Muslim and Christianity since others form very least.

Objectives

The main objectives of the study are:

a)   To analyze the growth and distribution of religious groups in Kerala,

b)   To analyze how the pattern of residential segregation by religious groups differ in Kerala

c)   To analyze the mortality differentials and variations in the longevities among the various religious groups in Kerala.

d)   To project the future population by religious groups in Kerala.

Data

Reliable data of high quality is the most important aspect of any analysis. The data for the study are taken from Annual Vital Statistics report (2006-2016), Census data of Kerala, 1961 to 2011 and SRS data of 2011 are also used for the study.

Methodology

In the study, univariate and bivariate distribution analysis were done. Life table techniques was used for finding the life expectancy of population by religion.The estimation of life expectancy follows the ordinary life table method (Ramakumar, 1986). Using Census data of 2001 and 2011 we calculated the growth rate and exponential growth model was used to project the population by religion. In addition to this, an index used by Karl Taeuber, 1966 for his study of Negro-White segregation in the US was used in this study for the purpose. The segregation scores for the states are calculated using population distribution at the district level. The segregation scores for the districts are calculated using population distribution at the taluk level.

$$s = \frac{1}{2} \sum |p_i - p_{i'}|$$

Where 'P$_i$' is the proportion of persons of a particular group in the ith areal unit to its total in the state and P$_i$' is the proportion of the rest in the

same unit. Value ranges from 0 - 1. If the index is zero, all groups are identical over all the areal units. If its value is one then there is perfect segregation. The areal unit considered for the calculation of residential segregation in Kerala is district and for the calculation for the same in district is taluk.

Religious Scenario of Kerala

Kerala, being one of the enlightened state of India, is well known for its religious harmony, cultural diversity and religious plurality. Religion has played a pivotal role in the formation of Kerala society. Religious toleration has always been the corner-stone of Kerala culture. Besides the indigenous religions like Jainism, Buddhism and Hinduism, foreign religions like Christianity, Judaism, Islam and Zoroastrianism found the soil of Kerala fertile and favourable for their progress and development.

The Kerala culture in general and the religious scenario in particular is remarkable for several reasons. Though predominantly Hindu, the state contains significant minorities of Muslims and Christians, and is known for its good record of harmonious relations between communities. As a result of religious tolerance different religions lived unmolested and peacefully. Moreover the religions like Christianity and Islam, though religious minority could find a place to grow and branch out.

Growth and Distribution of Population by Religion in Kerala

Table 1 reveals that Hindus are predominantly more when compared to other religious groups in Kerala. Growth rate of Kerala shows that the Hindu and Christian population declined from 1961 to 2011. While the proportional growth of Muslim community is increasing over the years. According to the 1961 census, 61 percent of the population of Kerala are Hindus, 18 percent are Muslims and 21 percent are Christians. According to the 2011 census, 55 percent of the population of Kerala are Hindus, 27 percent Muslims and 18 percent Christians (Table 1). From the figure1, it is clear that over the years Hindu population is showing a declining trend and Christian population is also declining. But in the case of Muslims the growth rate shows an increasing trend over the years from 1961 to 2011.

Table 1:Population Growth by Religion in Kerala (1961-2011)

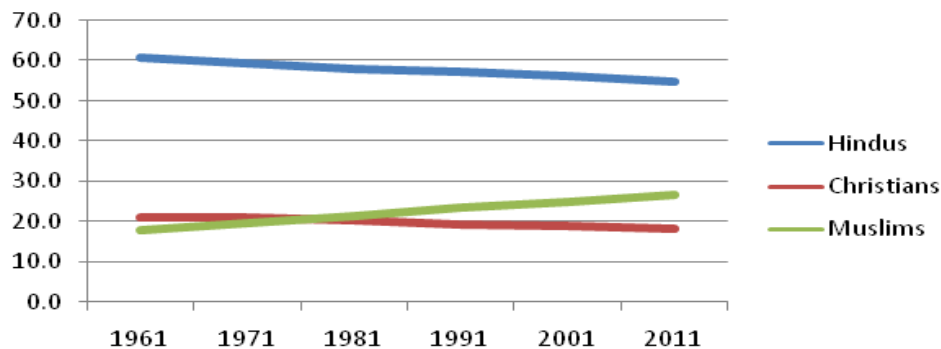| Years	Hindus	Christians	Muslims
1961	60.9	21.2	17.9
1971	59.4	21.1	19.5
1981	58.2	20.6	21.3
1991	57.3	19.3	23.3
2001	56.3	19.0	24.7
2011	54.9	18.4	26.6

Figure 1:Population Growth by Religion in Kerala (1961- 2011)

Table 2 illustrates the distribution of population by religion in districts of Kerala according to 2011 census. Hindus are found more in Alappuzha district and least in Malappuram, More than half of the population are Hindus in districts like Kasaragod, Kannur, Kozhikode, palakkad, Thrissur, Alappuzha, Pathanamthitta, Kollam and Thiruvananthapuram. Muslims are higher in Malappuram district and least in Pathanamthitta. Muslim population form the minorities in the districts like Idukki, Kottayam and Pathanamthitta. Christians are more in Idukki and Kottayam districts and least in Malappuram. Christian population form the minorities in the districts like Kasaragod, Kozhikode, Malappuram and Palakkad.

**Table 2: Distribution of Population by Religion in
Districts of Kerala, 2011**

State	Hindus	Muslims	Christians
KERALA	54.7	26.6	18.4
Kasaragod	55.8	37.2	6.7
Kannur	59.8	29.4	10.4
Wayanad	49.5	28.6	21.3
Kozhikode	56.2	39.2	4.3
Malappuram	27.6	70.2	2.0
Palakkad	66.8	28.9	4.1
Thrissur	58.4	17.1	24.3
Ernakulam	46.0	15.7	38.0
Idukki	48.9	7.4	43.4
Kottayam	49.8	6.4	43.5
Alappuzha	68.6	10.6	20.4
Pathanamthitta	56.9	4.6	38.1
Kollam	64.4	19.3	16.0
Thiruvananthapuram	66.5	13.7	19.1

The religious composition of population of Kerala by age and sex are given in Table 3. Children of age (0-14) are more among Muslims.Results shows that more babies are born to Muslim mothers than to members of other religious group.Male children are higher compared to femalechildren in all religious groups. The working age populations are higher among Hindus followed by Christians. Elders are higher among Christians followed by Hindus and Muslims in Kerala.

Table 3: Religious Composition of Population of
Kerala by Age & Sex, 2011

Religion	Sex	(0 -14)	(15 – 59)	60+
Hindus	Male	21.9	65.6	12.5
	Female	19.6	65.6	14.8
	Total	20.7	65.6	13.7
Muslims	Male	33.1	58.9	8.03
	Female	28.3	63.4	8.3
	Total	30.5	61.3	8.2
Christians	Male	22.2	63	14.8
	Female	20.4	63.3	16.3
	Total	21.3	63.2	15.5
Others	Male	28.5	61.7	9.9
	Female	27.9	59.9	12.1
	Total	28.2	60.8	11

Figure 5:Religious Composition of Population in Kerala by Age & Sex,2011
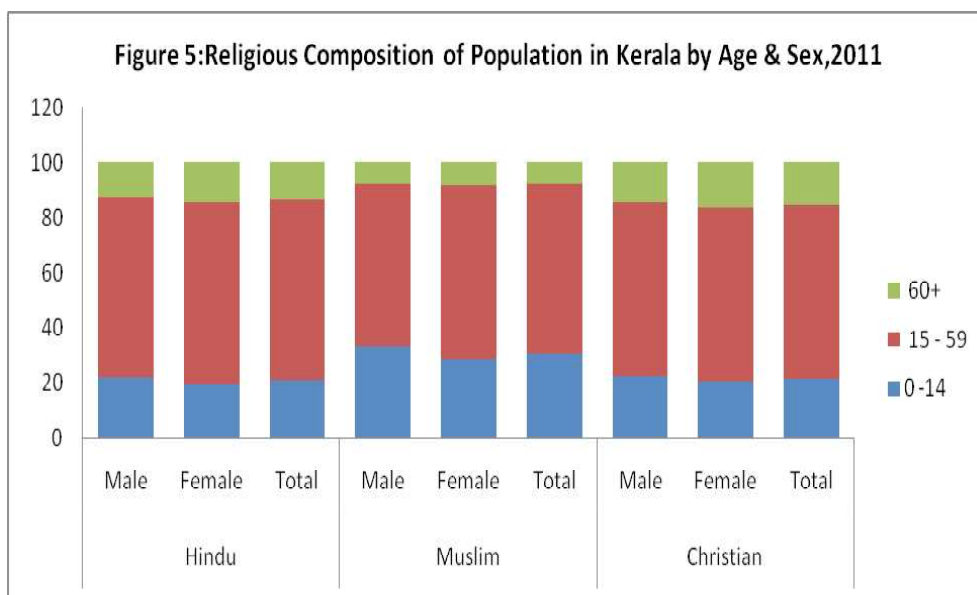
Table 4: Place of Residence by Religion

Place of residence	Hindus (%)	Christians (%)	Muslims (%)
Urban	55.69	14.97	29.34
Rural	53.85	21.81	24.34

Considering place of residence by religion, it is clear that in the urban area about 56 percent of residents belong to Hindu religion. Christians forms about 15 percent and Muslims constitute about 29 percent in urban area. While considering the case of rural area, about more than half of the population are Hindus (54 percent) followed by Muslims (24 percent) and Christians (22 percent).

Table 5: Sex Ratio by Religion and Place of Residence, 2011

Religion	Total	Urban	Rural
Hindus	1077	1081	1073
Muslims	1125	1128	1065
Christians	1051	1065	1043

Over the years, sex ratio is favoring females is a unique feature of Kerala. Taking religion into consideration, in all the three religious groups, the sex ratio is favorable for females. The highest sex ratio is for Muslims (1125), followed by Hindus (1077), and Christians (1051).Similar pattern is found in urban and rural areas.

Table 6: Education by Religion and Sex, 2011

Sex	Hindus (%)	Christians (%)	Muslims (%)
Total	93.49	96.49	93.29
Male	95.85	97.28	95.85
Female	91.33	95.75	91.08

Education is an important aspect that plays a crucial role in the modern, industrialized world. People need proper and good education to be able to survive in this competitive world. It not only enlightens but also empowers citizens and enables them to contribute to the maximum extent possible to the social and economic development of their communities.Modern society is based on people who have high living standards and knowledge which allows them to implement better solutions to their problems.Considering the religious wise educational status in Kerala, those who belongs to Christian community has higher educational (96 percent) status compared other religious groups. The educational status of Hindus and Muslims are almost same(93 percent). Taking sex wise educational status, Christians shows higher educational status among both males (97 percent) and females (96 percent).

Table 7: Workers by religion and sex, 2011

Sex	Hindus (%)	Christians (%)	Muslims (%)
Total	49.11	46.75	35.12
Male	66.69	69.04	66.29
Female	28.52	26.02	9.28

Economic development is a key factor for the overall development of a nation.Workers are the main source of contribution to the economy. The analysis shows that,the percentage of total workers are more among Hindus (49 percent) followed by Christians (47 percent) and Muslims (35 percent).Gender wise work status shows that among Christian males about 69 percent are working with highest percentage compared to other religious groups. In the case of females, about 29 percent of females belonging to Hindu community are working.Muslim female workers are least in Kerala (9 percent).

Marital status is one of the important that affect the human being. Being a single or married is a matter of study these days. In the analysis of marital status by religion in Kerala, it was found that never married persons are more among Muslims.

Table 8: Marital Status by Religion and Sex, 2011

		Never married	Married	Widowed	Divorced/ Separated
Hindus	Total	22.8	66.5	9.6	1.1
	Male	30.2	67.4	1.9	0.5
	Female	16.1	65.7	16.5	1.7
Muslims	Total	23.1	68.4	7.2	1.4
	Male	33.3	65.4	1	0.3
	Female	14.5	71	12.3	2.2
Christians	Total	22.9	68.4	8.1	0.6
	Male	28.5	68.7	2.5	0.4
	Female	17.6	68.1	13.4	0.8

Never married Muslim males are more compared to other two groups. Never married Christian females are more compared to other religious groups. Widowed populations are more among Hindus followed by Christians and Muslims. In case of widows by religion we can see similar pattern but in case of widowers, Christian males are slightly more than other groups. Percentage of divorced/separated found to be slightly more among Muslims and least among Christians.

Table 9: Age at Marriage of Currently Married Women by Religion, 2011

Age group (years)	Hindus (%)	Christians (%)	Muslims (%)
Less than 15	0.24	0.23	0.31
15-19	1.1	0.72	3.88
20-24	7.27	4.42	14.53
25 and above	91.39	94.63	81.21

Age at marriage is associated with a range of health and social consequences for girls. Adolescence is a critical age for girls throughout the

world. What takes place during a girl's teenage years shapes future life circumstances (Mensch, et.al. , 2014). By analyzing the age at marriage of currently married women by religion in Kerala we can see that even though percentage of child marriage is least still exist in Kerala among the three religious groups. In between the ages (15 and 24)marriages are more among Muslims compared to other religious groups. Among Hindus and Christians most of the marriages are happening above age 25 (91percent and 95 percent respectively).

Table 10: Percentage of Population Married Before the Legal Age of Marriage by Religion & Sex, 2011

	Male	Female
Hindus	6.1	12.8
Muslims	14.2	36.1
Christians	5.9	6.8

Table 10 reveals that the percentage of persons married before the legal age of marriage is more among Muslims among both the sex followed by Hindus and Christians.

Table 11: Single Person Household by Religion and Place of Residence, 2011

Religion	Hindus(%)	Christians(%)	Muslims(%)
Total	4.70	4.34	2.36
Rural	5.01	4.45	2.58
Urban	4.35	4.17	2.15

Due to the urbanization, life expectancy gap between male and female, migration etc. single person households are increasing all over the world. In Kerala also single person households are increasing rapidly. Single person household (Table 11) are found to be more among Hindus with 4.7 percent

followed by Christians (4.34 percent) and Muslims (2.36 percent). In the rural and urban areas also single person household are found to be more among Hindus and least among Muslims.

Segregation of Population by Religion

Table 12: Segregation Scores of Religious Groups in Kerala by Place of Residence,2011

	Total(%)	Rural(%)	Urban(%)
Hindu - Non Hindu	0.1954	0.207	0.0792
Muslim - Non Muslim	0.3811	0.4296	0.3461
Christian - Non Christian	0.3857	0.3631	0.4433

Table 13: Segregation Scores of Religious Groups in Districts of Kerala, 2011

State	Hindus	Muslims	Christians
Kasaragode	0.1489	0.2434	0.3234
Kannur	0.0484	0.1015	0.3088
Wayanad	0.1268	0.2133	0.1142
Kozhikode	0.1205	0.0892	0.2036
Malappuram	0.0962	0.1288	0.4649
Palakkad	0.2668	0.3044	0.2359
Thrissur	0.0593	0.4193	0.3051
Ernakulam	0.1296	0.1003	0.1035
Idukki	0.1088	0.2833	0.0986
Kottayam	0.1199	0.2224	0.1196
Alappuzha	0.1597	0.3156	0.1870
Pathanamthitta	0.1481	0.1341	0.1785
Kollam	0.0641	0.0747	0.1068
Thiruvananthapuram	0.1371	0.1894	0.3279

Residential segregation, the spatial separation of population sub-groups within a given geographical area, is a phenomenon which is prevalent in all countries in the world. Religion is considered as a notable origin of interpersonal relations, as well as an effective and efficient tool to organize a huge number of people towards some challenging targets. At the same time, a believer prefers to make friend with other people of the same faith, and thus people of different faiths tend to form relatively isolated communities. The segregation between different religions is a major factor for many social conflicts. However, quantitative understanding of religious segregation is rare (Zhang and Zhou, 2019). Here in the analysis (Table 12), Hindus (0.195) formed the least segregated group. In rural area, high segregation accounted for Muslims and in urban area high segregation accounted for Christians.

Mortality and Longevity Variations of Population in Kerala

Mortality is the one of major component which causes population change. Mortality has played a key role in determining the growth and size of the population. Actually mortality is a branch of demography which deals with the total process of deaths and its consequences in a population.

Mortality is a continuous force of attrition tendency to reduce population but having effect countervailed by the force of fertility. It is the negative component in the balance of vital process. Age and sex are the important bases of the detailed analysis of mortality (Sandeep and Sulaja, 2010).

Table 14 shows the death rates of various religious groups in Kerala from 2006 to 2016. For all the three religious groups the death rate increased from the 2006 to 2016 period. The death rate of Hindus shows a sudden decline from 8.1 to 6.9 in the year 2011 to 2012. But then again it increased to 8.6 in the next year. During 2006-16 among Christian, the death rate increased from 7.2 to 8.3. The death rate of Muslims also increased from 4.7 to 5.4 in the year 2006 to 2016. From the table 4.4 it is clear that the death rate of all the three religion decreased in 2012. But then it increased till 2016.

Table 14: Religious Variations In Mortality Trend In Kerala (2006-2016)

Year	Hindus(%)	Christians(%)	Muslims(%)	Total(%)
2006	7.5	7.2	4.7	6.7
2007	8.2	7.8	5.2	7.3
2008	7.5	7.3	4.9	6.8
2009	7.9	7.5	5.2	7.1
2010	8.0	8.0	5.3	7.3
2011	8.1	8.2	5.1	7.3
2012	6.9	7.6	4.1	6.2
2013	8.6	8.6	5.5	7.7
2014	8.2	8.1	5.2	7.3
2015	8.3	8.3	5.4	7.4
2016	8.4	8.3	5.4	7.5

Life expectancy, a widely understood concept, is used to document mortality throughout the world and by various professions such as demographers, actuaries, policy makers and academics. Life expectancy provides the number of years someone may expect to live at a given age if they were exposed to a given set of mortality rate throughout their life.

Table15 : Religious Differentials in Life Expectancy in Kerala by Sex,2011

Age group	Hindus (years)			Christians (years)			Muslims (years)		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
At Birth	75	70	79	77	73	81	75	71	78
70+	13	11	15	14	12	16	12	11	14

Table 15 shows the Life expectancy of Hindus, Christians and Muslims in Kerala respectively in the year 2011. At birth, 75 years were expected to

live by a Hindu in Kerala. The life expectancy at birth is 77 years for a Christian in Kerala. The life expectancy of a Muslim at birth is 75 years. Christians have the highest and Hindus have the lowest life expectancy at birth. The life expectancy of Hindus and Muslims are almost equal at birth. But in the later years of age (70+), Christians have the highest and Muslims have the lowest life expectancy.

About 70 years is the life expectancy of a Hindu male in Kerala.The life expectancy of a Christian male at birth is 73 years. The life expectancy at birth is 71 years for a Muslim male. Like the total life expectancy, Christian males have the highest life expectancy followed by Hindu males and Muslim males. The life expectancy after age 70 is same for Hindu and Muslim males, 11 years. But for Christian male it is higher, 13 years.

The life expectancy at birth for a Hindu female is 79 years. About 81 years were expected to live by a new born Christian female. Life expectancy at birth for a Muslim female is 78 year. Life expectancy at birth is high for Christian female. Muslims have the lowest life expectancy at birth. Life expectancy at age 70 is highest for Christian females followed by Hindus and Muslims.

Future Population of Kerala by Religion

The projected population by religion shows that there is a continuous declining of Hindus and Christian in Kerala from 2021 to 2051(Table 15). In 2021 the Hindu population will be 53.6 percent and it will decline up to 49 percent in 2051. In the case of Christians 18 percent will be there in the year 2021, but in the year 2051 the percentage of Christians will be 16 percent. But considering Muslims we can see a continuous increment in the projected population. In the year 2021 the Muslims will be 29 percent then it will grow up to 35 percent in the year 2051. Even though in the year 2051 the majority of the population will be Hindus followed by Muslims and Christians like now.

Table 16: Projected Population of Kerala by Religion

Year	Hindus(%)	Christians(%)	Muslims(%)
2021	53.6	17.7	28.6
2031	52.3	17.3	30.4
2041	50.6	16.6	32.8
2051	49.3	16.1	34.6

Conclusion

A very important characteristic of a population is religion since it influences various type of demographic behavior. As religion continues to play an important role in our society, it is important to understand more about the relationship between religion and other demographic characteristics.

According to results of the analyses, there are considerable differences in the demographic, socio-economic characteristics among religions. Growth rate of Kerala shows that the Hindu and Christian population declined from 1961 to 2011. The analysis shows that residential segregation at different levels exist in the districts of Kerala. Hindu formed the least segregated group. Residential segregation produces negative socioeconomic outcomes for minority groups. Since Muslim population is increasing it is expected to have Muslim segregation in future. The segregation of religious groups should be reduced which will help to increase acculturation, which in turn will accelerate the development process in the state. Research on segregation will be of use to policy makers involved in tackling segregation, urban planning and community development and should reassure those who are concerned about increasing segregation in Kerala.

The difference in mortality may be due to the socio-demographic composition of each religion or could be attributable to specific characteristics of different religions. Age and sex wise difference in life experiences is found among all religious groups. Reduction in mortality in each religious group indicates the gain in life expectancies.

Differentials in estimated life expectancy at birth and at age 70 showed a narrow gap in longevity among all three religious groups. Longevity was more for Christians while longevity remained similar for Hindus and Muslims. The gains in longevity beyond 70 years were highest for Christians followed by Hindus and Muslims. Irrespective of religious groups the people in urban area had higher longevity than their counter parts. Variation in mortality by religion could be explained by disparate *health behaviors*. The rules or norms of a religion may forbid unhealthy activities such as drinking or smoking and thus have strong effects on health. Muslims are projected to be the fastest growing major religious group in the decades ahead. We conclude that the interaction between religion and demographic behavior in Kerala is worthy of greater attention from both academics and policy – makers.

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