

Changing Age Composition of Population of India, Indonesia and Thailand: Health Issues of Elderly

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INTRODUCTION

In most of the countries in South East and Central Asian Region (SECAR) fertility transition begun in late 1960s with mortality transition already on its way since 1920s. Many of these countries experienced very rapid changes during last three decades and they have traveled rather faster from comparatively high to lower levels of fertility and mortality. One of the inevitable direct consequences of such transition is a change in the age composition of national population that shift from young age composition to old one. These changes in age structure have very important demographic, socio-economic and health consequences. The need for goods and services such as jobs, housing, social economic support, health etc. would also undergo changes. Accompanying such changes are also the increase in urbanization, nuclearization of family, greater mobility of child(ren) and therefore the decrease in physical and psychological support in old age is unavoidable.

There is however, considerable variation within the Asian region, not only because they are at different level of demographic transition but also because they passed through the transition with varying pace. It is known that faster the transition especially in fertility faster will be the changes in age composition. In Japan, for example, the proportion aged in the population increased from 7 percent to 14 percent in just 25 years and on other hand in Sweden, it took 85 years and in U.K. and Germany it took 45 years (Makoto, 1990). In the present paper, attempt has been made to understand demographic changes in India, Indonesia and Thailand and discuss the health issues among elderly. We

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would have comparatively more focus on India due to accessibility of data but we believe that emerging issues will be quite similar as these countries fall within contour of typical Asian family structure.

DATA

The data for analysis come from U.N. latest publication - World Population Prospects - The 2000 Revision, Vol 1. We have taken the demographic parameters since 1950 and also presented them up to 2050 AD to cover the future scenario. At outset, it may be mentioned here the estimates of demographic parameters such as TFR, IMR, population size etc. for the past may be somewhat different than that provided in the country official document. Since, we are not concern too much on exact levels of parameters so much so the changes, for comparability across country, it is preferable to use the U.N. data.

Further, we have also used various literatures on the subject published in journals or other U.N. publications. In case of India, we have used the data from National Family Health Survey conducted in 1992-93 (IIPS, 1995) and 1998-99 (IIPS, 2000). We prepared special tables from this data set on, living arrangement of elderly, life styles and morbidity conditions.

ANALYSIS AND DISCUSSION

Before we discuss the changes in age structure, it may be worthwhile to examine the fertility and mortality transition in these countries. This would help us to understand the changes in the age composition. Table 1 presents the estimated TFR for these countries since 1950s and also the future level until 2040-50. As mentioned earlier TFR given here are somewhat different than that officially available estimate. Most of the estimates available are slightly higher than that given in Table 1 except in case of India (Ram and Ram 2002, Hull 2002, Varachai 2002). However such differences will not vitiate the inference we would draw from Table 1 on fertility transition.

It is very clear from table that TFR has been around 6 (slightly higher incase of Thailand) children per woman during pre-transition period. In fact, there has been great deal of similarity between India and Indonesia. It is also clear that fertility transition in these countries begun some time in late 1960s (Ruffolo and Chayovan 2000, Knodel, Chamrathirong and Debavalya 1987) when they launched official family planning programme. India though launched official family planning programme in 1952 but its real implementation with viable infrastructure was in 1960s and also programme became target oriented in 1965-66. After the onset, TFR of about 6 in all the selected countries dropped to 4.1 in India, 3.5 in Indonesia and 2.4 in Thailand by 1985-90. Thailand of course experienced very rapid change in fertility. In 1970s there were no substantial difference between India and Indonesia but in 1980 the differences were quite visible. This is the time when Indonesian family planning seems to have really made impact when family planning acceptors increased from 24 in 1976 to 43 percent in 1987 (CBS et.al. 1994).

It may be observed that Thailand achieved replacement fertility in early 1990s where as Indonesian TFR was estimated to be 2.6 during 1995-2000 and in India it was 3.3 children per women. It is clear that there has been a time lag of about 10 years between India and Indonesia and slightly more than 15 years between India and Thailand. Similarly, Indonesia and Thailand have a lag of about 10 years. United Nations has projected the TFR of below replacement that would probably hover around 1.9 children per woman in Thailand. On the other hand, Indonesia is expected to reach replacement level during 2010-15 and India during 2020-25. It may be mentioned here that National Population Policy 2000 of India has drawn strategies to achieve replacement, by 2010 (Government of India 2000). It is also assumed that in India and Indonesia TFR will not reach below replacement. But there are many provinces within the countries, which have gone below replacement level.

Table 2 indicates the transition in IMR and e° in India, Indonesia and Thailand. We have given e° by sex to indicate the issues related to gender in these countries, as these will have impact on living arrangements in old age. It may be noted again that India

and Indonesia had comparatively very high IMR, which continued to be very similar until 1970-75. After this, Indonesia experienced rapid decline in IMR and reached below 50 levels by 1995-2000 where as decline in India was very slow and it is expected to be around 70 now. In case of Thailand, IMR has been low and decline after 1970 has been dramatic. It is one of the lowest during 1995-2000. In fact, the estimated IMR in 2001 is around 18 per 1000 live births (Varachai 2002). There are also very significant differences in the projected level of IMR by 2045-50. IMR in India will be 3 times of that in Thailand and in Indonesia it will be 2 times of that in Thailand.

Changes in e° also indicate different pattern. One most important point here is that in both Indonesia and Thailand female e° has been higher than male e° . (See Fig. 1). In case of Indonesia difference was not substantial initially but by 1995-2000, difference in e° was about 4 years and it is projected to be around 5 by 2040-50. In Thailand, there has been a difference of 4-5 years since 1950s, which is assumed to remain the same in future. Empirical evidences in most of the developed countries indicated larger gap. Further, it may be noted that the projected e° for Thailand is 82 years in 2040-50 where it is 80 years in Indonesia and 77 years in India. Such differentials will be reflected in the age distribution of these countries.

Table 3 presents the broad age composition of the population. It may be noted that the percent population ages 15-64 years was below 60 percent (around 55 percent) until 1980 though it was slightly lower in case of Thailand. It crosses the 60 percent marks in 1990 and 64 percent of total population was in 15-64 in Thailand and almost 60 in case of India and Indonesia. It may be due to the combination of two factors - comparatively higher fertility and high survival chances in case of Thailand. It is projected to peak at the level of 70 percent in year 2020 in case of Thailand. Peak value is likely to be 69 and 68 percent respectively in Indonesia and India. The percent of population in 15-64 expected to decline after 2020 AD in all the three countries and reached to lowest value of about 62, 64 and 66 percent respectively in Thailand, Indonesia and Thailand.

The process of such change in age-composition is linked to the historical fertility and mortality transition and its level. There are definite chances of further decline especially in case of India and Indonesia. However, point that may be noted that in all these countries, still there is upward trend in percent of population ages 15-64 and will continue for next 20 years or so. In other words, there is definite advantage of such demographic change before these countries experience, the shrinking of labor force population that has implications not only on living arrangement but also on social security, physical-emotional and economic support to dependent especially elderly.

The varying pace of demographic transition is also reflected in young and old population. In 2000, Thailand had about 8 percent of its population above age 60 years, which is also very similar (7.6 percent) in India and Indonesia, though there is large difference in child population (0-14). India has almost 34 percent of its population below age 15 whereas in Indonesia and Thailand it is respectively 31 and 27 percent. As in case of fertility and mortality, the process of change is very similar in India and Indonesia. In Thailand the percent aged population will be reaching above 25 percent by 2040 AD whereas it will be 21 percent in India by 2050 and 22 percent in Indonesia.

Such a high percent of aged population in case of say India due to its huge population of say 1.5 billion would have much greater implications. In fact, size of India's aged population will be almost same as Indonesia total population and more than 3 times of Thailand total population. To provide care to such a large population in the countries will be Herculean task and therefore in addition to government greater commitment for care (social, as well as health) of elderly there will be a need of policy support or of government intervention to maintain the existing familial support.

Table 4 presents the dependency ratio-young, old and total for these three countries. Like age composition, here again we may observe the similarities in all the countries until 80 when young dependency is over 40 percent and old dependency is around 5-6 percent. Fig 2a, 2b and 2c indicate very clearly pattern of changes in the dependency ratio. It may be noted that during last 50 years (1950-2000) old dependency

either has changed marginally or has changed slowly but in future it is going to increase quite rapidly. In Thailand it is expected to increase to the level of 30 percent where as in India and Indonesia it is expected to be 21 and 22 percent. On the other hand young dependency ratio declines rapidly as in India from present level of 33 percent it goes down to about 20 percent, in Indonesia from 31 to 20 percent and in Thailand from 25 to 17 percent. Table 3 and 4 clearly indicate the fact that in these countries significant changes in age composition has taken place but still for next to decades or so there is no possibilities of "Labor Shrinking" and thereby problem of social support. The lowest dependency will be in year 2020 AD for India and Indonesia and in year 2010 in Thailand.

Living Arrangement of Elderly and Health

Nevertheless, the increasing number of aged poses greater challenges in these countries. These challenges become more complex due to rapid decline in family size, urbanization and mobility. Households throughout the developing world are largely responsible for the distribution of goods and services between generations and they are core through which age and kinship roles are expressed (Thornton, Chang and Sun 1984; Becker 1991). In most of these countries there is culturally imbedded norms about respect for elderly and responsibility of the young to care for old (Martin, 1990). Policy makers values these systems of care for the elderly and prefer to maintain them rather than introducing expensive government programme (Knodel, Chayovan and Siriboon 1992). Here briefly we present the situational analysis for India on living arrangement, life style and selected morbidity conditions. We would wherever possible quote similar study available for Indonesia and Thailand.

Before we bring in discussion on living arrangement it may be worthwhile to mention that in most of these countries female aged out number male aged (Table 5) which is much pronounced in the case of Indonesia and Thailand. India being female deficit countries (the sex ratio (M/F) according to 2001 census is 108) remains female deficit even at older ages despite higher female survival after age 30 years or so. (Ram and Ram 2002). Further it may be noted that in all these countries large percent of aged

females are widowed compared to males aged (U.N. 1996). Therefore, all the analysis about the process of ageing and policy orientation must keep this in mind.

Table 6 gives the living arrangement for aged from National Family Health Survey conducted in 1992-93 and again 1998-99. Table very clearly indicates the traditional familial support available to elderly in India. About 88 percent of elderly in 1992-93 and 86 percent in 1998-99 were living in at least two generation family set-up with children especially son. A study in Indonesia (79 percent aged male and 90 percent aged female) and Thailand (74 percent aged male and 70 percent female aged) also indicate large proportion of elderly living with children, spouse and relative (Wirakarta kusumah 1999, Wongsith and Siriboon 1999). In case of Thailand, female aged mainly live with children and grandchildren as they trend to be widowed and seldom re-marry (Knodel and Chayovan 1997a, 1997b).

The most crucial issues relate to 12 percent elderly i.e. about 10 million who are either living alone or in the household of two persons - may be related or may not be related. In case of Thailand large proportion of aged live alone (8-9 percent) that compared to India is very high. Table 6 also indicates that comparatively more females aged are staying alone compared to male aged. Nevertheless there are no significant differentials in living arrangement by selected characteristics. The data also show no great change in 6 years period between 1992-93 and 1998-99 but female aged living alone has increased from 3.4 to 4.4 percent and also among aged living in two members household from 3.8 to 5.4 percent. This is very crucial as most of these women are widowed and have no assets of their own.

Table 7 presents the life style indicators that may not be very conducive to good health. This is given only for 1998-99, as this data was not collected in 1992-93. It may be noted that about 37 percent of male aged and about one fourth of female aged have habit of chewing paan masala and tobacco. The consumption of virtually raw tobacco would be much harmful and these habits must have been formed long ago. Therefore, many health problems may be aggravated due to such habits. There is not very strong link

of such habits with living arrangement but those who are living in joint family system (2 or more generation family) have some what lower chances of indulging in such habits. Oral hygiene being very poor especially in rural areas and dental care not being part of primary health care in most of these countries, problem is expected to be more critical.

Alcohol consumption is also quite high especially among aged male. Here, it may be mentioned that quality of alcohol available to poor masses is a matter of concern. It is basically country made spurious liquor that is consumed in rural as well as urban India, which generally lead to serious health problems. There are large number deaths due to spurious alcohol reported every year in India. Smoking habit is serious concern for all countries not only because smoking is increasing rapidly but also because age at smoking is coming down. Among aged male in India, 38 percent reported to be currently smoking which is only 5 percent among aged females. There is some association of such habits with living arrangement. The prevalence of smoking is high among those who are staying alone or living in two persons households (both aged) and they may be related or may not be related.

For morbidity analysis, we have selected only three- TB, Malaria and Asthma - morbidity conditions from NFHS - 2. The Jaundice that was canvassed in NFHS - 2 in place of blindness, leprosy and physical impairment canvassed in NFHS - 1, is not taken into consideration due to low prevalence. Table 7 provides the prevalence of the morbidity by sex and living arrangement. It may be noted that the prevalence of chronic diseases like TB among aged male is 1.7 and it is less than one percent among aged female. It is surprising to note that among male aged there is no specific pattern with living arrangement but in case of aged female, prevalence is substantially high among those living alone and lowest is among those who are living in two or more generation households. It may be a matter of conjecture but it may be possible that aged female having such problem are left alone by children or relatives as most of them are widowed. Again, in case of Malaria female aged living alone have higher prevalence. This may be basically due to poor living conditions of those staying along compared to those who are living in two ore more generation household set up.

Asthma is another chronic problem in the population of poor health status and it is more among aged. The prevalence of Asthma among aged male is as high as 12 percent where as it is 8 percent among aged female. This may be the outcome of higher prevalence of smoking and chewing tobacco among aged male. The prevalence again is high among those who are living in most distressed condition (living alone, two member household and other). A study in Indonesia (Wirakartakusuman, 1999) and Thailand (Wongsith and Siriboon 1999) also indicate very high prevalence of chronic diseases. In Indonesia 74 percent of aged (Rural M - 77.6, F - 82.1, Urban M - 64.6, F - 64.5) had chronic diseases. On the other hand, in Thailand prevalence of chronic diseases among aged male is 61 percent and among aged female it is 78 percent.

It may be interesting to examine the relation between life style and morbidity condition. Table 8 provides some information on these aspects. We have taken here only TB and Asthma because Malaria may not be a direct function of life style though people having poor health may be having higher risk of getting Malaria. It may be noted that chewing tobacco and smoking does indicate some relation with TB and Asthma. It is the regular smoking, which shows very substantial difference in the prevalence of the TB as well as Asthma. The limited data provided here does indicate that healthy life style formed in adulthood may lead to healthy life at older ages. Further, living in good social environment (living with family) would also lead to comparatively healthier life among elderly.

In order to understand the effect of each background variable on TB and Asthma, we present the results of logistic regression in Table 9. The results very clearly indicate the weak link of educational and residential background of aged with the prevalence of TB and Asthma. However, life style especially regular smoking, living arrangement and fuel used in cooking have significant impact on TB and Asthma among aged. Compared to non-smoker, odds of having TB and Asthma among regular smoker is almost 3 times higher. This again indicates the role of health habits and family living of elderly in maintaining the good health.

CONCLUDING REMARKS

In the present paper, attempt has been made to examine the changes in age composition of India, Indonesia and Thailand. In terms of fertility and mortality transition, it may be observed that there is lag of about 10 years between India and Indonesia, and almost 15 years between India and Thailand. The lag between Indonesia and Thailand also seems to be in the tune of 10 years. It is noted that despite rapid change in fertility there will not be any shrinking of labor force until 2010 in Thailand and until 2020 in India and Indonesia. Problems become serious when old dependency increases rapidly.

Ageing of population will be one of the serious concerns in these countries. In India, aged population may eventually, will be some as total population of Indonesia of 3 times of the total population of Thailand. In all these still familial support to elderly is very strong but there are large number of elderly who are living without any physical support. There is need to understand the problems – social, economic, emotional – of such aged especially of aged females to have effective policy intervention. It is also noted that certain lifestyle that are formed in the adulthood are not conducive to good health. The regular smoking and chewing paan masala/tobacco have significant effect on the prevalence of TB and Asthma among aged. After controlling some selected variables, living arrangement seems to have direct link with TB and Asthma among aged.

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Table 1. Pattern of Fertility Transition (TFR) and Future Prospects, India, Indonesia and Thailand

Time	India	Indonesia	Thailand
1950-55	5.97	5.49	6.40
1955-60	5.92	5.67	6.40
1960-65	5.81	5.42	6.40
1965-70	5.69	5.57	6.00
1970-75	5.43	5.20	4.97
1975-80	4.83	4.73	3.96
1980-85	4.48	4.11	3.05
1985-90	4.08	3.50	2.41
1990-95	3.70	3.00	2.10
1995-00	3.32	2.60	2.10
2000-05*	2.97	2.27	2.00
2010-15	2.27	2.10	1.85
2020-25	2.10	2.10	1.88
2030-35	2.10	2.10	1.90
2040-45	2.10	2.10	1.90
2045-50	2.10	2.10	1.90

Source: U.N. 2001, World Population Prospects, The 2000 Revision Vol. 1, Comprehensive Tables, Department of Economic and Social Affairs, Population Division, ST/ESA/SER.A/198

* Medium Variant

**Table 2: Pattern of Mortality Transition and Future Prospects, India
Indonesia and Thailand**

Time	India			Indonesia			Thailand		
	IMR	e ^o		IMR	e ^o		IMR	e ^o	
		M	F		M	F		M	F
1950-55	190	39.4	38.0	201	36.9	38.1	111	49.8	54.3
1955-60	173	43.5	41.7	183	39.2	40.7	98	52.3	56.8
1960-65	157	46.2	44.7	166	41.7	43.4	85	54.8	59.2
1965-70	145	48.7	47.3	144	45.0	47.0	79	55.6	60.8
1970-75	132	51.2	49.3	126	48.0	50.5	73	56.5	62.9
1975-80	129	53.3	52.4	106	51.5	54.0	64	58.0	65.1
1980-85	107	55.2	54.9	89	54.5	58.0	49	62.5	67.3
1985-90	94	57.6	57.8	70	58.5	62.0	38	64.9	70.1
1990-95	79	60.0	60.3	59	61.0	64.5	29	66.7	71.9
1995-00	73	61.9	62.6	48	63.3	67.0	25	66.7	72.6
2000-05*	65	63.6	64.9	40	65.3	69.3	21	67.9	73.8
2010-15	49	66.8	69.0	27	68.3	72.8	16	70.8	76.3
2020-25	40	68.9	72.2	19	70.7	75.2	12	73.2	78.5
2030-35	32	71.0	74.6	15	72.7	77.2	9	75.0	80.2
2040-45	27	72.7	76.6	11	74.3	79.0	9	76.0	81.2
2045-50	25	73.5	77.4	16	75.1	79.8	8	76.5	81.7

Source: Same as Table 1

* Medium Variant

Table 3: Changes in Age Structure, India, Indonesia and Thailand

Time	Age							Total
	0-4	5-14,	15-64	60+	65+	80+	Median Age	Popn. ('000)
INDIA								
1950	15.2	23.5	58.0	5.6	3.3	0.3	20.4	357561
1960	16.2	23.6	56.8	5.7	3.4	0.3	20.4	442344
1970	15.6	24.8	55.9	6.0	3.7	0.3	19.9	554911
1980	14.0	24.5	57.5	6.5	4.0	0.3	20.6	688856
1990	13.4	23.0	59.3	6.8	4.3	0.4	21.9	844886
2000	11.5	22.0	61.5	7.6	5.0	0.6	23.7	1008937
2010*	9.7	19.5	65.0	8.7	5.8	0.8	26.2	1164020
2020	8.0	16.7	68.1	11.0	7.2	1.1	29.6	1291290
2030	7.6	14.8	68.1	14.0	9.5	1.5	32.9	1408923
2040	6.9	14.1	66.9	17.1	12.1	2.2	35.8	1503345
2050	6.6	13.1	65.5	20.6	14.8	3.1	38.0	1572055
INDONESIA								
1950	14.3	24.8	56.9	6.2	4.0	0.3	20.0	79538
1960	16.7	23.3	56.6	5.2	3.4	0.3	20.0	95955
1970	16.5	25.6	54.8	5.2	3.1	0.3	19.0	120086
1980	14.7	25.7	56.1	5.5	3.5	0.3	19.6	150341
1990	12.3	23.7	60.2	6.2	3.8	0.4	21.7	182474
2000	10.3	20.5	64.4	7.6	4.8	0.5	24.6	212092
2010*	8.6	17.7	67.7	8.8	6.0	0.7	28.2	237711
2020	8.1	15.6	69.1	11.2	7.2	1.0	31.5	261897
2030	7.3	14.8	68.1	14.9	9.8	1.3	34.4	282851
2040	6.9	13.7	66.2	19.0	13.2	2.1	36.6	299412
2050	6.7	13.2	63.7	22.3	16.4	3.2	38.0	311335
THAILAND								
1950	16.4	25.7	54.7	5.0	3.2	0.4	18.6	19626
1960	18.2	26.2	52.7	4.8	2.9	0.3	18.0	26603
1970	16.9	28.0	52.1	4.9	3.0	0.3	17.4	36145
1980	13.3	25.9	57.5	5.2	3.3	0.3	19.6	46015
1990	10.2	21.7	64.3	6.2	3.8	0.4	23.4	54736
2000	9.2	17.5	68.1	8.1	5.2	0.6	27.5	62806
2010*	7.6	16.3	69.4	10.2	6.7	1.0	31.4	69681
2020	6.7	13.7	70.2	14.4	9.4	1.5	35.1	75097
2030	6.4	12.7	67.2	19.9	13.7	2.1	37.9	79525
2040	5.8	12.2	63.9	24.5	18.1	3.6	40.4	82030
2050	5.7	11.5	61.7	27.1	21.1	5.5	42.1	82491

Source: same as Table 1

* Medium Variant

Table 4: Dependency Ratio, Total, Young and Old, India, Indonesia and Thailand

Time	INDIA			INDONESIA			THAILAND		
	Young	Old	Total	Young	Old	Total	Young	Old	Total
1950	38.9	5.6	44.5	39.2	6.2	45.4	44.4	5.7	50.1
1960	39.8	5.7	45.5	40.2	5.2	45.4	44.7	4.5	49.2
1970	40.4	6.0	46.4	42.3	5.2	47.5	46.2	4.8	51.0
1980	38.6	6.5	45.1	41.0	5.3	46.3	40.0	5.4	45.4
1990	36.4	6.9	43.3	35.7	6.3	42.0	31.9	6.7	38.6
2000	33.3	7.6	40.9	30.6	7.5	38.1	25.2	8.7	33.9
2010*	28.1	8.8	36.9	26.4	8.7	35.1	21.6	10.8	32.4
2020	24.0	11.1	35.1	23.6	11.3	34.9	19.8	15.2	35.0
2030	22.3	14.5	36.8	22.1	14.9	37.0	18.1	21.4	39.5
2040	20.5	17.4	37.9	20.6	19.3	39.9	17.2	26.8	44.0
2050	19.6	21.2	40.8	19.9	22.4	42.3	16.8	29.6	46.4

**Table 5: Sex Ratio (M/F) of Aged Population India, Indonesia
And Thailand**

Country	AGE					Total (60+)
	60-64	65-69	70-74	75-79	80+	
India						
1950	106.3	69.4	88.2	89.5	98.1	89.9
1970	107.3	108.0	99.2	109.1	92.2	105.4
1990	100.5	97.9	94.6	91.3	88.4	96.8
2010	98.1	91.8	87.1	83.7	76.7	90.4
2030	100.7	84.6	91.7	85.6	72.0	89.4
2050	100.1	96.5	91.1	85.6	74.0	91.4
Indonesia						
1950	98.3	93.0	93.9	88.1	87.1	94.2
1970	92.9	86.7	85.1	79.8	77.6	87.6
1990	94.3	92.9	87.0	81.3	75.0	89.7
2010	89.9	84.7	81.0	74.8	70.2	83.0
2030	93.9	87.8	81.6	73.5	61.9	84.2
2050	96.4	91.6	85.4	76.3	54.2	82.6
Thailand						
1950	92.8	89.1	82.3	78.7	70.3	86.5
1970	92.7	88.9	77.2	72.0	58.4	83.4
1990	90.9	88.2	79.9	74.6	57.0	82.6
2010	89.9	85.2	77.1	70.0	59.5	79.3
2030	93.4	88.0	80.0	72.2	60.3	82.1
2050	95.3	91.3	84.9	77.5	63.5	82.1

Table 6: Living Arrangement for Aged (60+) Male and Female, India, NFHS1, 1992-93 and 1998-99

Characteristics	Living (NFHS 1)				Living (NFHS 2)			
	Alone	Two Members HH (Both aged)	2 or more Generation	Others	Alone	Two Members HH (Both aged)	2 or more Generation	Others
Male								
Age								
60-64	1.09	5.19	90.6	3.16	1.6	7.0	88.4	3.2
65-69	1.30	6.22	88.6	3.87	1.4	9.8	85.4	3.3
70-74	1.87	7.55	85.7	4.88	1.8	10.6	84.2	3.4
75-79	1.79	7.9	85.6	4.74	2.3	11.6	83.0	3.1
80+	2.14	6.58	88.1	3.19	1.6	7.2	87.3	3.8
Residence								
Rural	1.42	6.37	88.4	3.80	1.6	9.0	86.1	3.3
Urban	1.50	6.09	88.6	3.80	1.8	8.3	80.6	3.2
Literacy								
Illiterate	1.64	6.46	90.6	3.61	1.5	9.4	85.5	3.4
Literate	1.23	6.11	86.3	4.05	1.8	8.3	86.8	3.1
Total	1.44	6.31	88.4	3.80	1.6	8.9	86.2	3.3
Female								
Age								
60-64	2.41	4.07	90.3	3.19	3.9	6.7	86.0	3.5
65-69	3.03	4.99	88.3	3.72	4.2	6.7	85.0	4.1
70-74	4.47	3.43	88.8	3.31	5.4	3.7	86.8	4.1
75-79	3.16	3.39	90.7	2.79	5.1	3.1	89.1	2.8
80+	3.55	0.74	93.0	2.69	4.2	1.4	91.7	2.7
Residence								
Rural	2.76	3.06	91.4	2.78	4.6	5.7	86.1	3.6
Urban	2.59	2.91	91.2	3.26	3.5	4.5	88.5	3.5
Literacy								
Illiterate	4.64	5.12	85.7	4.55	4.7	5.3	86.6	3.4
Literate	2.04	2.37	92.1	3.50	2.7	5.1	78.8	4.0
Total	3.43	3.82	89.1	3.67	4.4	5.4	86.7	3.6

**Table 7: Life Style Indicators for and selected morbidity conditions
Among aged 1998-99**

Life Style Indicator		Living				Total
		Alone	Two Members HH (both aged)	2 or more Generation	Others	
CMPT	M	44.4	38.4	37.3	34.2	37.4
	F	31.1	24.9	24.4	26.5	24.8
Alcohol	M	20.6	22.7	18.1	18.7	18.5
	F	4.0	4.3	3	1.6	3.1
Currently Smoking	M	42.4	42.6	37.4	40.8	38.1
	F	5.9	5.8	5.2	5.4	5.2
Morbidity						
TB	M	1.7	2	1.7	1.3	1.7
	F	3.1	1	0.8	1.3	0.9
Malaria	M	6	7.5	3.6	6.4	4.1
	F	11.9	6.4	3.5	5.3	4.1
Asthma	M	17.5	14.8	11.6	11.8	11.9
	F	13.3	9.2	8.1	10.3	8.1

Table 8: Prevalence of TB and Asthma by Life Style Indicators, 1998-99

Life Style	Morbidity			
	TB		Asthma	
	M	F	M	F
CMPT				
Yes	2.1	1.2	13.2	9.4
No	1.6	0.9	11.2	8.1
Drink Alcohol				
Yes	1.9	3	12.6	8.5
No	1.7	0.9	11.8	8.5
Current Smoking				
Yes	1.4	1.8	12.6	14.1*
No	2	0.9	11.6	8.1
Regular Smoking				
Yes	4.1	2.3	22.2	18.5*
No	1.6	0.9	9.8	8.1

* Based on small number

Table 9: Results of Logistic Regression of morbidity - TB and Asthma on Selected Background variables, 1998-99

Variable	TB			Asthma		
	B	Sig.	Exp(B)	B	Sig.	Exp(B)
Residence						
Rural	-0.133	0.331	0.875	0.111	0.046	1.117
Urban ®						
Education						
Illiterate		0.003	1		0.00	
Literate, <primary school com.	0.318	0.020	1.375	0.137	0.015	1.147
Primary school complete	0.479	0.008	1.615	-0.119	0.171	0.858
Middle school complete	-0.332	0.144	0.718	-0.237	0.003	0.789
High School complete	-0.447	0.205	0.640	-0.261	0.022	0.770
Higher secondary Comp. And above	-0.193	0.595	0.825	-0.188	0.117	0.829
Life Style						
Chewing Pan Masala						
Yes	0.113	0.332	1.109	0.207	0.00	1.230
No®						
C.Smoking						
Yes	0.311	0.060	1.365	-0.061	0.426	0.941
No®						
Regular Smoking						
Yes	1.149	0.00	3.155	1.042	0.00	2.835
No ®						
Living Arrangement						
Alone ®		0.012			0	
Two Members HH	-0.521	0.05	0.594	-0.223	0.056	0.8
2 Gen.	-0.650	0.005	0.522	-0.420	0.00	0.657
3-4 Gen.	0.731	0.00	0.481	-0.421	0.00	0.657
Others	-0.803	0.063	0.546	-0.312	0.024	0.732
Fuel Used in Cooking						
Health Safe (LPG, Biogas, Electricity)	-0.877	0.00	0.0416	-0.217	0.001	0.085
Unhealthy (Woods, Cow dung cake etc.) ®						
Constant	-2.648	0.00		-1.936	0.00	

Fig 1: Ratio of Female Expectation of Life at Birth to Male

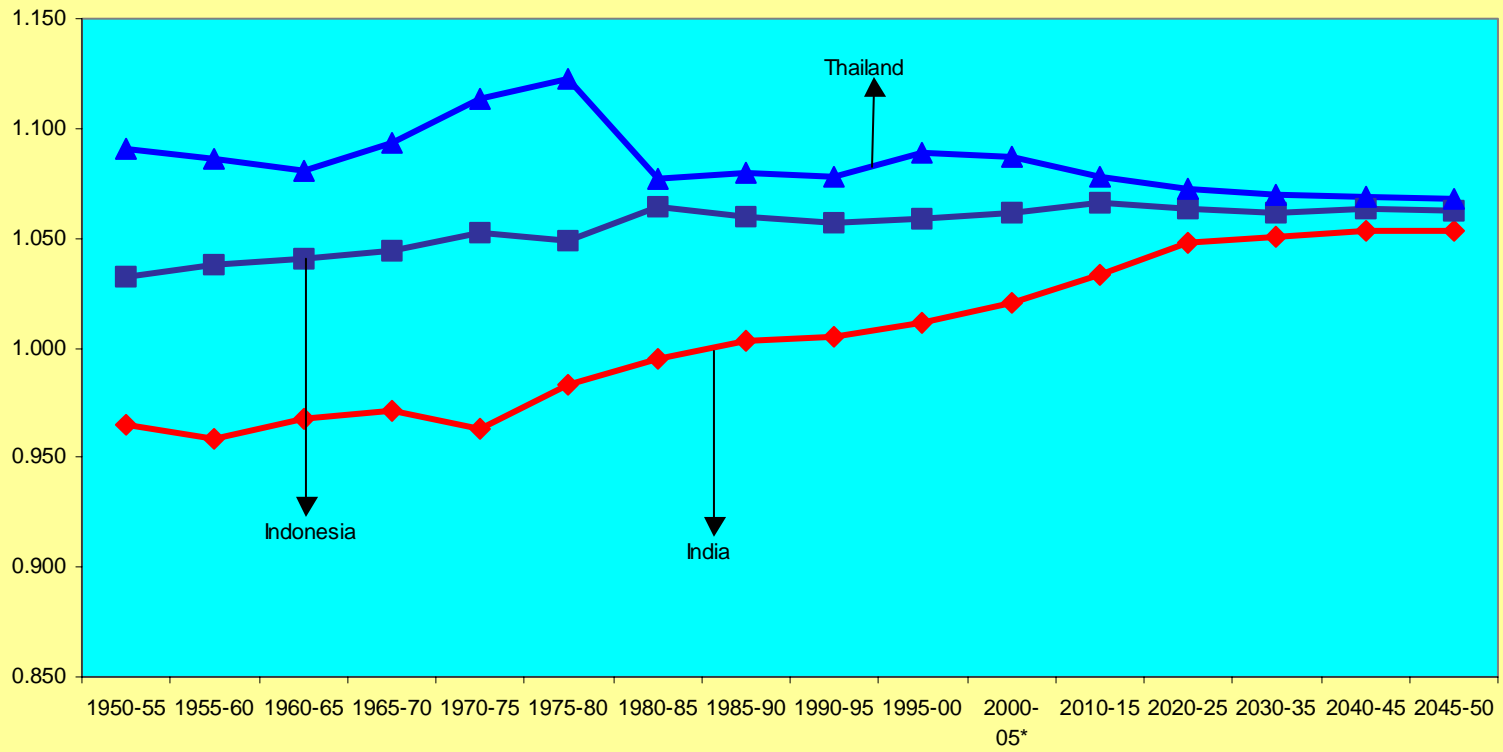


Fig 2a : Young Dependency Ratio

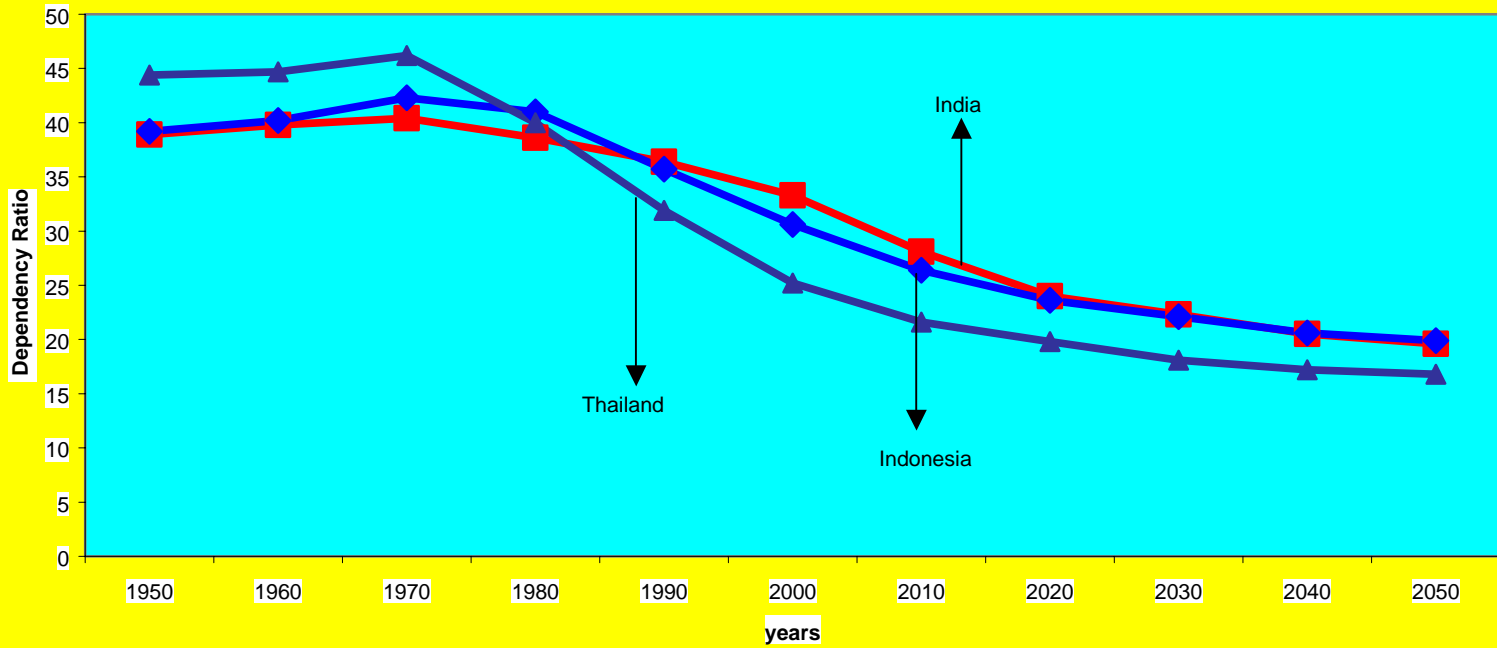


Fig 2b : Old Dependency Ratio

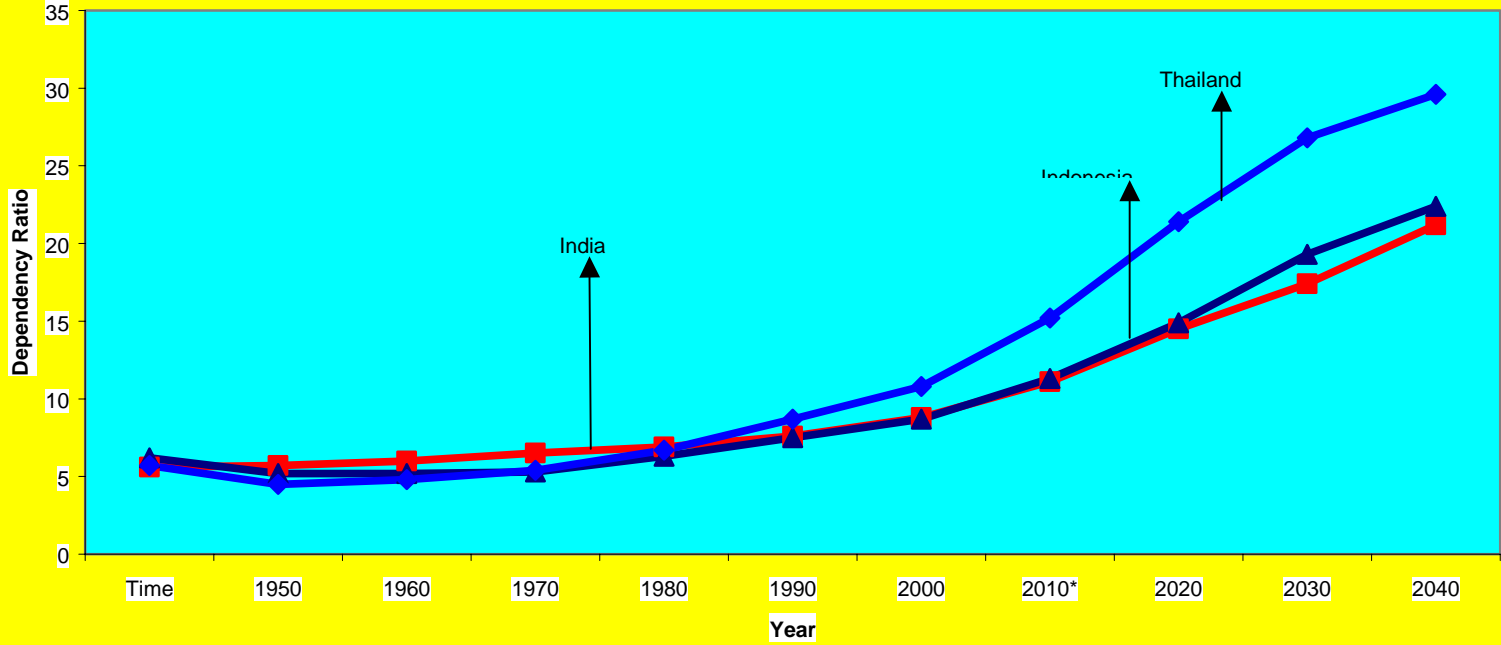


Fig 2c : Total Dependency Ratio

