

CHAPTER III

METHODOLOGY

Introduction

This chapter presents the methodology used to carry out the study. It includes research design, studied area, sampling design, sample size, selection of respondents, types of tools used for data collection, approvals obtained, data collection and field experience, data entry, processing and analysis.

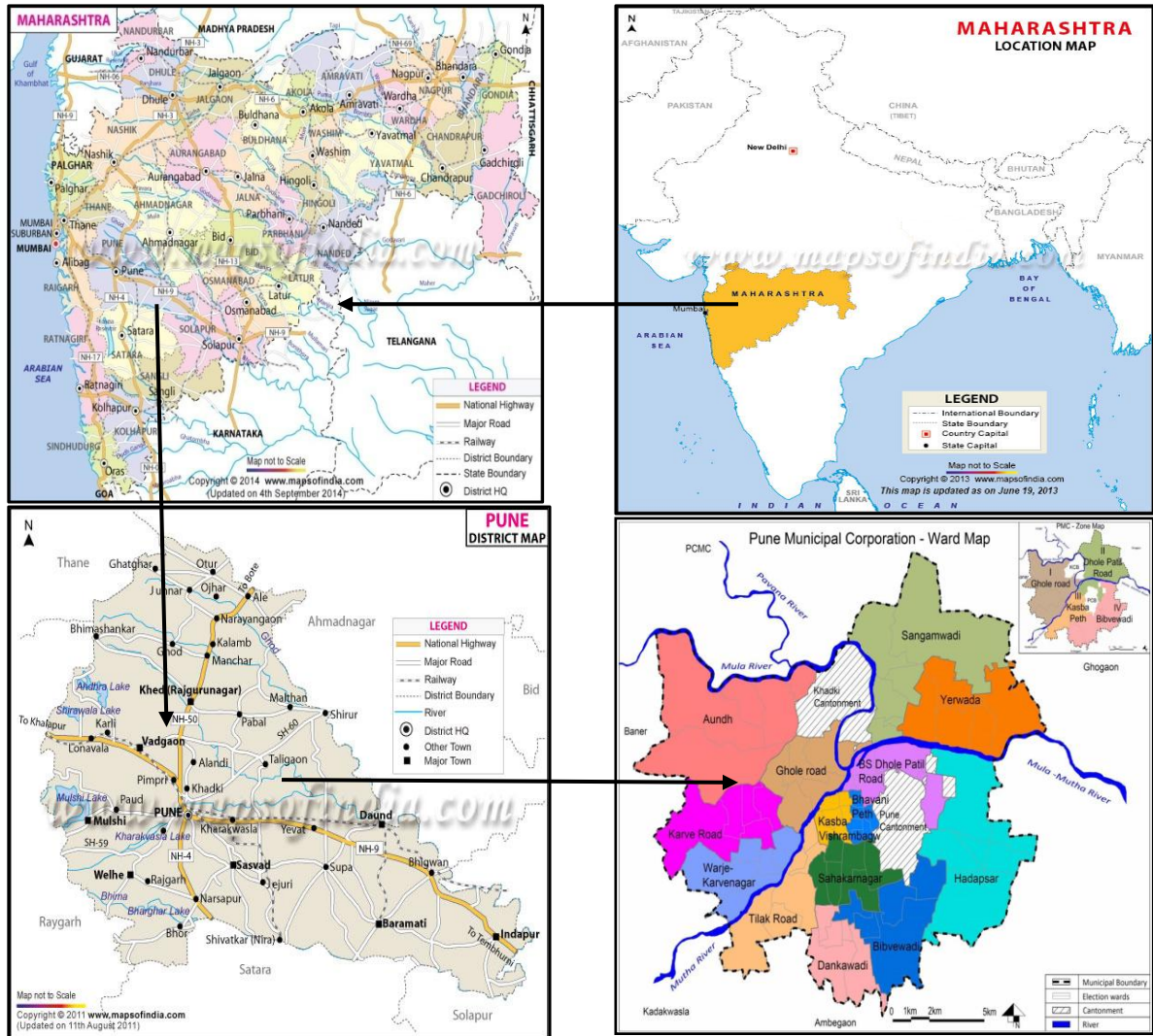
About Pune

Pune District is the second most populous district of Maharashtra with a population 94.26 lakhs, next only to Thane District. The city is spread over an area of 243.84 sq. kms with a population of over 3 million (Census of India, 2011). The rapid growth of the city has transformed its character from Pensioner's Paradise to an educational to administrative centre and now to a bustling economic centre. The city is known as the *Oxford of the East* among the locals and also considered as *the cultural capital* of Maharashtra. The educational institutions, existence of a number of industries and branches of virtually every array have made Pune a prosperous city (CDP, 2012).

Pune city started as a small agricultural settlement called "*Punnakka*" about 400 years ago. Later during 1600-1818, it was made the administrative capital of Maratha Power by the Peshwas. They established various "*Peths*" which were the self-sufficient urban settlement units (sectors). After 1818 the British came and developed new areas to the north of the old city, on the opposite bank of the river (Deshpande, 2000). The Pune Municipal Corporation (PMC) was established in 1950. From 1952 till date, the city grew rapidly due to the establishment of various industrial areas. Industrial development started from the 1950s and 1960s in Hadapsar, Bhosari, Pimpri, and Parvati. Consequently, by 1966 the city had expanded in all directions. In 1990, it began to attract foreign capital. The maximum growth came after the Information Technology (IT) boom and two major IT parks - Hinjewadi and Magarpatta. In 1998, work on the six-lane Mumbai-Pune expressway began and was completed in 2001. In 2008, the Commonwealth Youth Games took place in Pune which encouraged additional development in its north-west

region. The city gradually changed into a dynamic place of academic, cultural and economic importance. City is today acknowledged as IT and educational hubs and cultural capital of Maharashtra (CDP, 2012).

Fig 3.1: Map of India, location of Maharashtra, Pune district and Pune city.



Source: Census of India, 2011.

The total area under Pune Municipal Corporation (PMC) jurisdiction in 1951 was 125 sq. kms with a population of over 4.8 lakhs, while in 2011; it covered a total area of 243.84 sq. kms with a population of 94.26 lakhs. Pune city is divided into four main zones (see Fig 3.1) and further sub-divided into 14 administrative wards (see Table 3.1). These wards are further divided into 76 ‘prabhags’ classified into two groups ‘A’ and ‘B’ with a total number of 152 councillors (corporators) as per 2012 data (Census, 2011).

Sr no	Zone I	Sr no	Zone III
1	Aundh	8	Bhavani Peth
2	Ghole Road	9	Kasba Peth-Vishram Baug
3	Kothrud (Karve Road)	10	Sahakar Nagar
4	Warje Malwadi	11	Tilak Road
	Zone II		Zone IV
5	Dhole Patil Road	12	Bibvewadi
6	Nagar Road	13	Dhankawadi
7	Sangamwadi	14	Hadpsar
Source: Pune Municipal Corporation, CDP, 2012.			

There is a growth of more than six times in the city's population during last 60 years (Table 3.2). This is attributed to the growth of economic activities.

Year	Population total	Decadal change	Decadal growth rate (%)
1951	488,419	--	--
1961	606,777	118,358	24.2
1971	856,105	249,328	41.1
1981	1,203,363	347,258	40.6
1991	1,691,430	488,067	40.6
2001	2,538,473	847,043	50.1
2011	9,426,959	576,958	30.3
Source: <i>Census of India</i> .			

The decadal growth rate of Pune city was high from 1971 to 2001. However, it has shown decline from 2001 to 2011. The change from 50.1% in 1991-2001 to 30.3% in 2001-2011 may be due to the development of Pimpri-Chinchwad Municipal Corporation (PCMC) area as an industrial centre; Pimpri-Chinchwad may be considered as an emerging counter - magnet to Pune city. The average decadal growth rate from 1951 to 2011 was 37.8%. Rapid growth of the city is mainly attributed to industrialization of PMC/PCMC after 1960 and expansion of IT industry in the last decade. Given this trend and the growing economic activity in the Pune region, the city is bound to attract migrants.

Demographic characteristics of Pune city

As per Census of India, 2011, the sex ratio of Pune city is 945 females per 1000 males which is higher than the district, state and national figures and which is an improvement from 921 females per 1000 males in 2001 to 945 females per 1000 males in 2011.

The city has the highest literacy rate of 91.6% when compared with the literacy rate in the district, state and urban India. The higher literacy rate can be attributed to the city being one of the leading centres of higher education in the country. With numerous educational institutions and nine universities Pune is regarded as a major educational centre of India. It ranks sixth in the top ten wealthiest cities in India (CDP, 2012). The major sectors contributing to the city's growing economy are industry, education, tourism and culture.

Thus, the city has some peculiar characteristics like a high literacy rate along with numerous educational institutions. Because of extensive educational facilities and industrial activities, many pensioners have settled in Pune after retirement (CDP, 2012). The elderly account for 9.5 per cent of the total population (IIPS, 2012) and the large absolute size of the elderly population is a matter of concern. Since the author is from this city, there was a temptation to study the elderly population of this city.

As the more developed states in the southern region and a few others like Punjab, Himachal Pradesh and Maharashtra have experienced demographic transition ahead of others and therefore are growing older faster than other states (UNFPA, 2011). Pune being the second most populous district after Thane (Census, 2011), the study has been conducted in the Pune city with 950 elderly respondents from 100 Primary Sampling Units (PSUs) of Pune with a specific focus on living arrangements of the elderly.

1. Data and methods

The basic data used in the study have been collected using quantitative research method. The key components of this study are the household information, data on the elderly and views of the non-elderly people.

2. Determination of sample size

The sample size required to produce city level estimates of the ageing indicators has been worked out using a scientifically designed procedure. Typically, in determining the sample size for any research study with probability sample irrespective of the area of enquiry, we need to know the expected baseline value of key indicators, magnitude of change to be able to detect, confidence level, design effect and statistical power. We roughly assumed the design effect as 1.25 and response rate of 90 per cent. Thus, based on the literature, the reported proportion of key indicators (living alone or with spouse) is 20 per cent with 5 per cent error in estimate, generates as estimate of approximately 2200 households (HHs) from the city. Subsequently, in each selected HH if there is one or more than one eligible elderly aged 60 years and above, all respondents from that HH have been selected. We applied the NSSO sampling frame for this study as follows.

2.1 Sampling Frame

An updated Urban Frame Survey (UFS) of NSSO is used as the basic sampling frame, that is, as the primary sampling Unit (PSU). All Urban Frame Survey (UFS) units (called NSSO blocks) are arranged and numbered in geographically consecutive blocks with the NSSO IV unit. Therefore, a random systematic selection of UFS is used to provide the representation of the city. Every block is provided with information such as area types of auxiliary information. From the city, 100 UFS are selected using random systematic sampling to cover approximately 2200 households.

2.2 Sample Design

A two-stage systematic random sample design was adopted to draw a sample from the sampling frame in the following stages:

Stage 1: NSSO blocks (Primary Sampling Units or PSUs) were selected using random systematic manner.

Stage 2: On an average, 22 HHs in each of the selected PSUs were selected systematically for the study.

3. Sample Description

By following the above sampling protocol, a representative probability sample was used. All the 22 eligible HHs were listed for house listings. After this listing, the households with elderly persons were separated for study purpose. Details about how PSU - wise data collection has been done are given in Table 3.3 and Fig 3.4-3.5. At various stages of the conduct of the study, we have obtained permission from the Municipal Corporation and political leaders of the particular area. We successfully obtained an important and crucial permission orally from chairmen of the selected housing societies. The permission letter and identity card were obtained from Gokhale Institute of Politics and Economics, Pune. We avoided afternoon time from 1:00 to 4:00 pm timing as at this time of the day, normally an elderly person takes rest and reluctant to cooperate. Based on a few weeks of experience, we visited the selected PSUs a day prior to the interview and took appointment of the elderly persons. Thus, we could interview 950 elderly persons from whom information was collected.

Fig 3.2: Extent of Pune Municipal Corporation: Geographical distribution of collected data spread across Pune, 2013.

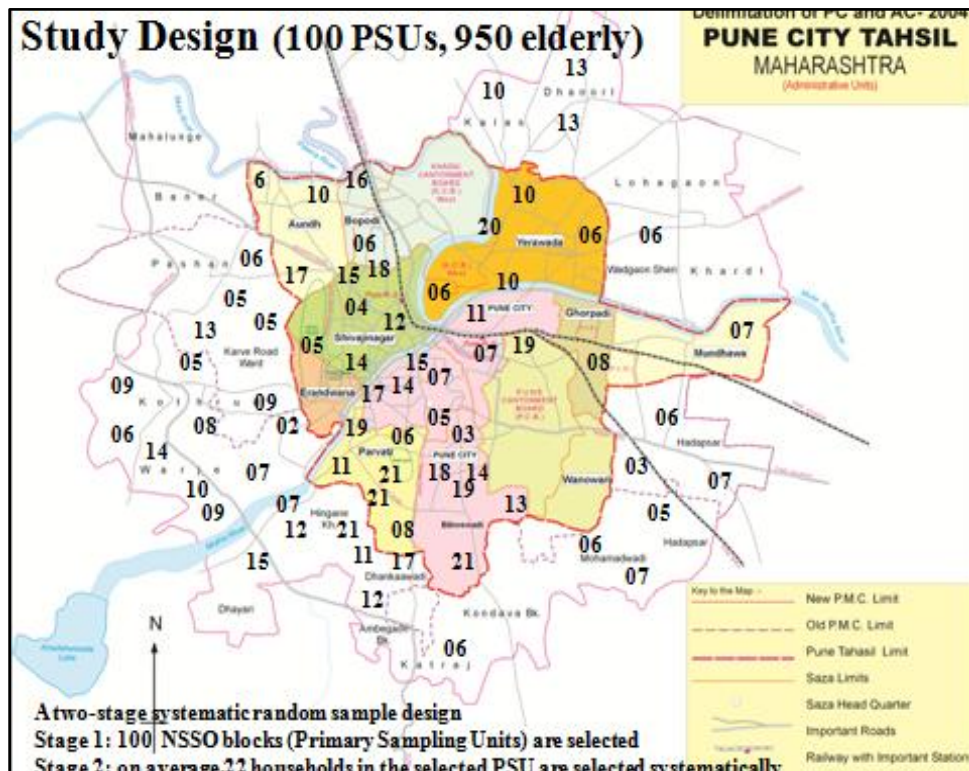


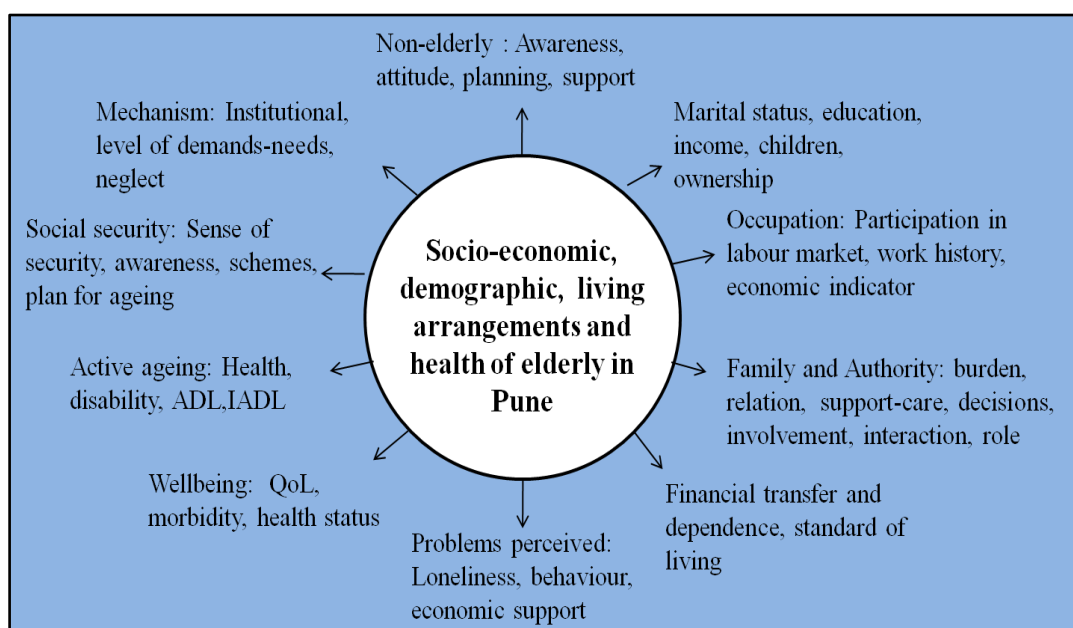
Table 3.3: Details of PSU- wise data collection from Pune city, 2013

SrNo	Investigation Unit No	Name of the Area (Town/City)	No. of elderly interviewed	Sr. No	Investigation Unit No	Name of the Area (Town/City)	No. of elderly interviewed
1	2/2	New D.P. Road Aundh Pune	06	51	113/11	Janta Vasahat Parwati	06
2	10/11	Aundh, Pashan, Paud Road	06	52	116/1	Sahakar Nagar, Pune	21
3	12/4	Kothrud	09	53	117/21	Pune (Hingne Kh) Tukainagar	12
4	13/27	Kothrud Bhosari Colony, Kachra Depot	09	54	119/4	Pune city	07
5	18/9	Bopodi	16	55	120/17	Sun city	06
6	20/21	Bopodi	06	56	122/9	Sihangard Road	21
7	22/17	Kalas	10	57	124/14	Wadgaon Bk	15
8	24/7	Dhanori Road	13	58	126/26	Dhankawadi	11
9	25/32	Vidya Nagar	13	59	128/13	Dhankawadi (PMC)	17
10	27/21	Mental Hospital & Gulf Club	10	60	130/16	Dhankawadi	12
11	31/14	Yerwada	03	61	132/14	Ghorpade Peth	02
12	29/14	Yerwada	20	62	134/29	Karve Nagar	05
13	33/19	Yerwada	06	63	136/23	Warje Malawadi	07
14	35/25	Vishrantwadi	06	64	139/1	Malewadi	09
15	38/10	MAH. HSG Colony, Nagpur Chawl,	06	65	141/6	Dhankawadi	09
16	40/7	Aga Khan Palace, Kalyani Nagar	01	66	143/6	Karve Nagar	02
17	42/11	Wadgaonsheri, Bramha Appt, G.P.O.	06	67	145/4	Pune (Near Warje)	10
18	44/11	Wadgaonsheri	05	68	148/2	Karve Road (Warje)	13
19	46/23	Kharadi	11	69	149/20	Kothrud	02
20	49/1	Wadgaonsheri Anand Park	11	70	151/5	Kothrud	10
21	50/10	Khule Wadi, Lohegaon	08	71	153/12	Kothrud (Gandhi Bhavan)	14
22	53/14	Mahatma Gandhi Udyan	05	72	155/12	MIT College Jai Bhavani Nagar	08
23	56/4	Mundhwa, Koregaon Park	07	73	157/10	Kothrud (partly)	06
24	57/26	Tadiwala Road Rly Qtrs	08	74	159/14	Karve Road	05
25	59/27	B.T. Kowde Road Hadapsar	09	75	160/29	Karve Road	05
26	61/19	Hadapsar, B.G. Tupe Road	01	76	162/21	Wadarwadi	14
27	63/23	Hadapsar Pune	06	77	165/6	Deccan Gymkhana	05
28	65/18	Hadapsar	05	78	167/22	Pune University Bhosale Nagar	04
29	68/10	Hadapsar (SasaneNagar)	06	79	170/2	Deccan Gymkhana	12
30	71/8	Ram Tekdi	07	80	172/14	Govt Poly, Visrambaug Society	17
31	73/6	Mohammadwadi, Hadapsar	06	81	174/18	Kasaba Peth, Gadital	14
32	75/5	Hadapsar	03	82	175/33	Kasaba Peth, Ashok Nagar	03
33	77/1	Pune city	14	83	178/22	Ganesh & Ganj Peth	05
34	79/1	Pune	05	84	181/7	Mangal/Somwar/Raviwar Peth	18
35	80/23	Market Yard	13	85	183/9	Ambedkar Road (R.T.O)	07
36	83/3	NIBM Road, Sahadri Park, Kondhwa	08	86	184/27	Phadgale	11
37	84/27	Kondhwa, NIBM Road	09	87	188/15	Vaidya Stadium	08
38	86/22	Kondhwa(KH) Pune	14	88	191/1	Nana Peth	19
39	88/14	Kondhwa	03	89	193/13	Ward no, 34 Pune Station	10
40	90/ 3	Bebewadi	12	90	195/7	Gokhale Hall, Pune City	15
41	92/3	Marketyard and Bebewadi	13	91	197/7	Pune city	17
42	95/4	Bebewadi Area	21	92	198/11	Datta Wadi - Sinhagad Road	07
43	96/27	Shinde Chatri	05	93	201/1	Sadashiv peth, Bajirao peth, Tilak Road	21
44	98/9	Araneyshwar	08	94	203/5	Tambadi Jogeshwari, Pune	19
45	100/9	Appar	11	95	205/11	Bajirao Road	15
46	102/9	Pune city	14	96	4/26	Aundh, Pune City	10
47	105/1	Pune city (Katraj)	04	97	45/4	Kharadi	04
48	107/9	Padmavati	19	98	87/5	Kondhwa	08
49	109/6	Santosh Nagar (katraj)	03	99	126/38	Dhankavadi	08
50	111/1	Katraj	06	100	168/5	Pune city	18
1							
Total elderly interviewed=950							

4. Contents of research tool

During the survey information was collected on various dimensions like socio-economic and demographic characteristics, living arrangements and health status of the elderly including the household information on water supply, sanitation and hygiene services (Fig 3.3). Views of future elderly i.e., non-elderly, the younger adult member with age 25 years or more and who is staying with the elderly persons were also solicited. The data collected on a variety of indicators is expected to assist in monitoring of elderly and related issues, and guide policy makers and programme managers to track, formulate or modify relevant elderly policies.

Fig 3.3: Details of data collection with questionnaires.



The study used questionnaires on broadly three main sections- the household information, the elderly questionnaire and the views of non-elderly on care and support and self aging. The questionnaires were pre-tested on 24 elderly and based on this, some of the questions were modified accordingly. The elderly questionnaire is based on the stated objectives of the study. As per WHO translation guidelines, the questionnaires were developed in English and translated into local vernacular language - Marathi. The questionnaires were also translated back into English to check the quality of translation and finalized as bilingual with English and Marathi. The final research tool is attached as Annexure II.

5. Field processes

The fieldwork was carried out during February to September, 2013 by the researcher with the help of a male social worker for locating the households in some of the UFS. Special attention was paid to the estimation of exact age and other missing information, skipped instructions, filter questions, age information and completeness of all the elderly major indicators of the study. For assuring quality data, double data entry was done for ten per cent of the sample. The data entry was done in EPI-Info version 3.0 using pivotal tables and the data were analysed in SPSS 20.0 version, Texas, USA.

6. Research question

Study of elderly profile, living arrangements and health of the elderly indicates their status in the family and also in the society. Hence, it is important to understand the current situation as well as changes over a period of time in the living arrangements. The current study was started with some specific questions:

- What are the different types of living arrangements among the elderly persons and their changes over a period of time?
- What are the differentials and determinants of living arrangements of the elderly persons based on the background characteristics?
- What are the characteristics of the elderly individuals that affect living arrangements?
- What are the implications of these living arrangements on the health, well-being, activities of daily living and instrumental activities of daily living of the elderly?
- Are the elderly persons aware of the government schemes and facilities, and what are the views of the non-elderly persons about their self ageing?

7. Objectives of the Study

This study is aimed at investigating the factors that are associated with the living arrangements of the elderly persons in Pune. The specific objectives of the present study are:

- To find out the socio-demographic and economic characteristics of the elderly.

- To examine the pattern and trends of the elderly population of Pune in comparison with that of Maharashtra and India.
- To explore and highlight the pattern of living arrangements of the elderly.
- To assess the perception of the elderly about their preferred living arrangements, financial source and support and the state of current economic dependence.
- To identify the factors affecting living arrangements, morbidity and health of the elderly.
- To assess the awareness about the government schemes and facilities among the elderly and understand perception of the future elderly about their preferred expectations for living arrangements and financial support.

8. Conceptual framework

The conceptual framework has been developed including the group of factors that might affect the living arrangements of elderly in Pune.

One of the important consequences of faster ageing is the living arrangements. The factors, preference, resources, availability, and need, encompass many aspects of elderly including their current and past life cycle. Socioeconomic factors like age, gender, educational attainment, marital status, residence, work benefit, income, availability of children, etc., are part of these four factors of framework.

The demographic factors are included to take into considerations the effect of these on living arrangements that may arise due to age, gender, religion, caste, educational background, marital status and place of residence of the elderly. The variables included here under economic factors are working status of the elderly, economic source and support, economic dependency and asset ownership by the elderly. The framework recognizes the effect of kin availability. Feasibility of available living arrangements relates the economic and health variables of elderly. Thus, having adequate resources and being healthy would make independent living possibility. The self-reliance of elderly is strongly related to their current economic status, health, activity, living arrangements and availability of social-support.

Although, age, gender, education and religion are part of the elderly person's life course attributes and included under the factors affecting living arrangements, these factors are used as proxies for reference because of their distinct effect on choice of living arrangements.

Fig 3.4: Conceptual framework for the study of living arrangements of the elderly in Pune, 2013.

