Chapter 6: Energy Requirements and Well Being

6.1 Introduction

Previous chapters of the book have focused on how to combine aggregate input-output data and energy flows to calculate energy intensities of broad sectors and use these calculated intensities in conjunction with micro-level disaggregate household survey data to analyse variations in direct and indirect energy use patterns across different types of households. Households were distinguished in terms of their location (rural/urban, different states), economic status, demographic characteristics, educational and employment status, and different attributes of the dwelling area they live in. This chapter focuses, more specifically, on linkages between energy and well being at the household level. Well being is defined broadly in terms of economic status, socio-economic, and health parameters. In particular, variations in patterns of direct energy requirements and indirect energy requirements of food items, across different groups of households are examined. The two dimensions of direct energy use that are examined are access to different sources and actual use. Access to clean and efficient direct energy sources at the household level is assessed in relation to location and expenditure levels and trends in terms of the patterns of direct energy consumed are examined. Patterns of food consumption are seen through the lens of indirect energy requirements of food consumption in households. These indicators, in turn, are looked at in relation to monetary measures of well being and poverty such as per capita expenditures, sufficiency in terms of adequate nutrition or caloric content of food consumed, and other measures of human development and well being such as health and education.

Energy use and human well being are inextricably linked and the kinds of energy services people consume have concrete and tangible consequences for their quality of life. Some of these linkages have been touched upon in Chap. 2. While Sect. 2.5.2 discussed some of the negative envi-
6.2 Direct Energy Use

In the previous chapters, results on direct energy use were discussed in terms of primary energy, so that they were comparable with the estimates for indirect energy use. However, in this chapter, results are presented in terms of direct final energy use of households. The previous chapter highlighted the large variations in the use of different types of fuels, both in terms of quantum and pattern, across rural and urban households as well as the variations across households with different levels of household expenditure or income. In what follows, the percentage of total population dependent on different fuels and electricity will be examined in order to understand the nature and direction of energy transitions taking place within households and the implications of these changing patterns of direct energy use for the total per capita direct energy use and total aggregate direct use. In addition, the relationship of direct energy use with monetary and other indicators of well being is examined.

6.2.1 Changing Patterns of Direct Energy Use: 1983-2000

In Chap. 5, cross-sectional variations in direct and indirect energy requirements for households were presented using NSS data from Round 55 of the household consumer expenditure survey. Round 55, which was conducted in 1999-00, is the most recent quinquennial round in which information was collected from a very large sample of households representing the entire area of the country. In what follows, data from the previous quinquennial rounds of the expenditure survey from Round 50 (1993-94) (NSSO 2000), Round 43 (1987-88) (NSSO 1990) and Round 38 (1983) (NSSO 1985) are also used in order to examine the trends in access and consumption of direct energy by households over this time period. While data from the later quinquennial rounds of the survey included information on household energy consumption of petrol and diesel fuels for transportation as well, Round 38 does not include this information and therefore in