CHAPTER-I
A system could be defined as an organized unitary whole composed of two or more interdependent and interacting parts, components or sub systems delineated by identifiable boundary or its environment super-system. It is a set of inter related elements each of which is associated directly or indirectly with other elements and no subject of which is unrelated to any other subject. In fact, the interdependence connected-ness and interaction among the sub systems are the fundamental characteristics and the distinguishing features of a system.

Farming is a stochastic dynamic biological and open system with human or social involvement. Being primarily biological with a high degree of dependence on weather variables and changing sociopolitical environments, farming system is inherently more risky than any other system. The farming system specifically refers to a crop combination or enterprise mix in which the product and/or the by products of one enterprise serve as input for the production of other enterprise (S). It takes into account the consumption need of the family, the economic factors like relative profitability of the technically feasible enterprises, availability of farm resources, infrastructure and institution such as irrigation marketing facilities including storage and transportation and credit, besides the agro-biological considerations, namely, interdependence, if any among various technologically feasible enterprises and the preferences of the individual farmers. Alternatively,
a farming system is defined as the way in which farm resources are allocated subject to the needs and priorities of the farmer in his local circumstances which include (i) Agro-climatic conditions, such as the quantity distribution and reliability of rainfall, soil type and topography, temperature etc. and (ii) Economic and institutional circumstances like market opportunities, prices, institutional and infrastructural facilities and technology. It is important to note that the farmer has limited freedom to control most of these circumstances and, therefore, can exert little influence to effect any change in them.

In the system approach, the whole farm rather than the individual crops/enterprises is considered before any decision relating to the choice of enterprise and/or technology is made. Thus crop or technologies which are found to be high yielding or highly profitable on isolated evaluation may not necessarily find their place in the cropping pattern or the technology mix of the farm which follows a systems approach simply because the crops/technologies may not be compatible with the resource endowment, aspirations and preferences of the farmer.

Studies on farming systems becomes during the last few decades precisely for the purpose of gaining adequate knowledge of the system as a whole, necessary for designing relevant research to improve the efficiency of the system. Sometimes the term ‘Cropping system’ is used synonymously with the ‘Farming system’ even though the farmer is only a sub system of the latter. The vastness and complexities of the farming systems at a relatively macro level render it difficult to bring
role in decision making at the farm level. Farming systems are best studies on representative case farms to identify research gaps to generate new knowledge and to narrow the Zone of ignorance through Farming Systems Research (FSR). The objectives of understanding required for various purposes which include operation of the system the repair and improvement of the system and construction of new system.

This farming system can best be described and understand by its structure and functioning. The structure in its wider sense include among others, the land use pattern production relations, land tenures, size of holding and their distribution, irrigation, marketing including transport and storage, credit institutions and financial markets and research and education.

Ideally, Farming Systems Research (FSR) should focus on the individual farms, e.g. case studies. However at an aggregate level it is appropriate to study the farming systems in relatively homogenous agro climatic region for the purpose of planning for agricultural development of the specific regions in keeping with the natural endowments and factors which are normally not subject to change. It is necessary first to delineate agro ecological zones and then to superimpose these zones with physiography and soil condition for any meaningful study on the farming sytem that takes the best advantage of the location specific agro ecological factors. The planning commission has divided the whole country into 15 agro climatic regions for the
proposed farming, it is desirable and include more than one farming system in any given region.

The Indian Council of Agricultural Research (ICAR) under its National Agricultural Research Project (NARP) has divided the country into 126 agro climatic zones for 17 major states and sixes/union territories of the north eastern hill regions. The basic objective of the agro ecological zonings is to acquire first hand knowledge of the strength and weakness of the natural endowments and of the comparative technological and economic advantages of the concerned zone as well as problems associated with it so that an improvement in the system can be brought about by removing some of the binding constrains through design of appropriate research and/ or public policies. The study of farming sytem needs to be therefore, based on small agro ecological zones which are homogenous at least in respect of endowments of natural resources, cropping pattern and economic situations. Bundelkhand region of Uttar Pradesh comprasing two administrative division namely Chitrakoot and Jhansi include the district Jhansi, Lalitpur, Jalaun, Hamirpur, Mahoba, Banda & Chitrakoot which are characterized with variegated topography of hills, plains, valleys and plateaus. The abverage elevation rises to about 300 meters. The slope in general is towards north east and annual rainfall of the region has been about 80 Cm. Permanent water table occurs between 60-90 meters depth. The Red and Black soils are found in the region. However the soil scientists have classified the
Bundelkhand soils as mar (Black clay soil), Kabar (Brown and hard soil), Paruva, (Loam soil) and Rakar (lithicustorthen).

The density of population is low and the average size of holding is higher in Bundelkhand region when compared with U.P. State. The resource endowments are poor and land is suitable to grow only one crop per year as the irrigated area is very limited. The farmers depend on rainfall for crop production and the practice of agriculture in this region may be described as dry land farming. The region has good promise for the production of course grain, pulses and oil seed crops along with dairy enterprises.

Since Bundelkhand Region has specific agro climatic characteristics and is homogenous in respect of endowment of natural resources, cropping pattern and socio-economic situation, the present study “Labour Employment and Income Pattern under Different Farming System in Bundelkhand Region of Uttar Pradesh” may focus fruit full guidelines for the purpose of planning for agricultural development of this specific region of Uttar Pradesh.

The major objectives of the study were.

1. To identify the farming systems prevailing in the study area.
2. To identify the technology adopted on different farming systems.
3. To study resource structure and their efficiency on different farming systems.
4. To workout the impact of different farming systems on income and employment in the study area.