

Short Communication

Mapping agricultural indicators of Himachal Pradesh and their trends

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In the modern development planning and policy decision making process, ready and quick availability of information is a pre-requisite. The developmental planning is best guided by the socio-economic data/information collected continuously over time and space. This information can provide a basis for preparing current status, future scenarios, trends and decision making. In Himachal Pradesh, some data/information on social and economic conditions is currently available. However, most of these data are in the form of either tabulated statistics or manually produced geographic information e.g. maps, charts and other static information.

These data can be accessed but can not be quickly compiled for multi-sector and problem oriented analysis. This results in long delays in decision making and increases the response time for the planners and decision makers. Hence, the packaging of socio-economic/development data into indicators is one way of simplifying the complex and detailed information contained within tabulated statistics. This paper is an endeavor to project the Indicators of Agricultural development (Area under Food crops, Average Land Holding Size, Cropping Intensity, Livestock Intensity, Fertilizer Consumption and Irrigation) in Himachal Pradesh for quick visualization and decision making.

In order to present spatial mapping of agricultural indicators of development, first of all, administrative bo

and geo-referenced and put on GIS platform (Bhagat et al. 2006)¹. Then data for agricultural parameters Area Under Food Crops, Area Under Irrigation, Average Land Holding Size, Cropping Intensity, Fertilizer Consumption, and Livestock Intensity was collected from secondary sources^{2,3,4,5} and digitized. The whole data was put on GIS platform. Each parameter was joined with the attributes of spatial file of administrative boundaries of Himachal Pradesh. Then, parameters(Area under Food crops, Average Land Holding Size, Cropping Intensity, Livestock Intensity) were mapped on the state of Himachal Pradesh for the two/three available trend years(Fig 2). Other parameters can be mapped and visualized in same manner.

Area under Food crops was maximum in Shimla district followed by Kullu and Mandi in 1981. In 1991, Hamirpur district was at the highest, followed by Kinnaur and Shimla. Same pattern was seen in the year 1999 whereas district Kangra had the lowest area under Food crops in the all three trend years.

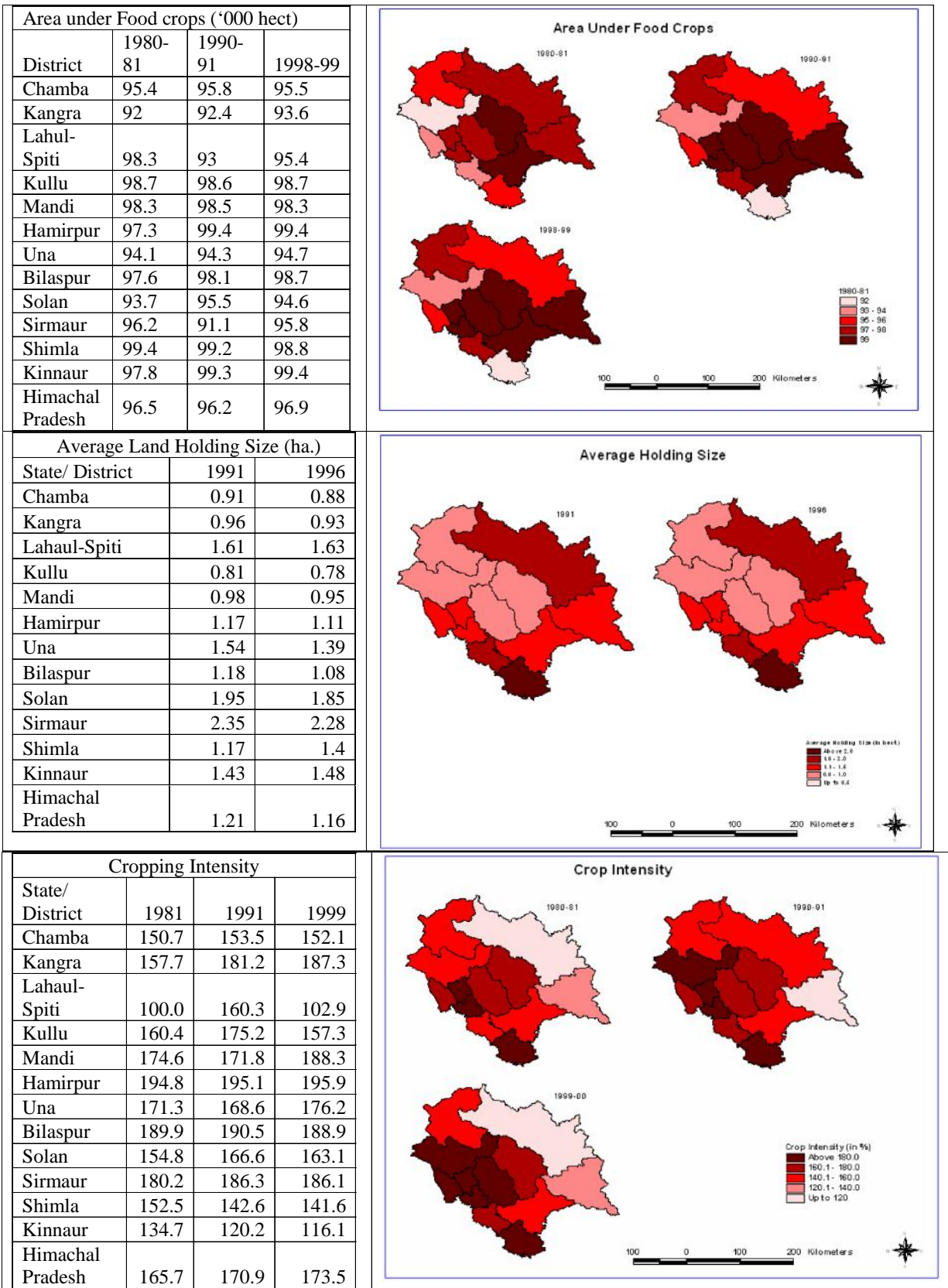
Average land holding size was maximum in Sirmaur (2.35 ha) followed by Solan (1.95 ha) in 1991. It was lowest in Kullu (0.81 ha). Expectedly, the size declined in all the districts by 1996. However, in 1996 the respective values for the same group of districts were 2.28 ha (Sirmaur), 1.85 ha (Solan) and 0.78 ha (Kullu).

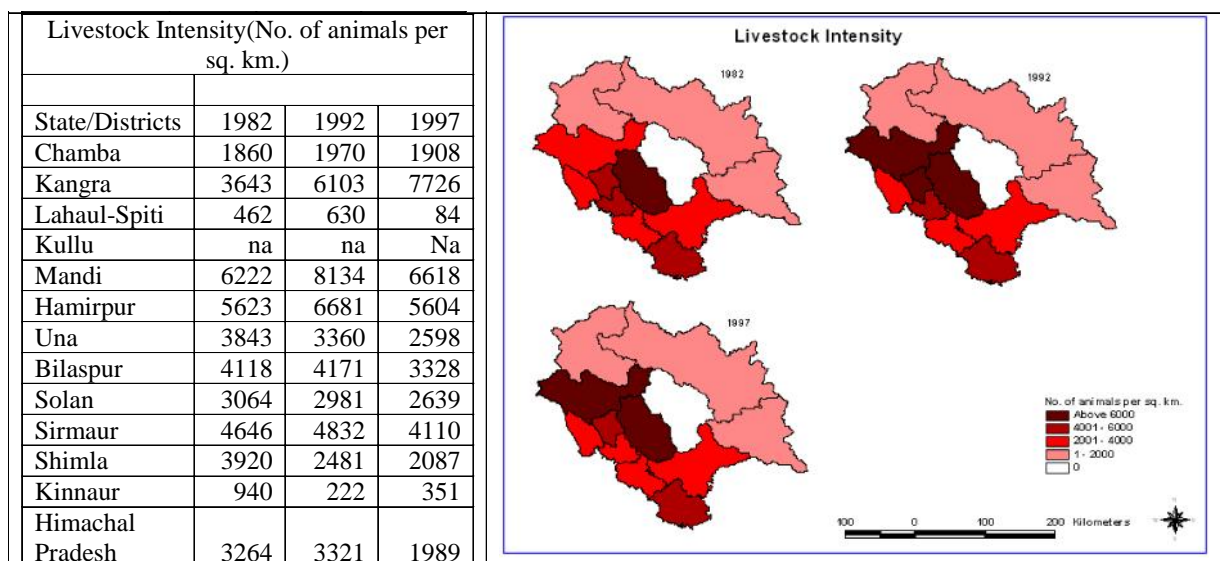
Cropping Intensity in 1981 was highest in Hamirpur district at 194.8. It was lowest in Lahaul Spiti at 100.0 as only one crop is taken in this district in a year due to the fact that it is snow covered for most part of the year. In other districts, it was low in Solan (154.5) and Chamba (150.7). During 1999, the value of CI increased marginally in Hamirpur to 195.9. However, there was not much change during the 1981-1999, period in most of the districts except for Kangra where it increased from 157.7 to 187.3 and Kinnaur where it declined from 134.7 to 116.1 and Shimla (152.5 to 141.6).

Livestock intensity helps in knowing us the extent of pressure that livestock exert on the natural resources of any region. In order to have a broad idea, number of total animals per sq km of the effective geographical area

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Fig. 2: Tables and Trend maps of Agricultural Indicators:





(including barren lands, culturable wastes, pastures and grazing lands and total fallows) was worked out 1982, 1992 and 1997. Livestock intensity in 1982 was highest in Mandi (6222 animals /Sq km) and was least in Lahaul Spiti (462). It was highest for Kangra (7226) and again lowest for Lahaul Spiti (84).

A significant overall development in the Agricultural sector was shown in the state of Himachal Pradesh in almost all the agricultural parameters. Although, population⁶ has increased manifolds in all the districts of Himachal Pradesh, yet a tremendous progress has been noticed in production of food-crops, cropping intensity, livestock intensity over a 30 year period.

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