INTRODUCTION

Agriculture and the Indian Geographers

Agriculture forms a common denominator in the life and economy of the Indian people. It has entered into their blood and bones. It gave them not only food to eat but also raw materials to work with. It has, therefore, been rightly called 'a way of life and living' of our people.

Notwithstanding the supreme importance of agriculture as a vehicle of our social and economic life, it has long suffered from stagnation and neglect of poor Indian farmer, as a result of which our soils, which have been exploited since millenium, now exhibit signs of exhaustion and declining productivity. On the other hand our population has swelled up so that at present its size has become very alarming indeed. It has given rise to a state of imbalance in land and man ratio, which continues to deteriorate further.

Everything in our agriculture today appears to be moving in a vicious circle. It starts with poverty and ends in poverty of our masses and it appears difficult, if not impossible, to break it. Agriculture, therefore, has drawn attention of scientists, economists, engineers, administrators and the planners alike who have not been
slow to suggest remedies for its evils. But strangely enough, it has not evoked any interest of the agricultural geographer despite the prevailing agricultural crisis though which our country is passing at present.

One of the probable reasons, as to why geographers kept the rich field of Agricultural Geography unpastured, may be due to the fact that in India it has always been considered as an appendage to Economic or Human Geography and although Urban Geography has found a separate place in the syllabi of many universities as a special field of investigation and research, Agricultural Geography has not. In its place some universities have introduced Land Utilization studies, but land utilization, though often considered synonymous with Agricultural Geography, is technically different from the latter. Land utilization is concerned not only with the study of land which is under agriculture but also land which is under non-agricultural uses. It tries to evaluate whether the land put to different types and grades of uses is really best utilised or not. Land utilization, therefore, does not study agriculture in such details as its study really deserves.

Agricultural Geography deals not only with the density and distribution of various kinds of crops as influenced by environmental factors, but also tries to explore
(III)

possibilities of crop production in new areas also. It is, therefore, concerned with suggesting certain fundamental solutions to a variety of environmental problems which confront agriculture in any given region.

It is in this light that the author undertook the geographical study of agriculture in Bundelkhand and carried out detailed investigations into various aspects of its agriculture. These aspects were examined and analysed against the physical and cultural background of the region and finally some simple and practicable solutions to various problems of regional agriculture were suggested.

Choice of the Area (Plate I)

The region, bounded by River Yamuna in the north and Vindhyan Plateau with its escarpd ranges in the south, River Chambal in the north-west and Bindhachal range in the east, often termed as Bundelkhand, constitutes the area of author's investigation and study. This whole region, comprising four districts of Uttar Pradesh (i.e. Jhansi, Jalaun, Hamirpur and Banda) and four districts of Madhya Pradesh (i.e. Datia, Tikamgarh, Chhatarpur and Panna) extends from lat. 26° 30' N. to 32° 45' N. and long. 79° 20' E. to 80° 30' E. Its total geographical area is about 20,4 thousand square miles and population (1961) about 50 lakh persons. The
average arithmetic density of the region varies from 122 persons per square miles in Panna district to 308 in Banda district; the average density of the region is 254 persons per square mile.

As a whole Bundelkhand is a compact region. The author however, excluded a small area which forms an elongated enclave between Datia and Jalaun districts. Certainly it has always been a part of Bundelkhand, but at present it forms a part of Gwalior and Morena districts and does not divide itself into complete political units i.e. tahsils and districts. Its treatment, therefore, does not fit in with that of the region as a whole because tahsil forms the base unit of study of the author. However, exclusion of such a small area does not make any difference in the study and the same conclusions as are applicable to the north-western part of the region also hold true for it.

The interest of the author in the Agricultural Geography of Bundelkhand emanates from the following considerations :-

1. By and large, Bundelkhand is distinctively a 'geographical region'. It has its basis not only in the structural unity, geomorphological homogeniety and climate uniformity of the region but also in the common history, economy and society of its people.
2. Besides, the region provides a good example of 'transitional zone'. It lies between two distinctly physiographic units i.e. the Vindhyan plateau and the Gangetic plain, both of which find their expressions in its relief. Climatically the region is also transitional between the wet littoral of the east (Bay of Bengal) and the dry and hot desert of the west (Rajasthan) so that the region under study forms an area of highly variable rainfall.

3. The author was born and brought up in Jalaun district of the region under study. He has already seen much of the region and its agriculture during the last thirty years and got acquainted with its multitudinous problems together with the measures taken by the governments to solve them.

4. Last, but not the least, was the author’s pure academic interest in Agricultural Geography and it was his sincere wish to contribute something to this relatively neglected branch of Geography.

**Historical Background and Importance of the Region**

The term 'Bundelkhand' has its politico-historical association with the Bundela Rajouts, who were once the sovereign rulers of this entire region.

The early history of the region unfolds itself 'only through traditions, inscriptions and some writings of the
Musalmam historians. These sources strongly suggest that the earliest settlers in this region were the Gonds who colonised the western part of Bundelkhand. They were succeeded by Parihars and later by Chandelas. Chandelas were as good warriors as administrators. 'They constructed un-conquerable forts (Kalinjhar and Ajaigarh), noble temples (Khujraho) and excellent irrigation works. They were succeeded by Khangars who were once their servants.

Bundelas, after whom the region is known as Bundelkhand to the historians, appeared in the early part of the 14th century and expelled the Khangars from the regional authority. Two of the best known Bundela chiefs were Champatrai and Bir Singh Deo, who incurred severe displeasure of Emperor Akbar by their enemical deeds. The Emperor had to order the march of his armies to punish them; but almost every time they were routed out and slaughtered. Guerilla nature of warfare waged by small contingents of Bundela soldiers never allowed the mighty Mughals to get a foot-hold in the region, though they enjoyed a kind of suzerainty over it.

(1) The term 'Bundela' probably originates from 'Boond' or drop of blood which flowed from the body of Raja Pancham who, in order to regain his lost kingdom in this region tried to offer his life to Bindbasni Devi - his goddess of worship. Others believe that the term is connected with the off-springs of Hardeo who married with a 'Bandi' or a slave girl.
(VII)

The success of Bundela soldiers over large Imperial armies was largely due to the nature of regional terrain, specially along the courses of streams (i.e. ravines) and along the plateau fringe. They hid themselves in them and on sighting the enemy prowled on them with such swiftness that it baffled the Mughal armies. Bundelas also controlled all the vital and strategic routes to the Deccan which passed through their territory. The nature of their terrain also provided them with natural 'defence'. Supremacy of Bundelas was, however, soon over as they began to fight among themselves over petty affairs which paved the way for the entry of Marathas during thirties of the 18th century.

From the beginning of 13th century to the end of 19th century Bundelkhand was virtually a cock-pit of constant warfare. Agriculture was neglected and scarcities and famines occasionally deepened the crisis. The northern part of Bundelkhand, however, enjoyed a stable government during the Mughal and the British periods and here certain steps were taken to improve agriculture. Canals and tanks were constructed as a measure of safety against the recurrence of droughts and famines. Much credit for this goes to the Britishers, who inspite of their commercial attitude, succeeded in undertaking the construction of Betwa, Ken and Dhasan canal projects.
These measures proved quite effective in stabilizing agriculture in the northern plain and the farmers were greatly benefitted from them. But the condition of agriculture in what was known as 'Bundelkhan Agency' remained as ever before. Besides the natural handicaps of soils and nature of terrain, political factors also did not permit any improvement in this area. The region, as a whole (specially southern) was badly fragmented into a very large number of political units. There were roughly 32 native 'states' within the Agency itself. Even in the so called 'British Bundelkhand' there were quite a few estates or big zamindaris such as Jagammanpur, Rampura, Babina, Babai, Saravan etc. These chiefs had little resources at their disposal and, therefore, could not bring about any significant improvement in regional agriculture.

Agricultural programmes in Bundelkhand were given a high priority only after the attainment of National Independence when government of Uttar Pradesh and Vindhya Pradesh (later Madhya Pradesh) chalked out comprehensive plans for the purpose. Three types of steps were taken to improve agriculture in both these provinces. These are (1) Institutional; (2) Administrative and (3) Technical.

Among the institutional measures the most revolutionary was the abolition of age-old institution of intermediaries i.e. zamindars. This put a check on all evils of
this institution such as sub-infeudation, absentee landlordism and undue exploitation of farmers. Second measure was the consolidation of holdings but it has not yet been introduced in the region. Third step was the revival of village panchayats on the ancient pattern but with a new spirit.

Among the administrative measures mention may be made of Community Development Blocks and National Extension Services which cater various kinds of services to the villages within their jurisdiction.

Under technical measures several small and medium scale irrigation projects were taken up and completed. Existing roads were repaired and new roads were constructed for better distribution of seeds and fertilisers and to improve marketing facilities for the farmers. Soil conservation Departments were set up to advise farmers on conservation of soils. Likewise medical and veterinary services have also been expanded. Yet the task of all sided improvement of countryside is so gigantic in scope and huge in dimension that very much more has yet to be done.

The most important feature of the post-Independence period is the implementation of agricultural programmes according to well thoughtout plans on which huge sums are being spent. In districts of M.P. Bundelkhand, the total
out-lay during the Second Five Year Plan was Rs. 542.15 lakhs which was raised to Rs. 801.82 lakhs in the Third Five Year Plan.

### Table No. 1

Third Five Year Plan Outlay for Datia, Tikamgarh, Chhatarpur and Panna Districts (1961-66) (I)

<table>
<thead>
<tr>
<th>Name of the district</th>
<th>Datia</th>
<th>Tikamgarh</th>
<th>Chhatarpur</th>
<th>Panna</th>
</tr>
</thead>
<tbody>
<tr>
<td>Development Heads</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agriculture &amp; Community Development</td>
<td>27,248</td>
<td>84,293</td>
<td>125,941</td>
<td>71,047</td>
</tr>
<tr>
<td>Irrigation &amp; Power</td>
<td>9,380</td>
<td>56,079</td>
<td>47,757</td>
<td>92,759</td>
</tr>
<tr>
<td>Industries &amp; Mining</td>
<td>0.945</td>
<td>1.245</td>
<td>2.620</td>
<td>2.600</td>
</tr>
<tr>
<td>Transport &amp; Communication</td>
<td>9,760</td>
<td>27,140</td>
<td>31,760</td>
<td>26,360</td>
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</tbody>
</table>

### Production Sector

### Social Service Sector

<table>
<thead>
<tr>
<th></th>
<th>Datia</th>
<th>Tikamgarh</th>
<th>Chhatarpur</th>
<th>Panna</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education</td>
<td>9,355</td>
<td>35,171</td>
<td>29,563</td>
<td>34,401</td>
</tr>
<tr>
<td>Health</td>
<td>15,500</td>
<td>5,920</td>
<td>33,550</td>
<td>7,170</td>
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<tr>
<td>Housing</td>
<td>1,950</td>
<td>2,685</td>
<td>1,930</td>
<td>1,635</td>
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<tr>
<td>Labour &amp; Labour Welfare</td>
<td>0.283</td>
<td>0.418</td>
<td>0.381</td>
<td>0.278</td>
</tr>
<tr>
<td>Welfare &amp; Backward Classes</td>
<td>0.479</td>
<td>1.051</td>
<td>1.211</td>
<td>0.939</td>
</tr>
<tr>
<td>Social Welfare</td>
<td>0.035</td>
<td>0.058</td>
<td>0.035</td>
<td>0.030</td>
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<tr>
<td>Miscellaneous</td>
<td>0.496</td>
<td>0.097</td>
<td>0.179</td>
<td>0.088</td>
</tr>
</tbody>
</table>

Total | 75,431 | 214,147 | 274,927 | 237,307 |

AGRICULTURAL GEOGRAPHY OF BUNDELKHAND

(XI)

It is hoped, the Fourth Plan both in U.P. Bundelkhand as well as in M.P. Bundelkhand would be of much greater scope so that maximum number of people in the region could be able to enjoy the benefits of these plans.

Sources of Data

Almost all types of agricultural data (tahsilwise) for Bundelkhand may be obtained from the office records of Board of Revenue (Section VII) Uttar Pradesh, Lucknow and the Directorate of Land Records, Madhya Pradesh, Gwalior. Lucknow office maintains the record of data from 1889-1900 onwards, but in its counterpart at Gwalior data are available only from 1951 onward. Both these offices publish annually the district-wise agricultural data in the form of Season and Crop Reports which also contain data on climate irrigation, land utilization and live-stock.

Although detailed data covering various aspects of weather and climate are available for Jhansi, Nowgong, Oral and Hamirpur stations only from the Climatological Tables of Observatories in India published by Manager of Publication, Delhi, 1953, yet the rainfall data are available for about 50 stations from the memoirs* and records of the Meteorological Department, Poona. Specific kind of meteorological data may be obtained from Assistant Director General of Observations.

*Specially Memoirs of Indian Meteorological Department, Vol. XXVII Part V, Manager of Pub., Govt. of India, Simla, 1949.
tories (section Climatology and Geophysics), Government of India, Poona.

Data concerning forests are available from Season and Crop Reports and may also be obtained from Conservator of Forests, U.P. (Lucknow) and M.P. (Rewa). The data supplied by these offices donot quite tally with that of Season and Crop reports because of different methods employed in the survey and estimates of forest area. The author mostly depended on data published by Land Records offices because the data supplied by forest departments do not fit in well with the area statements which are published by Land Records offices only. Likewise data on irrigation are supplied by 4th Irrigation Division, Jhansi and various district Irrigation departments.

For flood gauge data, there are two sources (1) Water and Power Commission, New Delhi and (2) Irrigation Departments at Jhansi and Rewa.

Soil Conservation departments, which have been set up in each district, supply all kinds of information on measures taken for conservation of soils in that district.

Besides these, a good deal of past data may be obtained from District Gazetteers and a large number of voluminous reports on Agriculture, Irrigation Famines, Land-holdings and
Settlement. Census of India, specially Vol. VIII (for M.P.) and Vol. XV (for U.P.) with several parts contain much of the needed data on population of the region. All these reports are available in various libraries specially in Vidhan Sabha Library, Bhopal; Council Library, Lucknow; Indian Agriculture Research Institute, Delhi; Government Agriculture College Library, Kanpur; Central Library, Gwalior; Gazetteer and Secretariat Libraries at Bhopal.

Plan of the Work

The plan of the work i.e. Agricultural Geography of Bundelkhand has been divided into three major sections. These are:

Section A: Physical aspects

Section B: Social and Economic aspects

Section C: Agricultural Problems, Techniques, Potentials and Planning.

Each aspect of Agricultural Geography of the Region has been dealt with in such details as may be noted from the contents, from which it may be observed that as far as possible no aspect of the Agricultural Geography has been left out untouched. The author hopes that it will evoke the interest of the administrators, economists, planners and the geographers alike. At any rate it gives a sense of great relief to the author to find that the long tedious and tiring period,
during which he carried out this work, has come to a close.
And now when he looks back to that period, it appears in fact
one of the most absorbing, invigorating and stimulating period
in the whole of his academic career.