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The incidence of unemployment and the potential for industrial development differ widely between and within regions. Different areas in the country are at different levels of development and have varying degrees of potential, depending upon the resource endowment and other stimulating factors. In order to bring about industrial development of an area, with a view to ensure distribution of benefits to the target group of the weaker section of the society, it is necessary that the programme of development is area-specific, for, after all, the growth process does not percolate to different regions on its own. More specifically, backward regions have to be particularly cared for to remove their imperfections. Micro-level planning assumes extra importance in such a context. It is this realisation, which prompted the researcher to undertake this research project with reference to one of the most backward districts of Uttar Pradesh. It is hoped that selection of a backward district like Jaunpur for the study, would bring out sharply the incidence of unemployment and poverty and would focus the attention of planners on the urgent need for formulation of an employment-oriented strategy of industrialisation.

**SAMPLING DESIGN:**

The sampling design for the purpose of collection of primary data consists of a multistage random sampling with
development blocks forming the first stage units within the
district, villages the second stage units and households the
third stage units or the ultimate units of sampling.

**SELECTION OF BLOCKS:**

Jaumpur district consists of 20 development blocks.
Among the blocks, 25 per cent sampling was drawn with the
help of random table without any choice. This purely random
sampling has resulted in the selection of five blocks, namely,
Sikarara, Baxa, Khutahan, Badlapur and Dharmapur as the first
stage units.

**SELECTION OF VILLAGES:**

In each selected block, a sample of two villages has
been selected randomly. In this selection, only inhabited
villages were taken into consideration. Table XV illustrates
the selection of villages. Thus ten villages have been
selected as second stage sampling units. The villages selected
are:

- Sikarara Block: Kuddupur
  - Lakhawan (Lakhaia)
- Baxa Block: Birbhanpur
  - Baxa
- Khutahan Block: Dihiya
  - Birampur
### TABLE - XV

**SELECTION OF VILLAGES**

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Name of the selected block</th>
<th>Number of villages</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Total</td>
</tr>
<tr>
<td>1.</td>
<td>Sikarara</td>
<td>187</td>
</tr>
<tr>
<td>2.</td>
<td>Baxa</td>
<td>165</td>
</tr>
<tr>
<td>3.</td>
<td>Khutahan</td>
<td>187</td>
</tr>
<tr>
<td>4.</td>
<td>Dharmapur</td>
<td>217</td>
</tr>
<tr>
<td>5.</td>
<td>Badlapur</td>
<td>190</td>
</tr>
</tbody>
</table>

Total: 946 (10)

- Dharmapur Block - Kachgaon (Sadat Masauda)
- Banjarepur
- Badlapur Block - Ghanshyampur
- Singra Mau

### SELECTION OF HOUSEHOLDS:

Ten households have been randomly selected from each selected sample village. Thus a total of 100 households have been selected as ultimate units of sampling for primary investigation. Details are given in Table XVI. It may be mentioned that a household has been defined as a group...
of individuals living together under the same roof and taking meal in the same kitchen.

**TABLE - XVI**

**SELECTION OF HOUSEHOLDS**

<table>
<thead>
<tr>
<th>Block</th>
<th>Name of the selected village</th>
<th>Number of Households</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td><strong>Total</strong></td>
</tr>
<tr>
<td>Sikarara</td>
<td>Kuddupur</td>
<td>390</td>
</tr>
<tr>
<td></td>
<td>Lakhawan (Lakhaia)</td>
<td>186</td>
</tr>
<tr>
<td>Baxa</td>
<td>Birbhanpur</td>
<td>158</td>
</tr>
<tr>
<td></td>
<td>Baxa</td>
<td>153</td>
</tr>
<tr>
<td>Khutahan</td>
<td>Dihiya</td>
<td>244</td>
</tr>
<tr>
<td></td>
<td>Birampur</td>
<td>147</td>
</tr>
<tr>
<td>Dharmapur</td>
<td>Kachgaon (Sadat Masauda)</td>
<td>303</td>
</tr>
<tr>
<td></td>
<td>Banjarepur</td>
<td>306</td>
</tr>
<tr>
<td>Badlapur</td>
<td>Ghanshyampur</td>
<td>170</td>
</tr>
<tr>
<td></td>
<td>Singra Mau</td>
<td>227</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td>2,284</td>
</tr>
</tbody>
</table>

Note: Spellings of the villages, as given in the census handbook, in some cases, differ from the spellings used in the district records. In such cases, the spellings, as given in the census handbook, have been preferred.
SURVEY:

The survey of sample households was conducted in two rounds. The first round of survey was done in June-July, 1980 and the second round in November-December, 1981. The main purpose of the survey was to enquire about the employment opportunity available there. Information regarding the income of households and attitude and aptitude of the unemployed and the underemployed was also collected. Certain other basic data to get a clear picture of the agricultural scene were also obtained from the respondents. Survey in two different years and two different seasons helped in cross-checking the information furnished by the respondents, particularly in respect of income and agricultural production.

The survey method consisted of personal interview with the head and other members of the household on the basis of specially designed schedules and questionnaires. With a view to having a realistic analysis, different sets of probing questions were formulated, each set being relevant to a particular occupation category. The answers to the probing questions were sought in such a manner that those were categorical and unambiguous. The schedules and questionnaires have been placed as Appendix V to XII.

OTHER PRIMARY DATA:

A survey of industrial establishments was also undertaken primarily to enquire about the utilisation of capacity with a
view to assess the scope of further absorption of labour. The survey covered all the functioning industrial units of the district, registered under the Factories Act. A random survey of some small scale units was also conducted. The number of small scale units surveyed is 17, out of a total of 238 units registered with the Directorate of Industries. The survey was done on the basis of a brief schedule (placed as Appendix XIII), which was filled up after interviewing the management.

COLLECTION OF SECONDARY DATA:

Secondary data relating to Jaunpur district were collected from various official publications like Statistical Handbook and Diary published by the State Planning Institute, Action Plan brought out by the Directorate of Industries and Census Handbooks. In addition, various local offices at the district level and head offices at the State level were also contacted for detailed data regarding villages, agricultural production, industrial establishments, labour, power and occupation pattern. Local offices, which made the required information available, are the Collectorate, District Statistical Office, District Agricultural Office, District Industries Centre, District Labour Office and State Electricity Board.

PERIOD OF STUDY:

The period of study, so far as the employment situation, income and agricultural characteristics are concerned, was
spread over two agricultural years, viz. 1980-81 and 1981-82. The data concerning industrial establishments relate to the year 1980-81. Wherever any variable has been expressed in terms of rupees, figures relate to the current price as in the year 1979-80.

ANALYSIS OF DATA:

The collected data have been analysed in a number of closely related operations according to the nature of the response. Different kinds of responses have been grouped into a limited number of categories and counts are made of the number of cases falling in the groups. These results are then summarised in the form of statistical tables. Tabulation has been done entirely by manual methods (hand tabulation). Wherever qualitative relationship between two or more variables are desired to be seen, cross-tables or break-down tables have been prepared. Some data have been presented in diagrammatic and graphic forms to bring out clearly certain simple findings. The variables, which have been subjected to tabular analysis are those pertaining to employment, the extent of underemployment, and the occupation pattern. Data pertaining to idle capacity in industries, entrepreneurial development programmes, availability of resources and identification of feasible industries have also been subjected to tabular analysis. Diagrammatic and graphic representations have been resorted to in respect
of data concerning employment, occupation pattern and industrial alternatives.

The relationship between different variables, two at a time, has been studied using the technique of correlation. Karl Pearson’s zero order product moment correlation coefficient \( r \) has been worked out between two variables, \( X \) and \( Y \), in the form

\[
r = \frac{\sum (X-X)(Y-Y)}{\sqrt{\sum (X-X)^2 \sum (Y-Y)^2}}
\]

where

\( \bar{X} = \) mean of \( X \)

\( \bar{Y} = \) mean of \( Y \)

The significance of \( r \) is tested under the assumption of null hypothesis that the population correlation coefficient between the specified variables is zero, i.e.

\( \rho = 0 \),

while the statistic used for this is defined by

\[
t = \frac{r \sqrt{n-2}}{\sqrt{1 - r^2}}
\]

which follows a \( t \)-distribution based on \( (n-2) \) degrees of freedom. Critical values of \( t \) have been taken for 1% and 5% level of significance for two tailed or non-directional test.

In some investigations, like working out per capita
income for different size of holdings, data on more than two variables have been gathered. In such cases of multivariate analysis, partial correlation analysis has been applied, if it involves elimination of one variable only. The formula used for calculating the partial correlation coefficient of the first order to eliminate a third variable is:

\[ r_{12.3} = \frac{r_{12} - r_{13} r_{23}}{\sqrt{(1-r_{13}^2)(1-r_{23}^2)}} \]

where

- \( r_{12.3} \) = correlation between residuals, when \( X_3 \) has been removed from both \( X_1 \) and \( X_2 \).
- \( r_{12} \) = coefficient of correlation between variables \( X_1 \) and \( X_2 \).
- \( r_{23} \) = coefficient of correlation between variables \( X_2 \) and \( X_3 \).
- \( r_{13} \) = coefficient of correlation between variables \( X_1 \) and \( X_3 \).

The required \( t \) for testing the significance of the partial correlation coefficient under the assumption of null hypothesis with \((n-3)\) degrees of freedom is

\[ t = \frac{r_{12.3}\sqrt{n-3}}{\sqrt{(1-r_{12.3}^2)}} \]
In case of variables having non-zero correlation, the regression line has been fitted to predict one variable from the other. For this purpose, linear regression of the form

\[ Y = bX + a \]

has been presumed. The slope of the regression line for predicting \( Y \) from \( X \), denoted by \( b_{yx} \) and the point where the line cuts the \( Y \) axis, denoted by \( a_{yx} \), have been calculated by the following formulae:

\[
\begin{align*}
    b_{yx} &= \frac{\sum XY - \frac{N}{2} \overline{XY}}{\sum X^2 - \frac{N}{2} \overline{X}^2} \\
    &= \frac{\sum (X-\overline{X})(Y-\overline{Y})}{\sum (X-\overline{X})^2} \\
    a_{yx} &= \overline{Y} - b_{yx} \overline{X}
\end{align*}
\]

where

\[
\begin{align*}
    \overline{X} &= \text{Mean of } X \\
    \overline{Y} &= \text{Mean of } Y \\
    N &= \text{Number of observations}
\end{align*}
\]

**Calculation of the Farm Income:**

An idea about the variable and overhead costs in farm management was formed by interviewing the farmer respondents.
An average figure was arrived at accordingly in respect of various parameters of production cost in order to assess the net income of the agriculturist. The following production cost ingredients were taken into account for this purpose.  

(a) Variable cost for:

(i) preparation of land,

(ii) manures and fertilizers (including the cost of manuring and spreading)

(iii) Sowing (including cost of seed and sowing)

(iv) pesticides,

(v) irrigation,

(vi) hoeing and weeding,

(vii) harvesting,

(viii) threshing and winnowing and

(ix) repair to dead stock.

(b) Overhead cost on account of rental value of land, interest on working capital, depreciation and interest on fixed capital.

(c) Risk cost to cover loss to the crops on account of flood or drought, which occur once in every four or five years, according to the meteorological data. This has been taken as 10 per cent of the total of variable and overhead costs.

Normal profit, which is the minimum that would enable farmers to undertake the production in the succeeding season. The rate of normal profit per quintal has been calculated by the formula, \( N.P. = \frac{1}{2} (P_y - P_x) \), where \( P_x \) is the cost of production per quintal based on overhead and variable costs, and \( P_y \) is the market price of the product per quintal.

To calculate the net income per quintal, yield of the main product as well as that of the by-product, was included in the gross return, presuming an average yield as follows:

<table>
<thead>
<tr>
<th>Product</th>
<th>Yield per Hectare</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paddy</td>
<td>12.67</td>
</tr>
<tr>
<td>Wheat</td>
<td>17.86</td>
</tr>
<tr>
<td>Maize</td>
<td>11.47</td>
</tr>
<tr>
<td>Pulses</td>
<td>10.06</td>
</tr>
</tbody>
</table>

The yield of main product was assumed to be having the following ratio with the by-product.

<table>
<thead>
<tr>
<th>Product</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paddy</td>
<td>1:3</td>
</tr>
<tr>
<td>Wheat</td>
<td>1:2</td>
</tr>
<tr>
<td>Maize</td>
<td>1:4</td>
</tr>
<tr>
<td>Pulses</td>
<td>1:1</td>
</tr>
</tbody>
</table>

2. Vide Table VIII supra in this thesis.
The figures of net income or net profit arrived at are as follows:

<table>
<thead>
<tr>
<th>Foodgrains</th>
<th>Net income per quintal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wheat</td>
<td>Rs. 39 per quintal</td>
</tr>
<tr>
<td>Paddy</td>
<td>Rs. 25 per quintal</td>
</tr>
<tr>
<td>Maize</td>
<td>Rs. 30 per quintal</td>
</tr>
<tr>
<td>Pulses</td>
<td>Rs. 42 per quintal</td>
</tr>
</tbody>
</table>

Brief calculations have been shown in Appendix-XIV.

**DATA REGARDING FEASIBLE INDUSTRIES:**

In order to judge the suitability of feasible industries on the basis of the criteria suggested by the study, certain technical data like capital requirement, employment potential and output, have been subjected to mathematical analysis. The data regarding industries have been obtained from project profiles maintained by the Indian Investment Centre for public use.