# LABOUR USE INTENSITY AND PLANNING: A CASE STUDY IN RURAL BENGAL

Dr. Ranjit Kr. Ghosh

Associate Professor of Economics

Alipurduar College, Alipurduar

## Abstract

The basic problem of any agro-based area economy is the existence of chronic underemployment rather than unemployment. We see elsewhere in our several studies that a remarkable portion of our rural employable labour force, with a positive attitude to work, is not in a position to use their labour power intensively throughout the agricultural year. We have also observed that a large proportion of gainfully employed adults remain unemployed in some seasons of the agricultural year, while at the same time we have also observed that there is an acute shortage of labour in the periods of peak agricultural activities in a complete crop year. This type of dichotomy motivates some sort of migration of adult labour force from our area economy to the area economies of the other states in our country. We have seen that a considerable amount of employable adults who left their birthplace just to find gainful employment in other states like Delhi, Karnataka and Punjab and have returned to their homestead after spending some periods with a bitter work experience. But they again try to get ready to go to those places as because they have failed to find any productive job at their own places of residence throughout the year. This tradition is going on since the late 80s with a tragedian fact that the same decade had been experienced some sort of better growth rate as compared to the other decades of our national planning era.

Key Words: Agro-based, chronic, underemployment, dichotomy.

## INTRODUCTION

The basic problem of any agro-based area economy is the existence of chronic underemployment rather than unemployment. We see elsewhere in our several studies that a remarkable portion of our rural employable labour force, with a positive attitude to work, is not in a position to use their labour power intensively throughout the agricultural year. This is mainly due to absence of alternative occupations in an underdeveloped agro-based economy. We have observed that a large proportion of gainfully employed adults remain unemployed in some seasons of the agricultural year, while at the same time we have also observed that there is an acute shortage of labour in the periods of peak agricultural activities in a complete crop year. This type of dichotomy motivates some sort of migration of adult labour force from our area economy to the area economies of the other states in our country. We have seen that a considerable amount of employable adults who left their birthplace just to find gainful employment in other states like Delhi, Karnataka and Punjab and have returned to their homestead after spending  some periods with a bitter work experience. But they again try to get ready to go to those places as because they have failed to find any productive job at their own places of residence throughout the year. This tradition is going on since the late 80's with a tragedian fact that the same decade had been experienced some sort of better growth rate as compared to the other decades of our national planning era.

As in the case of agriculture, so in the case of employment, our Government has already spent a huge amount of money for the eradication of unemployment and underemployment in both rural and urban areas through the various schemes since the publication of the report of Bhagawati Committee in the year 1973, but these high ambitious schemes ended to some extent at to frustration and became the matter of theoretical jugglery among the academicians and political stalwarts. Our area economy is not remained outside of the fold of failure that we try to exhibit in this study. So, the main objective of this study is to divulge the ground reality of the extent of use of labour power in our grass-root rural area economy through our calculated intensity index measures and also to suggest an autonomous plan for proper use of labour power in a rural economy like ours for all round economic development.

## STUDY AREA

For the purpose of this present study we have considered a local grass-root economy which is made up with the villages around the village market town of **Baneswar** and the market town itself in **Cooch Behar District** of **West Bengal**. The two villages we considered for special study are **Hatiduba** and **Kaljani** under the **Baneswar Gram Panchayat**. We have considered these two villages due to their strong base in agricultural activities. The first village is nearer to the market town Baneswar and relatively more developed in all respects than the second village. Again, the second village has the facility of **River Lift Irrigation Water** arranged by the government but the first village has no such facilities from the end of the government. So, our choice of these two villages will also show the effect of cheap irrigational facility in labour use intensity of the economy. Elsewhere these two villages will be termed as village-1 and Village-2. In fact, the whole Baneswar Gram Panchayat area is synonymous with the local

level rural economy being studied. The sale town or market town of Baneswar is the centre of interaction of the activities of the villages around.

## METHODOLOGY

There is no end of diversities of methodologies used in rural studies. All the methodologies are not equally applicable when we use the sample survey technique to collect primary data from an area economy. So we are in need of selecting a methodology that will be more suitable for our type of object. For measuring the labour use intensity in our local level economy, we resort to a two-phase and one stage stratified sample. In the first phase, out of total 723 households, we have surveyed each and every household of the sample villages Hatiduba and Kaljani with a specially prepared household schedule. In the second- phase, for measuring the labour use intensity for both male and female labourers more accurately we have rather confined our study on 200 sample households taking 100 households from each sample village. We have also used the simple mathematical and statistical measures for our purpose. All information is collected with a specially prepared activity schedule for the period of 2015-16 which is synonyms to our traditional agricultural year.

## DEFINITION OF LABOUR

By work participation rate we simply mean the ratio between the working populations to total population during the reference period. Thus it is very necessary to define the worker during the period under our consideration. The UNDP defines labour force as the number of population aged 15 years and above available to supply power for the production of goods and services. There is a convention among the researchers to consider the persons as workers who have been employed at least for a day against remuneration in a year. However, in census enumeration, we have generally seen a distinction between the workers on the basis of the number of employment days. They are the main workers and the marginal workers. According to their definition, the main workers are those who have been employed for more than 183 days in an agricultural year. On the other hand, who have been employed less than 183 days during the same reference period are termed as marginal labour. But we do not believe, being the surveyor of the rural economy, that it is possible for the census enumerator to find out the number of actual working days in a single sitting with the respondents of any of the family members. We know very well that the receipt of correct returns on employment days of a particular worker depends on a great deal of indirect questions and on the number of friendly sittings with same worker. Eventually we have got a different result between the fact what we interact with the villagers and the fact that we had obtained from the census report. We just bypass this fact to keep our research product unwieldy and left it to the follower researchers.

## MEASURE OF INTENSITY OF USE OF LABOUR POWER

Our agricultural activities by and large depend on the doldrums of the monsoon. For this reason the farmers, in most cases, cannot continue agricultural activities throughout the year though they have the positive attitude to work throughout the year. This generates the problem of lower intensity value of land and hence the problem of unemployment and underemployment remains in a rural agricultural economy. Our sample economy is not free from such kind of problem. A large proportion of gainfully employed active labour force remained underemployed during different agricultural slack seasons in our rural economy. Again the rural economy witnesses the acute shortage of labour problem during the periods of peak agricultural activities when normally inactive persons such as house-wives, students, etc. have also taken active part in some agricultural activities. Thus it will be in order if we calculate the labour use intensity value to divulge the myth and realities of the unemployment and underemployment problem of this sample economy.

To calculate the labour use intensity in our sample economy we consider 330 man days of employment as full employment. Thus the intensity value for 330 days of employment per annum is given as 1.00. Similarly, the intensity value for 100 days of employment is calculated at 0.30, for 150 days of employment is at 0.45, for 200 days of employment is at 0.61, and so on. On the basis of this measurement, we have calculated the intensity of labour use for the employed adults, the employed male adults and the employed female adults of our sample economy. All these figures are displayed in Tables 1 to 3.

One can see from Table 1 that the percentage of employed adults who succeeded to make use more than 60% of their labour power is nearly 56.5. The corresponding percentages for the employed male adults and female adults, shown in Tables 2 to 3, are 65.3 and only 13.24 respectively. Similarly, the percentage of employed adults who succeeded to make use more than 76% of their labour power is nearly 24.5. The corresponding percentages for the employed male adults and female adults are 28.28 and only 6.39 respectively. Again the corresponding percentages for employed male adults and female adults using more than 91% of labour power are 8.84 and 3.20 respectively. Thus we can conclude that most of the employed female adults use their labour power up to 60%. The reasons are rather two. **Firstly**, they get works only in the busy agricultural seasons, and **secondly**, the minimum scope of subsidiary occupations at the grass-root level. Only the female adults engaged in teaching, Anganwadi and Multipurpose works are succeeded to use more than 76% of their labour power in our grass-root rural economy.

Table-1: LABOUR USE INDEX OF EMPLOYED ADULTS IN TOTAL SAMPLE

| Percentage of Employed Adults | Intensity of Use of Labour Power (Less than ) |
|---|---|
| 8.73 | 0.30 |
| 21.02 | 0.45 |
| 43.51 | 0.61 |
| 75.42 | 0.76 |
| 92.12 | 0.91 |
| 100.00 | 1.00 |

*Source: Field Survey; 2015-16*

Table-2: LABOUR USE INDEX OF EMPLOYED MALE ADULTS IN TOTAL SAMPLE

| Percentage of Employed Male Adults | Intensity of Use of Labour Power (Less than ) |
|---|---|
| 2.60 | 0.30 |
| 12.56 | 0.45 |
| 34.70 | 0.61 |
| 71.72 | 0.76 |
| 91.16 | 0.91 |
| 100.00 | 1.00 |

*Source: Field Survey; 2015-16*

Table-3: LABOUR USE INDEX OF EMPLOYED FEMALE ADULTS IN TOTAL SAMPLE

| Percentage of Employed Female Adults | Intensity of Use of Labour Power (Less than ) |
|---|---|
| 38.81 | 0.30 |
| 62.56 | 0.45 |
| 86.76 | 0.61 |
| 93.61 | 0.76 |
| 96.80 | 0.91 |
| 100.00 | 1.00 |

*Source: Field Survey; 2015-16*

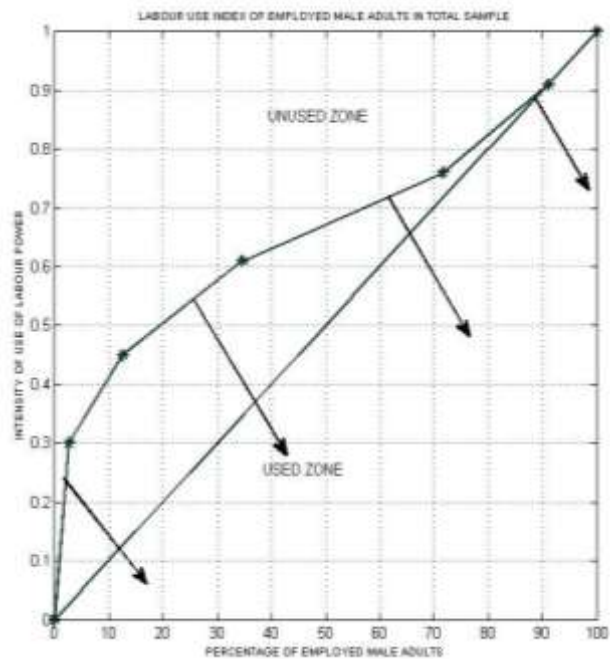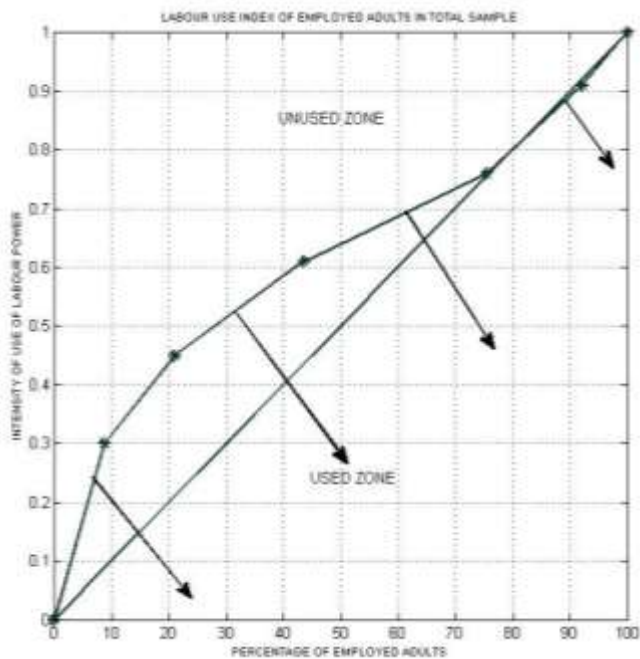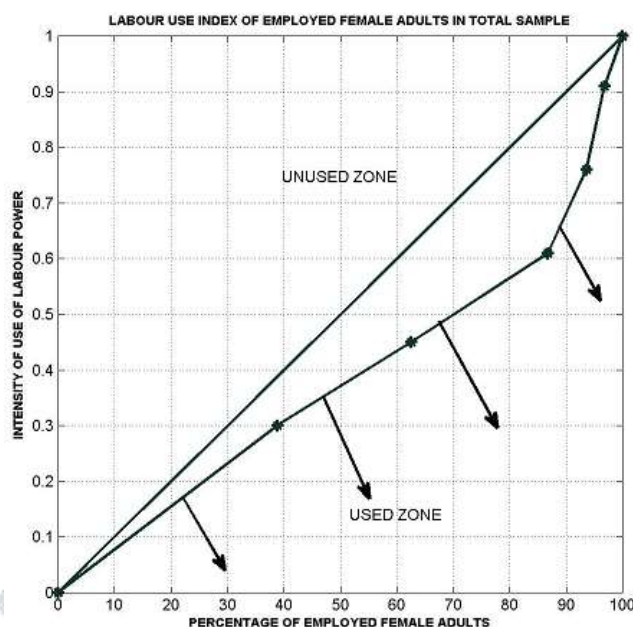Fig. 1                                                    Fig. 2

Fig. 3



We have also calculated labour use intensity indices of employed adults for sample village-1 and sample village-2 respectively using the same method as before.  We have calculated village wise labour use intensities to see the effects of cheap irrigation water on both land use intensities and also on labour use intensities in our sample economy. All these have been displayed in Tables 4 & 5 from which the comparisons of use of labour power between the two sample villages will be clearer. It is clear from these tables that in all cases sample village-2 is in better position in comparison to sample village-1, except employed female adults using labour power more than 61% and more than 76%. This is mainly due to intensive cultivation throughout the year for cheap irrigational facilities in sample village 2. The facility of cheap irrigation water provided by the government is very important in increasing the labour use intensities by increasing the land use intensities through multiple cropping in sample village 2.

Table 4: LABOUR USE INDEX OF EMPLOYED ADULTS IN VILLAGE-1

| Percentage of Employed Adults | Intensity of Use of Labour Power (Less than ) |
|---|---|
| 8.40 | 0.30 |
| 20.07 | 0.45 |
| 43.79 | 0.61 |
| 75.35 | 0.76 |
| 93.00 | 0.91 |
| 100.00 | 1.00 |

Source: Field Survey; 2015-16

Table 5: LABOUR USE INDEX OF EMPLOYED ADULTS IN VILLAGE-2

| Percentage of Employed Adults | Intensity of Use of Labour Power (Less than ) |
|---|---|
| 10.31 | 0.30 |
| 25.56 | 0.45 |
| 42.15 | 0.61 |
| 75.78 | 0.76 |
| 87.89 | 0.91 |
| 100.00 | 1.00 |

Source: Field Survey; 2015-16

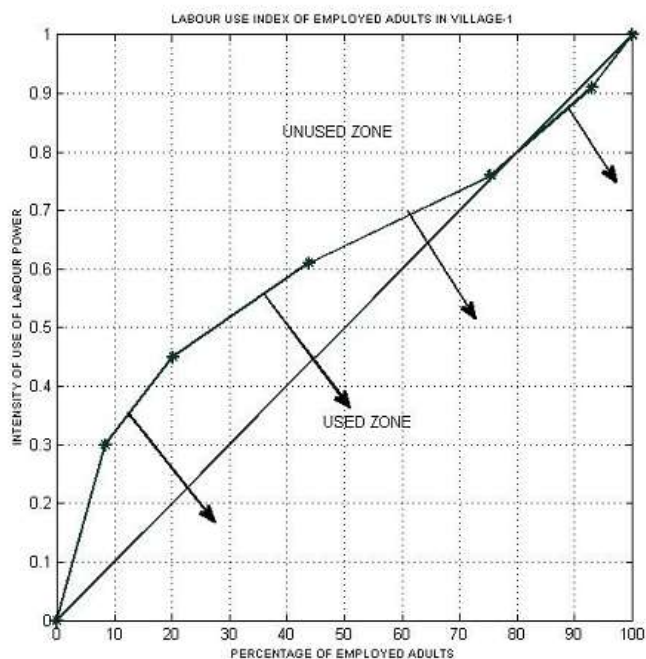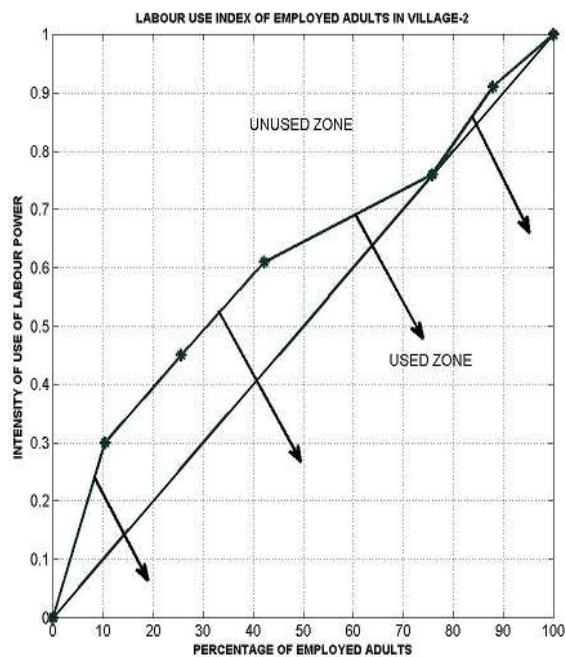Fig. 4                                           Fig. 5





## PLANNING FOR UTILIZATION OF LOCAL RESOURCES

We strongly recommend an autonomous local level planning for optimum utilization of all the local resources, especially the nationally cheap inputs land and labour. In our analysis it is seen that nearly 56 percentages of employed adults succeeded to make use more than 60% of their labour power. The figure is too small in case of women. When the planners at the local level i.e. the elected representatives, the experienced and efficient people of the area, administrative officials, artisans, entrepreneurs, etc. proceed to formulate an autonomous local level plan taking all the information of the said economy and attempt to execute it appropriately within the economy with the financial and administrative support of the State and Central Governments, it will definitely succeed to utilize all the existing resources including the nationally cheap inputs land and labour. For this, careful attempt should be taken by the planners to extend the facilities of irrigation at the cost of the government, storage, inputs and outputs markets from where all the farmers can purchase better quality inputs and the producers can dispose of their marketable surpluses at reasonable prices, communication system, easy and cheap crop loans during the agricultural seasons, etc.

The planners should also take initiatives to create new ventures like, agro-based industries, other small scale industries depending upon the availability of raw materials and cheap labour power and upgraded the local traditional handicrafts for more employment generation especially to stop migration of people to other states during the off agricultural season. This process will also increase the use intensities of both land and labour in a local economy like ours. Thus the formulation of an autonomous local level plan for both short and long ranges based on the existing as well as newly created resource-institutional-infrastructural set up of the economy will make the economy self sufficient in all respects without over extraction of natural resources, and ultimately it will fulfill the goal of overall economic development of the economy with sustainability.

## R E F E R E N C E S:

1. Agarwalla and Singh ed. (1958): The Economics of Underdevelopment; Oxford University Press; Oxford.
2. Arrow, K. J. (1983): Social Choice and Justice; Harvard University Press; Cambridge.
3. Babu, P.K. (1988): Regional Planning in India; Chough Publications, Allahabad.
4. Banerjee, M. (1988): Planning in India; Oxford Publications and IBH, New Delhi.
5. Bardhan, P. K. (1984): Land, Labour and Rural Poverty; Oxford University Press; Delhi.
6. Bhaduri, A. (1984): The Structure of Backward Agriculture; MacMillan India Limited; New Delhi.
7. Bharadwaj, K. (1974): Production Condition in Indian Agriculture- A Study Based on Farm Management Surveys; Cambridge University Press, London.
8. Bharadwaj, K. (1974): Production Conditions in Indian Agriculture, London; Cambridge University Press, [Google Scholar].
9. Bhat, L. S. (1972): Regional Planning in India; Statistical Publishing Society; Calcutta.
10. Dhaia, B.S. ed. (1982): Development Planning Models, Vol. I & II; Inter- India Publications, New Delhi.
11. Gilling, D. (1975): Regional Planning and Social Change: A Responsive Approach; Saxon House, West Mead.
12. Heady, E.O. (1952): Economics of Agricultural production and Resource Use; Prentice Hall, International, Englewood Cliffs.

13. Rao, H. (1984): Regional Disparities and Development in India; Ashis Publishing House, New Delhi.

14. Charnes, A. Cooper, W. W., Lewin, A. Y. & Seiford, L. M. (Eds.) (1994): Data envelopment analysis: Theory, methodology,and applications. Boston: Kluwer.

15. Chayanov, A.V. (1966): The Theory of Peasant Economy; Irwin Homewood.

16. Kar, S.C and Bhuimali, A (2014): Mainstreaming Indian Rural Economy and Policy, Abhijit Publishing House, New Delhi

17. Koopmans, T.C., (1951):   Analysis of Production as an efficient combination of Activities; in T.C. Koopmans, ed. Wiley, New York

18. Koopmans, T.C. (1957): Three Essays on the State of Economic Science; McGraw Hill Book Company, New York

19. Rao, C. H. H. (1965): Agricultural Production Functions, Costs and Returns in India, London; Asia Publishing House. [Google Scholar]

**JOURNALS & ABSTRACTS:**

1. Arrow, Chenery, Minhas and Solow (1962): "Capital and Labour Substitution and Economic Efficiency"; Review in Economic Studies, XXIX.

2.Banker, R. D., Charnes, A., & Cooper, W. W. (1984): "Some models for estimating technical and scale inefficiencies in data envelopment analysis";Management Science, 30(9), 1078- 1092

3. Bardhan, P.K.1973: "Size, Productivity and Returns to Scale: An Analysis of Farm-Level Data in Indian Agriculture", Journal of Political Economy, 81(6) [Google Scholar]

4. Bharadwaj, K. (1974): "Notes on Farm Size and Productivity"; Economic and Political Weekly, March, 30.

5. 4. Bronfenbrenner, M. (1944): "Production Function: Cobb-Douglas Inter-firm and Intra-firm"; Econometrica.

5. Charnes, A., Cooper, W. W., & Rhodes, E. (1978): "Measuring the efficiency of decision making units"; European Journal of Operational Research, 2, 429- 444.

6. Chattopadhyay, M. and Rudra, A. (1976), "Size- Productivity Revisited", Economic and Political Weekly, 11(39) Review of Agriculture) [Google Scholar]

7. Cobb, C. W. And Douglas, P.H. (1928): "A Theory of Production"; American Economic Review, March.

8. Koopmans, T.C. (1951): "Efficient Allocation of Resources"; Econometrica.

9. Rudra, A. (1968a): "Farm Size and Yield per Acre", Economic and Political Weekly, 3 Special Number [Google Scholar]

-------------------------------------------------------------------