An analytical investigation into an economic problem calls for an inquiry into its concepts and definitions. Both employment and unemployment are concepts related to economies where wage-labour predominates. Wage labour, as a mode of production develops with the process of industrialization and the formation of industrial societies, employment usually means working for an employer for wages; while unemployment is defined as the active search for employment, at the ruling wage rate. However, this definition of unemployment is ambiguous for, a person being in a job too may actively search for employment (i.e., a state of having a bread in hand but looking for a cake). On the other hand, the above definition of employment precludes the self-employed persons which are extensive in the developing countries like India, particularly in the rural sector. Employment can thus be classified into wage employment and self-employment. However,
the rural self-employed workers are not necessarily fully employed, they suffer from different degrees of under-utilisation at different seasons. Hence the concept of underemployment was invented in due course to characterise labour under-utilisation in the rural areas.

The concept of employment itself is very complex as there is some sort of value judgement. Essentially, the concept of employment has to be related to some notion of the 'value' of the work. And the 'value' would vary depending on the persons from whose point of view the work is evaluated. Hence the concept is not strictly amenable to dynamic and universally accepted, single objective test. Prof. Amartya Sen suggests three aspects of employment which we can call three cardinal tests viz. (i) the income test i.e., the monetary return to employment; (ii) the production test i.e., the output resulting from employment; and (iii) the recognition test i.e., society's recognition of the person's employment in something worthwhile. However, even after applying these tests it is difficult to evaluate whether

1. An exhaustive discussion on unemployment and underemployment is found in Amartya Sen's *Asian Drama*, Vol. II, Ch. 21, Pelican Books (1968).
employment offered is optimum or full employment. The three tests are however useful for measuring the underemployment.

In economics unemployment is stated to be a situation of worklessness (and not self imposed idleness or leisure). The World Bank measures unemployment and underemployment in the following ways:

"Unemployment is measured by the number of people actively seeking jobs. This implies that two conditions must be fulfilled before positive unemployment rates can be expected in developing countries: first, the financial return to job search must be positive, which, in turn, requires the existence of wage differentials and imperfect information, and second, money or income must be available to finance the unemployed."

1. Ira Squire, Employment Policy in Developing Countries (A World Bank Research Publication), 1961, p. 34.
The concept of underemployment has suffered from a bewildering variety of definitions. It is defined here as the existence of workers whose earnings from wage or self-employment lie below a given cut-off, this being the approach most frequently adopted in the recent literature. It is therefore conceptually similar to measures of the extent of poverty." (op.cit)

3.1: Diagrammatic presentation of Employment, Unemployment and Underemployment.

It is possible to depict wage employment, self-employment, unemployment and underemployment with the help of Marshallian demand and supply curves. In diagram 1, employment or unemployment is measured along the horizontal axis, while wage or return is measured along vertical axis. TT is the demand curve for wage employment, TT is the total demand curve comprising of demand for wage employment and self-employment, obtained by the horizontal summation of the two. In other words,
the difference between IT and is the demand for self-employment. The supply curve of labour is represented by the curve AC.

The supply curve intersects the total demand curve IT above point S where OW workers are employed at OW wages. The wage employment at this point of intersection is OL. The return to self-employment also equals the market wage OW.

In this diagram, at the market wage/return OW, the magnitude of self-employment is measured by OH = OL = LN. If it is assumed that total supply of workers at a point of time is given by OP then OP measures the magnitude of unemployment. However, market for labour in rural areas of developing countries exist in a segmented way. There is wage legislations and also subsistence wage setting the limits for wages and also for employment. In the diagram, (say) OR is the subsistence wage. Usually, subsistence wage is more common in the informal self-employment sector. If it is the prevailing
wage than self-employment can extend to be. The segment of the horizontal axis measures the extent of underemployment.

3.2 Concepts of unemployment and underemployment

The concepts of unemployment and underemployment have been extensively debated in the literature. It has been pointed out by several authors that available concepts of employment and unemployment are more appropriate for developed countries, where there is a market or the payment and conditions of employment are governed by contractual agreements and labour legislations. The inadequacy of the above concepts to developing countries like India has been best articulated by Prof. K. Meje in the following words:

"The forms of social organization, in a country like India, range from the most modern in the large cities, in which unemployment is as open and manifest as anywhere else in the world, to the most primitive tribal forms, in relation to which all the concepts of employment and
unemployment that we make use make no meaning at all. The concepts of manpower surpluses and of disguised unemployment, though useful for certain purposes, blur these important differences and conceal dimensions which are vital in formulating an approach to the problem.

The unemployment problem in the developing societies is not so simple, let alone the rural unemployment. To get a better understanding of the problem, one must take into account those workers who may be visibly active (working; poor) but in an economic sense are grossly underutilised, in addition to the openly unemployed. No concepts are adequate and can be complete to capture the various dimensions of the unemployment problem in the developing countries. With more and more study new and new aspects are brought to notice. This is evident from the concepts presented by Prof. Adjar 0. Edwards in his comprehensive survey of employment problems in developing countries.

"In addition to the number of people unemployed many of whom may receive minimal incomes through the extended family system, it is also necessary to consider the dimensions of (1) time (many of those employed would like to work more hours per day, per week or per year), (2) intensity of work (which brings in considerations of health and nutrition), and (3) productivity (lack of which can often be attributed to inadequate, complementary resources with which to work). Even these are only the most obvious dimensions of effective work, and factors such as motivation, attitudes, and cultural inhibitions (as against women, for example) must also be considered. Our discussions have thrown up the following forms of under-utilisation of labour, which may indicate the diversity of the phenomenon but which further study will probably show to be incomplete:

1. Open unemployment: both voluntary (people who exclude from consideration some jobs...
for which they could qualify, implying some means of support other than employment and involuntarily.

2. **Underemployment**: those working less (daily, weekly, or seasonally) than they would like to work.

3. **Visibly active but underutilised**: those who would not normally be classified as either unemployed or underemployed by the above definitions, but who in fact have found alternative means of "making time", including:
   a. **Disguised underemployment**: any people seems occupied on farms or employed in government on a full-time basis even though the services they render may actually require much less than full time. Social pressure on private industry may result also in substantial amounts of disguised underemployment.

If available work is openly shared among those employed, the disguised disappear and underemployment becomes explicit.
b. Hidden unemployment. Those who are engaged in "Second Choice" nonemployment activities perhaps notably education and household chores, primarily because job opportunities are not available (i) at the levels of education already attained, or (ii) for women, given social mores. Hence, educational institutions and households become "employers of last resort". Moreover, many of those enrolled for further education may be among the less able as indicated by their inability to compete successfully for jobs before pursuing further education.

c. The prematurely retired. This phenomenon is especially evident, and apparently growing, in the civil service. In many countries, retirement ages are falling at the same time that longevity is increasing, primarily as a means of creating promotion opportunities for some of the large numbers pressing up from below.

4. The impaired: those who may work full-time but whose intensity of effort is seriously impaired through malnutrition or lack of common preventive medicine.
5. The unproductives: those who can provide the human resources necessary for productive work but who struggle long hours with inadequate complementary resources to make their inputs yield even the essentials of life.¹

The catalogue of concepts given by Prof. Edwards takes care of the aspects of work like 'work making', 'work-sharing' or 'work-stretching' which are quite common in the developing countries. The typical agricultural organisations in the rural areas create by their very existence some works (e.g. carrying tiffin to ploughmen) which even though underproductive have to be carried out, some work is always available in the rural areas and members can be accommodated there partly through lowering per capita output, though not the aggregate output. This way of creation of work due to peculiar organisation pattern in rural areas in underdeveloped countries has been termed as 'work making'.

activities by Agnar Burkes1 when there is no work or little work to do say, in off-season the family members share whatever work they have at their hands among themselves. This way Burkaean concept of 'work-sharing' begins. Often, the completion of the work is stretched beyond the required time. Hence 'work-sharing' is also known as 'work stretching'. Workers consider that 'half a work is better than no work'. Even though the above aspects of employment are implicit in Prof. Edward's classification however, there are some other concepts which are not touched so far. Some such concepts are narrated below.

3.3 New dimensions

3.3.1 Voluntary underemployed

It can be argued that if there can be voluntary unemployment then there can be voluntary underemployment as well. Voluntary underemployed is a subset of the underemployed. Those persons who work on their own farms but their farms are not large enough to provide full employment for them, and as a matter of principle they will not like to work for others, mostly because of socio-economic reasons.

come under this category. In a caste-ridden, status conscious society, working as wage-labourers for others automatically reduces a household to a lower social class. Hence, persons may like to remain voluntarily underemployed. Thus underemployment can be a luxury, giving more leisure to such underemployed persons.

3.3.2 Involuntary Underemployed

This is the other sub-set of underemployed, whose resources at hand can not provide full employment. They are ready to do any work and looking for job but not getting to utilise their labour fully. Households at the lower farm sizes like marginal and sub-marginal farmers are examples of this type of underemployed.

3.3.3 Poverty Underemployed

Underemployment exists when a person’s employment is inadequate, in quantitative or qualitative terms, in relation to specified norms of income or expenditure. The ‘working poor’ comes under this group. Lack of purchasing power contributes to poverty, but low purchasing power is the
result of underemployment. The principal basic need for a person is food. If the calorie intake
of food consumed by an individual is lower then
the necessary biological minimum then its explana-
tion can be found in underemployment since his
earnings cannot sustain him. This type of under-
employment can be called poverty underemployment.

5.3.4 Luxury Unemployment

Some youths can afford to remain unemployed
for long periods without suffering extreme depri-
vation. This group generally includes those who
donot bear economic responsibility for others and
who have a high degree of access to transfer pay-
ments from parents, guardians and relatives. This
suggests that being without work is a luxury only
a small proportion of the labour force can afford
for longer than several months at a time. The
concept is attributed to David Burnham1 who specu-
lated that high and rising unemployment rates might
be concentrated among that small group of workers

1. Quoted by L. McAll and J. Sinclair in their
article in ‘World Development’, Vol. 10, No. 1
which could gain family support during a period of extended job search, or whose aspirations have been raised by access to moderate amounts of education.

The luxury unemployment is observable in some sections of rural society particularly among the 'undermertic' literates who consider agricultural sector jobs and informal sector jobs as 'Hifan jobs' i.e. having negative income elasticity of demand. Analogically, one can also talk of luxury underemployment.

Besides the various concepts mentioned above, there are others forwarded by authors, who think that the prevailing concepts are not adequate or misplaced. As for instance, in his minite of supplementation to Shagwati Committee on unemployment, prof. Gautam Verma argues:

"In the literature of development economics an important distinction is made between unemployment which refers to people who were in employment previously and have been driven out on account of a depression in economic activity

1. Assam Institute of Development studies (1936); Report of the Seminar on Rural Employment in Assam.
2. "ILO (ILO) of Labour and Rehabilitation); Report of the Committee on Unemployment (May 1973) P.P. 232, 236."
and the state of non-employment wherein a large mass of people were never in appropriate employment and are to be drawn into it."

Prof. "athur also suggests another concept viz.,
-employment to refer to those type of employment which is unproductive or a stray employment. Examples of mis-employment, according to him, are like a doorkeeper outside an executive's office or a minister without adequate portfolio. However, this kind of employment is more 'random' in nature than usual, and have hardly any relation to rural unemployment.

3.4 *Infructuous employment*

Employment is a means to an end, the end is the return to employment already put in. In conventional literature it is noticed that employment is treated as one where return to employment is sure and certain. This is mainly because we are dealing more with wage employment than with self-employment. However, in self-employment which is more common in the rural areas return to employment is not always certain.\"
for instance, in respect of crop farming, investment is made by the farmers during the sowing/transplanting season, employment (both family and hired) in operations other than harvesting and post-harvesting; already generated (and paid for the hired workers) but return to self-employment comes only after a time lag; i.e., after harvesting. During this fruition time lag, there is risk and uncertainty which is usually more in non-scientific farming.

Under the above circumstances, self-employed farmers would have to discount their returns to employment with the probability of success or failure. This, therefore, calls for estimating the mathematical expectation of the returns, which is obtained by the product of yield and probability of occurrence. If 'x' stands for the yield and 'p' for its probability then mathematical expectation of return 'E' can be written as:

\[ E = x \cdot p. \]

If the probability is unity then yield is certain i.e., return to self-employment is definite, but 'p' is not equal to unity in rural areas which are subject to natural calamities like floods. If 'p' is equal to
half then return also becomes half. However, 'p' can take any value between 0 and 1. If 'p' is zero then there is no return to employment. The employment (along with investments) therefore becomes infruenous. We coin this kind of employment as infruenous employment. In rural areas which are prone to natural calamities, the probability of return to employment is always below unity. The maxim 'as you sow, so you reap' does not hold good here. Nor can the farmers in such areas count their chiles before they are hatched.

The implication of infruenous employment in calamity-prone (like flood, drought) rural economies can be demonstrated with the aid of the following diagram. 2.

The horizontal axis measures employment. The upper segment of the vertical axis represents output while its lower portion from the original measures the area under crop.

In the diagram, $OA$ measures the area under crop, corresponding to employment (already put in). $OB$ and anticipated output $OP$. Curve $C$ is the ex-ante
output curve without natural calamity. Suppose we introduce natural calamity via flood which affects crop area AP during the production lag. As a result, production falls from P to p due to crop damage, the ex-post output curve from Q to q. The corresponding loss of employment N is then a measure of infructuous employment.

In certain areas of the country like in Assam flood occurs almost regularly, hence, it cannot be treated as an exogenously given random factor. In fact, its entire agriculture is a gamble in nature. When there is high flood, crop damage is more, rendering the people unemployed. The marginal farmers and agricultural labourers in the affected areas are forced to resort to beggary in the unaffected villages.

Given the data, it is possible to arrive at some positive correlation between the flood affected and the rural unemployment. It can be argued that it is this kind of infructuous employment which is concealed, and not captured in the various official estimates (compiling data in the flood free season), thereby projecting a comfortable employment picture in rural
areas. Hence infructuous employment cannot be treated as a casual factor.

3.5 Seasonal Unemployment

Seasonal unemployment is not a new phenomenon. Rural people are used to it. It is not a characteristic of rural employment but a type in itself. In rural areas, employment is primarily determined by the activities in the primary sector which is seasonal in nature. Employment intensity varies according to seasons and within a season according to weeks or days. During peak season there is full or near-full employment when the probability of employment for a rural worker is unity or near about it. In slack seasons on the other hand, there is disguised or open unemployment. The chance of employment during slack season is not far from zero. It is during the slack seasons, that there is unemployment or surplus labour particularly among the small and marginal farmers. Some of this two categories and landless workers move as seasonal migrants for informal sector jobs in the urban areas.
The rural employment scenario can be depicted as in diagram 3, which however is non-conventional. The horizontal axis measures seasons while vertical axis measures employment (i.e., demand for and supply of labour). The demand for labour is derived from the seasonal employment curve 4. During the slack season OL, the implicit demand for labour (at a given wage rate) is say OD while supply is OS. Hence, there is an excess demand OS which can influence the level of wage rate if there is no seasonal migration. The activities in the busy season (sowing/transplanting) get its peak at point P when the demand for and supply of labour match each other. At this point full employment occurs. After the peak, slack starts due to gestation lag. Again, with harvesting operations busy season starts though its amplitude may not be of the same order as the previous one. After harvesting, again slack season starts when unemployment and even open unemployment occur. The problem of rural unemployment is how to shorten the slack seasons. An understanding of busy and slack seasons is a 'sine-qua-non' for any policy planning for rural employment. The existence of
Diagram 3

Season

Diagramming the relationship between employment and season, the graph illustrates the movement of surplus labor, reaching a peak during the busy season and slack periods.

Key:
- O: Origin
- L: Busy Season
- S: Surplus Labour
- D: Slack Periods
seasonality in agriculture calls for providing at least minimum employment in slack seasons through rural works programmes to prevent loss of labour.

3.6 Approaches to Unemployment

In the contemporary literature one can distinguish the following approaches to the problem of unemployment viz.,

(i) Traditional Neo-classical Approach,
(ii) Keynesian Approach,
(iii) Choice of Techniques Approach,
(iv) Factor proportion Approach,
(v) Alternative Technology Approach,
(vi) Trickle-down Approach,
(vii) Poverty Approach,
(viii) Marxist Approach,
(ix) Dependency Approach,
(x) Surplus Labour Approach,
(xi) Migration Approach,
(xii) Descriptive Approach.
It may be mentioned that these approaches have evolved in the context of developed countries (barring the poverty approach), where the social, economic, technical and institutional circumstances are entirely different. Further, the above approaches in their pure form cannot explain the problem of rural unemployment faced by the developing societies. However, it may be useful to deal with them briefly since development itself is a process and underdevelopment is only a stage.

3.6.1 Traditional–Neo-Classical Approach

The classical economists always found themselves in a state of full employment. The movement is from one level of full employment to another level of full employment in the next level of development. Hence unemployment to them was out of question. The level of employment and wages are determined simultaneously by the forces of labour demand and labour supply. On the demand side, producers demand more workers as long as the value of the marginal product produced by an additional worker exceeds his cost to the employer. The demand curve for labour is negatively-sloped due to application of law of diminishing marginal
product at product prices fixed by the market. On the supply side, labourers are assumed to operate on the principle of utility maximisation who allocate their time between work and leisure on the basis of marginal utility of each. A rise in wage rates is equivalent to an increase in the price of leisure. More labour is supplied at higher wage rates hence the labour supply curve is positively sloped.

At higher wage the supply of labour will exceed its demand. Competition among labourers will force the wage rate down. On the other hand, at lower wages the demand for labour will exceed its supply. Competition among producers will drive the wage rate to move upwards until it reaches its equilibrium.

According to the traditional approach, if the wages are flexible there can be no unemployment. The cause of the unemployment according to this approach is the excessively high level of wages.

The traditional approach to unemployment is based on certain assumptions which are not found to hold good in the real world, not to speak of the developing economies. These assumptions are like
perfect competition, consumer sovereignty, individual utility and profit maximisation, perfect factor and product mobility etc. As believed by the traditional school wage rates are not flexible downward since they are determined by a host of factors like 'customs', subsistence needs, government legislations, trade union influences etc. According to the neo-classicalism underemployment exists in agriculture, then it must be caused by the zero marginal product of labour resulting from labour abundance relative to land and capital. However the followers1 of this approach believe that the economic miracles in the 'gang of four' developing countries via, South Korea, Taiwan, Hongkon; and Singapore where labour is abundant, is along the neo-classical tradition.

3.6.2 Keynesian Approach

The hollowness of the classical economics came to be realised when they could not explain the economic behaviour including unemployment during the Great Depression of the 1930s. This gave birth to the famous Keynesian general theory.

of income and employment determination, the Keynesian approach assumes that the wage rate, the sole determinant of labour supply, is rigid downwards. It emphasises the role of effective demand in determining unemployment. If effective demand is too low in relation to the supply of labour, then unemployment will occur. This unemployment is involuntary in that workers are willing to accept jobs at the prevailing or even lower wages but cannot find. According to this approach, the way to deal with unemployment problem is by raising the effective demand for any, food products through in one redistribution or by subsidies to poorer consumers. However, Keynesian approach has hardly any relevance to the developing economies. These economies, by nature are growing economies with high population growth. Growth in income and in population are reflections of increase in effective demand, though the level of income may be low. Also, the high rates of deficit financing and inflation are indices of excess demand. Hence with the presence of all these effective demand there is unemployment in the developing economies, contrary to the prediction of this approach. Hence as cause of unemployment in the developing
countries are structural and institutional constraints on the supply side making it inelastic. These are production rigidities, shortage of capital, raw material, technical know how, traditional technology, shortage of foreign exchange.

Though Keynesian approach may be applicable to some segments of urban workers in the developing countries, it however cannot explain the rural unemployment and underemployment problems.

The irrelevance of Keynesian economics to underdeveloped economies like India's has been dealt by Dr. V.K.R.V. Rao (1952) in his famous article in the following words:

"The Keynesian thesis applies only to one of these categories, viz. where, given the level of economic development, you move from low employment to full employment. It is the classical thesis which is operative for the other category where you move from one level of economic development to a higher level of

economic development. The mixing up of these two categories and a consequent blind application of the Keynesian formula to the problems of economic development has inflicted considerable injury on the economies of underdeveloped countries and added to the forces of inflation that are currently afflicting the whole world. The old-fashioned prescription of 'work' harder and save more still seems to hold good as the medicine for economic progress, at any rate as far as the underdeveloped economies are concerned.

As infact pleased that the Keynesian multiplier principle does not operate in underdeveloped economies such as ours because of the inelasticity of output. On the other hand, earlier to A. K. Deagupta argued that mass unemployment and poverty in Indian economy is to be explained in terms of insufficient accumulation of capital. Recently A. K. Deagupta renewed his argument to prove his point. The growth of demand for labour has failed to keep pace with the growth of labour supply. The stock of capital including

land is not sufficient to employ the entire labour force even at the subsistence wage. Resources constraint is also acting behind the inelasticity of output.

5.6.3 Choice of technique Approach

This approach, also known as price-incentive model is in the tradition of the neoclassical theory of production. The argument is that there exists some 'natural' or 'undistorted' set of factor prices which would ensure full employment. There is assumed to be an infinite choice of techniques of varying labour and capital, allowing for investment rate to be associated with any rate of employment. If the market price of capital is high relative to that of labour, then a relatively labour intensive process can be used and vice versa. The choice of technique of production is then determined by the relative factor prices. According to this approach the cause of unemployment is due to distorted factor prices caused by trade unions, labour legislations, subsidies, overvalued exchange rate.

This approach has also got several limitations. Notable are the assumption of infinite range of choice.
of techniques which is hardly found to be true in practice. Most often the labour-capital ratio is technically fixed rather than determined by factor prices. Individuality may also prevent infinite substitution between factors of production. Thirdly, wage is linked with productivity. Hence wages cannot be varied freely by the employer without affecting labour productivity.

The choice of technique problem has been given detailed treatment by A. K. Sen and Maurice Doz independently in their well-known classics. However, one of the best in the recent literatures is that of V. Wuyts who argues, "If one is serious about releasing labour from agriculture to build industry in the longer run, one may have to start with absorbing labour within agriculture so as to stabilise and control the rate at which labour can be released from agriculture to be transferred to industry without creating unemployment in the process".

1. V. Wuyts, the 'mechanisation of Present-day Peasandid Agriculture in Development and change Vol. 12 no. 1, Jan. 1981 (P. 14).
3.6.4 Factor proportion Approach

According to factor proportion approach, in production economics there is complete technological fixity, with a unique ratio of investment to employment. In such a case changing factor prices will have no effect on employment. Here the total employment is determined by the rate of investment. Given the ratio of investment to employment, unemployment will occur if the rate of investment falls below that level necessary to ensure full employment. This approach suggests two possible solutions to unemployment. These are, (i) increasing investible resources to absorb as many unemployed as possible and (ii) modification of the technology for the developing economies in a labour-intensive direction so as to utilise the relatively abundant factor.

Alternatively, factor proportion problem can be looked at from the imbalance between land, capital, labour and other resources by examining their ratios. However, the difficulty lies in determining optimum ratios. The problem in respect of developing economies has been dealt at length by Moses in his classic articles.

3.6.5 Alternative Technology Approach

The exponent of this approach appears to be Frances Stewart, who on dividing the economy into two sectors viz. lagging and forward sectors, concentrate on improving the productivity and employment opportunities of the lagging sector, as well as modifying technology in the forward sector. What is relevant to this approach is an examination of income, employment and technology in both sectors, and the interrelationship between the two. The gap between the two sectors is reduced through the process of improvement of productivity of the lagging sector and modification of technology in the forward sector. However, the above dichotomy was not appropriate. There is now more talk about intermediate technology, appropriate technology, and advanced appropriate technology.

3.6.6 Trickledown Approach

Thinking in the middle of the twentieth century was that economic growth maximisation would automatically solve the problem of unemployment through

trickles-down effects i.e. automatic percolation of the fruits of growth to the unemployed and poor. This approach also believed that higher saving is essential for higher investment and higher investment for higher growth. Since savings, ex-hypothesis, are more under conditions of inequality hence both inequality and poverty are essential for growth. It was also thought that there is only a fixed amount of capital to be allocated at a particular time and it can employ only a certain part of the labour force, leaving the rest unemployed, to assist on others as dependents. Employment growth is related to output either by ensuring constant labour-output coefficients or by incorporating productivity assumptions in which the output-labour coefficient increases often steadily over time. The growth of employment is then a function of the level and change in productivity, the rate of savings and the capital-output ratio. The trickle-down approach suggested that if a society takes care of its growth of old and unemployment will take care of itself. One way, according to the approach, to take care of the is through a process of large-scale industrialisation that could result in increased wage employment.
on the basis that there is inevitably a positive relationship between the growth of output, employment and labour productivity, while the 'trickle-down' effect would lead ultimately to redistribution of resources and income throughout the society. Pursuit of such a programme in many countries to the neglect of their rural development aggravated the rural unemployment problem. The approach suffers from many shortcomings. It neglects the relations between income distribution and economic growth, and does not take into account initial inequality in the distribution of income. Increase in J.D. does not lead to an automatic rise in the incomes of all the groups in the society. Prof. J.N. Sharmati1 argues thus:

"The estimates of increasing poverty in India have underlined the lesson that growing incomes do not necessarily trickle-down to the bottom strata. Even if they did, the process would be so slow that it would be intolerable in the time it would take; it is morally difficult and politically impossible to suit those in poverty to wait until perhaps the next millennium for significantly improved incomes."

faith in the ability of growing incomes and investments to take care of the poor within the foreseeable future, in any significant fashion, is no longer with us."

Contrary to trickle-down approach, the economic development in China has proved that it is a fallacy that poverty can be removed and full employment achieved only at higher rates of growth and only over a period of many decades. On the other hand, rapid economic growth with equity has been experienced by Taiwan, Yugoslavia, Korea etc.

Continuing the O.E.C.D. approach, the Social Security of the world bank suggested the following perspective for the developing countries.

(i) The problem of development must be defined as a selective attack on the causes of poverty. Development goals must be defined in terms of progressive reduction and eventual elimination of unemployment, inequalities etc.

(ii) The developing countries should define income consumption standards that they must reach in a
managable period of time, say a decade.

(iii) If pattern of production is geared to satisfying minimum consumption requirements and to employ the entire labour force, higher production will itself lead to better distribution.

(iv) Employment should become a primary objective of planning and no longer be treated as only secondary. The entire labour force be regarded as allocable over which its limited capital resources must be spread. It is only if one proceeds from the realm of full-employment, with people doing something useful at least even with little losses of capital and organisation, that one can eradicate unemployment and poverty.

Deficiencies of the trickle-down approach has led to rethinking on the process of economic development itself, and accordingly many developing countries are reorienting their goals and the planning-employment generation has now become a preoccupation with most developing countries. Hence, target group specific, area specific programmes of employment generation have been made components in the planning, i.e. by side,
recognition of unemployed as human resource are to be established.

3.6.7 Poverty Approach

Legitimacy of this approach comes from the following logic. Poverty means hunger, hunger means food, food requires job, job gives income and income means purchasing power. From the late 1960s, it came to be recognized that the poor and unemployed are identical. According to the I.L.O., I.a.4on (1970) to Columbia: 'Poverty therefore emerges as the most compelling aspect of the whole employment problem in Columbia.' Conceptually, the employment problem of the developing economics has been expanded, to become as much a problem of income distribution and poverty as of shortage of work and underutilisation of labour. The poor and the unemployed in the rural areas are found mostly among the self-employed marginal and small farmers, family workers, and agricultural labourers. The following extract from a 1960 study best

explains the relation between rural poverty, employment and income:

"Agrarian structures are strong determinants of the extent of poverty, employment and income distribution in rural areas. Peasants have access to land and water generally through inheritance and marriage. Land ownership concentration is still high in many countries. Technological changes combined with commercialisation of farming have further accentuated an already serious problem of inequality of income distribution and led to the neglect of food crops the main source of employment and food security for the peasants. Rural poverty has been perpetuated by serious inequality of income distribution, due not only to land distribution, but also to a decline in real agricultural wages, have perpetuated rural poverty. This type of agrarian system, characterised by disproportionate investments of scarce resources, has caught peasants in the poverty trap. Whether in socialist regimes or private ownership-based agrarian systems, non-farm activities gradually reduce peasants' agric-
of dependence on limited employment opportunities in agriculture. But these supplementary employment opportunities should not be an alternative to agrarian reforms.

From this it appears that the cause of unemployment is found to be in the unequal distribution of land holdings and concentration of land ownership. The remedy therefore lies particularly in agrarian reform like reduction in inequality, redistribution of land etc. The poverty approach in effect abandon any relationships with the original concept of unemployment as understood in economics. However, the approach seems to be more successful in explaining underemployment than unemployment, since the approach rests on arbitrarily determined cut-off level of income or consumption so, it is likely that underemployment estimates based on poverty estimates would also be arbitrary and subjective.

3.6.31 Landist Approach

According to the 'landists', unemployment in rural areas is the result of the capitalist mode
of production in agriculture, so in the root capitalist production destroys all forms of commodity production which are based either on the self-employment of producers, or merely on the rule of the excess product as commodities. The volume of employment offered by capitalists depends on the volume of capital in existence, and unemployment occurs when there is insufficient capital to employ all the potential labour force.

To the Marxists, Marx's recognition of the role of "relative overpopulation", connecting the question of employment to the secular analysis of accumulation, is one of his most important contributions. Marx in his Capital (Vol. I, 64.3, 1961 edition) explained the General Law of Capitalist Accumulation in Agriculture as follows:

"As soon as capitalist production takes possession of agriculture, and in proportion to the extent to which it does so, the trend for an agricultural labouring population falls absolutely while the accumulation of the capital employed in agriculture advances, without this repulsion being, as in

non-agricultural industries, compensated by a greater attraction. Part of the agricultural population is therefore constantly on the point of passing over into an urban or manufacturing proletariat, and on the look out for circumstances favourable to this transformation. But the constant flow towards the towns presupposes, in the country itself, a constant latent surplus-population, the extent of which becomes evident only when its channels of outlet open to exceptional width. The agricultural labourer is therefore reduced to the "minimum of wages, and always stands with one foot already in the swam of pauperism".

The existing view is that under socialism there is an obvious social need to employ all the available human resources. Collectivist agriculture or co-operatives offer employment to all and prevent rural exploitation. However, this approach has its own limitations. In collectivist farming, or under commissure system though there may not be visible unemployment there is every reason to believe that
unemployment exists.

Capitalist mode of production affects employment in several ways. Two of such ways which are important are: de-skilling of labour, hereditary craft and traditional skill. The other is the substitution of labour by capital and machines.

3.6.9: **Dependence Approach**

Paul Baran is said to be the father of this approach who asserted that: "Economic development in underdeveloped countries is fundamentally inferior to the dominant interests in the advanced capitalist countries." There are several streams of the dependence approach. One of its streams is the centre-periphery variant which maintains that the segments of the labour force which participate in the industrialized and modernized sector tied to metropolitan capital prosper and benefit collectively from dependent development, while those which are occluded from it suffer from deprivation and the lack of adequate income. A process of semi-colonialization leading to increasing unemployment.

and poverty in the periphery starts. The center-periphery variant describes the unemployment in the following way. The problem of employment in the periphery has two facets: the absorption of additions to the active population, and the re-absorption of the labour force in the most backward sectors into economic activities in which productivity is higher. The demand for labour is proportionate to the level of investment, which according to this approach, takes place only in the modern sector i.e. export sector. Full employment of the labour force at adequate levels of productivity can only be achieved if the rate of capital accumulation in the modern (export) sector and in import substituting manufacturing activities is sufficient not only to absorb the growth in the whole of the active population, but also to re-absorb labour from the traditional sector. Thus the level of employment depends on the level of capital accumulation in the modern sector and on the balance between the growth of the active labour force and the rhythm of the expulsion of labour from the traditional sector. It is from the heavy demand on the
modem sector to provide full-employment in the economy at adequate levels of productivity that the structural tendency towards unemployment and underemployment in the periphery is deduced.

Another variant of the approach is that of those who put the dependency relation in the following ways:

(i) Dependency is the conditioning structure of poverty.
(ii) Poverty is the result of underdevelopment.
(iii) Development of the core is the underdevelopment of periphery.

View point of the dependency approach is that most developing countries are caught in a conweb of economic, social, political and technological dependence, operating through a wide network between power groups in the developed countries and key interest groups in the developing countries, but all combining to produce structures of underdevelopment. The type of dependence may act in such a way as to be biased against employment generation in the developing countries. Advanced technology of the developed
countries and discovery of synthetics may act in such a way as to displace the producers of traditional products of the developing countries, creating unemployment. In a dependent system it is therefore possible to import 'unemployment'.

Thus the dependency approach tries to explain the problem of unemployment and underemployment of the developing economies with the help of their dependence on the developed economies through technology, trade, aid etc. According to the approach, remedy for underdevelopment, unemployment etc lies in the structural transformation of the economy at the periphery. Among the economic policies suggested are 'healthy protectionism', exchange control, attraction of foreign investment, adoption of wage policies aimed at boosting up effective demand, public sector investment in infrastructure etc. However, remedies suggested on the extreme are 'de-link' for the developing countries from the developed countries through national autarky, customs union etc. There are also intermediate suggestions like 'south-south'
trade i.e. between developing countries, collective self-reliance, etc.

**Surplus Labour Approach**

The father of this approach is A. W. Lewis, a joint recipient of Nobel Prize (1979) in economics whose pioneering work on "Economic Development with Unlimited Supplies of Labour", Manchester School (by 1954) has made tremendous contribution to the understanding of the process of development and hence the problem of employment in developing countries. According to Lewis' model the economy is divided into two sectors viz. capitalist and subsistence. There is surplus labour and disguised unemployment in the subsistence sector. Because of the surplus labour in the former, the supply of labour to the industrial sector is infinitely elastic for a constant wage rate. The wage in the capitalist sector is higher than agricultural remuneration. The capitalist sector, in its production follows the principle of profit maximization. It is assumed that all profits are reinvested.

1. Recently, Prof. Santhanam in his, the Deputy Chairman of Clearing Corporation, Govt. of India floated such an idea in 'Financial Express' dated 14.1.6.
which means growth of fixed capital in the modern sector, that of production and finally that of employment.

In Lewis' model, economic growth and absorption of labour in industry are synonymous, because the success of development depends on the speed of migration of agricultural workers, which depends on the growth in production and rate of capital accumulation in the modern sector.

The issue is when the surplus labour ends? It is likely to last indefinitely if the supply of labour is reinforced by an excessive high birth rate. If, however, the rate of investment is such that labour transfer takes place much faster than the rise in the birth rate, then the surplus labour in the subsistence sector tends to decrease and finally disappear. At this, the labour supply curve begins to vary with wages (once the disguised unemployment has completely disappeared), so that the marginal productivity of the farmers remaining in the subsistence sector rises. Lewis has recently generalised his model by replacing the two sectors with wider traditional
sector and modern sector. His model is also interpreted as a migration model of labourers from rural to urban sectors. Lewis' model is subject to some criticisms. The surplus labour concept must be distinguished into static and dynamic concepts. In its static aspect, surplus labour refers to that number of population which can be removed from the subsistence sector without any change in the method of production and without reduction in output. On the other hand, in its dynamic aspect, surplus labour refers to that segment of population which can be removed from subsistence agriculture without its output falling, assuming a change in the method of production—through reorganisation (including addition) in the fixed and variable capital and reallocation of work. Lot of controversy arose because of the failure to distinguish the static from the dynamic. Lewis' model suggests that in developing countries labour in agriculture is surplus in the sense that marginal product is zero, so that agricultural output will not fall if some agricultural labour is withdrawn.

1. Manchester school: special issue (Sept. 1979) on re-evaluations of the Lewis code.

2. Zero marginal productivity is neither a necessary nor a sufficient condition for the existence of surplus labour.
This implies that the labourers who remain in agriculture would work harder for an unchanged wage. In other words, for agricultural labourers preference between leisure and income is perverse, for workers will not usually work harder without being offered a higher wage rate. This seems to be queer. Leisure is not an inferior commodity to work/income. The supply curve for agricultural labour is found to be upward rising in India. This is contrary to Lewis' model. If a rural unemployed person is asked to read Lewis' model he would feel that job is waiting for him in the urban sector. However, in practice it does not come to him so easily and so certainly. Lewis has totally ignored the 'rural development' as a means to employment.

Another limitation of the above model is the continuous demand of the labour by the capitalist sector. Lewis has not explained how this capitalist sector came into existence. If the capital intensive methods of production can generate more profit why should a capitalist continue to employ labourers?

Lewis has underscored the substitution possibilities and automation. There is also no guarantee that the capitalist would reinvest all his profit. In the rural areas the landlords are known to spend their profit in luxuries and enjoyment. It has also been taken for granted that whatever the capitalist sector produces would automatically be sold, but problems in rural areas of the developing countries is of purchase power, and there is no ready market.

Another 'surplus labour' model is that of Professor Sen and Fei. In their two-sector model (agriculture and capitalist) Sen and Fei consider disguised unemployment to exist in the agricultural sector when the marginal product of labour is less than its average product which is said to be the institutional wage in agriculture under the extended family system. Labour with zero marginal product is called "redundant labour". In this model the horizontal labour supply curve is considered to end when the redundant labour force in the agriculture sector is taken up and a relative shortage of agricultural goods occurs, so that the terms of trade move against...
the capitalist sector. This upward trend in the labour supply curve is later accentuated by a rise in the agricultural real wage attributed to the removal of disguised unemployment and the commercialisation of agriculture so that real wages become determined by competitive market forces instead of former institutionally determined wage. Thus, in the course of time marginal product in the agricultural sector gets equated to that of the capitalist sector. It may be mentioned that empirical results are not helpful to prove the Lewis—envisaged model. For, contrary to their assumption of full employment in urban/modern sector there is found to be open unemployment, and almost no general surplus labour in rural areas. On the other hand, even with open unemployment urban real wage tends to rise compared to rural wage.

Further transfer of labour from rural to urban sector is not linear. For there is the question of qualification, age, motivation, skill, training etc. required for modern jobs. The model ignores all these.
Migration Approach

Rural-urban migration is a natural consequence of economic development process demonstrating geographical mobility of labour. Migration is also a historical process, reference to which is found in the works of Plato, Shakespeare and even in the writings of medieval social theorists like Ibn Khaldun and jokes. Twentieth-century developments have led to the creation of a modern economic sector, localised in towns, mining areas and areas of plantation agriculture, that offer advantages like better employment, high incomes, security, improved housing, health, education, transport etc. Development of transport, markets, monetisation of the rural areas have affected the rural economy in which some people found themselves that if they are to win the economic struggle they would have to move into 'new-found virgin land' or to urban areas for non-agricultural employment. This paved the way for population mobility, of which rural urban migration is a characteristic feature. Theoretical explanations of migration dates back to at least 1880s, when Sievekein first propounded his laws of migration. The importance of

economic motive, the negative influence of distress, and the role of step-migration were some of the features highlighted by him. Migration is triggered off by a set of push and pull factors as given below.

**Push factors:**

(i) lack of additional rural employment opportunities;

(ii) land scarcity in the rural areas;

(iii) high (rural) population density, poverty;

(iv) periodic visits of natural calamities like floods, drought, famine, epidemics, crop failures;

(v) shortage of amenities and infrastructure in the rural areas like good transport, health facilities, education, ration etc.

**Pull factors:**

(i) better employment opportunities, earnings, new investment opportunities;

(ii) better civic amenities and facilities than the rural areas;

(iii) existence of family relationships, kinship, ethnicity in the urban areas;

(iv) psychological factors like change in social security, status, secular outlook, self-esteem etc.
We have already mentioned that Lewis' model can be interpreted as a migration model. However, among the better known migration models are two of Harris-Todaro\(^1\). The two authors try to analyze rural migration by using a formal model of area-to-equilibrium centered upon the differences in the expected earnings between the two sectors via a traditional and the modern. The basic assumption of the model is that each potential migrant makes a decision on the basis of an implicit "expected" income maximization objective. There are two principal economic factors behind the decision to migrate. One is the existing differential between urban-rural real wage, and the other is the existence of large disparities between wages paid to urban workers and those paid to relatively skilled rural labourers. The factors behind the differential are the relative stagnation of agricultural earnings and rapidly rising urban wage rates for unskilled workers.

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The basic features of the Harris-Todaro model are as follows:

(i) In an economy with no surplus labour, that is to say, the peasants receive a wage equivalent to their marginal product.

(ii) Migration takes place in two stages viz.
(a) Primary migration towards the informal/unorganised urban sector where the migrant remains for a time till he finds a regular job;
(b) Secondary migration towards the formal/organised sector where the migrant finds a permanent job.

(iii) Migration is determined by the disparity between the expected rather than the current urban and rural wage differential.

(iv) Migration is considered as a form of equilibrating mechanism.

(v) The probability of finding urban employment at the current wage rate is equal to the ratio of the employed urban population to the total active urban labour force.
Harris-Fodero's contribution of the notion of probability and expected income in migration approach is widely acknowledged. However, the approach has some limitations. They are considering an economy with no surplus labour, where, therefore migration to urban areas for employment purpose is not meaningful. Indirectly, the model suggests the rural migrant to look for uncertain urban jobs than to remain with 'certain' rural employment (under condition of no surplus labour). The model treats migration as costless which is not true in practice. The model has a tendency to predict rates of unemployment significantly higher than measured rates. Harris and Fodero's assumption that the probability of a highly paid employed worker is zero is both unrealistic and unnecessary. In those areas where transport and communication are better, the rural residential location imposing a constraint on job search under the above approach is not essential. Under a rural-urban balanced growth strategy it may not always be necessary for rural persons to migrate to urban areas for job. Harris-Fodero believes that migration takes place only for economic reasons, but we have noted that there are several factors over and above the economic motivation.
So far, we have been discussing the various approaches to the problem of unemployment (and underemployment) that are existing in the contemporary literature. None of the approaches by itself can explain the problem faced in the developing countries. Time moves, society changes and situation differs hence there cannot be a single approach that can explain unemployment. It is therefore necessary to search for new approaches. We are suggesting here a new approach that can help explaining the problem of rural unemployment. For want of a better term, we call it 'descriptive approach' which is used here in the diagnosis of the anatomy of the rural unemployment problem. Before dealing with it let us touch the following.

5.6.12 Development Economics Approach

Basically 'development economics' has emerged from the distinction between the economies of developed countries and developing countries. It deals with the structure and behaviour of economies of the latter. Its analytical and empirical basis are provided by the Keynesian 'revolution' in economics.
thought and the experience of the developing countries during the Great Depression of the 1930s, with the exception that Keynesian remedy for unemployment does not hold good for the developing economies. "Development economics" believes that to alleviate unemployment, poverty and income distribution government intervention is required to redistribute assets in favour of the unemployed and scarce resources in favour of the poor to meet their basic needs.

The ideology of development has grown after the Second World War, most of the developing countries followed the industrial growth strategy for development, but it failed to solve the problem of unemployment, which surfaced by the mid-1950s throughout. By 1964 this had finally become the subject of international agency debate, and the ILO's Employment Policy convention (No.122) committed governments to adopt 'active full-employment policies' with an accompanying recommendation urging the establishment of employment targets, indicating the lines of policies to be followed and proposing both bilateral and multilateral
forms of international cooperation\(^1\).

The ILO introduced world employment research programme at its 1969 session for different countries. Thus in his paper vis. 'sectoral employment and income distribution in rural India', Dr. Farbman (1975) of the ILO concludes: 'Implicit in this finding is the suggestion of an underlying process which causes incomes to be more equally distributed among cultivators than among agricultural labourers. The relationship is not independent of the land distribution/income distribution link' (p. 63). His findings also suggest that rural income is most unequally distributed in those states where employment in the service sector is relatively highest.

Besides investigating the cause and effect of unemployment, 'Development Economics' treats unemployed as a resource. The search for master-key to development has now shifted the strategy to make investment in human resources so that an efficient labour force which is a primary requirement for growth can be created. The human beings now are treated at par with machines, as it were, on whom to invest for

the success of economic development. An efficient labour force is expected to take care of employment by itself. On the other hand, investment in human resources is an opportunity which only the rich can afford to make.

Dimension of the human resource problem of the developing countries vis-a-vis India during 1970 - 2000 AD can be visualised from the data given in Appendix 3.1. India's population is projected to be 986 million by 2000 AD. Though its population growth is expected to decrease after 1980, its labour force growth is bound to rise. The order of investment required to develop this huge population would be vast. Hence the problem cannot be eliminated even by the end of the 20th Century.

The current order of unemployment in the developing countries is very high. "If we go by one of the recent press reports of the ILO, there are now as many as 90 million unemployed, and 300 million underemployed in the Third World. The bulk of these unemployed constitute the rural population".1

In other words, the unemployed and underemployed of the developing countries together account for more than half of the population of the 19 industrial market economies which includes USSR, etc., as classified by the World Bank.

3.6.13 Descriptive Approach

This is an approach where we do not have a theory as such, but move from facts in search of a theory. The approach consists in describing the problem of unemployment (underemployment) by exploring the cause through studying the relationship between unemployment and other associating factors. The degree of relationship is established empirically through the estimation of correlation coefficient and by testing for significance. This approach starts with the description of a chain of hypothesis (rather than a single hypothesis) between unemployment and other quantifiable and measurable variables that are believed to influence the former. Thus, this approach encompasses demographic, sociological, structural, technological and economic factors behind unemployment both in macro and micro
aspects. The approach like the pure economic approaches which however are partial, does not use demand, supply curves or marginal productivity concepts as such. It analyses the situation in its 'as it is' form and looks for what ought to be. Relationship between rural unemployment and some of the variables are found to be positive on the one hand, and negative with some others on the other hand. The significantly positive relation are found between rural unemployment on the one side and (individually) concentration of land distribution, agricultural labour, casual labour, marginal farmers etc on the other side. This suggest that inequality in the distribution of land is the major cause of unemployment. Incidence of unemployment is were among the casual labourers, agricultural labourers and marginal farmers. However, the number of variables could be increased.

The relationship between rural unemployment on the one hand, and (individually) per capita income, cultivators, size of operational holdings,
multi cropping, farm output, HYV technology etc., on the other hand are found to be negative. One can include more variables that may be having negative relation with unemployment.

The descriptive approach enables us to draw policy conclusions in the following line. If rural unemployment are to be removed, then land reform is essential. Along with this, application of modern inputs like credit, irrigation, fertiliser and HYV technology, multiple cropping can reduce rural unemployment and unemployment.

The approach however has its own limitations. It is not a single theory, but a body of hypothesis all of which may or may not hold good depending upon the specific circumstances. It tries to describe a situation through trial and error method which is time consuming. Further the econometric errors like specification error, errors in variables etc., may creep into the estimation procedure. It can take care of only those factors behind unemployment, which are quantifiable and not the qualitative ones like job aspirations, job expectations, efficiency, frustration, etc.
3.7: Methods of Measurement

In social science like economics it may not be very difficult to define concepts on employment and unemployment under given assumptions and technology, but it is very difficult to measure the same due to a number of reasons, both hidden and visible. Difficulty is further strengthened if the concepts are inherently inadequate and vague. Further, issues involved in unemployment go far beyond the confines of economic analysis. Employment and unemployment, as concepts are not mutually exclusive in view of the concept of underemployment or disguised employment, there is also a range of employment problems rather than a unique one, particularly in developing economies. Dr. Ashok ‘Itre, in his note of dissent appended to the "Report of the Committee on Unemployment (1973), Government of India" has to say the following on the conceptual problem:

"Besides, in the Indian milieu, the concept of employment itself has a certain vagueness about it. There are more or less
standardised measures for assessing the degree of employment characteristic of a given unit of labour in an organised industrial sector. These however tend to get blurred as one moves away from the sphere of organised industry and enters the arena of rural employment, or employment in the so-called service sector, while it may be possible, under certain circumstances, to have well-defined concepts of wage employment, precision is necessarily missing from the various notions of self-employment.

The concept of wage employment, it is certainly argued, fast loses its immanence in the agricultural sector.” (p. 258).

In evaluating the concepts presented earlier and the methods of measurement given below the above conceptual inaccuracies needs to be kept in the background.
3.7.1 Basic Identity

Rural employment (for that matter rural unemployment) is not an isolated phenomenon. It is linked up with a number of things as can be seen from the 'not so familiar' identity given below. In a sense, the identity is fundamental to economic analysis.

\[
\frac{Y}{P} = \frac{A/K}{Y/A_y} \frac{V/L_y}{K/L_y} \frac{W/L_y}{P_y}
\]

where, \(Y\) = Output or income (rural)
\(P\) = Population (rural)
\(A\) = Area of land
\(W\) = Land days employed on land
\(L\) = Labour force (rural)
\(K\) = Capital
\(V\) = Working age population.

The first ratio on the right hand side is the ratio of land to land days i.e. sort of land-labour ratio, the second is the ratio of land productivity while the third measures rate of employment (or unemployment) i.e. ratio of land days worked to the total labour force. The fourth ratio is the output-capital ratio, while the fifth one is the capital per unit of labour.
and the sixth ratio is the inverse of labour productivity. The seventh ratio is an index of participation rate and the last one is the inverse of gross dependency load. As against the right hand side components, the single ratio on the left hand side is the per capita product or income. From this it is clear that measurement of rural unemployment involves the estimation of the above ratios, which can be done both at macro or micro level. Our analysis follows along this line.

The identity has got several advantages. As for instance, dynamics can be introduced by allowing for growth of each component in the ratio. Further each ratio can be split up into sub-ratios like irrigated, unirrigated, male-female worker etc. The employment rate can be directly expressed by simple transposition in the identity. It can also be expressed as a weighted sum of the ratios through logarithmic translations. One can also easily derive the elasticities from the identity.
The identity also suggests how labor productivity can be raised either by transferring workers from low productivity to high productivity areas or through intra-sectoral transfers. It also shows how the problem of unemployment in rural areas is linked up with land-men ratio, farm employment, yield per hectare, labour productivity, capital per head, capital output ratio, workers' participation rate, dependency ratio, and above all the per capita output. Hence without measuring all these components it is difficult to measure rural unemployment. On the other hand, a programme of rural employment must take into account all these components.

3.7.2 Unemployment criteria

Prior to 1970 the literature on the methods of measurement of unemployment was somewhat vague and that too very rare. Adhoc working methods were the rule which are subject to many limitations. It is possible to identify three such methods used till that period. The first was the concept used in many official documents, when all those who were idle for want of work and at the same time were available for work were categorised as unemployed.
This concept is described as one based on "the willingness criterion". A second method was to measure the number of days of idleness during a year. Thus, the second Agricultural Labour Enquiry (1956-57) of the Government of India estimated that the casual male workers were employed 237 days on average in a year implying 128 days as unemployed. The above criterion was referred to as time criterion, where 'time' can refer to months or weeks to take account of intensity of work or seasonality. The third method was along productivity line. As for instance, P.N. Rosenstein-Rodan\(^1\) suggested three ways of using the above method to measure surplus labour viz. (i) the difference between the labour available from the active agrarian population and that required for a given output, (ii) the difference between the actual density of population and the density regarded as adequate for a given type of cultivation, and (iii) area of land required under a given type of cultivation to

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provide one person with a 'standard income' may be accepted as the norm. The area available would give the employment level and when this is subtracted from the available agricultural population, the magnitude of surplus labour would be obtained. One can easily see the static aspect and arbitrariness in the above methods which needs no elaboration.

Yesterdy efforts on establishing a methodological framework for measurement of unemployment seem to have started with the work of Late Professor Raj Krishna, whose Presidential address at the Indian Agricultural Economics Conference at Kanpur (1972) was a landmark in this regard, where he presented the following four major criteria of measurement of unemployment:

"Logically there are only four major criteria according to which a person may be called unemployed or underemployed, he may call a person unemployed or underemployed if either

(1) he is gainfully occupied during the year for a number of hours (or days) less than some normal or optimal hours (or days) defined as full employment hours or days; or

2) he is not gainfully occupied during the year for a number of hours (or days) normal or optimal hours (or days) defined as full employment hours or days; or

3) he is not gainfully occupied during the year for a number of hours (or days) less than some normal or optimal hours (or days) defined as full employment hours or days; or

4) he is gainfully occupied during the year for a number of hours (or days) less than some normal or optimal hours (or days) defined as full employment hours or days; or

The area available would give the employment level and when this is subtracted from the available agricultural population, the magnitude of surplus labour would be obtained. One can easily see the static aspect and arbitrariness in the above methods which needs no elaboration.

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3) he is not gainfully occupied during the year for a number of hours (or days) less than some normal or optimal hours (or days) defined as full employment hours or days; or

4) he is gainfully occupied during the year for a number of hours (or days) less than some normal or optimal hours (or days) defined as full employment hours or days; or
(2) he earns an income per year less than some desirable minimum or;

(3) he is willing to do more work than he is doing at present; he may either be actively searching for more work or be available for more work if it is offered on terms to which he is accustomed; or;

(4) he is removable from his present employment in the sense that his contribution to output is less than some normal productivity, and therefore his removal would not reduce output if the productivity of the remaining workers is normalised with minor changes in technique and/or organisation.

I shall refer to these criteria as (1) the time criterion, (2) the income criterion, (3) the willingness criterion, and (4) the productivity criterion respectively. (Op. cit.)
On the other hand Professor Amartya Sen¹ in his special lecture handout distributed in the Delhi School of Economics presented the following three concepts of unemployment:

"(1) The production approach: A person is unemployed if he is not contributing to production.

(2) The income approach: A person is unemployed if he is not receiving income (or economic support) conditional on his work.

(3) The recognition approach: A person is unemployed if he recognizes himself as being without fruitful work and wishes to have some."

The above landmark contributions to the literature on rural unemployment has evolved primarily in response to the criticisms of various scholars over time on the adequacy of the concepts, and recommendations of official bodies. The Committee of Experts on Unemployment estimates (known as the Dantwala Committee) appointed by the Planning Commission in 1968 in its report concluded as follows:

"-- -- - it is our view that estimates of growth in the labour force, of additional employment generated by the Plan and of unemployment at the end of the Plan period, presented in one-dimensional magnitudes, are neither meaningful nor useful as indicators of the economic situation. We recommend this practice to be given up" (P.31).

The said Committee criticized the prevailing concepts but neither attempted to evolve new nor offer estimates of unemployment on its own. It is quite true that a single-dimensional estimate may be misleading but alternative estimates based on multiple criteria may lead to widely divergent views. However, the estimates obtained from multiple criteria have got their own utility which answers different policy questions. In addition to the above criteria there are two more measures of unemployment viz., poverty criterion and nutrition criterion. In so far as rural poverty is measured with reference to the minimum calorie intake (consumption) required for normal day-to-day activities and equate the incidence of poverty with rural unemployment (or underemployment), the two methods may be similar.
Professor Sen, however maintains that 'poverty' as a criterion should be kept distinct from 'unemployment' without of course assuming that the two are independent of one another.

The different methods of measurement enables us to classify the unemployed on the basis of their characteristics.

Tajkrisna himself classified the unemployed into 7 different sets via, (1) Idle, (2) Poor, (3) Willing, (4) Idle and Poor, (5) Idle and Willing, (6) Poor and Willing and (7) Idle and Poor and Willing. Recently, Sathish Acharya with the help of set theory has extended the category of unemployed still further via, (1) Willing, (2) Idle and willing, (3) Idle, (4) Idle and worksharers, (5) Idle willing and worksharers, (6) Willing and worksharers, (7) Willing and non-viable set-up workers, (8) Idle, willing am non-viable set-up workers, (9) Idle and non-viable set-up workers, (10) Non-viable set-up workers, and (11) Worksharers. On the other hand, categories of

unemployed following Jan's criteria has been extended by J. K. Rao. It is possible to extend the employed theoretically into a number of permutations and combinations. This shows that unemployed are not a single category. They are heterogeneous. However, the problem is now to identify each of them in practice. It is also seen from the foregoing classification that even idle persons are now included under unemployed.

Two of the shortcomings in the said criteria of unemployment are their failure to take account of the inequality in the distribution of resources and assets on the one hand, and the production relations on the other hand. Whether one is willing or unwilling to offer oneself for employment depends largely upon his resource position, class status and social position. A person can be unemployed but rich if he has a good fortune from inheritance. Hence the problem is inter-generational. The participation rate for women and children in the family farm as well as open labour market

depends upon the social and economic status of the household. "As for usual participation of women in the (farm and nonfarm) labour force, its likelihood decreases, with asset and status effects of farm size and income effects from variables like the number of male members of the family currently in the labour force, their level of schooling, and the village wage rate for men."

Similarly, the mentioned criteria cannot capture the exploitative employment, bondage employment, quality and frustration of the unemployed without further modification. Further, requirement of employment varies for different groups of workers. As for instance, a casual or landless agricultural worker requires employment for all the 365 days of the year. On the other hand, a small farmer or marginal farmer does not require the same number of days. Hence the full-employment norm would vary depending on the resource position of the unemployed and the class status. The practices of attached labour, prevalence

of unpaid helper and the (non-market) customary 
hiring procedure, all affect the measurement of 
not only unemployment but also underemployment.

On the other hand, since income accrues to a rural 
household in lump once or twice a year, it is 
also difficult to correlate employment with income.

In view of the above difficulties, it must 
be admitted that there can be no single 'correct' 
criterion to determine a 'true' unemployment rate. 
The choice of a criterion ultimately depends on 
the purpose of the study and its practicability.