Under-employment
Its
Relation To The Agricultural Sector
And
Considerations For Its Measurement
In
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UNDER-EMPLOYMENT

ITS

RELATION TO THE AGRICULTURAL SECTOR

AND

CONSIDERATIONS FOR ITS MEASUREMENT

IN

JAMAICA

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FOREWORD

A high degree of unemployment is a typical malaise of "developing" countries, notwithstanding the fact that within recent years the level of unemployment in industralized and "developed" countries has been increasing.

While statistics are available for calculating unemployment with some degree of reliability, it has not been possible to calculate under-employment, largely because of the ineptness of the kinds of statistics which are currently being collected.

Under-employment is disguised by social systems which "protect" and "carry" the unemployed as under-employed. This is particularly the case with family agricultural plots. In this sense, under-employment is especially typical of the small farming systems which have an excess of labour and a shortage of land.

This is the second paper prepared by IICA/Jamaica on aspects relating to employment. The selection of under-employment as the main theme has been deliberate because of the problems posed. It is the hope that the issues raised will prove to be provocative enough to generate further investigation on what for the moment must dwell in the realms of conceptualization.

Percy Aitken-Soux
Director

Under-employment, Its Measurement and Its
Use in Socio-Economic Planning

I. Introduction

Development plans in Jamaica and the Third World countries in general include a series of targets that propose economic measures to:

(a) increase production;
(b) improve the standard of living;
(c) reduce unemployment;
(d) obtain a better distribution of income; and
(e) enhance the developmental potential of the least developed areas and social groups.

The above targets are not unconnected among themselves or isolated. Any effort made to fulfill one target also paves the way for fulfilling others.

The term employment covers a number of facets which range from full employment for an individual to no employment at all. In some instances the individual is only partially employed and in others he (she) is under-employed. Even from a definitional point of view it is difficult to state precisely what is meant by "under-employment" in relation to other aspects of employment which are less than full. This essentially means that in quantitative terms one should start by stating what is meant by full employment in conceptual terms. The fact that this is difficult makes a definition for under-employment even more imprecise.

The object of this document is to provide the conceptual framework and point out the statistical information necessary for under taking a study of under-employment. The decision to write this paper was made during the preparation of another IICA/Jamaica paper on "Unemployment Among Hillside Farmers in Jamaica". During the work on the above paper the authors

realized the lack of appropriate statistical data to calculate the extent of under-employment in rural areas. 1/

II. Measuring Employment

To understand well the problem of measuring unemployment and under-employment it is necessary to say a few words in relation to the statistical tools used for the periodic measurement of employment.

As a first step employment is estimated using census data which ordinarily are collected by most if not all countries at fixed periods of time, usually every ten years as is the case in Jamaica.

During inter-censal years, employment is calculated by the use of two principal instruments, which are:

(a) "Establishment surveys" (factories and businesses); and

(b) "Household surveys" (homes).

Both surveys provide different statistical information. They use different methodologies and the information obtained by both complements each other.

(a) The "establishment surveys" (factories and businesses) obtain information on the non-agricultural workers. They also provide information on wages, hours worked, economic activity, productivity, costs, etc. All this data is of great value as a base for formulating investment plans of the private sector as well as for future

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1/ Aitken P., Wahab A., & Johnson I.E. "Assessment of employment among small hillside farmers of Jamaica" IICA/ Jamaica Publication No. IV-18, November 1980.

labour and wage policies.

(b) The "household surveys" provide information on:

- standard of living
- income
- consumption
- migration
- educational level
- employment and unemployment

Both types of surveys may be of assistance in determining economic activity during the inter-censal years, and in fact provide a useful basis for assisting and monitoring socio-economic reality on a continuing basis.

The industrialized countries have established systematically the above types of surveys at prescribed time periods. In many countries of the Third World, not only are these provisions non-existent, but the censuses expected at ten year intervals are not carried out. This problem is generally due to budgetary constraints. For example, in very recent times a budgetary constraint in 1979 prevented the conduct of the scheduled 1980 Census for Jamaica.

In some countries the annual quantification of employment is made through compulsory returns made on structured questionnaries by factories and businesses directly to the Ministry of Labour (for social security purposes). In Jamaica, like in the industrialized countries, the inter-censal information is obtained from the "establishment surveys" which are carried out every three months and by the "household surveys" which are made every six months. The first type of surveys provides the base for the annual publication "Employment earnings in large establishments", and the second type of

survey provides the basis for the preparation of the annual publication - "The Labour Force". 2/

To all the above, the information from the Organized Agricultural Sector, which generally includes large agricultural businesses and the government operated farms, can be added. This results in the availability of wide-ranging information including that for the export crops in the agricultural sector. However, in the case of Jamaica more than 50% of the labour force for the agricultural sector is not accounted for if employment is quantified using the above tools only. It can also be said that using the above tools only unemployment is quantified for the urban informal, but not for the rural informal sector. A similar situation exists when comparing the self-employed farmers, and family labour in the rural sector. Some of the quantifying tools used fail to identify the unemployed, but the under-employed are left out by most, if not all of them, at present.

The Census and the complementary tools (establishment and household surveys) provide figures for open unemployment. The 1970 census figures reveal a total open unemployment of 37,144 unemployed (± 8% of the total working force in that year). The figure is considered low for the West Indies, but reveals the fact that it does not reflect the socio-economic reality of the country which has a higher open unemployment if we include the agricultural sector and the under-employed.

In Jamaica more than 50% of the population is rural. The open unemployment, as shown in the census, is mostly urban

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2/ Personal interview with Vernon James, Department of Statistics, October 1980.

and does not reflect the conditions of the rural area. It is to be assumed that the national "open unemployment" provides a measure of both rural and urban open unemployment. The problem is that the urban open unemployment is relatively higher than its rural counterpart. The rural area shows mostly under-employment and this is not registered either by the census or by the complementary surveys described above. The open unemployment in the rural area is disguised by the family organizations on the small farms, which "board" the unemployed relatives.

Besides, in the case of Jamaica it is important to indicate that the poorest sectors of the rural area are represented by the small hillside farmer with less than five acres, representing 80% of all the farmers in the country, 3/ and close to 50% of the total population. The small farmers are self-employed and they and their families are under-employed. Neither the census nor the complementary surveys as presently designed are capable of capturing the degree of under-employment which exists among them.

The authors recognize the extremely high cost of obtaining refined data. This is one reason for the weakness of the Statistics Departments in most Third World nations, including Jamaica but this is also the reason why a delicate analytical review of the charecteristics of the censal and survey instruments has to be made.

III. Under-employment, its significance and its measurements

By definition, under-employment is a situation in which the total capacity of work of the individual is not obtained, as is the case for many countries, developed and developing.

3/ "Statistical Yearbook of Jamaica 1978" p. 459.

For analytical purposes it is useful to consider under-employment as it occurs in urban and in rural areas.

Under-employment in urban areas is evidenced from situations such as:

- sub-utilization of the qualifications of the people due to an excess of labour supply as compared with the demand generated by the available jobs. (Crash Programme);
- work in non-productive activities or in activities that provide very low incomes. ("Sky juice" sales men);
- workers who use many hours of the day to obtain meagre incomes or incomes which fluctuate greatly.

Nonetheless, in countries such as Jamaica the under-employment is not typical of the urban area but of the rural. In most of Latin America and especially in Jamaica, the under-employment is characteristic of the rural areas. This is so common that it could be said that the form of employment in the rural areas is under-employment.

At this stage it is important to indicate that the under-employment is not characteristic of a given economic system. In some developed countries with mixed economies such as the United States, the economy is characterized by strong swings in employment or open unemployment in accordance with the state of "crisis" or "boom", but there are permanent areas of under-employment such as the Indian reservations, the Tennesse Hillbillies or the share-croppers of the South. Some socialist countries, such as the USSR, China and Cuba which boast "full employment" have simply changed from a partial unemployment to total under-employment. Such figures as are actually available for these countries are typically

of a very low productivity and very low return to labour. Their excuse is that they are building their capital stocks for the future. However, the fact is that generation after generation live and die in an under-employed existence - persistent under-employment.

The concrete cases of under-employment in the rural areas for Latin America, the Antilles and Jamaica in particular are:

- people working on very small farms
- people who obtain only seasonal employment
- people working full time, but obtaining very low incomes.

As has been explained above, under-employment is the result of various situations and varies by area, country and season. There is no uniformity of criteria of how to measure it, and for this and other reasons its quantification is complex and imprecise.

The variables utilized to indicate and assist in the measures of under-employment are:

- time
- productivity
- income

IV. Under-employment and Planning

The different mechanisms for the quantification of under-employment lead to a figure which is generally expressed as a percentage of the total labour force. This quantity is sometimes linked to a sector of the economy. The same bases are used for calculating the equivalent unemployment, which is the equivalent estimate of the jobs that the economy should generate annually to eliminate the under-utilization of labour (under-employment).

One of the objectives of this paper is to present helpful criteria that could assist in simplifying the measurement of under-employment. This could be useful for the agricultural sector expert and especially for the agricultural planner. The knowledge of the magnitude of under-employment with its consequences of low income, low standard of living and loss of productivity, allows the agricultural planner and the normative policy making authority to present a scale of priorities and mechanisms for the solution of the problem.

An under-employed worker may be considered as an individual who shows deficiencies in regard to skill, use of time, income, and/or consumption. The answers of why and how is an under-employment situation developed depends on the:

- activity in which the individual is engaged;
- relation of the activity to the technology of production used;
- environment in which the individual works; and
- employment market.

The scope for eliminating under-employment depends on:

- the area in which the worker lives;
- possibilities of spatial mobility of workers;
- the probability of altering or changing the employment market conditions;
- the possible technological change; and
- the potential training of skills available.

The conditions of under-employment are in many cases a spin-off generated by poverty or a conscious attempt to share the wealth by giving more people access to a "piece of the cake". A family with any degree of interaction carries the

unemployed members and makes them under-employed. Only a profound and quantitative knowledge of the problem will allow the agricultural planner to propose the correct measures for its future solution, within the normative national policy goals.

Technically speaking, there are four essential aspects that have to be qualified:

- Relation of the wage earner to production and its related factors (land and capital).
- Income obtained and its distribution.
- Product market (supply, demand, prices and marketing systems).
- Consumption patterns.

V. Measuring under-employment and its variable indicators

As indicated before the situations of under-employment are varied and difficult to control and classify precisly. To simplify, we present in Tables I and II the common situations of under-employment and possibilities for its assesment by measurements of:

1) time;
2) income; and
3) productivity for the urban and rural sectors respectively.

Urban Sector

In this sector are identified two sub-sectors:

(1) the formal; and
(2) the informal.

Formal Sub-sector

Case 1 (a)

This relates to workers who earn a fixed salary and who under-utilize their capacity and qualifications. The quantifiability of the under-employment is difficult because time and income are qualitatively assessed, while productivity is the resultant of the output over the cost for a given period. This means that the productivity is a function of the unit of time spent, output produced and income obtained. Under-employment in this case could only be measured if an opportunity cost of employment in some other job is considered.

An additional commentary on the above is that formal employment is the most difficult aspect of under-employment to assess because it is limited by a formal market which predetermines or expects a fixed production in a fixed time, for example public employees and clerks.

Case 1 (b)

This considers workers in the formal sector who do not have fixed salaries. These workers may wait long hours for their clients. Among these may be classified most of the services. The worker feels that in many cases his time is under-utilized. However, when one studies the relevant indicators it is realized that they do not specify under-employment in precise terms. This is because income varies with the demand and therefore is not a good indicator by itself. In this situation productivity is more difficult to measure than in Case 1(a) because it is a pluralized (many clients) output which is not received at once or by one client only.

Among the workers who can be mentioned in this category are doctors, dentists, barbers and many others who provide services.

Informal Sub-sector

Similar comments may be made on sectors associated with the services involved in regard to time and productivity. It is important to mention that the longer the time spent on the job the less fluctuations of income will be shown.

Case 2 (a) - the informal permanent workers.

People working in income earning activities such as a food or paper stand, street vendors, etc. may be regarded as being examples of informal permanent workers. Among these persons fluctuations of income are likely to be minimal. This is typified by the street vendor who for years sits in the same corner selling an average volume in an average time.

Case 2 (b) - the occasional informal workers.

Generally these persons should present great fluctuations in income due to the job instability of the demand for their services. The "push cart" worker and the occasional gardener are good examples of this type of worker.

The variable indicators of under-employment for the informal urban sector are difficult to quantify because they are linked to skills, training, intelligence, dedication, time spent and cultural conditioning for the job and the social environment.

After a study of Table I it can be concluded that the best indicator for both cases in the urban-formal situation is productivity. For the case of the urban-informal situations, the indicators could be time and income. Productivity is not a good indicator because it is difficult to measure.

TABLE I: Common Situations of Urban Under-employment and the possible use of indicators such as Time, Income and Productivity

Situation	Case	Description	Skills of the person	Time Utilization	Indicator and its capacity to asses under-employment		
					Time	Income	Productivity
1 - Formal	(a) Salaried	Professionals in fixed jobs	Underutilized	Normal	Does not indicate	Does not indicate	Yes, but it indicates only in relation to potential capacity.
	(b) Non-Salaried	Services with long hours of wait for clientele	Normal	Under-utilized	Does not indicate	Not always a good indicator (fluctuates with demand)	Yes, indicator of the amount of service provided but difficult to measure.
2 - Informal	(a) Permanent	Street Vendors	Underutilized	Under-utilized	Yes, indicator	Yes, indicator if related to time	Difficult to measure due to nature of activity
	(b) Occasional	Occasional gardeners, push carts, etc.	Underutilized	Under-utilized	Yes, indicator	Yes, indicator but very fluctuating	Difficult to measure because of nature of activity.

The Rural Sector

Under-employment as already indicated specifically affects the rural areas of Latin America in general and Jamaica in particular.

The Rural Landed

Under-employment among the rural landed is limited to the small farmers. The small farmers in Jamaica are those classified as having up to five acres of land (80% of all farmers).

Cases 1 (a) and 1 (b)

The two cases considered are different in the fact that some small farmers are permanent crop farmers and others are seasonal crop farmers. Time available is always under-utilized because of the long periods among harvests. There is greater under-utilization of time with the permanent crops of small farmers, due to their traditional technology. Time is not a good indicator of under-employment in those cases, unless a system of multiple cropping is adopted and the time factor for each crop known. Income is the best indicator, and this is linked very much to the conditions of the market in which the products are sold.

Productivity is a good indicator if the market demand is high, because it directly influences income. But if consideration is given to productivity in kind as a return to labour, it can be expected that productivity would be low in general.

Small changes in technology, processing for market, and marketing can change a small landowner from being under-employed to being an employer and a creator of jobs, assuming conditions of assistance from the government are objectively executed and clear-cut strategies are used in their approach and performance.

The Rural Landless

Case 2 (a)

The landless rural workers more than others are linked to seasonal crops and in this case time can serve as an indicator of under-employment since generally income is linked to "place work". Above all, an income linked to time is the best indicator. This indicator will be affected by the specific conditions which exist for each worker. Productivity is difficult to assess.

Case a (b)

The craft workers that are found in many areas in the country are a similar case to the informal-urban workers, but the great difference is that the craft workers are linked to a productive endeavour. These workers are productive in real units. Their income fluctuates because it depends on the market price and the market chain. The best indicator is income. Time used is sporadic and value of productivity is subjective for crafts as for art.

Case 2 (c)

Finally it may be stated that the under-employment in the rural areas is linked to the potential drifters into the city where they assimilate themselves among the urban informal workers and occasional income earners. In Jamaica, they can assimilate themselves in the rural area into tourism, mining, fishing or services, before becoming urbanites.

Finally, of the three possible indicators discussed, it is evident that income is the best one for the assessment of rural under-employment. It is recognized that income by itself does not provide a complete picture of the situation, thus the other indicators should also be taken into consideration.

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TABLE II - Common Situations of Rural Under-employment and the possible use of indicators such as Time, Income and Productivity

	Case & Description	Skill of Person	Time Utilization	Variable indicator and its capacity of quantification of under-employment		
				Time	Income	Productivity
1 - Landed	(a) Small subsistence farmers linked to permanent crops	Specialized small farmer	Under-utilized	Not a good indicator	Good indicator very influenced by the market	Good indicator if market demand exists
	(b) Small subsistence farmers linked to seasonal crops	Small farmer	Under-utilized	Yes, if indicator is known for each crop	Good indicator very influenced by the market	Good indicator if market demand exists
2 - Landless	(a) Linked to seasonal crops	Rural Labour	Under-utilized	Yes, if indicator is known for each activity	Good indicator if linked to time	Difficult to assess because of sporadic employment
	(b) Arts & Crafts	Craftsmen	Normal or underutilized	Not a good indicator because the time dedicated to work is sporadic	Good indicator influenced by the market	Not a good indicator it is difficult to qualify unless market demand is firm
	(c) Not linked to farming or craft skills	Potential drifter	Under-utilized	Depending on the activity	Good indicator could be fluctuating depending on the activity	Indicator depends on the nature of the activity

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UNDER-EMPLOYMENT ITS RELATIN TO THE AGRICULTURAL SECTOR & CONSIDERATIONS FOR ITS MEASUREMENT IN JAM

Fecha Devolución	Nombre del so