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AGRO-PROCESSING AND RURAL DEVELOPMENT IN JAMAICA

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AGROPROCESSING AND RURAL DEVELOPMENT IN JAMAICA

CHAPTER 1 - INTRODUCTION

1.1 CLARIFICATION OF THE ISSUE.

This research paper argues that agro-processing has not been a focal point for rural development in Jamaica. We further argue that these industries will only become of increasing benefit in the socio-economic and rural development of the country (and at the same time make a positive contribution to national economic development if certain biases, modes of agricultural production, as well as institutional and policy frameworks are aligned so as to seriously favor the capacity and needs of Jamaica's rural areas. We regard the issue to be deliberated, as very pertinent in the context of Jamaica. The proceeding paragraphs are intended to set out clearly the nature of the subject matter to be researched. We will begin by first citing a few salient observations re: Jamaica's agroindustry.

With respect to Jamaica's agro-industry, Wilson (1991) points out that there is " ...heavy emphasis and priority (placed) on the success of the (Jamaican) agri-industry sector, both as a food security system and as an earner of hard currency " [ibid.,p.6.]. We have however noted, that the perspective of the government of Jamaica, is cited to be of a much wider dimension in that, " the agro-food sector has been identified by Government as a priority area to enhance socio-economic development" [Ventura, 1990:i].

We have ascertained that there are now over 300 firms operating in Jamaica's agro-industrial sector. It is estimated that 22,500 persons are employed by the sector [Ventura, 1990:9]. This is equivalent to 30% of the labour force in manufacturing. Ventura (1990) further argues that " from a technological point of view, agro-food industries typically have a quarter of all equipment in the (Jamaican) manufacturing sector and are among the largest generator of employment per unit of investment..." [ibid.,p.i]

Another set of observations worth noting, is that each US$ dollar invested in expansion of Jamaica's agro-industrial sector, it is estimated that some US$ 0.14 in exports could be generated. With regards to the country's exports of agro-processed products, there was a significant increase during the first half of the 1980's - moving from J$ 5.0 mln in 1982 to Ja $ 21.0 mln in 1986.

These observations, do convey the impression that there have been and may still be very positive prospects for agro-industrial investments in Jamaica, employment and the generation of foreign exchange earnings. However, in spite of these positive observations, the potential of the

country's agro-processing complex has been cited to be constrained by many factors. These are factors, are not uncommon to agro-processing operations in other parts of the Third World. Ventura (1990) has made a very keen observation in this regard. He notes, " the industry has been subject to a plethora of studies, of varied quality, by a cavalcade of foreign consultants" [1990:18]. In support of his observation, Picart (1989) list some eight major studies conducted on the market potential for locally processed foods between 1983 and 1988 [ibid,p.1]. At the same time, we take note of Ventura's opinion that ;

> Each (government) administration apparantly to ease their concience, have commissioned such studies, but non so far has demonstrated the will to indulge in serious implementation..Clearly bold actions are necessary to remove the various obstacles...(and) there really is no agreed agro-industrial policy and plans which could form the framework for joint action by government and the private sector [ibid,p.19.]

We do not at this point intend to present the constraints faced by Jamaica's agro-industry. However, it is necessary that in clarifying the issue to be deliberated, we briefly highlight at least some of the dominant perspectives that have been documented. This we hope would provide some idea as to practical relevance of the research topic, as well as facilitate a smooth and sequential lead up to the issues which the paper seeks to address. The most recent perspective that we note is that of Ventura (1990) who writes;

> Plans for Jamaica's agro-industry, must be predicated on the fact that the country has significant unfilled potential in this sector. A significant part of the reason for this is that there has really been no focused national systematic approach to this industry and consequently the data, information, knowledge and intelligence required for such an eventuality are largely unavailable. It must be recognized that for a national thrust of this magnitude to be successful, there needs to be firm support and comprehension of the industry....This requires a full understanding of the importance of this industry to all other industries and economic activities in the country, together with attitudinal changes [Ibid,p.24].

We have taken note of Ventura's view that there needs to be a better understanding of the importance of Jamaica's agro-processing industry and have paid special attention to his remarks re: attitudinal changes needed within the sub-sector. In describes some relevant attitudes he writes;

> The average small farmer...still sees the (agro) processing system as just another outlet for his produce. They want to sell their produce and that's all. There is no vision of expanding the agro-food system to produce more jobs and curtail waste. At the processor's end, quick profits is the essence of the game. For some it is just another business to make a living or amass fortunes. There is little or no consideration given to the overall national development aspects of their (ie. the processors) activities. A dynamic level of collaboration and harmony..has not been attained and is not being attempted with any degree of seriousness [ibid,p.24].

Another perspective, but much earlier in history, is that of the international management consultant firm, Arthur D. Little (1982). ADL had undertaken a detailed technical assessment of

Jamaica's agro-industry and argues that many of the draw backs to the sector, are traceable to inadequacies of management [ibid,p.29]. Overcoming management weaknesses in terms of functional factory operations, coupled with increased equity financing they see as the way to address the weaknesses of the agro-processing industry. In this regard, they write;

> Frequently the impulsive solution is to consider investment in the modernization of plant and equipment , when in fact all that is needed is the enhancement and strengthening of related management and technical practices [Samper etal, 1982:7].

A third perspective, put forward by the Industry Council for Development (1988) runs contrary to the ADL perspective. The ICD argues that;

> ..a desirable first step in modernizing the (Jamaican) food processing industry is to establish an exotic-fruit primary puree/concentrating plant close to a major growing and plantation area.. It is recommended that both processors and farmers, or a farm organization own or lease and operate the proposed (US$ 1.5 to 2 million) plant [ibid,:12].

These perspectives and recommendations are just a few of the many that we have noted in our review. In general, the various perspectives and recommendations with regards to the further development of Jamaica's agroindustrial sector, have their merit and demerits which are all debatable. For instance, it could be argued that in the case of modernization of agro-processing factory operations, Jamaica is not in want of experience when it comes to the failure of 'modernized' agro-processing plants. The best example is cited by Wilson (1991). He reports that up to late 1990 " the country's only dairy plant of international standard of engineering, sanitation and quality, " lies idle with its roof off at Cornwall Dairy, in Montpelleir " [ibid,p.17]. At the same time one should not discard the aforementioned perspectives. We argue that they should be appreciate as inputs into guiding the formation of a more holistic approach to the industry's development.

We are however strongly of the opinion, that none of the above mentioned perspectives, properly address the relationship between the agroprocessing subsector and the socio-economic development of the people of Jamaica. They do not address the 'attitudinal changes' required on the part of the major actors in the industry. Our review of literature on agro-industrial development in Jamaica, has not pinpointed any documentation which specifically addresses the issue of agro-processing and its relationship to the welfare of various segments of the Jamaican population (eg. rural/urban wage labour; and primary food producers).

To be fair, we must however acknowledge Ventura's call for the conduct of a socio-economic study on the integration of tree and fruit crop producers with agro-processors [1990,p.vii]. Also, the 1986 USAID commissioned study on agro-processors, conducted by Agro-Socio-Economic Research Ltd (ASER), does focus on some 'localized' socio-economic consideration. Apart from these, most of the literature reviewed, has been narrowly focused on the processors, their constraints, and extra-regional market prospects for Jamaica's processed products.

We therefore argue, that in the absence of any documented evidence, there may be a conceptual divorce between the country's agro-processing complex; its modes of agricultural production; rural development, and the alleviation of the country's major socio-economic problems, namely unemployment and poverty. If this is the case, then it is from our perspective understandable why (as Ventura points out) there is some difficulty in arriving at a dynamic level of collaboration and harmony between local raw material producers and processors themselves.

In the context of any serious effort on the part of Jamaica's government to foster economic growth and social development, one of the indirect intents of this research paper is to generate a socio-economic perspective of agro-processing operations in Jamaica. We will not be debating or arguing against the presence of agro-processing as an economic activity within the country. This is not our task. What we see as our immediate objective in this exercise (apart from the academic intent of proving or disproving the stated hypothesis), is to analysis some pertinent socio-economic information, and on the basis of this analysis, make a contribution towards assisting Jamaica's policy makers in developing the conceptual links that exist between the country's agro-processing industry and the welfare of Jamaican's rural population. It is against this understanding, that we have selected four (4) main research questions to be answered. These are;

1. What has been the role of agro-processing in Jamaica in terms of facilitating improved income levels particularly within the rural areas and at the same time contribute to national economic growth?;

2. What kinds of relations have agro-processing factories maintained with rural food producers ?;

3. What has been the role of women within this form of industry, and how has this role impact on their welfare ?;

4. How has the presence of agro-processing influenced the nature of the agrarian structure in Jamaica?

It is by following these four lines of enquiry, that we intend to research and address the issue of the impact of agroprocessing on rural development in Jamaica.

1.2 RESEARCH METHODOLOGY AND LIMITATIONS.

The preparation of the paper has been based primarily on reviews of documented publications. During the period July - August 1991, a significant amount of information was

collected from several sources, both in the Netherlands and Jamaica. With respect to the collection of information, we have undertaken a three week field visit to Jamaica, wherein we also conducted personal interviews with selected agro-processors and government officials. The names of the persons interviewed are listed in Appendix A. With respect to the specific types of information collected, this pertained to Jamaica's history, socio-economic development; agricultural sector; rural development and agro-processing complexes as well as case studies of agro-processing operations in various parts of the Third World. Regarding the method of empirical analysis that has been employed, this has been conducted within the parameters of the socio-economic history of Jamaica as well as the theoretical framework which is outlined in Chapter 2. The period under review covers the years between 1980 to 1989.

On a more analytical level, it should be noted that we have made restricted use of 'shadow pricing 'methods in our analysis of a selected resource - namely labour. Labour we view primarily as an input into the production of agro-industrial commodities. We argue that given the fact that Jamaica's economy is characterized by widespread unemployment and minimum wage legislation, there was the need for us to have a proper valuation of labour cost to the industry. From an economic perspective, market prices for unskilled labour we argue, are distorted and thus tends to be overstated. It is with this understanding that we found it necessary to incorporate into our empirical analysis, shadow wage conversion factors for Jamaican unskilled labour. These are presented in Appendix B.

In terms of analytical limitations, our research was neither able to examine in more detail, the individual product types of agro-processing activities (eg. spice and condiment, fruits and tree crops), nor were we able to cover in dept, aspects of non-farm activities other than agro-processing. As such it may be argued that the conclusions that we have arrived at, cannot be taken as necessarily universal and applicable to all types of agro-processing operations in the country. We acknowledge that types of agricultural products processed can have significant and different implications for the testing of the research hypothesis. Also, we are cognisance of the fact that apart from agroprocessing, other farm and non-farm activities do have considerable weight in influencing the livelihood of Jamaica's rural people (eg higgler/trading and the illicit cultivation of marijuana).[See Johnson P.1989].

Secondly, information with regards to the chronological trend in wages paid to labour employed in the different types and various locations of agroprocessing operations, this information was not readily available. Only for one year (ie.1982) was such information collected and this was aggregated for the entire agro-industrial complex. This we argue has significantly weakened the empirical analysis of the research re: the impact of agroprocessing on rural labour welfare.

Thirdly, there was no hard and desegregated information with regards to quantities of individual types of raw material used by ago-processing operations, and the immediate source of

that raw material. As such, the empirical analysis on the relationship between agroprocessing factories and specific categories of rural food producers . As such it could be argued that our assessment of the impact of agroprocessing on Jamaica's agrarian structure has been curtailed.

We did not however turn over like a dead opossum. Firstly, to partially address these perceived limitations, a comparative approach is taken, using documented experiences within the Third World - mainly Latin America . In taking this approach, we have in essence followed the advise of White (1986) who argues that," In this way (one can) confront and come to terms with the diversity that exist in the real world - whatever uniform tendencies some abstract theories might suggest - and to learn from it, to see the ways in which general 'tendencies' interact with specific conditions to produces particular outcomes" [ibid,p.21.].

Secondly, we have examined the documented socio-economic report (1986) prepared by Agro-Socio-Economic Research Ltd (ASECR) with reference to a specific rural region in Jamaica (ie the Rio Minho/ Rio Cobra watershed areas) where there is a high concentration of small farmer and agro-processing operations. We have also incorporated information on cropping patterns in selected based on the work of La Franc (1981). These we have used as two major support elements to address some of the analytical constraints aforementioned.

1.4 DEFINITION OF TERMS

It is pertinent that certain terms and the scope of these terms be clearly defined within the context of this research. The main reason for this section is to avoid any misinterpretation of what actually is being deliberated. Three main terms will be addressed namely, the agro-processing sector; rural areas; and poverty.

- THE JAMAICAN AGRO-PROCESSING SUBSECTOR-

Austin (1981) defines agro-industry as " an enterprise that processes agricultural raw materials including ground and tree crops as well as livestock" [ibid; p.4]. He cites four basic categories of agro-industry and argues that they can be roughly categorized according to the degree of transformation of the raw material used. These categories are indicated in Figure 1 (Appendix C). He states that " In general, capital investment, technological complexity, and managerial requirements increase in proportion with the degree of transformation" [ibid p.3]. We have no problem with Austin's definition. However, we argue that frequently there is the tendency to use the term 'agro-industry' to refer to 'agroprocessing'. This in our view, is too broad a coverage for our research in the sense that it does not provide us with a proper focus on food processing activities. If one were to use such a broad coverage as 'agro-industry', it is highly possible that the research falls into the trap of overstating the employment effects of certain segments of the agro-processing subsector. This we argue is the case in many of the sectorial reviews which we have examined.

Ventura (1990), has conveniently grouped agro-food processing according to five activities namely, processing for human consumption; for animal feeds; for making textile and paper products; and for various animal and plant products [ibid, p.2.]. Our focus in this research, is on the production of preserved food for human consumption.

Excluded from the scope of our definition of agro-processing operations, are factories that process tobacco; alcoholic beverages; bakeries; saw-mills; leather tanneries; and ornamental horticulture. In the case of bakeries in Jamaica, we argue that in the main, they imported the basic raw material (ie wheat) which is not produced in Jamaica and as such cannot be said to have a direct relationship to domestic producers which is a salient relationship that we intend to discuss. In addition to this, manufacturers of packaging materials used by agro-processing factories are also taken to be outside of our defined subsector. It should be noted that we have included parts of local Commodity Board's operations which do processing (such as coffee; cocoa, and citrus plants).

In terms of quantitative coverage, we have cited estimates of the number of agro-industrial firms in Jamaica, which indicated that their numbers have declined during the period under review. Arthur D. Little (ADL) reports that in 1982, the total number of agro-industrial firms was 365 [1982:5]. Ventura's report that in 1985, this number fell to some 330 factories; then to 312 in 1986; up to 351 in 1987; and back down to a level of 320 in 1988 - 1990 [1990:13]. In terms of employment within the agro-industrial subsector, ADL reports that local agro-industrial firms, employed some 11,000 persons in 1979, and 13,150 in 1981 [1982:4]. Ventura puts the 1983 figure at 22,500 employees and 19,000 in 1988 [1990:13].

When we sought to access the number of food agro-processing firms located in Jamaica, we found several estimates. For example, Morris ectal (1986) puts the number at 120 [ibid :11]. Picart (1989) cites the Annual Report on Processed Foods subsector published by JAMPRO Trade Services Division as estimating a total of 50 companies in 1989 [ibid, p.2.]. To arrive at an estimate of the number of firms actually involved in agro-food processing (as we have defined above), we have referred to the more detailed Arthur D. Little (1982) study and have puts the number at 87, in the year 1982. This figure we argue, is realistic and excludes the types of operations aforementioned.

Given this number and based on ADL's estimate of average of 36 workers per firm, the total number of persons truly employed in Jamaica's agro-food processing sector, in 1982, would be in the region of some 2,750 person. However, taking into account that our research covers the period 1980 to 1989, and that there has been an increase in the number of workers in agro-industry, during the early 1980's, followed by a decrease in the late 1980's, we have conservatively estimated that the level of employment in food processing during the 1980's to be in region of some 3,132 unskilled workers.

We have therefore defined the magnitude of the agroprocessing sector that the research will focus on – in terms of number of firms and the level of employment – to be 87 firms with a total of some 3,132 workers. Appendix D: provides an indication of the principal location of these firms according to groupings of product type. One will note that the size of Jamaica's agroprocessing sector as here defined, is far less than the figure for the agro-industrial sector, which we argue has been indiscreetly used by several studies/reports reviewed.

- RURAL AREAS -

Figure 2. is a map of Jamaica. The country is subdivided into three counties –Cornwall, Middlesex and Surrey. These three counties are further subdivided into 14 parishes. The country's total population in 1970 was reported to be some 1,812,700. This figure increased to 2,095,878 in 1982 – 15.6% over the period [Dept.Statistics Population Census, 1982:10]. Currently, the total population is estimated at some 2.4 million.[EIU,1990: 6]. Kingston and St. Andrew, is the main metropolitan center with a population of 565,500 in 1982 [STATIN, 1982:5]. The Economist Intelligence Unit (EIU), puts the 1989 estimate for this parish at 820,000.

Rural areas in the context of Jamaica, could easily be defined as small towns outside of the major Kingston and St. Andrew metropolitan area. If we were to go by this definition the complimentary size of Jamaica's population would therefore be approximately 73% in 1982 and declining to 66% in 1989. However, with respect to defining rural areas, it can be argued that there is a tendency for census data to classify peripheral urban areas as rural areas. This tendency to understate the size of rural populations – particularly in countries where migration to urban peripheries has been extensive. Jamaica we have found is not exceptional in this regard.

Table 1 indicates the percentage distribution of Jamaica's population between 1943 and 1982. One will note the significant increase in the percentage allocated to the parish of St. Andrew up to 1970. Between 1970 and 1982 that percentage declined but not significantly.

Referring to figure 2.ie the map of Jamaica, we should point out that Montego Bay, Mandeville, May Pen and Spanish Town, (located within the parishes of St. James; Manchester; Clarendon; and St.Catherine respectively), are now relatively big towns with populations above 20,000. The PIOJ (1991) has reported that 'Big towns' in Jamaica as a group, had an estimated 85.8 % increase in population in the twelve year period between 1970 and 1982. During the said period, small towns with populations less than 20,000 increased in numbers by 97.4% . However, they only accounted for 9.8% of the total population in 1982.

If we were to exclude the big and small towns from the original estimate of Jamaica's rural population, then our estimate of the size of the country's real rural population in 1982 goes

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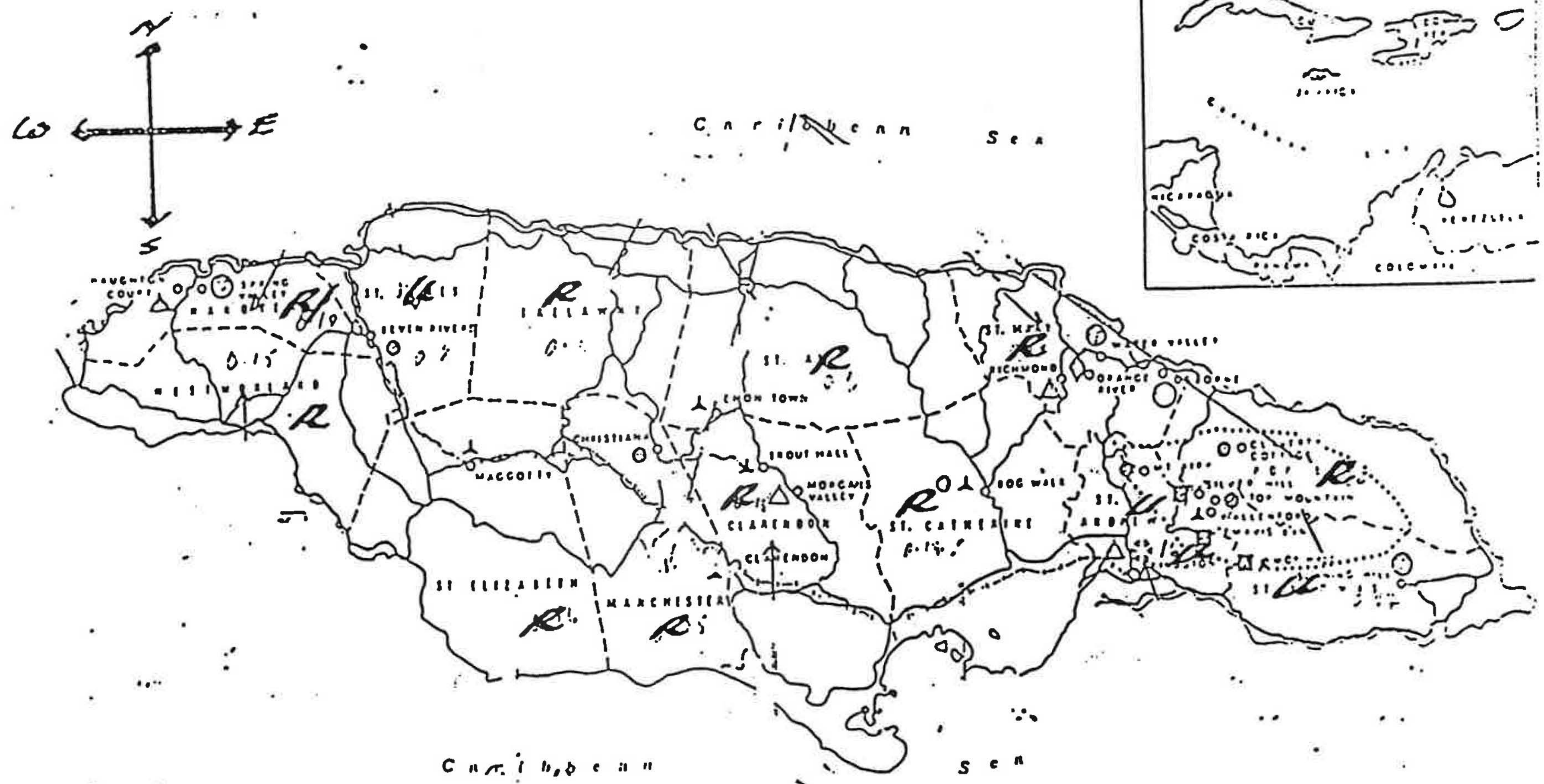
Fig. 2

RURAL & URBAN PARISHES



R = RURAL

U = URBAN

Table

Percentage Distribution of Population by Parish at Census Years, 1943, 1960, 1970 and 1982

Parish	1943	1960	1970	1982
Kingston	8.9	7.7	6.3	4.8
St. Andrew	10.4	18.4	23.3	22.1
St. Thomas	4.9	4.3	3.8	3.7
Portland	4.9	4.0	3.7	3.4
St. Mary	7.3	5.8	5.4	4.8
St. Ann	7.8	7.1	6.5	6.3
Trelawny	3.8	3.5	3.3	3.1
St. James	5.1	5.2	5.5	6.1
Hanover	4.2	3.4	3.2	2.9
Westmorland	7.3	6.8	6.1	5.6
St. Elizabeth	8.1	7.2	6.8	6.3
Manchester	7.5	6.9	6.7	6.5
Clarendon	10.0	10.0	9.5	9.3
St. Catherine	9.8	9.5	9.9	15.1
JAMAICA	100.0	100.0	100.0	100.0

Source: Dept. of Statistics; Jamaica

down from 73% to 52.2% (equivalent to 1,143,900 persons). This is the figure most frequently cited in the documents reviewed. We however argue that in the context of this research, upgraded and more modern processing facilities (as opposed to artisan types), are all located outside of the very small rural areas, but still within the boundaries of towns with populations of less than 20,000 persons.

Therefore, the rural population which this research should focused on must included small towns with populations of less than 20,000 persons. Our definition and focus is further justified by the fact that people from the lowest quintile of the population decile are more likely to live in these small towns and to be employed as small-farmers or wage workers in agriculture and agro-processing.

In summary, we have therefore defined Jamaica's rural population at some 54% of the total population equivalent to an average of 1,194,843 persons. It is the impact of the 87 agroprocessing factories on the rural population of 1,194,843 persons that is the primary target group of this research.

- *POVERTY*-

We view the issue of poverty as very salient in any socio-economic appraisal in the context of Jamaica. It will be noted from Table 2, that during the mid-seventies, Jamaica was ranked as one of the countries with the highest levels of rural poverty in the world.

Table 2.

INCIDENCE OF RURAL POVERTY
IN SELECTED COUNTRIES 1975-1980 (%)

Country	Year	% Rural Poverty
Cameroon	1978	40
Burundi	1978	85
Ethiopia	1976	65
Jamaica	1977	80
Kenya	1978	55
Malaysia	1980	38
Nicaragua	1978	19
Sudan	1975	85
Thailand	1978	39
Trinidad	1977	39
Zaire	1975	80

Source: Saith A. 1989

However, contrary to this estimate, we note that government's official statistics, estimate that in 1989, there were some 40% of the rural population and 32.5% of rural households below the poverty line [PIOJ 1990:13]. In other words it would seem that rural poverty in Jamaica has declined over the past 12 years and based on our estimated rural population there are some 477,937 Jamaicans living below the poverty line. One should note however, that poverty can be measured in different ways. One of the main procedures used is to determine the level of acquisition of the country-specific nutritional norm (prescribed by the FAO/WHO) and then select two cut off points which correspond to 90% or 80% of this norm. Saith (1989) however points to the fact that the figures only pertain to caloric intake and does not take account of non-food needs. He writes (and we agree) that;

> If the nutritional criterion is replaced by a basic-needs poverty line, the incidence of rural poverty would show dramatically higher levels. Estimates provided by ILO country -level studies on both bases confirm this. [ibid, p.3].

In the context of the rural areas of Jamaica, one could argue, that health, mortality and educational indicators are relatively positive and hence justify the lowering of the magnitude of rural poverty to lower the estimate of 40% . We however argue in line with the basic needs poverty line approach, that Jamaica's economic conditions in the 1970's and 1980's would have generated relatively higher levels of cost of living and in turn higher levels of rural (and urban) poverty. There was reported the wide variance between food cost and the minimum wage paid to unskilled labour during the period 1979 to 1989 [PIOJ 1990:16]. Where the estimate of rural poverty really lies is still however debatable . To facilitate expediency, we have decided to use an average of 60% of the defined rural population as being below the absolute poverty line (eqv. to some 716,905 persons). Given an average estimated sex ratio 1:1 in 1982, then population of rural women living below the poverty line is put at some 358,453.

1.4 SUMMARY

In this chapter, we began by first stating the hypothesis of our research ie. " agroprocessing has not been a focal point for rural development in Jamaica". We have subsequently sought to clarify as best as possible the relevance and the essence of the issue to be addressed ie agroprocessing and its impact on rural development in Jamaica. We have also outlined the main research questions; the methodology of the research and from our perspective some major analytical limitations. Finally, we have defined the parameters and terminologies which will be used throughout the paper. With regards to these parameters, we have defined the magnitude of Jamaica's agroprocessing sector in terms of number of firms and the level of employment to be some 87 firms with a total of 3,132 unskilled workers; the rural population as some 54% of the total population equivalent to an average of 1,194,843 persons; and the average rural population below the absolute poverty line, at some 60% of the defined rural population (eqv. to some 716-,905 persons) half of whom are women.

CHAPTER 2

2.1 HISTORICAL BACKGROUND

Jamaica, is an ex-British colony located to the north west end of the Caribbean Sea - 90 miles south of Cuba and 700 miles south of Miami . The country is the third largest Caribbean island and covers a land area of 11 thousand square kilometers (2.7 million acres). Jamaica's population in 1960 was reported 1.6 million. This has increased to 2.4 million in 1989 [PIOJ 1990:6]

During the 18th Century (under the control of a colonial government), Jamaica's economy, was primarily based on a three prong agricultural policy of land settlements, modernization of agricultural plantations and conservation. We note that in 1950, sugar and rum account for 50% of the country's export and banana another 15%. Some seventy five percent of all business activities were directly related to agriculture. By 1958, Jamaica's per capita income was estimated at US $ 388.00 and the island was then classified as a middle income country .

Historically, the establishment sugarcane production on the island, created the conditions for the emergence of a capitalist plantation economy, which in the 1930's to 1950's, was control by powerful, wealthy, British agriculturalist. According to Henriques," Throughout almost the entire 18th Century, there was increasing wealth and associated ambivalence of the planter " [1976:26] . A few years prior to the country's independence in 1962, there was a marked shift away from the colonial agricultural based economic policy, towards industrialization and import-substitution.

Koffman (1985) states that generally " capitalism has dominated the economic life of its people" [ibid 1985:41]. We would qualify this statement and argue that implementation of this policy marked the introduction of upgraded capitalist enterprises into the Jamaican economy. It brought together new alliances, more so amongst the state, the local national capitalist class and foreign industrial capital. Lall (1982) argues that this triple alliance is one of the core features of the countries of the "semi- periphery" [ibid 1982:23]. We further argue that this alliance also mark the real beginning of Jamaica's dependency on the external imports and the world capitalist system. Between 1960 and 1970 the country's economic dependency ratio moved from 1.2 to 1.6 [IBRD 1988: Annex 1]

The shift in government policy during the late 1950's, facilitated the infusion of Western capital and technology into the country's agricultural and mining subsectors. The most dominant subsector for foreign capital injection was the bauxite industry. The dominant presence of the bauxite industry in the socio-economic welfare of the country is conveyed by Macpherson (1973) who writes;

> The bauxite and aluminum companies were all foreign own(and) controlled one-tenth of the total land surface of Jamaica. Can a country claim to be truly independent under these circumstances [1bid :40]

The benefits of the bauxite industry to the Jamaican economy were mainly financial and was reflected in the fact that during period 1950 -1960, the country's economic conditions boomed. According to Girvan etal (1980), " Foreign trade increased eight fold...GDP grew sevenfold and per capita national income also increased seven fold" [ibid:114]. Royalties and income tax on profits generated by the bauxite industry, enabled the then Jamaican Government, to undertake development projects which would otherwise have been impossible for them to undertake. In addition to this the wages to employees in the bauxite and sugar industries, was suppose to have make the poor agricultural districts more prosperous. We note that at the time, Jamaica already had a relatively high Gini coefficient of inequality (ie o.56) [Ahuluwalia M. 1973]

The diversification of Jamaica's economy into these heavy industries, while providing higher wages to some of the population, on the other hand it had some negative effects on certain parts of its population. The concentration of land in the hands of the bauxite industry and large land owners were not advantages for neither the Jamaican agricultural sector nor its rural society. Since the early 1950's, there was a steady decline in the contribution of the agricultural sector to the economic well being of the country. In 1950, agriculture account for some 31.5% of the country's Gross Domestic Product. Twenty years later, the sector's contribution was 7.4%. During that said period the personal income earn by the poorest 40% of the population - who reside mainly in the rural areas - declining from 8.2% to 5.4% of the total national income [Thompson 1989:]. Faced with increased marginalization, and the need to survive, many of Jamaica's small farmers and their family members migrated from the country's rural areas to become wage workers in the cities - particularly St. Andrew and Kingston. Table 1 (page 10) indicates the magnitude of that rural to urban area migration. Girvan (1980) argues that this rural-urban migration, generally reflect the attempts by rural-based Jamaican's, to maintain their welfare and living standards.[ibid :115]

Based on the above scenario, we would agree with Byre's (1989) argument that pauperization of rural areas is a necessary prelude to (industrial) proletarianization [ibid:50]. We argue that Jamaica, is in one sense similar to other Latin American countries in that marginality had become a sesilient structural feature of the Jamaican society [de Janvery 1988: 402]. In the context of the historical socio-economic development of Jamaican, we would have to agree with the findings of Adelman and Morris (1973) that poor Jamaicans have been hurt rather than help by economic development [Cited in Morris J. 1981:].

We must however point out that in recent years, the various governments of the country have made efforts to further modernize, diversify and reform the economy such that there is improvement in socio-economic conditions and the distribution of national income . However we argue that, capitalism, as an economic system, has remain firmly intact in Jamaica. Case (1990) indirectly points to this from a class perspective when he writes;

> The Jamaican ruling class despite its colonial origins (has) remained entrenched and powerful within the Jamaican social and economic fabric. They survived the attempts to weaken their hold on the economy in the 1970's and further

entrenched themselves in the 1980's. [ibid :20]

With respect to the more contemporary soci-economic history of Jamaica's development, this has been noteably characterized by serious balance of payment problems coupled with high unemployment. With the assistance of the International Monetary Fund, the country since 1972, has undergone several structural adjustment interventions. One outcome of this intervention, has been that Jamaica is now one of the world's most indebted countries. At the beginning of the year 1990, the country's external debt, stood at approximately US$ 4.5 billion equivalent to $ 1,800 per capita [PIOJ 1991:13]. At the same time, there still remains a very unequal socio-economic environment. According to Basil Buck ;

> In the 1980's the so called free market model fine tuned the shifting of the raw accumulation of wealth. Greed and materialism became its hallmark which fe the tree of corruption...labour is now sitting on its hands in disgust at the returns being made by capital and management. [Cited in Money Index 1990:3]

We argue that even in this contemporary situation, to a large extent, the socio-economic terrain that exist, are legacies of the country's economic history. It is Nowzad (1986) who observes that the more the powerful strata of the society have been reluctant to withdraw their privileges and to curb their conspicuous consumption, even though such action may be important elements of the adjustment programme [ibid :321]. In this regard, Goldsmith (1981) writes;

> To halt the downward spiral of Jamaica's economy will not be easy; the basic problems are root deeply in the society's social and economic structure, in its political system, and the consumption habits and expectations that have develop during the past three decades. It is clear, however, that the reconstruction of the economy will require a more dynamic rural sector.

In summary, and to putting this brief background of the country's socio-economic history, within the context of the research, we argues on a conceptual level, that Jamaica's agroprocessing sector, is just one of the various economic activities of locally bases capitalist.

From this perspective, we therefore argue, that any analytical framework which is to be us to guide an analysis of the workings of Jamaica's agroprocessing sector, must in essence explain the workings of capitalist based economic activities. More so, it must explain its actions within a socio-economic environment of inequality. We will now proceed to outline the theoretical framework for determining the relationships between several variable as they relate to Jamaica's agroprocessing subsector and its rural areas.

2.2 THEORETICAL FRAMEWORK

Kerlinger (1977) is cited by Madson (1983) as arguing that a good theoretical framework, " presents a systematic view of (a) phenomena, by specifying relationships between variables - with the purpose of exploring and predicting the phenomena" [ibid Madson 1983:52]. For fear of misunderstanding, we must at this stage reiterate, that it is not the intention of the research to look at causative relationships. Madson points out that would require a much more indept, careful and extensive correlative study . Thus, we have taken

the approach of Kerlinger (1964) who argues that with respect to specifying relationships between variables, (in the absence of a correlative study), the most usable relationships are those that are tied in theory.

It is with this understanding that we have reviewed several socio-economic theories and have selected those found to be relevant to the research. We have subsequently have fused them in a systematic manner, such that they address specifically the research questions presented in Chapter 1. We however reiterate our point, that the theoretical frameworks which we have selected to guide our analysis of the workings of Jamaica's agroprocessing sector, are biased in the sense that they seek to in essence explain the workings of capitalist based economic activities - within an unequal socio-economic environment.

- THE THEORY OF URBAN BIAS

Our introduction of the theory of Urban Bias (UB), is done with the intention of allowing the research to place the analysis of agro-processing industry in the context of the country's rural areas and their development. This is the key interest of the research. We argue that the application of this theory, allows us to address the first research question ie " What has been the role of agro-processing in Jamaica in terms of facilitating improved income levels within the rural areas, and at the same time contribute to national economic growth ?"

The Urban Bias theory (UB), postulates that the main conflict in Third World countries is based on rural-urban opposition. Its author, Micheal Lipton,(1977,1982) argues that in a modern state, urban elites,- comprising mainly businessmen, politicians, bureaucrats, and support staff of professionals - by virtue of their " capacity to organize ,centralize and control " power within the society, divert the distribution of investible resources away from the rural areas of a country. The action of the powerful industrialist and policy makers , will shift income per person from rural to urban areas and for all the well meaning talk of rural development, this group within the society, is in practice driven to concentrate their action, economic and otherwise, heavily on the urban cities. The UB theory we note, argues that in reality, the situation is neither a case of efficiency versus equity nor is it a matter of conflict between labour and capital or foreign vs national interest. It is between the rural and urban class. It is suggested that it is an unequal bias towards the urban centers of a developing country, that keeps poor people poor. Lipton in expounding his theory also argues, that there are inequalities within rural areas and in tandem with this an alliance between the urban elite and the richer farmers. This alliance further compounds the generation of poverty. He writes;

> Provide a small farmer, meeting only half his family food needs, with extra irrigation, or the improved health, or the educated knowledge, to grow more food, and his family will consume the gains themselves. Provide similar inputs to a large farmer, and the resulting output will be sold -and the receipts, very probably, saved for reinvestment in urban activities....The rural better of get most of what is going by way of rural investment, price support, subsidies etc., even if not much of these. The rural poor, though efficient, get only pious words , though often sincere ones.[ibid :72]

In a more contemporary tone, Saith (1989), lends support to the theory when he

writes;

> Prior debt repayment, industrial and other urban prior claims on the investible resources available account for a continued resource famine for the peasant sector in general.... In the mean time, policies for rural development have suffered on account of the primacy accord to the needs of the industrialization process and related urban demands [ibid :28/31]

If one were to quickly review the pattern of socio-economic development of many Third world countries, it must be admitted in the affirmative, that there are wide disparities between urban and rural living standards. Capital and human resources are distributed, in relatively inequitably proportions. The constant neglect of rural areas, and the very unequal distribution of resources among social classes and between urban and rural areas is a the major structural problem faced by many developing countries. These observations can be taken as strong supports for Lipton's theory of Urban Bias.

We have not however swallow Lipton's theory hook line and sinker but have reviewed several critiques of the Urban Bias hypothesis eg. Seers (1977); Corbridge (1982); Dixon (1987); O'Connor (1989). We will not present a review of these critiques, but will point out very briefly the vein of these counter-arguments and our reactions to them given the nature of our research. Firstly, Corbridge (1982) argues that Lipton pays insufficient attention to the existence of the urban poor and rural rich. We counter argue that the urban poor are not the primary focus of this research and as such there is no need to follow up this critique. Secondly, both Corbridge and Dixon argue that there is no such clear cut urban versus rural political allegiances and as such the theory suffers from " reductionist conceptualization of politics " [Cited by Potter ectal 1989:17]. We argue that the socio-political dimensions of Jamaica's development are also outside of the scope of the research and even if they had to be embraced, we refuse to beat around the bush and not face the fact that in the Jamaica scenario " the interest of urban elite groups cohere enough to justify the term "urban class" [Seers 1987:27]. Finally, Dixon (1987) argues that the theory fails to satisfactorily explain why there is a relative flow of surplus between the countryside and the towns. We argue that such an explanation requires a causative method of analysis which we are not equipt to do at this point in time. One must however ask the question, how is this Urban Bias theory relevant to the general Jamaica scenario ?.

According to the Planning Institute of Jamaica which conducts socio-economic assessments on behalf of the government;

> the patterns of population growth and distribution have important implication for the location of facilities but it should also be recognized that these movements are in part a response to long-standing neglect of rural areas.., creating a situation which fuels further migration. The major structural problem faced by Jamaica is the very unequal distribution of resources among social classes and between rural and urban areas .

We have also noted that there it is extensively documented in the case of Jamaica, that greater economic and social upliftment is needed in the rural areas. The provision of social

services are still concentrated in the urban areas – particularly in the Kingston Metropolitan Area. For example, whereas almost all of the population in urban Kingston and St. Andrew have access to treated water, 40–50% of those in the poorer rural parishes of St. Ann and St. Elizabeth, use untreated water [ibid 1991:20]. In the rural parishes of Clarendon and St. Catherine, there is a lag in the provision of immunization. At the same time some 75% of the services for disabled people that do exist, are located in the capital city ,rendering many beyond the reach of rural communities in the hinterland .

We must therefore argue that logically, any effort to reduce the level of poverty in Jamaica, should be directed towards increasing social services (and employment opportunities) in the rural parishes such as Clarendon and St. Catherine where we have cited people experiencing significant deprivation, . There is sufficient indication that unemployment is high in these rural areas and that the allocation of additional resources is necessary to improve their economic welfare. However the Urban bias theory argues that as a natural phenomena, this would not be so, and this has been the reality.

At the same time we have noted the alliance between Jamaica's urban elite and the richer farmers. They are cited to benefit tremendously from government policy support. Black (1990) in her assessment of the coffee industry in Jamaica highlights one particular cooperative which is comprising of only five shareholders; one being the Chairman of the Coffee Industry Board, another being a well known urban lawyer and the others also well known big urban business men. This cooperative in 1989 received co–financing from the Coffee Development Cooperation and the Netherlands Government to the tune of some $3.0 million [ibid 1990:6]. The facts speak for themselves.

We argue that generally, in Jamaica's economic environment, there is conceptually, a spacial link between the sectorial operations of capital and the presence of urban bias. Capital has gregariously gravitated to those economic sectors and locations where output per unit of labour is most attractive (such as industry, distribution and tourism) – and away from those that are not. Jamaica is not unique in this sense. We note that de Janvery ectal, (1988) in looking at the sectorial operations of capital from a different yet similar perspective in that " a higher level of GDP per capita is fundamentally determined by non–agricultural GDP (ie industry) " [ibid:12]. Feder (1977) in looking at the Mexican scenario argues that;

> Agriculture's declining relative productivity, is the results of rapid gains in the modern sector. Together, these open up a large gap in output and earnings between the farm (ie the rural sector) and the urban sectors .

He further argues that there can be a continuous process of decapitalization of the agricultural sector, which in the long run can create a situation of economic dependency by rural communities on urban based sources of income. We argue that one objectively verifiable indicator of capital's sectorial bias in Jamaica, is reflected in the relative output or earnings per worker between Jamaica's economic sectors. Table 3 indicates that earnings and output per head of labour employed is lower in agriculture than any other sector of the economy and is approximately 30% of the average for all sectors. Weiss (1985) argues that this

earnings per worker could be viewed as a measure of economic maturity as well as an indicator of economic backwardness.

Against this background and within the confines of this urban bias theory, it could be argued that private industrial capital operating in Jamaica, would not naturally be an immediate source of capitalization of the country's agricultural sector, and in effect its rural areas. They would not bringing in additional employment and income to the poorer rural areas. They are urban bias!. We in this research, will seek to determine within this theoretical framework, if there is an urban bias of capital investment within Jamaica's agro-processing industry, and if so, to what extent.

If we were to ascertain that there is not a spacial urban bias, then the questions that we will subsequently have to address are;

(a) do agroprocessing plants in Jamaica, present the opportunity for improved levels incomes within these rural areas, and at the same time still contribute to national economic growth (ie. research question no. 1);

(b) How are they integrated, with rural producers and rural labour (ie research question 2.); and

(c) Have they widen the scope for productive employment opportunities for women and farmers within the country's agrarian structure (research question no 3. and 5). These questions we will examine in more detail in Chapters 3, and 4. We will now turn our attention to the next analytical framework ie Surplus Labour Value.

Table 5.

- GDP per member of the labour force by sectors (constant prices 1974 = 100)

	1980		1981		1982	
	Nos	J$/per head	Nos	J$/per head	Nos	J$/per head
Agriculture, Forestry, Fishing	279,050	540	287,350	544	280,500	520
Mining	8,400	19,370	8,700	18,943	8,000	14,630
Manufacture	100,700	2,855	104,450	2,787	109,550	2,768
Construction	37,850	2,596	40,100	2,490	45,200	2,494
Transport, Communication and Public Utilities	40,100	3,693	38,000	3,932	39,550	3,910
All	991,150	1,854	1,014,900	1,869	1,043,150	1,822

Source: Department of Statistics, National Income and Product, and The Labour Force.

-THEORY OF SURPLUS LABOUR VALUE.

The Jamaican agroprocessing subsector as defined Chapter 1, has been computed to employ the labour power of some 3,000 persons. In return for their labour they are paid wages which we argue should generally meet their welfare needs. One major and influential theory of the value of labour, argues that the average person, is continually looking to guarantee his or her own subsistence. However, due to conditions of unequal access to resources, most are forced to sell the only commodity in their possession - labour power. The socio-economic theory which we refer to is that of Marx's Labour Surplus Value (LSV). We have reviewed Zamagni's (1987) very concise and clear review of Marx's theory and have summarized as follows.

According to this theory, labour power as an input the productive process, is essentially a commodity to be bought and sold. In exchange for his or her labour power, the worker will receive - from those with more access to resources to invest in production - a monetary wage which should be sufficient to allow him to buy those commodities necessary for his or her upkeep. The value of labour power, is argued to be the value of the means of subsistence necessary for a worker's conservation and reproduction. The unit measure of labour value, is expressed in terms of the number of hours of work that would be required to produce a particular commodity. It is argued that if the number of hours required to produce a particular commodity, were to have an overall value equal to the commodities required to ensure the worker's subsistence, then there would be no economic gain from the activity.

The theory further argues that in the real world, once the variable of labour power is introduced into the capitalist (industrial) production process, a predictive phenomena occurs. It (ie industry) unveils a capacity to produce commodities whose value is superior to the labour power employed. Labour power is exploited by capital. Marx viewed this exploitation as the essence of capitalism, in that the worker labour partly for himself -to cover his subsistence or what he terms 'variable capital'(V) and part (freely) for the capitalist's surplus (S). The capitalist is said to appropriates this surplus in the form of profit. The difference between the total value of labour and that of the commodity produced, is termed 'surplus value'. We note that Marx in his theory, took 'surplus value' and profit to be synonymous.

The ratio of surplus value of labour power (S), to subsistence (ie variable) capital (V) provides an indication of the rate of exploitation of labour. We have also noted, that the theory argues with respect to production inputs, that only variable capital (V), can cause the value of the commodity produced by labour to change. To Marx 'constant capital' (C), which includes raw material and machinery does not lead to any increase in value from its use. Zamagini (1987) has provided us with a formula for the general rate of rate of profit (r) which is we have reproduced below [ibid:26] .

$$r = \frac{S/V}{C/V + 1}$$

The C/V ratio the theory terms, the 'organic composition of capital'. It goes further to argue that if S/V = 0, then r = 0. As other classical economist would argue, Marx was of the view that the capitalist, would always have a profit maximization motive and will oppose the fall in the rate of profit (r). As such they would seek to obtain the maximum surplus value from labour employed. They survive on maintaining the generation of profits from their relationship with labour and will therefore resist any attempts to nullify their existence by completion or otherwise.

The theory continues to argue that profits are in the main supported by increasing the ratio of surplus value to variable capital (ie the rate of exploitation of surplus value of labour). This is done by manipulation of the variable capital (V) whereby subsistence value is held constant over a long period of time or, by lengthening the numbers of hours worked per day . We note that this argument is based on the aforementioned premise that only variable capital (V), can cause the value of commodities to change. The SLV theory argues that this potential for change in the variable capital (V), and its effect of reducing real wage, is what gives rise to the situation of conflict between labour and capital.

To strengthen his argument, Marx introduced the element of social classes and class conflict and argues that capitalist are a class by themselves in the within the society and are in constant conflict with labour over the distribution of wealth. Within this context of the class conflict ideology, attempts to reduce (V) and in essence reduce real wages give rise claims by workers to increase (V). If their demands are not met then labour would stop working and strike. If however the value of the means of subsistence (ie variable capital) were to be rise they would resume work. However according to the theory the rate of profit would fall if variable costs are raised too high. Capital would therefore need to combat workers wage claims. They would throwing out of some labour and then substitute it with machines ie (C) for (V).

However the medium term effect of this through out and substitute action on the part of capital, would be that the organic composition of capital (ie. C/V), would increase. Based on the aforementioned formula, increasing the organic composition of capital (C/V) would lead to a reduction in the rate of profit. If increasing the C/V ratio is overdone, this could leads to a fall in the rate of growth of capital and theoretically, this could lead to a zero rate of profit. In theory, it would no longer be possible for a particular capitalist enterprise to exist. The question that the theory begs is, how is this scenario of falling profits reconciled by capital.

Marx argued that capital would operate in such a manner that the increased organic composition of capital does not endanger the rate of profit. Therefore as a (predictive) strategy, after some displacement of labour, the capitalist must seek out ways and means to increase the productivity of the remaining labour employed. Simultaneously, any newly acquired increase in worker's subsistence wage (V), would be held constant over as relatively long a period of time as possible. The effect would be to further increase the rate of exploitation of labour and reduce the real wage received by the worker. The cycle of conflict will then start its process all over

again.

We argue that Marx's Theory of Surplus Labour Value, is an appropriate theoretical framework for explaining the workings of capitalism within an environment of unequal access to resources such as Jamaica. It is however pertinent that we mention at this point that the theory has been cit on an intellectual level, as having some limitations. We note that Zamagni (1987) admits that " it is not easy to criticize Marx's basic argument: the only way to do so was to attack his basic premises..." [1987:36]. In the main, it has been argued that in a capitalist economy, the forces of demand and supply determine prices, and as such Marx's theory which is based on the premises of classical economics, never succeeded in formulating a general theory of price. It has also been argued that the theory, in itself, does not meet the challenge of deducing a coherent system of pricing in accordance with the rules of competition and improvements in technology.

These cited weaknesses has generated much intellectual thinking and ideologically different theories. The main alternative theory of labour value is the Utility Theory of Labour. Briefly ,the essence the Utility theory put forward by Alfred Marshall (1920) argues the functioning of the free (capitalist) market economy leads to an harmony of interests among individuals and the realization of those objectives which each individual sets himself guarantees a social optimum. The ideological underpinning for the theory is that social harmony, and not class conflict is the natural state of a market economy. Zamagni (1987) argues that Marshall's Labour Utility theory is " tempered extreme Laissez faire with a policy of reform" [ibid : 38]. We also note that he cites Marshall's stealthy acknowledgement that there is exploitation of labour when he writes;

> Despite all its social costs and unjust situations it creates, capitalism ensures efficiency and therefore leads to improvements and progress in the human condition.....In Marshallian theory, the state has the right to intervene in the economy in order to regulate the market mechanism and correct distortions.[ibid : 39]

Despite the fact that it could be argued that such is the case of the Jamaican socio-economic environment, we have not embraced the theory into our framework on the basis that it has not allow us to use the empirical data available to address the issue of inequality which is a precondition that we have already stated. We argue that the theory of Surplus Labour Value, provides a clearer perspective of the nature of the interaction between the variables of labour and capital in inequitable context of Jamaica and has provided us with the tools for the analytic surgery of our research. We further argue that the SLV frame work allows us to conduct a socio-economic examination of the extent to which agro-processing as a capitalist industrial activity - within a marginalizing Jamaican economy - has (a) contributed to reimbursing capital and the (rural) labour it employs such that labour is able to meet its subsistence cost (ie V) and in turn improve its general social welfare; and (b) impact on national economic development. The application of this theory will act as the tools for addresses research questions no.1 .

We have however taken note of the fact that the SLV theory collapses the interest of all non-capitalist into those of the working class and assumes that all workers had the same interest and experience in production vis a vis capital. The SLV theory does not take gender into consideration. In the context of agroprocessing factory operation, there is a higher proportion of women -vis a vis men. This we know is a world wide occurrence. Agro-industry could in a sense be regarded as a "feminized" industry. Sharma (1982) argues that both Marx and Engels " ..failed to see that a transformation of productive structures alone would not automatically do away with ..oppression"[ibid :61]. On the other hand, Mackintosh (1981) writes;

> This concept of the social relationships of production, and its importance to an understanding of the division of labour in society, is one of the most useful insights which Marxist economic theory has brought to an understanding of sexual division [ibid:4]

One is thus forced to raise the question as to whether a natural bias towards the use of 'female labour' in the Jamaica's agro-processing complex, allows labour surplus value to be exploited more than the average ?. We argue that the SLV theory is not fully an appropriate theory for analysis of Jamaica's agroprocessing industry. To be more specific, it does not allow a complete address of research question no. 3.

To guide an analysis which links the variable of capital to that of gender would require another theoretical frame work which makes up for the omissions of the Labour Surplus Value Theory. It must at the same time embrace the issue of inequality and exploitation. This framework must in essence, focus on the question of how women's involvement in industry is rooted in the sexual division of labour and gender subordination . We now turn to the theory of Sexual Division of Labour.

- THEORY OF SEXUAL DIVISION OF LABOUR

The basic argument of the Sexual Division of Labour theory (SDL), is that there is a gender ideology in societies which values a the labour of women as not equal to that of a man - for the same activity. This ideology, is seated on a narrow relegation of women to the area of reproduction and menial work. All work conducted by them is considered as either light work or no work at all. It is argued that it this ideology that as given rise to the sexual division of labour in the work place and acts as one of the justifications for the poor remuneration of women in factories. Female labour power is therefore perceived to be in a more vulnerable position and unequal position vis a vis capital and men.

In the wider context of women's socio-economic development in Jamaica, the following observations we find pertinent.

...most women (in Jamaica) see themselves primarily as mothers and workers...An

> explicit connection is made between child bearing and economic exploitation in the reproduction of cheap slave force and male/female relationship ..[PIOJ 1991:63]

> The poor woman in Trench Town...on the slender resources of the minimum wage, has a compelling interest in ruthless efficiency that is entirely beyond her present power to comprehend.. [Perkins 1990:29]

> In general it appears that economic crisis forces many families to become so focused on survival that longer term needs cannot be met. Survival activities can help to sustain women and their children in an environment which is unsupportive of their progress. [PIOJ 1991:72]

We argue that in general economic circumstances in Jamaica has increased the number of Jamaican women who have no secure employment and in the absence of other alternatives, offer their labour at below subsistence prices. In the more contemporary context of Jamaica's economic development, Harris (1983) points out that the implementation of hash IMF conditions in response to economic crisis, has had the consequence of reducing real wages, pushing the cost of imports up, accelerating inflation and " hurts any one who cannot push up their incomes to match." [ibid 1983:] In addition to this Doeringer (1988) indicates that females were displaced from Jamaica's manufacturing at somewhat higher rate than males.[ibid 1988: 476].

This research does not focus on how patterns of survival by women are modified as a consequence of changes in the forms of their industrial employment. This is a focal point of interest to that segment of literature which deals with the wider issue of the relationship between women and economic change. What our application of the framework of the Sexual Division of labour is intend to focus on is how the level of extraction of surplus value within Jamaica's agro-processing industry can be significantly increased - unnoticed - because of the phenomenal ability of capital to exploit female labour and thereby undermining their welfare.

Utrecht (1988), in her work on women's role in rural industrialization in Java and specifically with respect to the issue of labour intensity in factory operations writes;

> Reasons for the labour - intensity of..factories usually do not lie in the lack of capital to mechanize, but rather in the type of operations that cannot be mechanized further and/or the very availability of cheap female labour which makes the option of exploiting this advantage and not mechanizing further a more profitable one. [1988:58]

In looking at female labour employed in Mexico's agro-industry, Fedder (1977) makes another very pertinent observation ;

> Evidently they (ie women) like to work and are happy that jobs are available to them. This is only self-evident. They do not complain about the work, but the conditions of their work. In the majority, they are being exploited to the hilt ..the labour legislation is constantly violated...it is clear that labour legislation is not upheld...[ibid 1977:96/103]

These we find, are very interesting and useful perspectives. What one can infer from these arguments, in the context of Jamaica's agroprocessing industry, is that if an immediate increase in the 'organic composition' of capital is not always possible, and workers rights to adequate subsistence wages cannot be enforced, capital (via management) will seek to bias its employment of labour, in favor of women which allows easier manipulation of Marx's S/V ratio and thus enhance profitability. We argue on the basis of this discourse, that there are few debatable restrictions to the application of this theory in the context of Jamaica and its agro-processing industry.

We have therefore placed the theory of Sexual Division of Labour (SDL) as the junior partner to the SLV theory. We have link it with both the SDL and the UB theory so as to address the research question as to determine whether the sex biased nature of labour employed within urban vs. rural based agro-processing plants, is influenced by a perspective, which makes and/or enables capital to increase the surplus value of labour. Figure 3. is a schematic diagram of how the three theoretical frame works are linked conceptually.

At this juncture, we argue that the UB, SLV and SDL, theories do not as a group, allow us to directly address the final research question (ie no. 4). This line of enquiry focuses directly on the issue of the influence of agroprocessing on the nature of Jamaica's agrarian structure. None of these theories we find capable of comprehensively addressing this line of enquiry. This issue is conceptually seen to be basically outside of the physical confines of the agro-processing factory per say but linked to it in some other relationship. We have thus found the necessity to introduce another conceptual perspective. The concepts that has been selected as most relevant and capable of addressing this line of enquiry, are those of Commercialization and Commoditization of Agriculture. These we argue complete the formulation of the theoretical framework needed to guide the empirical analysis of this research.

- COMMERCIALIZATION & COMMODITIZATION

The Commercialization theory is an offshoot of the Modernization school of thought. Long (1977) an advocate of modernization cites Smelser's(1963) model of modernization when he writes;

> Economic development takes place through (a) the modernization of technology, leading to a change from simple traditional techniques to the application of scientific knowledge; (b) the commercialization of agriculture, which is characterized by the move from subsistence to commercial farming, leading to a specialization in cash-crop production and the development of wage labour;.... (d) urbanization, which consists of change in the ecological dimension and is the movement from farm and village towards the growth of large urban centers. These processes he suggests, sometimes occur simultaneously and sometimes at different rates. [ibid :10]

The Commercialization school basically argues that the root of poverty is the presence of an unproductive, subsistence oriented agriculture which can remain unchanged for many generations. It argues that poverty could be eliminated through the development of the forces of

production and the introduction of market relationships. Vandergeest's (1988) in his review of the commercialization of agricultural school, notes that " Commercialization was generally defined as production for the market" [ibid: 10] He further writes that the basic argument put forth is;

> peasants are engaged in a static traditional agriculture , using unproductive and poor methods of farming....and that the problem in their development could be addressed by the introduction of modern technology into agriculture [ibid: 8].

We thus note, that commercialization is in essence modernized production for the market as opposed to subsistence production. Rostow (1960) viewed commercialization as a necessary ingredient into the modernization and economic development. The application of science and investments are the key variables in agricultural production as " the function of agriculture is to feed the growing population, provide a market for industrial products, and give up surplus for investment in non-agricultural production" [Rostow 1960:22 cited in Vandergest 1988:11].

The Commoditization school on the other hand, argues that the present relationships of production are the outcome of a transition to capitalism which began during colonialism. Commoditization is defined as " a process which leads to impoverishment, loss of control over the means of production It is a process peasants are expected to resist..Peasant resistance is conceptualized as resistance to attempts by 'capital' to appropriate control over the means of production " [Vandergesst 1988:16].

This concept of commoditization argues that the real cause of impoverishment was not a static and traditional agriculture, but capitalism itself. Capitalism causes the destruction of the 'natural economy' when modernization programmes are introduced. It is argued that process of commoditization has historically implied the disappearance of extra-economic coercion, and at the same time, the gradual appropriation of the legitimate use of such means of cohesion by the state. In other words the state only acts as agents in the process of commoditization and enforce and defend the legal, institutional framework of new institutions of surplus extraction. As such this theory focuses on structural inequality and exploitation.

Morvaridi (1990) argues in support of the commoditization theory. He write;

> Commercialization accompanied by mechanization tends to intensify the work undertaken by women. Since the process of commoditization ties once subsistence farms to market forces, production relations cannot avoid being influenced by the wider economy. Only with a combination of macro and micro data, with focus on both internal and external household, can the position of women in rural areas realistically be conceptualized..an understanding of the effects of state-supported commoditization on the household labour process plays an important part in the analysis of small scale commodity producers [ibid:1-2]

Thus the commoditization concept is in essence a counter to the commercialization school and it is of relevance to our research that it focuses attention of the role of government policy in agricultural development as well as the effect of modern agricultural production on rural women. With respect to the latter Redclift (1985) argues that " the process of commoditization is reliant on a labour process which is sexually differentiating and dependent on the intensification of female work" [cited by Morvaridi 1990:716]

Critics of the commercialization school argue that the theory has had a chance to be applied but not gotten its history right in light of the increasing inequalities and poverty in the Third World. Just like the modernist school from which the theory emanated, commercialization theory is identified with the 'development' efforts of the state and does not give recognition to the fact that differential access to land can accelerate rural differentiation. In addition to this it is argued that the adoption of technology by small farmers is not automatic due to rural small holders being persistently distanced from capital.

With respect to the commoditization school, critiques are also cited. For example, Long et al (1986) has argued that there is no resistance of the peasantry to commoditization. Booth (1985) argues that commoditization theory has a problem of how to account for the structures which underlie poverty without falling into the structuralist trap where nothing is possible , and also how to account for an ability to change structures of domination actively without falling into voluntarism

We argue that both schools of thought have applicability in the context of Jamaica and are relevant to an investigation of the impact of agroprocessing on the country's agrarian structure. It will be shown that both these processes have occurred simultaneously in the case of Jamaica's agrarian structure. We are however more supportive of the application of the commoditization of production concept. We argue that agroprocessing factories have a tendency to stimulate and reenforce commercialized forms of mono-crop large scale agricultural production, with support from the government efforts. This support has resulted in accelerated differentiation between the sections of the country's agrarian structure and the unequal distribution of land in favor of so call 'commercialized' operations. The result has been commoditization resulting in the " the small holder has become more akin to a proletariat than to an agricultural commodity producer." [Crichlow 1988:8].

Finally to support our bias towards the application of the commoditization concept (apart from the fact that we find that it allows a conceptual link to the SDL. theory) we highlight a very pertinent remark made by Wilson (1990) with regards to the interaction between Jamaican small farmers and local agro-processing concerns. He writes;

> A major work must be made to establish the farmer in groups and the processors in the art of cooperation for mutual benefit...If farmers continue to resist the idea of collective marketing the industry is duty bound to take governing steps over its own destiny.

2.3 SUMMARY

In this chapter we have argued that Jamaica's economy is capitalist dominated, and has feature of much inequality amongst its population. This is within this environment we have placed the research questions. We have argued that the theoretical frameworks which will have to guide our subsequent analysis of the workings of Jamaica's agroprocessing, must in essence address the workings of capitalist based economic activities – within an unequal environment. All the frameworks selected have this common denominator. How they are linked to answering the main research questions,is as follows;

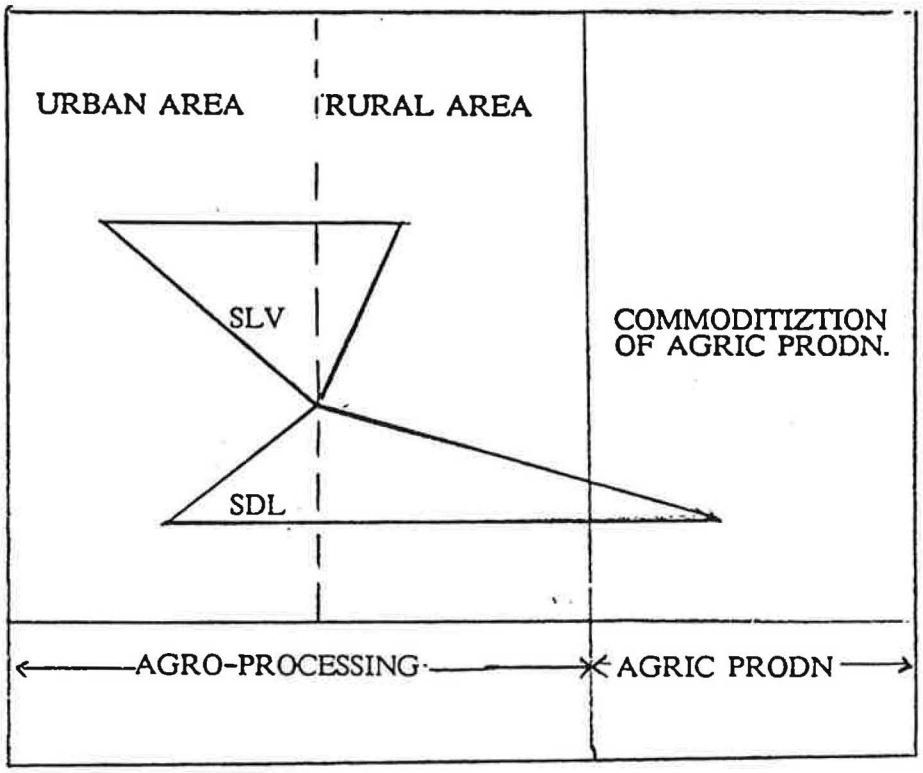
Research question # 1 – Urban Bias/ Surplus Labour Value
Research " # 2 – Commercialization
Research " # 3 – Surplus Labour Value/ Sexual Division of Labour
Research " # 4 – Commoditization/Commercialization/SDL

Figure 3.is the final schematic diagram which illustrates how all these concepts are linked. It is within the confines of these socio–economic concepts that we will seek to analyse the relationships between the variables of capital, labour, women, food producers, rural development and government policy. We will attempt to test the argument that, agroprocessing as a capitalist activity in Jamaica, is engaging the extraction of labour value and as defined, are biased towards the urban areas and elitist farmers. At the same time, they are being increasingly engaged with state promoted commercial modes of agricultural production which has accelerated both rural differentiation; the exploitation of women (both with the factories and outside) and in the end has increased the levels of poverty in Jamaica's rural areas. Hence our hypothesis;

" Agro processing has not been a focal point for rural development in Jamaica ".

Fig. 3

SHEMATIC REPRESENTATION OF THE RELATIONSHIP BETWEEN THEORETICAL FRAME WORKS URBAN BIAS; SURPLUS LABOUR VALUE; SEXUAL DIVISION OF LABOUR & COMMODITIZATION



CHAPTER 3

AGRICULTURE AND RURAL DEVELOPMENT

In this chapter our focus will be on Jamaica's agricultural sector and its rural areas. We will begin by first outlining the nature of the country's agricultural sector and therein also highlight its agrarian structure. Secondly, we will examine how that agrarian structure is linked to production output and rural socio-economic development. Government's policy with respect to agriculture and rural development and how such policies have contributed to shaping the aforementioned linkages will also be examined. Finally, we will briefly address the relationship between women and rural development in Jamaica .

3.1 JAMAICA'S AGRICULTURAL SECTOR

Table 4 indicates that the relative importance of agriculture in Jamaica's economy has been declining since 1950's. The situation seems to have bee checked in the mid 70's with marginal improvement up to 1985. The manufacturing sector on the other hand has demonstrated steady growth and so has real estate and business service.

However, in spite of this decline, the sector has however remained a major source of national income, export earnings and employment. With respect to labour employment which is a key variable in this research, close to one third of the country's labour force is employed in agriculture. Table 5 however indicates that the sector's contribution to total employment in the country, has also been on the decline since 1975 - as compared to manufacturing which has steadily absorbed an increasing percentage of the labour force.

In terms of the number of agricultural production units, Jamaica has 180,000 - 190,000 farms. The bulk of these farming units are located in the relatively mountainous regions of the island. Only 58% of the land suitable for production is utilized and since the early 1960's, there has been a fall in total farm acreage. Currently only some 400,000 acres of land is under cultivation.

We argue that the level of land utilization in Jamaica, is partly related to the fact that the country's mountainous topography does not allow easy access to agricultural lands. The situation is we view as very challenging. Only 8 percent of Jamaica's land area is flat. Half of it has a slope of more than 20 degrees. Thus cultivation in many areas, as one can imagine, is on very steep slopes. Some 82% of the country's farmers, farm on steep hillsides and marginal lands.[PIOJ,1990:68]

Directly related to the country's steep topography, is the high loss of soil for all types of land in Jamaica. The average soil loss has been put at 60 tons per acre per year, and as high as 500 tons per acre on lands cropped with annual crops [FAO Year Book 1988: 134, Table 25].

Table 4

DISTRIBUTION OF G D P BY ECONOMIC SECTOR, 1950-1985.

(percentages)

SECTORS	1950	1960	1970	1974	1980	1985
AGRICULTURE, FISHERIES & FOR.	30.8	12.9	6.7	7.5	8.3	8.9
MINING & QUARRY	-	9.3	12.6	9.1	14.3	5.1
MANUFACTURE	11.3	12.8	15.7	17.8	15.2	16.2
ELECTRICITY & WATER	1.1	1.0	1.0	1.0	1.7	1.5
CONSTR & INSATL.	7.6	11.3	3.3	9.8	5.7	5.2
DISTRIBUTION TRANSPORT, STORAGE & COMMERCE	15.1	17.2	19.0	18.9	19.7	14.9
FINANCE AND INSUR.	7.1	6.5	5.5	6.3	5.3	6.5
REAL EST.& BUS. SER	2.6	6.2	3.8	4.3	4.2	2.5
PROD. OF GOVT. SER.	5.9	3.2	9.4	9.4	8.6	12.5
MISC. SERV.	6.1	6.8	7.8	11.6	14.7	18.1
LESS IMPUTED SER CH	12.4	12.9	7.2	7.3	5.3	7.0
	-	-	2.0	3.0	3.0	

(Source: Kaufman 1985:12: and The Statistical Yearbook 1986:391-2).

TABLE : 5

THE SECTORAL DISTRIBUTION OF EMPLOYMENT IN JAMAICA, 1975 - 1989

	1975	1980	1985	1989	Percentage-Change 1975-1989
Total Employment					
Number	684,300	737,000	781,000	881,000	28.9%
Percent	100.0	100.0	100.0	100.0	
Agriculture, Forestry and Fishing	34.2	36.8	35.7	28.2	6.0
Mining, Quarrying and Refining	1.1	1.2	0.8	0.6	[24.7]
Manufacturing	10.6	10.9	12.9	15.5	87.6
Construction and Installation	6.4	3.6	4.5	6.8	35.8
Transport, Communication and Public Utilities	4.6	4.7	4.4	4.9	33.9
Commerce	11.9	12.6	14.8	7.8	[66.0]
Public Administration	14.0	15.0	10.4	7.8	[28.2]
Other Services	16.9	14.9	16.3	20.5	56.8
Industry not specified	0.4	0.3	0.3	0.4	42.3

Source: Derived from the Jamaica Labour Force Survey, STATIN

Frequent occurrences of floods and long spells of drought, coupled with intermittent occurrences of hurricanes, has further aggravated soil loss. One should note that traditionally, it is mainly the smallholders who have grown annual crops on hillsides. Larger plantations have occupied most of the flat and better lands. We thus argue that in general, Jamaica's physical topography and climatic situation are very problematic and challenging for the majority of the country's agricultural producers, who in the main are small farmers.

3.2 AGRARIAN STRUCTURE

Jamaica's agrarian structure, is composite of a relatively well organized plantation or estate sector and a numerically strong subsistent sector. One may argue that the quantitative features of this structure, has over the years undergone some changes. However, from a qualitative perspective, we argued that as is the case of its economic and legal systems, Jamaica's agrarian structure has remained one of the legacies of the colonial era and has undergone relatively little change since then. Table 6 provides the detailed picture for the period 1943 -1968.

The 1978/79 Census of agriculture indicates that 50% of these farm units are small farms of 1.0 to 5.0 acres in size. Approximately half of the small farms are owner-operated. There is also a heavy concentration of relatively smaller sized farms under 1.0 acres. These make up approximately one third of the total number of farms and are mainly rented holdings. Above these two size categories, are medium size farms of 5 to 25 acres. These in 1968 account for some 19% of the total number of farms.

There is also a category of 25 to 100 acres which accounts for some 2% of the number of farms but account for 10% of the farmland. At the apex of the agrarian structure there are large plantations, usually over one hundred acres. This group accounts for only 0.6% of the total number of farms. Despite their relatively smaller numbers in the agrarian structure, plantations controll some 55% of the farm land. Sugar cane is the primary plantation crop . Table 7 is a quantitative summary of Jamaica's agrarian structure as per 1968.

In terms of the quantitative dynamics of the structure, Table 6 indicates that during the 1960's there was a substantial decline in the total farm acreage. Some 400,000 acres was taken out of farming in the late 1960's equivalent to 15% of Jamaica's total area. What impact did this decline in farm land have on what seems to be a static agrarian structure ?.

Goldsmith (1981) argues that much of the farm land that has been lost over the past few decades is of marginal agricultural value. He observes that this has occurred at both ends of the agrarian structure. Half of the area lost, was attributed to the 'peasant sector' [ibid :33]. We argue that even taking into consideration that a major land reform programme of the 1970's saw some 122,000 acres going back to the small farmers, the configuration of Jamaica's agrarian structure has basically remained the same. With respect to this, Goldsmith (1981) writes;

Table 6
Distribution of Farmland in Jamaica, various years

Year	Peasant farms ((0 to 25 acres)	Intermediate farms (25 to 100 acres)	Large farms (100 acres and over)	All farms
		(Number of farms)		
1943	143,707	4,044	1,418	149,169
1954	192,707	5,603	1,213	198,883
1961	154,007	3,803	1,128	158,938
1968	189,312	3,055	992	193,359
		(Acreage of farms)		
1943	411,724	170,179	1,198,206	1,793,623
1954	751,998	232,178	930,917	1,914,375
1961	587,441	167,607	956,382	1,711,430
1968	557,336	125,104	824,927	1,507,397

Source: Blustain H. etal 1981 " Strategies for Organization of Small Farmer Agriculture in Jamaica

Table 7
Farm Size in Jamaica, 1968

Farm size (acres)	Percent of farms	Percent of farmland	Average size (acres)
Less than 1	30%	1.5%	0.4 acres
1 to less than 5	49	14	2.2
5 to less than 10	13	11	6.6
10 to less than 25	6	12	15.6
25 to less than 100	2	9	41.0
100 to less than 500	0.4	10	212.4
500 and over	0.2	45	2,308.6
All sizes	100.0	100.0	7.7

Source: Government of Jamaica, Department of Statistics, Census of Agriculture 1968-69.

> Significantly, any decline in the peasant area does not appear to be the result of the plantation sector expanding into the peasant zone, squeezing out marginal producers, since there is little change reported in the acreage occupied by large farms [ibid :33]

In summary, we have noted that against the background of some challenging topography and weather conditions, Jamaica has an agrarian structure which has historically been highly differentiated and characterized by a very unequal distribution of land amongst its food producers. Most farmers have limited and marginal land for cultivation, while a relatively few have large and fertile areas suited for mechanized production. In between, there is a category of farms which has attributes which make them more akin to the plantations than the smaller subsistence units.

3.3 DOMESTIC AND EXPORT PRODUCTION

At this point we take the opportunity to address the question of the dynamics of integration into market relationships. Against the backdrop of an unequal agrarian structure, we will examine the links between this structure, production and market outlets. In general, the picture is one whereby a portion of small farmer production is destined mainly for the domestic market and to a less extent exports of traditional and non-traditional crops. The large plantations are in the main export oriented . Medium size farms are 'dual purpose' in that they supply both domestic and export markets however more so the latter.

With respect to production targeted at domestic consumption, there is reported to account for some fifty percent (50%) of the sectors GDP [Ministry Agric 1987:1]. In contrast to the declining contribution of the overall sector to GDP, in the ten years between 1969 and 1979, domestic food production has increased by some 5.6% per annum. During the following five years up to 1988, the production of food crop increased by another 11% .Table 8 indicates the trend in production volume of selected crops between 1982 and 1986.

We have noted that the period of increase in domestic food production, coincides with the period of the most significant land reform programme carried out in the country's history. The area under cultivation moved from 71,065 acres in 1970 to 128,355 acres in 1979 - an increase of some eighty (80%). Figure 5 indicates the trend in domestic food crop and export crop production. Goldsmith (1981) argues that the increased production of domestic food crop was not attributed to increased yields on small farms. He also argues that with respect to the land reform programme, most of the land that was made available to farmers (approximately 10% of the total farm acreage) was mostly poor quality land. Neither was there intensification of production. With respect to the application of technology and other production inputs, he writes;

> ..Jamaica has been unable to develop and extend high-yielding technologies cognisant with small farmer's resource endowment, or to acquire and distribute sufficient credit, fertilizer, and other inputs needed to raise production. This problem affects all crops, export as well as domestic ..[ibid:184]

The stimulus for increased domestic production, is cited to be was a shift in relative

Table 8 PRODUCTION OF SELECTED CROPS

(000 lbs.)

CROP	1986	%CHANGE	1985	%CHANGE	1984	%CHANGE	1983	%CHANGE	1982
Ackees*	-	-	-	-	-	-	-	-	-
Carrots	32,350	0.6	32,144	-17.3	38,878	13	34,534	5.8	32,636
Hot Peppers	4,642	-4	4,830	-24.7	6,410	47	4,360	98.4	2,198
Onions	3,704	-58.3	8,886	5.2	8,446	108	4,070	29.2	3,150
Peanuts	4,700	-33.7	7,090	27	5,584	-2	5,724	14.7	4,990
Pineapples	15,578	-4.7	16,340	-7.4	17,646	27	13,946	-22.7	18,062
Plantain	67,380	0.4	67,028	-0.5	67,396	22	55,338	-11.6	62,630
Pumpkin	56,568	-15.5	66,990	-22.2	85,994	20	71,590	39.3	51,404
Red Peas	9,872	6.6	9,258	-2.2	9,462	19	7,978	7.2	7,444
Tomatoes	36,282	-15.6	42,990	-34	65,122	54	42,244	12.5	37,548

Source: Estimate of domestic crop production

Data Bank and Evaluation Division

market prices in favour of domestic crops vis a vis exports. In this regard, we note that farm gate prices for domestic food crops increased fourfold between the years 1970 and 1977 . Figure 6 indicates this trend in prices. This trend continued into the mid 1980's, increased well over 100% for some commodities .Table 9 indicates that prices rose as high as 567% between 1982 and 1986. Relative to the rest of the world domestic prices were reported to be 20 to 30% higher than border prices during this period [Pearson 1968:72]. We agree with Pearson (1968), that this spiral in food prices acted to further incorporate Jamaica's small farmers and its rural areas into the system of market relationships [ibid:72]. Addison (1988) however makes the point that, the extent to which Jamaica's small farmers benefit from gains in higher prices for food crops, seems to depends more on weather they are able to produce a marketable surplus above their current consumption needs [1988:73]. In this regard, Table 10 indicates that during the 1970's, home consumption by Jamaica's (small) farmers fell from average of 36% to 9.2% of total production, while market involvement increased from 15.4% to 55.4%

Based on the above discourse one could be lead to the premature conclusion that Jamaica's 150,000 small farmers were experiencing significant incentives to produce and become more involved with the domestic market. The Ministry of Agriculture (1987) however points out that ;

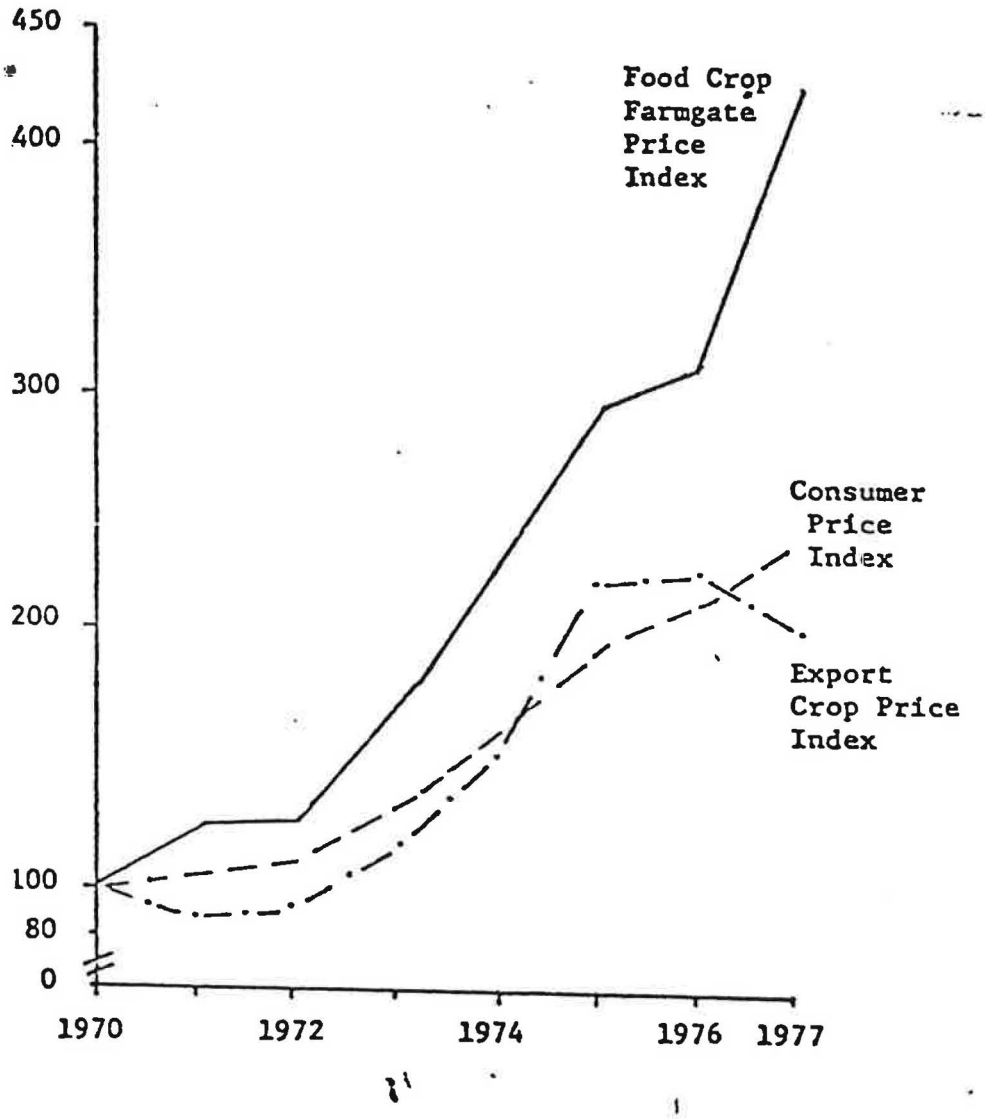
> ..these (price) increases however were in part due to high inflation rates and in fact if adjusted for inflation, the farm gate prices for many crops actually fell..[ibid :2]

We therefore infer, that although the quantity of food sold to the domestic market increased, the real income of the average Jamaican small farmer did not increase significantly – if any their incomes actually declined. One survey made in 1976 indicated that 80% of farm families had a per capita income that was far less than the national average per capita income which at the time was US$ 1,250.00 [USAID, 1977:12]. By the mid 80's, 64% of small holders had an average income of less than J$ 50.00 per week ($ 170 –$ 200.00/month) [PIOJ, 1991:68]. The income of small farmers and agricultural labourer was cited to be much lower than that for unskilled manual labours (J$ 310.00), and traders (J$ 262). It was even lower than that of part-time work for about $ 20.00 per day.[IFAD: 1988:4]. Against this background of relatively very low incomes for small farmers, we have also noted that the cost of the minimum expenditure for a basket of food (ie. for a family of 5) was J$ 2,620.00 per annum in June 1979.This moved up to J$ 3,396 per annum in June 1983. At the same time, 60% of the farm households under 5 acres had an average annual income of J$ 1,051 .

It is therefore not surprising, that despite the increased prices recorded for crops targeted at the domestic market, the welfare of Jamaica's small farmers in terms of nutritional status has not improved significantly. Omawale (1980), has determined that of those with less than five acres of agricultural land, between 10 – 26% had less than 80% of the reference weight for their age [ibid:113]. We argue that small farmers failure to meet their nutritional needs, is in essence related to their inability to generation adequate levels of income – despite their increased involvement in market relationships.

Figure 6

Food Crop, Export Crop, and Consumer Price Indices, Jamaica, 1970-1977 (1970 = 100)



Source: Blustain H. 1981: 181

Table 9

FARMGATE VALUE OF AGRICULTURAL PRODUCTION OF SELECTED CROPS

($)

CROP	1986	1985	1984	1983	1982	% CHANGE 82-86
Carrots	51,113	32,114	29,936	29,699	22,845	124
Hot Peppers	11,002	9,515	7,820	5,494	1,649	567
Onions	13,297	19,371	14,273	8,547	5,324	150
Peanuts	15,416	18,221	11,894	9,559	7,086	118
Pineapples	13,709	11,928	10,588	7,391	8,128	69
Plantains	29,647	24,800	22,915	14,388	15,657	89
Pumpkins	48,648	35,505	38,697	30,784	20,048	143
Red Peas	48,669	34,718	33,306	25,051	19,801	146
Tomatoes	59,865	45,140	41,678	34,218	23,655	153

Source : Ministry of Agriculture; Jamaica 1986

Table 10

Overall Level of Market Involvement of Farmers by PLL Status

Proportion of Crops Sold	PRE-PLL	POST-PLL
Home Consumption Only: None	36.1	9.2
Subsistence Oriented: Less than ¼	3.8	1.5
Some Market Involvement: ¼ - ½	5.4	8.5
High Level of Market Involvement: ½ - 3/4	9.3	19.2
Full Market Involvement: 3/4 - 1	15.4	55.4
Difficult to Determine	30.0	6.2
	100.0	100.0
N =	130	130

Source: Blustain H. etal 1981

Referring to Table 11 it will be observed that with increased market involvement of farmers (within and outside of the the land reform programme), the employment of family; exchange and wage labour, increased for farms within the reform group of farms 1-5 acres. The use of family and exchange labour was generally higher than that of wage labour. According to Goldsmith (1982) hired labour as a variable cost constituted between 47-65% of the labour force of farms within the 1-5 acres [ibid :81].

On the other hand farms of less than 1.0 acres had relatively lower levels of employment of all types of labour. The cost of hired labour at the time was some Ja.$ 20.00 per day [IFAD 1985:9]. La France (1981) has indicated that 60-70% of small farmers could not afford to hire additional labour and some 27% had urban occupations [ibid :9]. One should further note that approximately one third of these farms were operated by women. We have therefore infered that farms in the category of 1-5 acres, while increasing the quantity of hired labour had to simultaneously seek urban employment to maintain their standards of living- particularly women.

The facts speak for themselves. We argue that commercialization as mooted by Rostow (1960) had not taken root in numerically dominant small farmer category of Jamaica's agrarian structure. There was no 'modernization' of their production. Poverty in Jamaica's rural areas was not eliminated with the introduction of market relationships. de Janvery (1985) has produced some comparative empherical evidence which shows that a similar situation exist in the Latin American context. In this regard he writes;

> In spite of the increasing integration of rural and urban markets and of competition for temporary employment the .. peasantry remains an important source of semi-proletarian labour. The larger this reserve pool of cheap labour, the lower the level of agricultural wages [ibid :]

In summary, we argue that the increased domestic food production by Jamaica's small farmers has not resulted in either significant increases in their incomes. In general their contribution to the employment income of rural (wage) labour has been constrained. They however did maintained a considerable quantity of family and exchange labour. The scenario has been one of increased market involvement in tandem with increased impoverishment. The following statement sums up the status of Jamaica's small farmers.

> Low farm income generally has been a chronic problem among small farmers in Jamaica... having its bearing first on the nature of the agrarian structure . Secondly, the majority of the small farmers lack the basic and often minimal resources for commercial farming activities. With the constraint of marginal land, inputs, agricultural skills, small farmers and the female farmer in particular, have been able to earn a living from the land which has been merely sufficient for survival. Accordingly, small farmers irrespective of sex, have remained poor and consequently, enjoy a relatively low standard of living [PIOJ, 1991:68]

Turning our attention to export crop production, we note that some 31% of all the country's farm units grow export crops (ie. traditional and non-traditional). Plantations

Table 11

Reported Use of Labor, by Farm Size Category and PLL Status, in Percent

Farm Size Category	Type of Labor: Family Labor PLL	Family Labor NON-PLL	Exchange Labor PLL	Exchange Labor NON-PLL	Hired Labor PLL	Hired Labor NON-PLL
Less than 1 Acre	9.4	11.1	11.4	14.3	4.8	5.9
1 - 5 Acres	15.3	61.1	74.3	66.7	66.6	47.0
5 - 25 Acres	14.1	22.2	14.3	19.0	23.3	41.2
25 - 100 Acres	1.2	-	-	-	4.8	-
100 - 500 Acres	-	5.6	-	-	-	5.9
	100.0	100.0	100.0	100.0	100.0	100.0
N =	85	18	35	21	21	17
N.R./N.S.	-	2	-	1	-	-

[2]We believe that there was a fair amount of under-reporting of casual labor here, as respondents tended to indicate the numbers at that particular point in time.

Source: Blustain H. etal 1981

provide three-quarters of the total value of traditional export crops. Sugar is the dominant export crop. We have noted that over the past 20 years, the performance of traditional export crops has been dismal. The major factors cited for this are; weakening of world market prices for major commodities eg. sugar (except coffee) ; inadequate agronomic practices; inability to benefit from economies of scale and praedial larceny. [Min agric, 1987:7]

On the other hand, there has been a more positive picture for the production and export of non-traditional crops. In 1982, non-traditional crops accounted for 28 percent of total exports. Three years latter, (ie. 1985), the figure rose to seventy five percent (75%). Overall, between 1982 and 1986, it is reported that there was an overall increase of 165% in the quantity of produce exported. Table 12 indicates that vegetables and tubers were the major non-traditional exports. We argue that this trend of increase in the production of non-traditional exports, should be viewed in the context of Jamaica's structural adjustment programmes, which emphasize deregulation of the economy, greater private sector participation in large scale agricultural production and improved incentives for export production. Backed by financial and technical assistance form USAID, Israel, and Japan, exports of non-traditional crops increased from 20,000 tons in 1984 to 52,000 tons in 1988. [ECU 1990:11]

We must therefore argue, that the agricultural policy of the Jamaican government - during the 1980's - supported the rapid expansion in non-traditional export agriculture via medium size farm production. Concrete evidence is, the initiation of a massive promotional programme in 1983, dubbed 'AGRO-21'. The aim of this programme was to at mobilizing foreign investment and technical know-how for the larger scale and technologically intensive development of Jamaica's agricultural resources in the production of non-traditional crops. This we note, was also seen as a way of diversifying the sector way from its concentration of a few traditional commodities thus making the sector and the economy less vulnerable to external [IMF 1987: 30].

Not only was there an increase in the activity of the medium sized-dual purpose farms in terms of the production of non-traditional crops for export, but also their increased utilization of agricultural labour - particularly that of women. We noted that the number of females employed as agricultural labours increased by some 16% from an all time low of 56,500 in 1982 to 65,500 in 1988. [PIOJ:1990 69]. While this could be argued to have opened the employment opportunities for women in rural areas, at the same time, given their dual market orientation, the increased activity of medium sized farms further aggravated domestic market prices as well as the hired labour market conditions faced by Jamaica's small farmers.

We further argue that, insult was added to injury in that during the 80's, there was relatively little government support for small farmer production of non-traditional export crops. We would support an arguement that Jamaica's small farmers increased their production for domestic markets - not just in response to market prices as postulated by Goldsmith (1981) - but to resist the negative, yet real effects of 'commoditization'. With respect to traditional crop production Goldsmith writes;

> ..the fact that producers lack effective influence which could check the inefficiency of the commodity boards and secure them a larger share of export revenue , has led to prices lower than they would have been ceteris paribus. Consequently, many producers have exercised what Albert O. Hirschmman (1970) calls the "exit" option, of turning to other crops that can earn them higher income...The compulsory, even anonymous basis of membership leads to oligarchic operation at the local level and even more at higher levels. It is thus easier for farmers simply to switch to other crops or to competing ...private marketing services.

One should note that what is termed 'resistance' by the commoditization school, Hirschmman (1970) has termed 'the exit option'. We are thus in contrary to the argument put forth by Long et al (1986) that there is no resistance of the peasantry to commercialization. We argue that generally, the experience of Commodity organizations in Jamaica demonstrate that there is resistance . Furthermore, the Jamaican government has during the 1980's acted consciously as an agent in the process of commercialization and in effect commoditization, realigning the legal,and institutional framework of commoditization within the context of structural adjustment. This has further accented the inequality of the country's agrarian structure and exploitation of rural labour.

We further argue that previous market incorporation in the production of traditional export crops had already the effect of increasing the reliance of small producers on production for the market vis a vis production for subsistence. Contrary to the argument put forward by Pearson (1968), we argue that this reliance, began before the spiral increase in domestic food crops prices which started in the 1970's. Commoditization of small farmer production of export crops under the disguise of commercialization had already given rise to impoverish and decapitalizing of small farmer operations. Faced with the need to survive, many small holders particularly women had to seek wage labour during the 1970's – and at the same time shift their own subsistence production to annual crops. Goldsmith (1981) writes;

> ..the low productivity has left farmers in the rural areas with relatively little cash to hire workers, and even to the extent that self-employed farmers have to seek non-farm work...inducing rural-urban migration and a displacement of the economic active population (EAP) out of agriculture. Wage earnings are thus an important determinant of the persistence of small farmers who could otherwise not subsist by home production alone [ibid : 27]

Finally, with regards to production, we argue that there has been a close correlation between cash (export) crop production and the sociological transformation of Jamaica's small and medium scale farms, tending towards their further domestic food and export production respectively and also differentiation within the country's agrarian structure. The socio-economic surveys conducted by IFAD (1988) and the work of Black (1990) with regards to coffee production, confirm that in contemporary times, the commercialization of medium size farms has been accelerated to result in further differentiation and increased reliance on wage labour in Jamaica's rural areas.

3.4 GOVERNMENT POLICY RE: AGRICULTURE & RURAL DEVELOPMENT

Table 12

EXPORT VOLUME OF NON-TRADITIONAL CROPS

(short tons)

CATEGORY	1986	%CHANGE	1985	%CHANGE	1984	%CHANGE	1983	%CHANGE	1982
Tubers	11,990	2	11,767	19	9,868	30	7,623	1	7,547
Vegetables	10,664	45	7,366	53	5,815	56	3,097	104	1,520
Legumes	201	-34	304	462	41	-	-	-	-
Fruits	5,362	32	4,052	122	1,826	122	823	21	682
Miscellaneous	400	-43	698	-9	770	-22	981	-7	1,050
TOTAL	28,617	18	24,187	40	17,320	38	12,524	16	10,799

Source: Export Management Information System (EMIS)

We have noted that overall governments expenditure on agriculture has been declining in tandem with the decreasing contribution of the agricultural sector to Gross National Product. During the period 1946 -1956, the agricultural sector received 36% of governments capital budget - reflecting the three pronged policy of the Crown Colony government. At the time of independence in 1962, it stood at 20% and by the period 1968 -1970 it was 15% . Eight years latter, public expenditure for agriculture was equal to 3.8% of GDP.

Lee (1989) however argues that in absolute terms there was enormous growth of Jamaica's capital budget for agriculture . He writes;

> the real annual flow of capital resources into the agricultural sector to be about three and one-half times greater than in the 1946 -1956 period... In the 1970's government expenditure on farming have fluctuated considerably in real terms , but the trend (had been) towards increased spending [1989:38].

Another observation worth mentioning is that, at the end of the last major land reform programme in 1982, the Jamaican government had spent some J$ 61 million on all three phases [Lee 1989: 48]. We note however, that the result of this expenditure, was a very large fiscal deficit. Government spending on the reform programme of the 1970's " was considered (by the IMF) as excessive in relation to its tax revenue.." [Open University 1985;29]. Goldsmith further argues that a considerable amount of public funds was spent on farm programs " and in some instances more than is taken in rural taxes". [Goldsmith 1981:39].

During the 1980's the trend continued. The 1982 structural adjustment programme under the new JLP government was cited as having as one of its objectives, the creating opportunities for the comprehensive development of the rural areas " in order to maintain geographic balance in the overall pattern of social development and access to economic opportunities [IFAD 1982:3]. A US$ 20 million project supported by IFAD and IDB between 1983 and 1988 was also another major initiative on the part of government to strengthen the institutional and financial framework of agricultural lending. The immediate objective was to raise the productivity and standard of living of some 4,300 farmers by the provision of credit, technical assistance and soil conservation measures.

More recently, (ie 1990), we have noted that government policy has been to couple land reform with " an entrepreneurial agricultural sector based on non-traditional crops grown for ...export." The main policy elements of the most recent agricultural programme are;

- the divestment of prime government land to private farmers and entrepreneurs on both leasehold and freehold basis.
- the creation of "useful" agricultural projects for unemployed youths
- the rebuilding of governments extension service to small farmers as part of the integrated rural development plan.

On the basis of the aforementioned government policy interventions, one could argue that despite the relative decline in government expenditure, on the basis of the magnitude of

programmes instituted by Jamaica's governments over the period 1970–1989, the development of Jamaica's agricultural sector was still a priority area. This argument we note would run contrary to Todoro's argument that;

> It is interesting to note in the light of the rural concentration of absolute poverty , that the largest share of most LDC government expenditures over the past two decades has been directed towards the urban area and, within that area, towards the affluent modern manufacturing and commercial sectors....this modern sector bias in government expenditure is at the core of many development problems... [ibid : 163]

We however have taken note of White's (1986) argument that rural development is wider than agricultural development. He writes;

> rural development has not occurred in great majority of third–world countries, despite the extra–ordinary growth in the last few decades of rural development planning activity and budgets and of bureaucracies whose job it is to make rural development happen. [ibid : 5]

In the context of Jamaica, we have observed that the development of rural areas, (as opposed to just the agricultural sector), was most noticeable in the 1972–1980 period when government sought to attain a wide range of social and economic goals. Appendix E presents an impressive list of social and economic programmes introduced by the government in this period. A significant manifestation of government's continued policy to improve rural development and to alleviate poverty, was the subsidization of basic food prices and the introduction of a Food Aid Programme in 1984. Half of the households in the poorest expenditure quantril were recipients of food aid. Children have also been targets of Governments poverty alleviation drive. In conjunction with the USID and the World Food Programme, children from the poorest households were provided daily meals while at school [PIOJ, 1990:26].

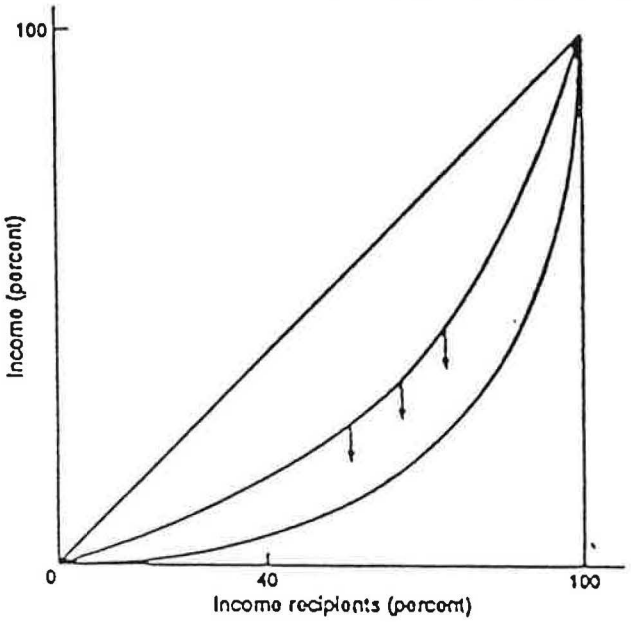
These observations would seem to do little in terms of lending support to Lipton's urban bias hypotheses. If the essence of rural development is that of improving the living standards of the mass of low income population we cannot argue that the various governments of Jamaica have not recognized that there is a considerable level of poverty in the country and have attempted to alleviate it. We however are firmly of the opinion that Liptons theory of urban bias is relevant in terms of urban elite and rich farmer alliance in agriculture. He writes;

> The rural better–off get most of what is going by way of rural investment, price support, subsidies etc.,even if not much of these. The rural poor, through efficient, get mainly pious words, though often sincere ones [1982:68]

In this vein we argue that government policy to promotion a "private farmers and entrepreneurs", has to be viewed in a wider national context of development where there is a modern sector enrichment growth ideology as demonstrated by Professor Gary Fields in his book " Poverty , Inequality and Development " [Cited by Todaro 19 : 148]. Such a development strategy results in a shift in the Lorenz curve of equality downward and further from the line of equality as indicated in Fig 7 .

Fig 7

Worsened Income Distribution under the Modern Sector Enrichment Growth Typology (Lorenz Curve of equality)



We have cited in the case of Jamaica's agricultural sector, several tangible examples of this modern sector enrichment growth approach. For instance, the aforementioned US$ 20 million IFAD/IDB project, was aimed initially at small farmers. At the start of the project IFAD argued that in the case of Jamaica, the priority target group for agricultural development should be the bona fide hillside farmers owning 2-10 acres, whose main income is from farming. After two years, the project raised the maximum farm size from 10 to 25 acres to include medium size farms. In a subsequent evaluation of this project, IFAD was of the opinion that " In general the project is now considered a success." [IFAD 1985: 26-27] . Another example is the US$ 40 million World Bank Export Credit Project to support some 500-700 medium to large scale commercial farmers in non-traditional export crop production.

In addition to this, at the level of institutional bureaucracy, we argue that their mentality which demonstrates contempt for rural people and little affiliation between the development bureaucrats and the small farmers of the country. In the important area of credit, the manager of one development bank is cited to argue that the rates of interest on capital borrowed have been too low for small farmers and that at the time they should be raised from 6-7% to 12% ! [Arthur D. Little 1982 : Annex A Report No.4].

We thus argue, that while some policies and programmes of the Jamaican government have over the years seemed to support the agricultural sector and rural areas, a modern sector enrichment, an urban bias ideology has become endemic. We further argue that government's policies of rural development cannot be isolated from the development process in the wider economy and as such the urban industrial bias impact hypothesis has to be taken into consideration. We are hence in support of Saith's argument that " the critical linkage of the experience of the rural sector with industrialization strategies has been excluded from the analysis and formulation of government policies of development and poverty alleviation." [ibid., 1990:207] .

Finally with regards to governments agricultural policy, we argue that the various governments of Jamaica have embraced a modernization (ie commercialization) agricultural policy which has not directly benefited the majority of the country's small farmers and the rural population as a whole. Government's modern, export sector-biased agricultural policies have in the main increased the activities of the large and medium size farms, and this coupled with the unequal distribution and access to resources (mainly land and capital) has curtailed the socio-economic rural development of Jamaica's rural areas in terms of self-employment and increased incomes. 'Commoditization' has occured simultaneously with the 'Commercialization' of agricultural production.

3.5 WOMEN AND RURAL DEVELOPMENT.

With respect to the role of women in Jamaica's agricultural sector, this is a very important aspect of our socio-economic analysis. It has been noted that women in rural areas have traditionally played major roles in direct production and marketing of agricultural commodities. The 1978 Census of Agriculture reported that there were over 35,000 female farmers in Jamaica [PIOJ 1990:68]. Table 13 indicates the number of individual farms

TABLE- 13

NUMBER OF INDIVIDUALLY OPERATED FARMS
BY SIZE OF FARM AND SEX OF FARMER

Size Group	Total	Male	%	Female	%
Total	182,169	146,981	80.6	35,188	19.4
Landless	7,631	4,788	62.7	2,843	37.3
Less than 1 acre	51,963	38,294	73.6	13,669	26.4
1 acre and under 5 acres	90,120	74,786	83.0	15,244	17.0
5 acres and under 10 acres	20,798	18,499	89.0	2,299	11.0
10 acres and under 25 "	8,622	7,833	91.0	789	9.0
25 acres and under 50 "	1,505	1,377	91.5	128	8.5
50 acres and over	1,530	1,314	86.0	216	14.0

Source: Planning Institute of Jamaica.;

operated farms by size of farm and sex of farmers. We note that nearly 40% of the landless farmers are women and in the size categories of less than 5 acres there are some 29,000 female operated farms.

In terms of marketing, an estimated 14,000 - 20,000 women operate island wide in parish markets and at curbsides locations. Of this lot, some 7,000 -10,000 operate in rural areas . It is important to note that the Higgler Survey conducted by the Ministry of Agriculture, revealed that over 70% of these women had no previous employment and for the vast majority, their income has often been below the National Minimum wage. [PIOJ 1990:69]

The issue of women and their experience in the rural areas needs to be examined briefly given their prominence in agricultural employment. Although the percentage of women employed in agriculture declined from 23.1% in 1975 to 16.8% in 1989, their absolute number has remained at some 60,000.[PIOJ 1990:69]. We argue that there is a strong and direct correlation between female employment in agriculture and their total employment in the Jamaican labour force. Figure 6 bears this out clearly.

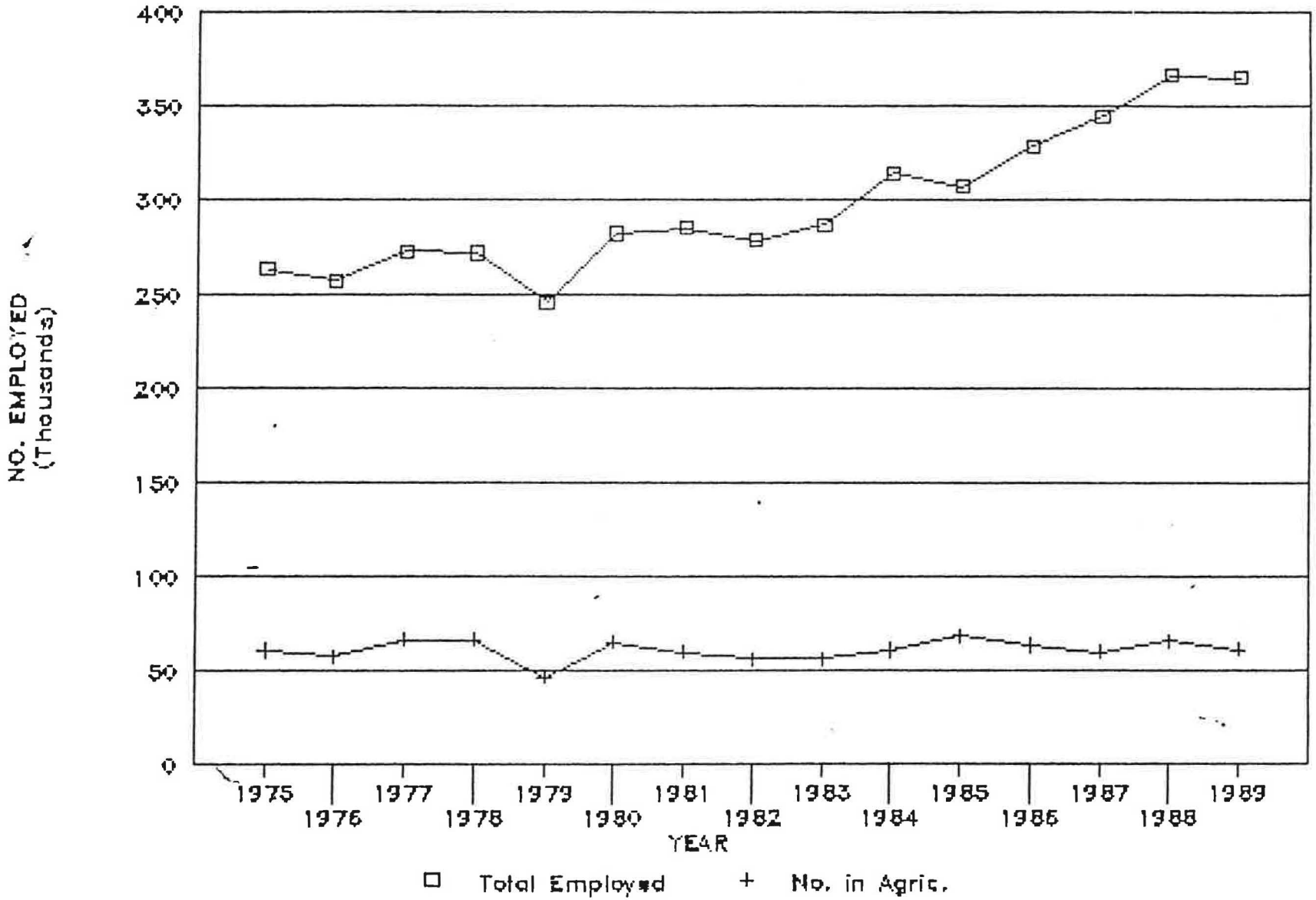
It is generally argued that poverty affects a disproportionate number of women and that there is increasing incidence of poverty in households headed by women. We have noted that in the case of Jamaica, 35% of all households are headed by women [PIOJ 1991:7] However, we also note that the percentage of rural households headed by women is lower compared to more urbanized parishes. According to the PIOJ " The data suggest that in rural areas , there is a more stable, two parent family situation for children than in the urban areas" [ibid 1991:8]. We however argue that, the fact that there are less households headed by women in the rural areas of Jamaica, should not detract from the fact that rural women have to also find income to support their family (independent of farm earnings). We argue in the same vain as IFAD, that there has to be scope for an income-generating component to assist them in supporting their children. [IFAD 1988: Annex 2 ;p1]. It was actually on the basis of this understanding that IFAD argued that the target group for small-rural enterprises in Jamaica should be the 3,000 landless and the 14,000 near-landless poor women [1985:14].

Furthermore, Knight (1989) points out that whereas Jamaican males within the 14 - 24 years age group are able to find some jobs in agriculture in the rural areas, women within the same cohort have no equivalent sector providing jobs. The need for women in rural areas to generate income for themselves is reflected in the fact that 55% of the request for assistance in establishing small scale enterprises in the hillside project were women [1988:6]. We also note that in Jamaica, young rural females benefit from better educational opportunities than males. More girls in rural areas complete school with certification than boys.[PIOJ:75] Ironically, these young girls have greater difficulty finding jobs when they join the labour force reflected in terms of unemployment (25.2% vs 60. 9%) . Hence, they migrate in large number to the urban areas where domestic labour and other services provide an avenue for employment. 91.8% of all domestic workers were born in the urban parishes of Kingston and St.Andrew.[PIOJ 1990:10].

Fig 6.

NUMBER OF WOMEN EMPLOYED IN AGRICULTURE

1975-1989



In summary we argue that women (and particularly young girls) who reside in Jamaica's rural areas have been operating in an environment which has been biased against their overall development. Improving the status of these women, may be the most direct means of improving the incomes of the most impoverished rural households where women's income is either the only means of survival or a major component of household income.

3.5 SUMMARY

In this Chapter we have argued that in general, Jamaica's physical topography and climatic situation are very problematic and challenging for the majority of the country's agricultural producers, who in the main are small farmers. With regards to the country's agrarian structure, we have noted that historically it been highly differentiated and characterized by a very unequal distribution of land amongst its food producers. We have concluded that increased domestic food production by Jamaica's small farmers has not resulted in either significant increases in their level of income or their contribution to the employment of rural (wage) labour. The situation has been one of increased market involvement in tandem with increased impoverishment. Commercialization as mooted by Rostow (1960) had not taken hold in the dominant small farmer category of Jamaica's agrarian structure. Poverty in the rural areas has not been eliminated through modernization and the introduction of market relationships.

We have indicated that we are in contrary to the argument put forth by Long et al (1986) that there is no resistance of the peasantry to 'commoditization' . We further argued that Jamaica's small farmers have increased their production for the domestic market and this reflects a general attempt to resist the effects of 'commoditization' of traditional export crops that they grow. The experience of Commodity organizations in Jamaica demonstrate that there is unspoken yet effective resistance . Furthermore, Jamaican's governments have acted as agent in the process of commoditization via enforced legal, institutional framework of commoditization within the context of structural adjustment. This has accentuated the inequality of the country's agrarian structure. On the other hand, commercialization of medium size farms has taken root and has increased both export and domestic output. At the same time, the process has accelerated the further differentiation of the country's agrarian structure and has increased/supported the reliance on wage labour in rural areas.

We have also argued that despite efforts to reform the agrarian structure, the modernization agricultural policy of the Jamaican Government has not directly benefited the majority of the country's small farmers and the 1.14 million strong rural population. Government's modern, export sector-biased agricultural policies have consistently supported the activities of the large medium size farms. This coupled with the effects of an unequal distribution and access to resources (ie mainly land and capital), has curtailed the socio-economic and rural development specifically in the area of self-employment and improved income distribution. Finally we argue that women in Jamaica's rural areas have been operating in an environment which has been biased against their overall development and there are trends that indicate that improving the status of women may be the most direct means of improving the incomes of the country's most impoverished rural households.

CHAPTER 4

AGRO-PROCESSING AND RURAL DEVELOPMENT

In the previous chapter we examined Jamaica's agricultural sector; its agrarian structure; the relationship of that structure to production and marketing; government policy with regards to agriculture and rural development, and the experience of women in rural areas. We will now introduce into our analysis, the aspect of agro-processing and its relationship to these variable in the context of rural development. This will mark the end of our empirical analysis.

4.1 SPACIAL MAPPING & EMPLOYMENT IMPACT OF AGRO-PROCESSING

In terms of spacial mapping, Tables 2 & 3 (Appendix D), provided an indication of the spacial locations of our defined 87 agro-processing plants by parish. However, to facilitate a clear picture of the relative importance of employment by these factories relative to the population in urban and rural parishes we have constructed Table 14 which is intended to support our analysis of their impact on income generation in these areas. This table incorporates the aggregated information formation in Tables 1 and 2 as well as population statistics for the year 1982.

Generally, it will be noted that the highest concentration of agro-processing factories were sited in the Kingston and St. Andrew metropolitan area (30%); followed by St. Catherine (13%); St. Thomas (11.5%); Clarendon (9%); St.Elizabeth (6.9%); Westmoreland (5.7%); Manchester, St.Mary and Portland (4.6%) Hanover and St.James (3.5%) Trelawny (2.3%) and St.Anns (1.0%). Fig 8 provides a more graphical picture of the spacial location of the processing plants (as a percentage of the total).

Attention is drawn to the spacial concentration of factories on the south-east section of the island, which embraces the more urbanized region of Jamaica. It would seem us that the more rural one gets the less likely is one to find agro-processing factories located in those areas. Also, taking into consideration Austin's categorization of agroindustry by the level of product transformation, and looking in detail at Table 14, it could be argued that the higher the level of transformation, the greater the degree of urban bias and conversely the less the degree of transformation to greater there is likely to be a rural bias in capital investment. Wether there is also an increase in technological complexity and/or manegarial requirements has not bee varified. We however argue that there is relative uniformity in these areas across urban and rural areas. In terms of physical transformation, fruit and vegetable, dairy and confectionary processing factories (C) which fall under Austin's category III and require a higher level of transformation, are more located closer to urban centers and within those rural parishes that are in closer spacial proximity to big towns and metropolitan centers. One the other hand spice and condiment which fall under category II,are located in the more western/southern and more rural areas ie Westmoreland; Trelawny and St.Elizabeth.

Fig. 8

JAMAICA

Spacial location of agro-processing Plants by Parish as percentage of total number (1982)

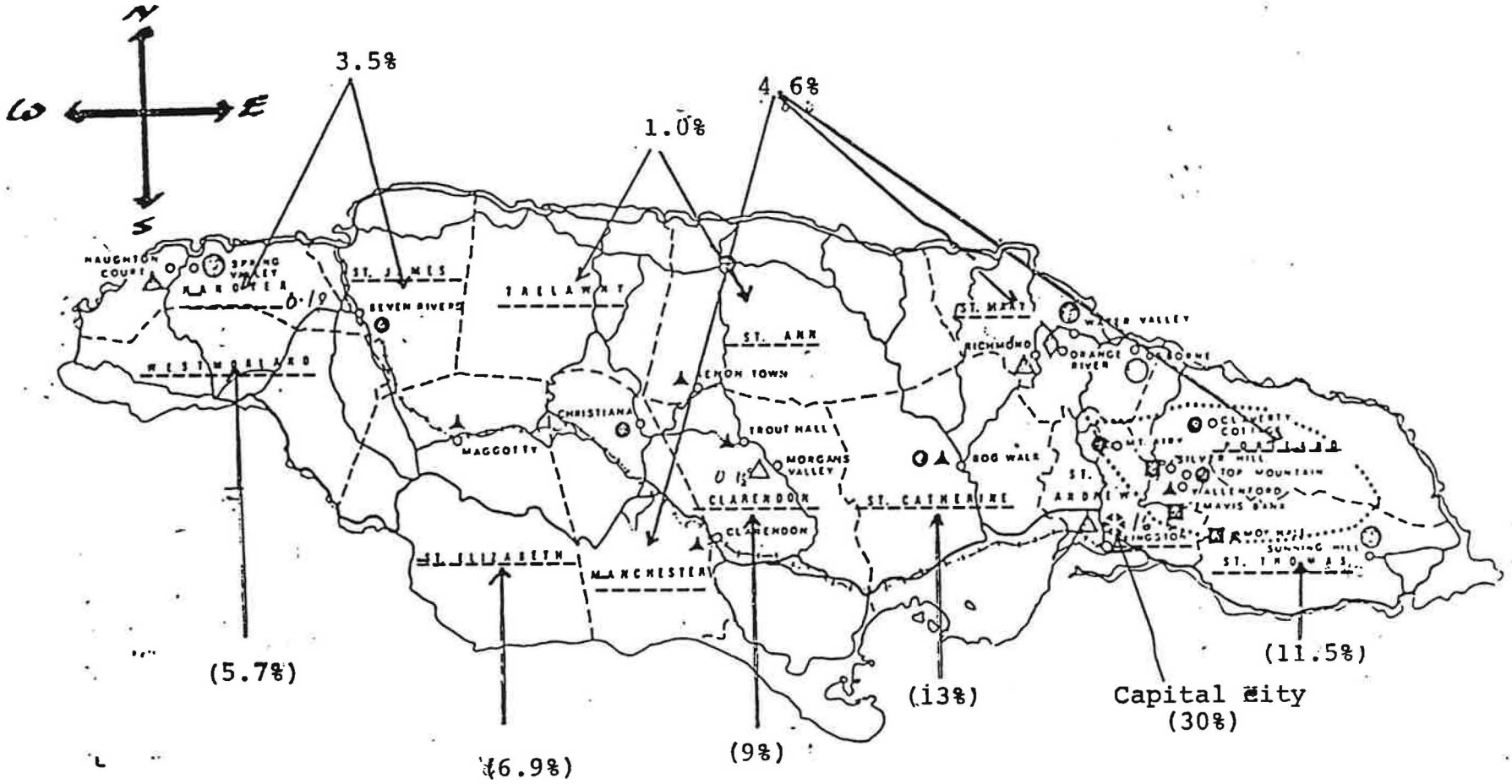


Table : 14

EMPLOYMENT IMPACT OF VARIOUS TYPES OF AGRO PROCESSING FACTORIES BY PARISH (1982)

PARISH	POPULATION(a)	TYPE OF FACTORY A B C D E F G H I J	Total*	No.Emp	%POP.
Kingston/ St.Andrew	565,500	4 1 8 7 0 3 1 2 0 0	26	936	0.16
Manchester	136,517	0 0 0 1 1 0 0 1 1 0	4	144	0.10
St.Eliz.	132,353	0 2 1 1 0 0 0 1 1 0	6	216	0.16
Trelawny	65,038	0 0 0 2 0 0 0 0 0 0	2	72	0.11
Westmoreland	116,163	0 0 1 4 0 0 0 0 0 0	5	180	0.15
St. Mary	101,442	0 0 1 0 0 0 2 0 1 0	4	144	0.14
St. Anns	132,475	0 0 0 0 1 0 0 0 0 0	1	36	0.03
Clarendon	194,885	0 0 3 0 0 0 0 3 1 1	8	288	0.15
St.Catherine	315,970	1 3 2 1 0 2 0 1 0 1	11	396	0.12
Hanover	60,420	1 0 0 1 0 0 0 0 1 0	3	108	0.18
St.James	127,994	0 1 1 0 1 0 0 0 0 0	3	108	0.08
St.Thomas	76,347	0 0 3 0 1 0 4 2 0 0	10	360	0.47
Portland	70,787	0 0 1 1 0 0 1 1 0 0	4	144	0.20
TOTAL	2,095,878	6 7 21184 5 8 11 52	87	3,132	0.15

A=Fish/poultry;B=Dairy;C=Fruit/Veg;D=Condiment/Spice;E=Conf/Coca prod;F=Grain G=Copra;H=Coffee;I=Coca;J=Citrus.

a- For year 1982; Source STATIN 1982,p.10

*- average of 36 employees per factory (1982)

In terms of impact on employment within each parish, we observe that the greatest impact are in the parishes of St.Thomas;Portland; St.James and Hanover which we regard as relatively 'urbanized' parishes. Our map indicates that St. Thomas and Portland are adjacent to the capital city (Kingston\St.Andrew). Generally the impact on employment in the more rural parishes as we have defined is relatively low, ranging from 0.03 - 0.16% of the parish population and averaging 0.12% of the rural population (vs 0.16% in the Kingston metropolitan area). We estimate that for every 809 persons resident in the real rural communities, only one (1) is employed in an agro-processing factory. For the more urban parishes, the level is computed at 1:562 which indicates a greater impact.

It is also interesting to note, that within for the rural parishes of Clarendon and St.Catherine - which are in closer proximity to the urban parishes than the aforementioned parishes - there are some 19 factories. For every 747 persons within these areas one (1) person is employed in an agro-processing factory. Whereas for those rural parishes which are in the south-west end of the country, and further away from urban centers, (eg. St.Elizebeth;and Westmoreland) - and which together have some 11 factories within their boundary - the ratio is 1: 627 persons.

On the basis of this analysis, we argue that there is a spacial bias of agro-processing factories in Jamaica towards the urban capital city and the more central easterly parishes. It would also seem that there is an inverse relationship between to the degree of product transformation that is undertaken and the spacial location of factories. Thirdly, there is a relatively significant impact on employment in the parishes which surround the more urban centers (ie St. Thomas; Portland and Hanover) and not within the more urban centers themselves (ie Kingston/St. Andrew; St. James). However the impact on employment in the more rural areas is much lower but more evenly distributed.

We will now take a more detailed look at three (3) types of agro-processing factories to solidify our analysis of their spacial bias and impact on employment. The three selected, are those that are the most significant in numbers, namely, Fruit and Vegetable (C); Spice and Condiment (D); and Coffee (H). It should also be noted that all these three types of process products are net earners of foreign exchange - Fruit and vegetable $ 29.0 million, Coffee/spices, $ 12 million [Wilson, 1991:13]

C- Fruit and Vegetable processing factories.

Factories which process fruits and vegetables dominate the Jamaican agro-processing sector. These 21 factories accounting for some 25% of the total number of factories in 1982. Of this group an estimated 38% are located in Kingston (the capital city) while the rest (ie 64%) are within the 'rural' parishes. If one were to include the parishes adjacent to Kingston/St.Andrew (ie Portland and St.Thomas) and the more urban parish of St. James, the number of real 'urban' based fruit and vegetable factories goes up to 62% of the group. Thus generally one could argue that capital investment in Jamaica's fruit and vegetable processing factories, are urban biased.

However we have beene careful not to be superficial in this appraisal . We have note that 54% of the smaller fruit and vegetable factories which employ 6-25 workers, are located in the more rural parishes. Also some twenty percent (20%) of the larger fruit and vegetable factories are located in rural parishes. We argue that, although there is an inverse relationship between the spacial location and the degree of urban bias, there is a direct relationship between the location of these fruit and vegetable factories; the availability of labour within the areas and the cropping pattern of farmers within these areas.

With reference to labour availability, St.Elizabeth; Clarendon and St.Catherine (particularly the latter) have the largest pool of female labour within the group of rural areas (65,364; 95,714; and 153,736) [Population Census 1982:8] and a much older work force.[ibid :10]. In addition to this, the annual rate of growth of the population in St. Elizabeth and Clarendon are noted to be relatively high (8.9% and 5.7% between 1970-1982) [ibid:12]. At the same time, St. Catherine and Clarendon have experienced a relatively lower rate of outward migration between 1970 and 1982 [See Table 4;page 15]. Thus we conclude that there is a significant pool of female labour available to justify establishment of small agroprocessing operations. The ASER study of agro-processors within the St.Catherine area confirms that labour availability was not a problem for them [1986, V.13]

With respect to cropping pattern, Table 15 indicates that St. Elizabeth and St.Catherine are cited to have significant acres under vegetable and fruit tree cultivation particularly tomato and pineapples. Despite this observation, the ASER report (1986) indicated that 33-40% of the factories in these areas, cite inadequate supplies and shortage of raw material as a major problem.

D- Spice and Condiment processing factories

There were some 18 spice and condiment factories (1982). They account for some 21% of the total number of factories - second to fruit and vegetable factories. Some 39% of these factories are located in Kingston/St.Andrew. The rest are mainly in the rural parishes with 44% allocated to the more Western parishes of Trelawny;St.Elizabeth; Westmoreland and Hanover. It will also be noted that 72% of these factories are small factories employing 6-25 persons. However the majority of small spice and condiment factories (54%) are located in Kingston/St.Andrew. 46% of the small factories are located within rural parishes mainly Westmoreland. It is however interesting to note that all the larger size spice and condiment processing factories are mainly within the rural areas. We argue that there is a bias of spice and condiment factories towards rural locations. Again, if one were to refer to the cropping pattern depicted in Table 15 , one will note the extensive acreage allocated to the production of ecallion , onion, thyme and pepper in the parish of St.Elizabeth . Our map indicates that St.Elizabeth is adjacent to Westmoreland where there are 4 small and one (1) large spice processing factory. We argue in line with our previous statement that the lower level of transformation required for spice and condiments (ie cutting mixing) is correlated to this significant degree of rural bias exhibited. It will be noted that the impact of agro-processing factories in both St.Elizabeth and Westmoreland is of the same magnitude.

Table 15

Cropping Patterns for Selected Parishes
Total Acreage Planted by Crop

	Acreage Planted			
Crop	St. Ann	Trelawny	St. Elizabeth	St. Catherine
Gungo Peas	35	73	880	693
Red Peas	1,462	453	1,996	502
Other Legumes	169	228	~~315~~	619
Peanuts	29	40	3,375	163
Cabbage	867	167	160	272
Carrot	174	85	715	148
Pumpkin	317	283	333	578
Tomato	195	114	1,327	709
Calaloo	99	101	150	586
Other Vegetables	191	72	632	817
Ecallion	6	20	1,373	3
Onion	57	18	305	111
Thyme	5	16	232	-
Peppers	49	18	257	179
Pineapple	8	11	229	178
Other Fruit	9	3	350	54
Corn	1,020	506	916	622
Plantains	121	61	260	486
Irish Potato	175	121	101	83
Dasheen	92	56	192	248
Cocoa	273	132	224	332
Cassava	64	68	1,242	799
Yams (All Varieties)	2,830	3,653	1,371	3,282
Bananas*	1,147	2,033	762	1,407

H-Coffee

With respect to coffee processing plants we note that these account for some 12.6% of the total number of factories. 18% of these factories are located in the Kingston/St. Andrew area. If one were to include the factories located in close proximity to Kingston then the 'urban' concentration would be some 45%. Those within the central rural parishes of Clarendon and St.Catherine account for 36% of the total while those on the more western side of the country account for 18%. We must point out that small coffee processing plants account for 63% of the group and all are concentrated in the rural parishes. On the other hand just 50% of the larger factories are located in Kingston and the other 50% in the adjacent urban parishes of St. Thomas and Portland.

The seemingly 'polar' concentration of coffee processing plants in rural areas at one end and urban at the other, is we argue, related to the fact that coffee is grown at different elevations and regions. Black(1990) however notes that " The coffee industry's recent dynamism has clearly been concentrated in the Blue Mountain region" [ibid :7] To facilitate an understanding for the situation we pointed out that two basic grades of coffee are grown; 'Blue Mountain' and 'non-Blue Mountain'. Also, there are laws governing the coffee industry the most salient being Regulation No.134A of 1983, (The coffee Industry (Amendment)Regulation 1983, which "amends the boundaries of the defined region for 'Blue Mountain coffee and lists coffee works situated at Moy Hall, Silver Hill, Mavis Bank, Langley and Wallenford as those in which Blue Mountain coffee must be processed)" [Black 1990:5]. We argue that coffee production and processing is very structured and regulated much in contrast to the other agroprocessing activities. With regards to nature of production Black (1990) writes;

> Until the 1980's, Jamaica's coffee industry was dominated by small farmers who had less than two acres of coffee land and sold their production through cooperatives. The industry has undergone significant structural changes in the past decade. First came the Coffee Development Corporation, Japanese and EC projects to expand coffee acreage . At the same time , many Jamaican companies, businessmen and professional, recognizing the unique nature of this product and its long term potential, began to invest in coffee. The new breed of coffee farmer has at least ten acres of full-stand coffee, uses modern methods and technology to maximize yields and quality, and is either an approved exporter or aspires to be. Some have even entered into joint venture arrangements with roasters and retailers. The most rapid expansion has been in the Blue Mountain areas which yield the highest prices. In the lowlands... output from cooperatives has stagnated or declined..the coffee industry has become bifurcated with the traditional sector dominated by small farmer cooperatives on one side and the commercial sector dominated by larger growers and exporters on the other." [ibid:4]

4.2 THEORY AND PRACTICE

-URBAN BIAS-

Before we applies this theoretical frame work of urban bias to the activities of Jamaica's agro-processing industry, we will first highlight the fact that the agro-industrial sector " has traditionally been identified as part of the manufacturing sector, rather than as

part of the agricultural sector on which it depends for its raw materials and for which it provides a market .." [ADL 1982:3].

We have taken the time to confirmed that urban bias (in a spacial sense) is manifest in the case for Jamaica's agro industrial sector (inclusive of bakeries and soft drink manufacturers). For example, of 111 bakeries located on the island 26 are located in Kingston and St. Andrew while the others are evenly scattered though out the country [ADL 1982:7/8]. Generally, of some 20 different types of agro-industrial factories located in Jamaica(employing 6-50 workers), the greatest concentration (30%), is to be found in the Kingston and St.Andrew metropolitan area . In addition to this, within the group of larger factories employing 26-50 workers, the majority have their principle location within the Kingston area.

Given the concentration of the manufacturing sector in the metropolitan center (ie Kingston and St.Andrew), we were expecting to find (in a spatial sense), a similar situation of urban bias existing with respect to the country's agro-processing sub-sector. Based on our spacial analysis above we have noted that generally there is a bias of agro-processing factories in Jamaica towards the urban capital city and more easterly parishes. This we have argued is related to the degree of product transformation that is undertaken. There also is a relatively significant impact on employment in the capital city and surrounding easterly parishes. The ICD/UNDP 1988 report has confirmed our findings that the larger canned vegetable, jams and preserves and fruits/pure processing factories are located in the urban areas [ibid: Annex (A)]. We could thus infer that generally there is a bias towards large invests in agro-processing in the urban areas of Jamaica.

Given this observation, we have sought to find out why this is so. Based on the interviews carried out with the persons listed in appendix A, as well as our review of collected documents, it has been generally argued that as a group, Jamaica's agro-industrial sector is indirectly influenced by the ready availability and access to capital, and infrastructural inputs. In one particular study it is interesting to note that 52.7% of companies interviewed, indicated that the scarcity of credit, foreign exchange, and imported supplies material and spare parts were the primary constraints to expansion. Over 50% of the raw material used by the agro-industrial sector is imported. Raw material imports by agroindustry amounted to some US$ 140 million in 1982. [Arthur D. Little 1982 :33] .

One could argue on a practical note, that access to port; transport facilities for such levels of imported raw material and other input; banking and bureaucratic government services; as well as market opportunities, dictates that agroindustry must have an urban bias. This we note is also the argument put up by Msami (1980), that agro-industry development has a complimentary requirement of infrastructural development for the provision of inputs services [ibid 1980:139]. One could thus be tempted to quickly infer, based on this argument that there is a bias towards capital investment in agro-processing in the urban areas of Jamaica.

We have however, (based on our previous analysis of the major product types) been careful in passing a final judgement of urban bias as it has been determined that spacial location differs by factory size and product type of processing operations. For instance, factories with 6-25 workers involved in the processing of fruits and vegetables are more widely dispersed and concentrated in Jamaica's rural areas. As we are on the topic of fruit and vegeatble products, it is pertinent to note that, in the main, since 1976, the total value of Jamaica's exports of processed fruits and vegetables increased by some 300% between 1982 and 1986 up to J$ 21 million [Min Agric 1987:15]. This we argue is directly related to the substantial increase in the production of non-traditional crops during the period 1982 to 1986 and the increased activity of smaller sized processing plants which require relatively lower levels of capital investment.

Spice and condiment factories are also located mainly in the rural areas or in close proximity to them. We also note that a similar situation exists for the major section (ie 35%) of the agro-processing part of the commodity boards which handle traditional crops, and are principally located in the rural deprived areas of Clarendon and St. Catherine

On the basis of the above discourse, we must therefore be argued within the context of the urban bias theory, that despite an overall trend for factories to have their principal location in urban areas, within Jamaica's agro-processing industry, there are some segments such as the fruit and vegetable and traditional type processing activities which by virtue of their spacial locations do not exhibit a strong degree of urban bias. We argue that this more than likely, is due to the fact that capital requirements for small factories are relatively lower and most of the raw material used by these factories are of domestic and rural origin and could been supplied by small and 'dual' purpose medium size farms.

Finally we argue that in the case of smaller sized processing factories in Jamaica, the ready availability of cheap female labour and access to raw material carry more weight in determining their location than the degree of transformation and the complimentary requirement of infrastructural development for the provision of inputs services as argued by Masami. We will now look at the contribution of agro-processing to labour welfare in Jamaica's rural areas. Therein we will also look at how this activity has impacted on the welfare of rural women in their role as factory employees and agricultural labourers.

- LABOUR VALUE-

One survey conducted in 1982 , estimated that some $ 23.1 million was invested in the Jamaican agro-processing subsector [Arthur D. Little 1982:]. Table 16 indicates that over 79% of capital funds demanded processing firms went into plant expansion. Of this only 1% was allocated to labour. At a capital to labour ratio of US$ 8,163.00, this level of capital investment (ie. US$ 23 mn) would have created 1,533 new jobs at an average wage of US$ 208.00 per month for each plant employee.

Of significance is the fact that the monthly wage presented here, (ie.US$ 208.00),is much more than the J$ 120.00 per month minimum wage paid to unskilled labour in the said

Table 16

Allocation of expansion Credit by Jamaica's Agro-industry

Use of Expansion Credit	Large Scale Agroindustry	Medium Scale Agroindustry	All Agroindustry
Equipment	36.1%	47.9%	38.0%
Raw Materials Inven.	34.7	32.4	34.3
Plant	4.7	2.1	4.3
Labor	1.0	1.4	1.0
Other Expansion Uses	1.4	2.2	1.5
Total Expansion	77.9	86.0	79.1
Refinancing Existing Debt	5.2	3.2	4.9
Other Uses	16.9	10.8	16.0
TOTAL FUNDS	100.0	100.0	100.0

Source: SRDI Survey and Arthur D. Little Inc. estimates

period. However given that in Jamaica the value of production foregone elsewhere in the national economy is about one-half of the market wages paid to unskilled workers reallocated to the agro-processing industry, then the use of a shadow wage factor of 0.55 (ie for non-agricultural unskilled labour) would reduce the market wages paid to workers in the industry (at the time) to US$ 221.0 per month. Even with such a correction for wages, we have to infer that Jamaica's agro-processing operations in the early 1980's, remunerated labour employed at a value above the legal minimum subsidence wage at that time.

In continueing our analysis of theory and practice, we note that in 1982, the average cost of feeding a family of five for one month, (ie 'subsistence' cost) was reported at J $ 308.00. On the basis of the above, one may naturally deduced that in the early 1980's workers who were employed in Jamaica's agro- processing industry were be able to cover 72% of their family's subsistent needs (V), compared to 38% for persons paid the minimum wage at the time. It would seem that workers in the subsector were much better off than their other counterparts in the manufacturing sector. We argue that if this were so, then one should have observed a drift towards agroindustry employment as 'a focal point for social optimum'.

In this regard, agro-industrial companies were noted in 1982 to employed over 19,000 persons -moving from an estimated 11,000 in 1979. This is an additional 2,667 workers per year [Arthur D. Little 1982:4]. What fraction of that incremental increase went into the country's agro-processing factories is not clear. However given that agro-processing accounts for half of the persons employed in the group of agro-industrial factories that employ 6-25 employee [ADL, 1982:12], then the magnitude of absorbtion would be in the region of 1000 - 1,300 workers per year. This would work out to some 15 additional workers per year for each of the 87 processing plants. In terms of absorption of labour according to size of factory, several studies carried out in the African scenario, point to the efficiency of small firms [World Bank 1987:36]. Small processing firms are cited to generate more employment per unit of investment than the large firms. This we argue seems to be the case of Jamaica's small size processing firms given the fact that they allocation a higher percentage of capital investment to employing labour (ie 1.4% vs 1.0% for larger factories). We argue that the majority of this increase should have been in the rural areas (ie 47 factories) where the majority small second tier factories exist.

We continue to argue for the stand point of Marx's labour theory, that in the early the 1980's, high levels of investment in plant equipment resulted in the, the organic composition of capital within the subsector, increased significantly. This could according to the theory reduce subsequent rates of profit if capital investments were not kept in check. Table 17 confirms that this was what happened. Furthermore with respect to capital, we assertained that the estimated net profit on capital (ie net surplus/capital stock) was 18.2% in 1980. This fell to 15.8% in 1982 [Weiss 1985: 68 Table 12]. This confirms that there was a general tendency for profits to fall in the periods of high capital investment. We argue that this would have lead to a halt in further capital investment during the latter part of the 1980's .

Table 17

Capital Investment in Equipment
Manufacturing \ Agro-industry
(1979 --1983)

Year	IDB Estimate of investment in equipment; manufacturing sector (J$000)	Estimated Investment in Equipment; Agroindustry (J$000)	(US$000)
1979	12,062	6,151	3,456
1980	16,524	8,427	4,734
1981	47,317	24,132	13;557
1982	42,175	21,509	12,084
1983	23,067	11,764	6,609

Source: Arther D. Little 1982

Ventura (1990) further confirms the tendency to curtail capital investment during the late 1980's when he states that " Over the past five years (1985 - 1990) new investments have totalled only J$ 111 million" [ibid: 15]. This would average $22 million per year, which is slightly less than the 1982 level. It is estimated that some $ 44 million in investment was needed for capital equipment in 1983. This figure rose to $ 65 million in 1985. However in the two year period between 1983 and 1985 only J$ 10.3 million was actually invested in the sector.

Staying within the said SLV theoretical frame work, we argued that one of the means used by capitalist in the Jamaican agroindustry, faced with the problem of too high a organic composition of capital in the early 1980's, was to enhance labour productivity and increase the extraction of surplus labour value. This we argue is supported by the fact that workers in Jamaica's agro-processing complex are cited to be relatively high and more productive to capital. Ventura's estimate of productivity of Jamaican labour measured by the output /labour ratio put the level at J$ 7,545 in the case of agro-processing compared to J$ 5,000.00 for manufacturing as a whole. In addition to this, technical recommendations to processors have also been cited to recommend increase in the number of work days. One report recommended that a proposed processing plant operate on a six day/week, three-shift basis (20 hours off) to enable 100% capacity utilization during the year. [ICD/UNDP Report 1988: 22]

One could get the impression that with increased extraction of surplus value, there is was no wage dispute or productivity problem in the subsector. It is reported that " labour relations is not a primary constraint to the industry." Doeringer (1988) has argued that Jamaica's productivity problem, where they do exist, are rooted in more management practices than the workers skills or attitudes [ibid: 469]. Despite the fact that factory work was found to be high on the list of job preference for Jamaican workers, the majority of workers were dissatisfied with employment in these factories, because the wages paid were" below expenses] Blustain ectal 1982:84 -89].

The situation however should not be taken as 'static'. We argue that dynamic factors such as inflation and currency devaluation are often not a factor taken into account in determining capitalist profitability. According to the IMF;

> ..there are strong reasons for supposing that a chronic environment of high inflation eventually discourages saving and productive investment, in part because of the high variability of relative prices associated with high rates of inflation as well as higher risk premium associated with greater uncertainty [1987: 9/35].

Thus, although the Arthur D. Little study estimated that the internal rate of return to capital on an agro-industrial project was some 11% in 1982, they assumed that the rate of economic inflation (which at the time was about 13%), would decline to 7% and thus make investment in the industry attractive. On the contrary, in only two years between 1984 and 1989 did the annual rate of inflation go below 13% .

TABLE 18

ANNUAL AV. CHANGE IN CONSUMER PRICES (%)

	1984	1985	1986	1987	1988	1989	1990
Consumer Price	15.1	6.7	8.3	14.3	20.9	14.4	25.0

Source: Economist Intelligence Unit; Country Report No.1 1990

In addition to this the exchange rate for the Jamaica dollar was reported to have moved from 1.7814 in 1982 to 5.55 in 1986 [Economist Intelligence Unit 1989:]. This more than likely pushed up the cost of organic capital. This according to the SLV theory of surplus value, must have had negative implications for capitalist rate of return on investment.

The ICD (1988) report attested to this senario in the late 1980's. They indicated that out of eight food processing factories only two reported to have been making any profit.[ibid:14 Chart 1(A)]. It should be noted that one of the two firms was owned and controlled by the Government of Jamaica and located in the rural area of Clarendon.[ADL,1982:9]. Average profit within the processing industry is estimated to hover at around J$ 1.6 million per firm.[ibid 1982:20].

Ventura (1990) also confirms this arguement when he reports that, " New investments in the subsector has declined due to declining profits and the high cost of securing investment capital" [1990:14] .One notes that in 1986 the interest rate to agro-processors from the Agro-Industrial Development Project was 15 - 18% . " Short term commercial loans were as high as 25-35%. It is argued that even at the lower level of capital cost, the rates are still relatively high and this could make marginal processing operations non-viable" [ASER 1986 :V13]. It has also been cited that agro-processors did not have access to low interest agricultural credit funds [IDC/UNDP 1988 : 6].Ventura (1990) further argues that it cannot be said that agroindustry in Jamaica has demonstrated any overall significant change in overall equity [ibid:15]. One could thus understand why Jamaica's processing enterprises are described as being made up of " survivors as they adjust to changes and have maintained their core businesses" [IDC/UNDP Report 1988:4/6]. Our analysis has demonstrated the applicability of the SLV theory to the operations of the Jamaican agro- processing industry.

At this point, we must however briefly highlight one area of discrepancy or shortcoming which arise in application of the SLV theory in the context of Jamaica's agro-processing subsector. Firstly, we argue that cognisance must be also be taken of the observation that the substitution of labour for capital has not been cited a standard performance in Jamaica's agro-processing industry. The majority of equipment in use is relatively old. Our argument is backed up by Ventura (1990) when with regards to the

substitution of technology for labour (in the case of Jamaica), he writes;

> " Overall the industry is not at a point where it can benefit from lowering the cost of production by computerization and automation in the processing and in the management of food distribution. Introduction of low volume high technology equipment, remains merely a hope for a few, and unknown to most manufacturers." [ibid:9]

Given that there was no significant increase in investment in equipment or equity, and reduced levels of profit, how then does we explain the increase in the number of persons employed during a period of negative output growth low capacity utilization. Taking the comparative approach to our analysis, when one looks at agro-processing in the Latin American context, we note Feder (1977) who writes; ;

> "aggregate foreign and domestic capital investment, although relatively significant , do not generate quantitative or qualitative adequate employment opportunities under existing conditions of low capacity utilization. However the use of part time labour is increased" [1977: 91]. Fader also noted that the higher the number of persons working in the industry, the smaller is the average number of months worked by them in the year. This could have a very unsettling effect on the labour market if no agricultural or urban industry is able to absorb the number of unemployed workers released during a crisis.

Thus Feder, brings to the forefront, the issue of part-time/casual employment. In this regard, it is observed from the ICD/UNDP (1988) survey that in the case of companies with annual sales over $10. million, casual labour accounts for some 20-50% of the total labour employed. On the other hand, the smaller firms with sale between $4-5 million employ 60 - 90% of their labour force as part-time/casual labour. The employment of casual labour by firms located in the rural areas was much less. [1988: 14; Chart 1 Annex (A)].

With regards to casual labour, Weiss (1985) in looking at data on the number of months worked by the unemployed in Jamaica, notes that the number works out to an average of just over 2 months per year [ibid: 29]. This would lead one to assume that in Jamaica ,there is a large "float" reserve of labour which is not occupied for at least 10 months of the year. Therefore we argue that any absorbtion of labour by the agro-processing complex from the unemployed pool would only be temporary and localized. Given the much higher impact of urban based vis a vis rural processing plant (495 vs 817), we argue that the absorbtion would have been more in the urban areas. In other words, persons in the urban areas had a greater opportunity to work in urban agro-processing plants than those in rural areas, and be paid a value that is above the minimum wage - however they will have this experience for a relatively short space of time. This supports the findings of the ICD/UNDP (1988) report.

We further argue that the tendency to hold labour wages down and hence undermine labour subsistence value (V) is a realist preposition in the Jamaican scenario. Given the fact that the type of labour relationships that exist within the agro-processing complex of Jamaica are such that they have not strengthen the contractual power of trade unions (ie most of the labour is part-time) we argue that this situation presented greater chances of management

within the sector to increase the extraction of surplus value by holding wages down and simultaneously increasing labour productivity. As we already indicated labour productivity was relatively very high. We thus argue that it is possible that under inflationary economic and financial conditions, with technological limitations, as exist in Jamaica, that exploitation of labour surplus value (S) is increased.

We thus raises the logical question - was labour employed in the subsector so complacent as to not seek to maintain their relatively greater levels of remuneration?. Put more in Marx's language, was there no conflict between labour and capital that resulted in the changing the variable cost.? We argue that two possible external factors tempered labour's demand. Firstly, Case (1990) cites the overall atmosphere in the 1980's of one where there was the reduction in the militancy of trade unions in Jamaica [ibid,:101]. Secondly, we note that prior to 1982, the average wage increase in Jamaica was below the rate of inflation and hence there was not pressure by labour (on capital) to increase subsistence wage. However we must be careful here as one would note that note that after 1982, the rate of inflation in the Jamaican economy rose significantly - up to 31.2% in 1985. The cost of feeding the same family of five rose to J$ 514.00. When compared to the 1982 figure of Ja$ 308.00, this represents an increase of some 68% in the cost of living!.

We have not ascertained the estimated annual increases in wages offered by the processing industry. However based on the fact that the national average wage increase between 1981 and 1985 was 12.5% [Case 1990: 114], then it is safe to infer that the amount of 'real' subsistence that the average worker in the agro-processing industry could have earned, was deflated by some 18 - 20%. . We thus estimate that they would have only been able to meet approximately 50% of the minimum cost of living. This we argue should have been enough stimulus for labour to make claims on their employers.

With respect to internal factors, Doeringer (1988) argues that one of the reasons why small firms are able to survive in Jamaica lies in their flexibility not only in production but in their ability to " lay workers off when there is no work to be performed , or by retaining workers but compensating them through piece rates or fee sharing so that pay commitments arise only when there is work to be done." [ibid:467] . He further notes that " Females however displaced from manufacturing at a higher rate than males ...males generally moved more rapidly into various forms of self employment than did females" [ibid: 476]. Thus we argue that with respect to agro-processing plants in Jamaica, come peak season when supplies are more available, the total wage bill of the factories would increase but would the remuneration received by the additional workers would never reach an unacceptable point relative to the cost of living.

We thus argue in the tone of the Utility school that labour employed in the Jamaican agro-processing sector was not only being exploited but also the spread of labour utility was controlled. It is argued that while surplus extraction of labour value is increasingly taking place, the spread of labour utility becomes undermined by capital in the face of declining sales and harsher economic conditions. We further argue that as mass production enterprises,

small size agro-processors with lower capital requirement and accessible technology, could do little to lower production cost once they have reached an optimum division of labour. As a result those small processing operations in rural areas managed to maintain their viability in that they had relatively lower casual labour bills and transport cost between factory and source of raw material supply.

The question still remains wether these small factories in Jamaica's rural areas did present the opportunity for the relatively higher level of worker remuneration to be maintained vis a vis those located in the urban centers. Based on the pattern of employing casual labour by smaller firms which are concentrated in the rural areas as well as the labour absorption pattern aforementioned, we argue that they did to some extent, but only for a very limited number of persons compared to the urban based processing factories.

It can be further argued that based on the relative size of the labour force and the nature of employment (increasingly part-time), the Jamaican agro-processing industry in general did not contribute significantly to bridging the annual deficit in the majority of household food budgets. Table 19 indicates that the annual house-hold food budget was J$ 3,445.00 in 1989. It was also much higher in the rural areas. Taking into consideration that we have defined some 716,905 persons within the rural areas below the poverty level and given the level of employment in these rural factories, we can argue that the impact of capital investment in agroprocessing plants, on rural poverty, was very minuscule. By our estimate only some 0.4% of the rural population below the poverty line would have been affected by the presence of these processing factories.

In summary we have argued that unskilled worker within Jamaica's agro-processing complex was able to make a relatively greater contribution to family subsistence in the early 1980's. However the situation was not static. The cost of organic capital increased in the 1980's and capitalist profit levels declined. It is argued that while increased surplus extraction of labour value was taking place, the spread of labour utility becomes undermined by capital in the face of declining sales and harsher economic conditions. We further argued that the amount of 'real' subsistence that the average worker in the agro-processing industry could have earned, was soon deflated in the late 1980's. However there was relatively no labour militancy withn the industry and the substitution of more capital for labour was not a standard performance in Jamaica's agro-processing industry. The employment of casual labour was increased by most urban firms, however those located in the rural areas absorbed much less labour. Small processing operations in rural areas managed to maintain their viability in that as they had relatively low absolute labour bills and transport cost between factory and source of raw material supply. Casual labour employed by smaller firms which are concentrated in the rural areas did to some extent maintain their real levels of remuneration, but only for a very limited number of persons. The Jamaican agro-processing industry in general did not contribute significantly to bridging the annual deficit in the majority of household food budgets particularly those in the rural areas.

- SEXUAL DIVISION OF LABOUR -

From a national perspective we argue that as a focal point of labour employment the agro-processing subsector has a relatively small impact. Agro-processing based on our estimates accounts for less than 1% of the total labour force. From a perspective of magnitude, we argue that the impact of the sector on the aggregate economic status of women in the country's labour force was relatively limited. However we argue that in the face of a general scarcity of employment, remunerations from part-time employment in agro-processing factories could be regarded by a limited number of women, as part of their survival strategy.

Person argues that women workers are preferred not only because they generally command lower wages compared to men but also that " they can work to higher degrees of productivity" [1990: 10] With respect to the smaller agro-processing plants Schmetz argued that " casual , low paid , often female labour seems to remain important to achieve numerical flexibility" [ibid 1990: 12]. Can it thus be said that at the presence of female labour in the many small and rural agro-processing plants allows labour to be perpetually exploited ? . White (1986) argues that the works of Mies (1982) in India; Pineda-Ofreneo's (1982)in the Phillipines Wolf (1986) shows that the wages received by young women who migrate to urban small-town factory employment, are well below their daily subsistence costs, necessitating subsidies from their rural household. Does this imply that rural factory employment could have been a better alternative employment for women in Jamaica's rural areas?

We argue that employment in rural based agro-processing plants was not an immediate option for most women in Jamaica's rural areas. The employment impact analysis which we have perviously undertaken, confirms our argument. However, to drive home the point we will take the example of the Rio Minho and Rio Cobra watershed areas which is located in the impoverished rural parishes of Clarendon, Manchester, St.Catherine and a small portion of the parish of St.Mary. We have estimates a total of some 27 agro-processing factories within this boundary in 1982. A USAID commissioned study in 1986 indicated that this figure rose to 30. Thus within a period of four years three new plants were established in the area. Twenty one of these firms employed 25 and over persons. Therefore we classify them as large agro-processing plants. Eight (8) were smaller firms employing less than 25 workers. The larger firms had capital investments of over Ja $ 750,000 [ASER 1986:V.2] . Thus we argue that these factories were more capital intensive than labour intensive.

The report indicates that " the total employed in the industry is estimated at 1,522, or an average of 49 per firm". Therefore the three new firms established in the area absorbed some 147 new employees out of the 546 additional persons employed during the 1982-1986 period. This leaves 399 persons to be absorbed by the 27 'old' agro-processing plants. At the average of 47 persons per plant this would mean that during the four year period only 15 additional persons were absorbed by the 'older' plants.

Within this area the total population is estimated at 750,000 and over . Fifty percent (50%) of the population are women (eqv.375,000). If we assume that all the persons absorbed by the factories were women, then we argue that agro-processing plants within the area had a very minuscule impact on labour absorption within these parishes. This confirms our previous argument that the employment of casual labour by firms located in the rural areas was much less. With respect to the said area the report indicted that " there is a tendency on the part of women to be independent. There was also the tendency for each member of the family to want to help himself or herself. The earnings of the father in many cases was insufficient to support the family" [ibid, III.10]. In summary, we therefore argue that women working in these rural factories were highly productive but their employment can only be viewed as part of their overall survival strategy. Agro-processing factories based in rural areas of Jamaica did not impact significantly on the welfare of the mass majority of women who reside in these areas. Of the total number of rural women defined to be below the poverty line (ie 358,453) less than 1.0% would have been affected by the presence of these processing factories. Their employment as casual,low paid, labour has however remained important to smaller factories which seek to achieve numerical flexibility and 'stay within the black' ie maintain their profitability. In general women's employment in Jamaica's urban and rural agro-processing plants (during the 1980's) could only be viewed as part of their survival strategy and as another form of capital's exploitation of the sexual division of labour.

- COMMODITIZATION -

In deliberating this issue, we have taken a case study approach whereby we have examined documentation on the said Rio Minho and Rio Cobra watershed areas which is located in the impoverished rural parishes of Clarendon, Manchester, St.Catherine and a small portion of the parish of St.Mary. It is noted that " Electricity is however lacking in the most remote villages . The watershed is also well served with roads but these roads are poorly maintained and for most parts remain in a state of disrepair" [ASER, 1986: III.5].

There are some 51,000 farmers located in within this area covering some 217,000 acres [ASER, 1986:11.3/III.11]. Most of the land is cited to be owned and only some 4.4% was rented. 74% of the farms were owned by men while 26% by women. Most of the farmers were reported to be over 40 years and over 60% of them had 20 years or more farming experience. The average farmer within the area was noted to undertake very subsistence farming with traditional farming methods being dominant. Despite their long involvement in farming, very few applied fertilizers, insecticides and virtually none practised soil erosion controll.

Land distribution is reported to be very skewed. 54% of the farms are between 1-5 acres and account for 27% of the farm land. On the other hand 1.3% are 25 acres and above and take up 50% of the farm land. The average farm size for the small farmer category was 3.0 acres, while that for the larger farms was 100 acres. Based on the survey conducted, 80% of the farmers complained that their farm was too small. According to the report;

> the small size of the average farm unit has been mentioned ..as a constraint to development in the area. It is unlikely that a solution can be found for this problem- the challenge therefore is to intensify research activity with a view to maximizing yields and minimising costs of production. [ibid:13].

ASER (1986), was also of the opinion that " In order to improve farm incomes, reduce unemployment and thereby improve the quality of life of the small farmer, it may be necessary for the government to subsidise the farming sector by reintroducing subsidies on farm inputs , and also reduce interest rates on farm loans which currently stands at 15% per annum" [ibid:14]. 58% of the farmers in the area complained about the high cost of inputs ; 10% reported difficulty in obtaining farm labour and 38% stated that they had difficulty in obtaining farm loans [ASER;1986:Table III.6] .

We argue that in the context of the Governments structural adjustment programme it is unlikely that ASER recommendation would be realized . In the words of Wilson (1991) " such a formula would of course have to be classified as an incentive. This incentive would be in conflict with the rules of the IMF and may be disallowed " [ibid: 22]. At the same time ASER (1986) notes that there was a " demotivated and weakened extension staff" which service the smaller farmers. However one should note that between 1976 and 1986, the area has been the focus of numerous government interventions. Three major projects funded by international agencies have been implemented. It is argued that " Market led expansion of fruit trees in the two watersheds through agro-processors appears to be a logical step...such expansion would serve the dual role of meeting the raw material needs of agro-processors and protect the watershed" [ibid, 1986:11.3]. No one spoke of meeting the needs of the poor deprived small farmer. However the ASER (1986) report pointed to " the relatively small returns to farmers" [ibid:111.15]

We argue that modernization and commercialization of small farmer operations within the Watershed area has not occurred. At the same time we would not agree that these small farmers are 'subsistence' farmers. They have been engaged in considerable market relationships prior to the 1980's. ASER (1986) argues that the failure of small farmers in the area to modernize their operations has been due to the inappropriate application of technology. At the same time we note, there was a cut back in governments extension and other farm services in the area as well as the removal of subsidies from agricultural inputs [ibid:111.15]. Given this lack of support from government, it is thus not surprising that;

> the earnings of the father in many cases were insufficient to support the family and .. they must therefore find alternative sources of employment in order to improve their standard of living..a large percentage of the farmers did not want there children to become farmers because they did not believe farming to be a successful occupation [ibid: III.10/11]

On the other side of the picture are the large estates which cultivate export crops . One should note that the bulk of the non-traditional crops grown in Jamaica comes from within this watershed area and it was within this area that large scale commercial agricultural production was initiated [ibid:1/3]. Obviously, given the need for many rural people to find alternative employment, these large farms would have become one of the sources apart from migration to the urban centers. These large farms are noted to receive significant government

assistance. For example the Government and the EEC are cited to have provided funds to assist these farms to the tune of some J$ 11 million. Clearly this demonstrates the biased modern-sector enrichment agricultural policy of the Jamaican government and also the urban bias element of Liptons's hypothesis wherein the larger farmers benefit from the investible resources of government.

Turning our attention to agro-processing, we note that there are some 30 located within the area and they are considered a major market outlet for fruits, nuts and spices. ASER (1986) indicates that a significant proportion of the crop grows to agro-processors. However the prices that they offer are generally lower than that obtained from other outlets. We have observed based on the data available that there is an inverse relationship between the difference in the price paid to the farmer vis a vis alternative market outlets and the percentage of the crop sold to the processing factories (ie the greater the difference the smaller the quantity sold) [ASER,1986:Table V-5].

It is reported that farmers seem willing to meet the requirements of agro-processors if the prices offered are guaranteed and if the processors provide transport. However it has been recommended that the processors provide the transport but the cost be borne by several farmers who will pay a cess. This is the same sort of arrangement that farmers are faced with in the case of most of the local commodity boards.It is however argued that " the present informal arrangement is not without problems however. The main problem is the unreliability of some farmers who in search of short term financial gains , do not honour their contracts" [ASER, 1986: 12].

We argue that the presence of such a significant number of processing factories within such a rural and deprived environment has not benefited the community in general. . Neither these private owned factories nor the Government has made any serious efforts to improve their general welfare in terms of basic social services and employment. We find it even harder to digest that given their impoverished state, that the type of recommendation with respect to transporting their produce to the factories could be made. This we argue is just another small mechanism of surplus extraction. We note Lechman (1982) who writes;

> Thus in terms of agrarian structure rather than individual farms...the final outcome of a process of technical modernization cannot be independent of relationships of production. Capitalised farm farms will be very heavily dependent on stable supplies of inputs and assured product markets , and will tend to commit themselves and market contracts with large trust, somewhat in the image of Chyanov's picture of vertical integration. In this way, they tend in the long run to lose real autonomy, ceding many decisions to agro-industrial combines [ibid:153]

We therefore argue, within the framework of the Commoditization school that farmers in the Rio Mino/Rio Cobre watershed areas are resisting this process of capitalization by not having fixed contract relationships as it will rob them of the only autonomy that they have in their life which is the right to sell to the higher priced domestic market as opposed to sale to the numerous agro-processing factories at lower prices.

SUMMARY

On the basis of the above discourse, we must therefore argue that;

(1) Within the context of the urban bias theory;

There is an inverse relationship between the level of Urban bias and the degree of product transformation required. Products that require a higher level of transformation are generally more 'urban centered'. Despite an overall trend for agro-processing factories to have their principal location in Jamaica's 'urban' areas, within the industry, there are some segments such as the fruit and vegetable; spice and condiments; and coffee processing which by virtue of their spacial locations do not exhibit a strong degree of Urban Bias.

This we have argue is related to the fact that the raw material required by these factories are available from rural areas that are in close proximity and have appropriate cropping patterns. We have not undertaken any causative analysis to determine wether it is the presence of these factories that has stimulated these cropping patterns to be the way they are, or wether it is the cropping patterns that stimulate the presence of these factories. Given the nature of the 'informal' relationship that exist between suppliers and processors we suspect it is more the latter.

There also is a relatively significant impact on employment in the parishes which surround the more urban centers (ie St. Thomas; Portland and Hanover) and not within the more urban centers themselves (ie Kingston/St. Andrew; St. James). However the impact on employment in the more rural areas is much lower but more evenly distributed.

We however argue that Urban Bias is manifest in another sense in that certain commodities grown for processing particularly coffee and fruit tree crops are increasingly being dominated by rich urban-based farmers. There are indications of alliance between government policy-makers and what Black refers to as the " new breed" who benefit from public investible resource.

(2) Within the context of the Surplus Labour Value theory;

Within agro-processing factories, the exploitation of labour value has increased in the face of harsher economic conditions. The amount of 'real' subsistence that the average worker in the agro-processing industry could have earned, has been deflated. Small processing operations in rural areas however have managed to maintain their viability. Casual labour employed by smaller firms which are concentrated in the rural areas did seem to some extent maintain their real levels of remuneration, but this was the case for only a very limited number of persons. Processing firms located in the rural areas absorbed much less

labour than their urban counterparts. In general, the Jamaican agro-processing industry did not contribute significantly to bridging the annual deficit in the majority of household food budgets particularly, those in the rural areas. .

(3) Within the context of the Sexual Division of labour

Women working in these agro-processing factories are highly productive. However their employment can only be viewed as part of their overall survival strategy. Agro-processing factories based in rural areas of Jamaica did not impact significantly on the welfare of the mass majority of women who reside in these areas. Of the total number of rural women defined to be below the poverty line (ie 358,453) less than 1.0% would have been affected by the presence of these processing factories. In general women's employment in Jamaica's urban and rural agro-processing plants (during the 1980's) could only be viewed as part of their survival strategy and as another form of capital's exploitation of the sexual division of labour.

(4) Within the context of Commoditization of agricultural production

The biased modern-sector enrichment agricultural policy of the Jamaican government has facilitated and supported larger farmers who benefit from the investible resources of government. Given the need for many rural people to find alternative employment, these large farms have become one of the sources. They have not however given up their land neither have they been able to acquired any. The agrarian structure has remained the same- very skewed in in favour of larger sized farm. Modernization and commercialization of small farmer operations has not occurred. Jamaican small farmers are resisting the process of commoditization by not having fixed contract relationships as it will rob them of the only autonomy that they have in their life which is the right to sell to the higher priced domestic market.

CHAPTER 5

CONCLUSIONS

5.1 FOCAL POINT FOR RURAL DEVELOPMENT ?

In the preceding Chapters of this paper, we have attempted to generate a socio-economic perspective of agro-processing activities in Jamaica. In the process, we have put forward some conceptual links between Jamaica's agro-processing industry and the welfare of the country's rural population and have subsequently followed up with an analysis of the impact of the industry on rural development in Jamaica. Our perspectives might be debatable however with regards to answering the four main lines of enquiry as outlined in Chapter 1, we argue that;

1. Despite the fact that we the urban bias hypothesis has not been found to hold in a spacial sense, (ie for all types of local agro-processing investments), the sector cannot be said to have played a consistently positive role in terms of improving income levels within the country's rural areas. Surplus labour value has over the period 1980 to 1989 been steadily increased through the employment of a relatively limited number of low paid, casual labour for whom the overall economic conditions remain unfavourable in the face of reduced real incomes. In general, it is argued that agro-processing did not contribute significantly to bridging the annual deficit in the majority of household food budgets particularly the poor within in the rural areas.

At the same time we must argue that certain segments of the industry, particularly fruit and vegetable and spice/condiment processing, have played a positive role in net capital accumulation and contribution to the country's economic growth via increased export earnings.

2. Jamaica's agro-processors we argue have maintained a very 'lose' relationship with the country's small and medium size farmers. However, they have ridden piggy back on the biased modern-sector enrichment agricultural policy of the Jamaican government during the hard times . This policy over the years has facilitated and supported non-traditional export crop production by medium size 'dual' purpose farmers who have benefited tremendously from the investible resources of government.

We argue that Jamaican small farmers have resisting what we regard as another the process of commoditization - by not having fixed contract relationships with agro processors - as it will rob them of the only autonomy that they have in their life, which is the right to sell to the higher priced

domestic market. If only Williams and Karen (1985) realized how right they were when they said that " Experience teaches that farmers don't need an economist to recognize a good deal when they see one" [ibid ,xiii]. We argue that they are also experienced to know a bad deal which is what they have been getting from the government and processors in general.

3. Women in Jamaica have only played the role of unskilled factory and agricultural labourers in this industry. We argue that their involvement can only be viewed as part of their overall survival strategy within an environment that is very biased against them. Urban and rural agro-processing plants (during the 1980's) have not maintained their contribution to the welfare of women. Furthermore their piggy back alliance with large producers, has contributed to supporting another form of capital's exploitation of the sexual division of labour in the primary production field.

4. Agro-processing in Jamaica cannot be said to have had influenced the countries agrarian structure. It has remained the same. At the same time its presence we argue has provided more certainty for the survival of medium size farmers and has indirectly reenforced their activities and presence in the country's agrarian structure. Modernization and commercialization of small farmer operations has not occurred but commercialization has occurred for those more endowed farmers. As such poverty and unemployment still bubbles ferociously in the rural areas. It is still the talk of the town. Many it the bottom category of the agrarian structure have not benefitted as all the ears at the corners of the vineyard have been cut by the urban-rural elites. It is not true in the case of Jamaica, as Williams (1985) has argued that " where the industry has prospered the people involved have begun to prosper" [ibid ,:1] .

We have also taken into consideration the fact that the country's agro-processing industry is affected by the characteristic of government's overall economic policy. It would seem that agro-processors are able to respond to the contemporary challenges of structural adjustment - once there is a continuation of a modern sector-enrichment growth development policy, coupled with a tench of urban-rural elite bias and absence of any hinderance to their exploitation of the sexual division of labour.

We are also of the opinion that it is possible, that the oligopolistic feature of the industry, by definition, could breed uncertainty and result in the adoption of a policy of collusion on the part of processors. Government could find itself part of that collusion given the stake-holding position of the industry as a source of capital accumulation and net earner of foreign exchange. In this regard, Martin (1991) has cited that 1951 UN Report which he points out " stated that the increase in human capital is no less important than the increase in physical capital, and that in most development procgrammes it is accorded too low a priority " [ibid : 36].

Finally, we argue that although the ultimate purpose of rural development should be

to reduce rural poverty, the transition of the Jamaican economy towards further industialization, may result in the welfare of the rural population not increasing, and as Martin (1991) and Kuznet (1955,1963) both point out, this could lead to greater inequality. We would not venture to suggest the way forward based on our limited analysis. Further work needs to be done to define the weighting of the variable involved and a more deeper causative analysis. We must however conclude, without a shadow of a doubt that ;

AGRO-PROCESSING HAS NOT BEEN A FOCAL POINT FOR RURAL DEVELOPMENT IN JAMAICA.

Appendix A.

LIST OF PERSONS INTERVIEWED

NAME	INSTITUTION/COMPANY
Mr. Norman Prendergast	Director, Agro-industry Division, Jamaica National Investment Promotion Ltd; Kng, Ja.
Mr. Wilson	Consultant; Agro -industry Division;JNIP Kingston,Jamaica
Mr. Megoo	General Manager, Coffee Industry Board; Kingston, Jamaica.
Mr. Keeble Munn	Mavis Bank Coffee Ltd; Kingston, Jamaica
Mr.Patrick Sibbles	Coffee industries Ltd; Kingston, Jamaica.
Mrs. B. Black	Caribbean Agricultural Research and Development Institute; Kingston, Ja.

Appendix B.

SHADOW CONVERSION FACTORS
JAMAICA

SECTOR/RESOURCE	CF, Xi
Manufacturing	0.75
Agriculture	1.15
Skilled labour	0.80
Unskilled labour	0.55

Source: Weiss J.1986; National Economic Parameters for Jamaica

Categories of Agroindustry by Level of Transformative Process

ILLUSTRATIVE TRANSFORMATIVE PROCESSES:

I	II	III	IV
Cleaning Grading Packaging	Ginning Milling Cutting Mixing	Cooking Pasteurization Canning Dehydration Freezing Weaving Extraction Assembly	Chemical alteration Texturization

ILLUSTRATIVE PRODUCTS:

Fresh fruits Fresh vegetables Eggs	Ceareal grains Meats Spices Animal feeds Jute Cotton Lumber Rubber	Dairy products Fruits and vegetables Meats Sauces Textiles and garments Oils Furniture Sugar Beverages	Instant foods Textured vegetable products Tires

Source:

J. E. Austin, *Agroindustrial Project Analysis*. Baltimore, Johns Hopkins / The World Bank, 1981: 4

TARGET POPULATION OF AGROINDUSTRIAL ENTERPRISES, BY PRODUCT TYPE, NUMBER OF EMPLOYEES, AND PARISH

	Fish, poultry meat prod.		Dairy		Processed Fruits & veg.		Condiments & spices		Sugar, confectionery & cocoa prod.		Misc. (grain prod. primarily)	
	6-25	26-50	6-25	26-50	6-25	26-50	6-25	26-50	6-25	26-50	6-25	26-50
Manchester								1	1			
St. Elizabeth			2		1		1					
Kingston/St. Andrew	2	2	0	1	1	7	7	0	0	0	3	0
Trelawny							1	1				
Westmoreland						1	4					
St. Mary					1							
St. Ann									1			
Clarendon					3							
St. Catherine		1	1	2	1	1		1			1	1
Hanover		1						1				
St. James			1		1				1			
St. Thomas					2	1			1			
Portland					1			1				
TOTAL	2	4	4	3	11	10	13	5	4	0	4	1

Source: Arther D. Little 1982

	Copra		Coffee		Cocoa		Citrus	
	6-25	26+	6-25	26+	6-25	26+	6-25	26+
Manchester			1		1			
St. Elizabeth			1					
Kingston/St. Andrew		1		2				
Trelawny								
Westmoreland								
St. Mary	2					1		
St. Ann								
Clarendon			3			1		1
St. Catherine			1					1
Hanover						1		
St. James								
St. Thomas	4		1	1				
Portland	1			1				
TOTAL	7	1	7	4	1	3		2

Source.: Arther D. Little 1982

New and/or expanded social and economic programmes introduced by Mr Manley's PNP administration 1972–77

Year announced	Policy measure	Target
1972	Special employment programme	Unemployed
	Skill training programme	Unskilled
	Workers' Bank	Workers
	Literacy programme (JAMAL)	Illiterates
	Lowering the voting age to 18	Youth
	Community health aides	Rural Poor
	Operation GROW	Landless
	Land lease	Landless
	Civil service reclassification	Civil Servants
	Youth training increased	Youth
1973	Cultural training centre	Artists
	Food subsidies (flour, condensed milk)	Poor
	Uniforms for primary school children	Poor
	Free secondary education	All classes
	Free university education	All classes
	National youth service	Youth
	Rent restriction act revised	Tenants
	Equal pay for women and women's affairs bureau established	Women
	Jamaica nutrition holdings	All classes
1974	Self-supporting farmers development programme (loans)	Small farmers
	Family court	Children and unmarried mothers
	National minimum wage	Lowest paid workers, household helps
	NIS pensions increased	Old
	Poor relief increased	Aged and indigent
	AMC outlets in low income areas	Poor
	New mental health law and free education for handicapped	Mentally ill, handicapped
	Construction of small industries complexes	Small businessmen
	Sugar cooperatives	Landless sugar workers
	Production levy	All classes
	Nationalization of bauxite multinational companies	All classes
	Development venture capital financing co. (loans)	Small businessmen
	Jamaica public service co. (electricity)	All classes
	Jamaica merchant marine	All classes
	Jamaica omnibus service co.	All classes
1975	Worker participation	Workers
	National housing trust	Poor
1977	Small enterprise development co.	Small businessmen
	State trading corporation	All classes
	National commercial bank	All classes

(Source: Girvan *et al.*, 1980, p. 117)

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