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AGRICULTURE AND INDUSTRY IN
A REGIONAL PERSPECTIVE

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T A B L E O F C O N T E N T S

	Page
1. Introduction	1
2. Impact of industrialization on the rural economy- some general observations	2
2.1 Intersectoral and intrasectoral change	2
2.2 Regional and interregional change	11
3. Agriculture and Industry in Colombia	14
3.1 Early industrialization	14
3.2 Import substitution and the formation of the agro-industrial complex	23
3.3 Export growth and the strengthening of the agro-industrial complex (1967-'75)	32
4. Some final remarks	37
Notes and References	47

1. INTRODUCTION

In recent years regional planning has reoriented itself. Particularly in as far as the literature on the subject is concerned, a qualitative shift can be observed from an interregional-intersectoral towards a focus on particular regions, most noteable the rural region. Various new and particularly normative approaches have been advocated such as the "agropolitan approach" by Friedmann and Douglass (1978), the "active community", also by Friedmann (1981) and "selective spatial closure" by Stohr and ~~Stodtling~~ (1976). Although the increasing attention to rural problems in itself is a positive tendency, it should not be limited to the level of the rural regions only. The present paper aims to place the problem of rural regions in a wider context. Through a detailed examination of the intersectoral processes of change, it is hoped to achieve a better understanding of the dynamics of interregional change that surrounds rural regions.

The paper consists of two main parts. The first one (section 2) presents a general framework for the analysis of the impact of industrialization on the rural economy, both in intersectoral and interregional terms. The second part (section 3) presents the Colombian case to illustrate the theoretical propositions. In the last section some final comments will be made. Some of the more general conclusions can be formulated as follows. One of the effects of industrialization has been that it made rural regions more agricultural, by elimination non-agricultural (self) employment opportunities. Secondly, it brought about the industrialization of agriculture itself as an effect of the development of the agro-industrial complex. New opportunities for agricultural development generated

by the process of industrialization tended to be unequally distributed in favour of large scale capitalist farming. This does not mean that peasant agriculture has been or will be eliminated, rather a process of specialization between the two is foreshadowed, whereby peasant agriculture tended to be restricted to the production of unprocessed basic foodstuffs, whereas large scale capitalist agriculture concentrated on the production of raw materials for industry. This then seems to lead to some combination of technological and market dualisms. However, it also means that as soon as market conditions change towards industrial demand, peasant agriculture will suffer from direct competition of large scale agriculture on the same crop or product.

In interregional terms the process will generate a reduction in each region of the diversification of agriculture, particularly in the industrial crops. This has important consequences for rural regional labour markets, in which the seasonal components are likely to increase. Whereas in some regions, given the historically evolved agrarian structure, rural poverty may be conceived as a peasant production problem, in other regions it is a problem of rural wage labour inserted in increasingly worse labour market conditions.

2. IMPACT OF INDUSTRIALIZATION ON THE RURAL ECONOMY - SOME GENERAL OBSERVATIONS.

2.1 Intersectoral and Intrasectoral Change

The basic starting point in the analysis that follows is that in predominantly agrarian societies, the rural regional economy is composed of both agricultural and non-agricultural activities. The peasant household is

at the same time unit of consumption and production. The non-agricultural activities generate an intrinsic part of income and artesan household production includes that of consumer goods, of capital and intermediate goods (agricultural-non-agricultural) as well as exchange activities. The analysis of the impact of industrialization on the rural economy should therefore consider all these dimensions i.e. with respect to consumption as well as production (agricultural and non-agricultural).

As to the household consumption side, one may refer to Andrew Pearse (1968) who studied the various dimensions of the incorporation of the peasant economy by the so-called Urban-Industrial Complex.²⁾ Departing from the latifundium-minifundium system as the major structure of organization in rural areas, Pearse, concentrated on the economic and social-political forces that cause fundamental changes in the socio-economic structures of the minifundio. The urban-industrial complex causes an accelerated movement of urbanization and industrialization and implies a different economic and socio-political organization which permanently affects the existing structures in the rural areas. To analyse these processes of change, Pearse distinguished two simultaneous drives for incorporation of the rural economy, into the urban-industrial complex of economic and social organization: namely, a drive for market incorporation of which industry is the main propulsive force, and a drive for institutional incorporation which accompanies the former and refers to both private and public institutions and function.

With respect to (manufacturing) industrialization one may argue (Helmsing, 1978) that the (import substitution) industrialization will be initially limited to urban or main regional markets, and that subsequently, when in

search for new market outlets, it will penetrate markets in the peripheral rural regions.³⁾ The main argument of Pearse was that these massproduced manufactured consumer goods will compete and effectively eliminate local artisan made goods. This has as a consequence that an important complementary source of rural income is eliminated. In addition, one could argue that it usually implies as well that new consumer wants are created or that new manufactured products enter into the rural household consumption basket. Furthermore one may add, that this market incorporation drive is accompanied by a change in the organization and structure of trade. That is to say, the new products bring along new tradestructures. Fairs and periodic markets of local origin are replaced by permanent multi-level trade systems (wholesale-retail) which often are controlled and operated externally.

The impact at the level of the peasant household is that the household is pushed from subsistence towards agricultural production for the market, in order to acquire these manufactured consumer products, or alternatively to find off farm wage employment to satisfy these.

This process of market incorporation is accompanied by a process of institutional incorporation which introduces elements of "urban life" into the countryside. Here we refer to public and private functions such as education, health, political organization, banking etc. It is also through these functions that the central state extends its control into the rural areas. At the same time these new institutions create new social strata signifying new sets of interpersonal relations.

The dynamic of the process of transformation consists on the one hand in the push for market incorporation, while on the other hand it is accompanied by growing

opportunities for the agricultural sector. The latter concerns growing internal demands for food and for agricultural raw material for industry which are the consequence of increasing numbers of urban located industries and population. There are two types of barriers for the peasant economy to benefit from these opportunities. These are on the one hand micro social and economic problems of transformation from peasant into small farmer and secondly barriers of competition exerted by large units of agricultural production that emerge from the latifundia.

Let us now consider the effect of industrialization on agriculture itself.⁴⁾ Generally, the commercialization of agricultural produce is singled out as a key feature of the transformation process. However, the transformation has other important characteristics. One is that the push for a reduction of subsistence production is accompanied by a push for a reduction of household production of capital and intermediary inputs. Furthermore the process implies a change in crop composition and displacement that amounts to a tendency toward specialization.

At the micro level, agricultural production in advanced stages would more and more resemble industrial production, with a fundamental distinction that land is an active means of production and that agronomic conditions limit the possibility of continuous production. In other words the transformation in agriculture can be considered as a process of industrialization of agriculture itself. That is to say, the agricultural unit changes from being diversified in activities of a low level of specialization towards having a reduced number of activities at a high level of specialization.

At the sectoral level this process is accompanied

by the development of relations between agriculture and manufacturing industry. Its core, the agro-industrial complex, is composed of two industrial sectors which "embrace" agriculture namely (a) a "downstream industrial sector" producing capital and intermediary inputs for agriculture and (b) an "upstream industrial sector" which processes and transforms agricultural products. In addition, "upstream" and "downstream" service components like transport, storage, finance, specialized services emerge.

Prior to industrialization the rural economy is characterized by a high degree of subsistence production of consumer goods but also of household production of inputs such as seeds, tools and implements, organic fertilizer, and capital equipment (animal traction). A similar situation one finds with respect to processing and transformation of agricultural output such as milling of grains, production of milk and milk-derivates, vegetable oils, textiles, etc. Those products are increasingly produced by the upward industrial sector.

The downstream industrial sector replaces activities that previously household took place within the rural production units: the production of tools of capital stock, of buildings and of intermediary inputs. Particularly the metal working, agricultural machinery and chemical industries are the main sectors we refer to here. It is important to observe that this industrial sector in order to continue expanding will displace more of these indirect agricultural activities which previously were undertaken at the level of the rural unit. Thus, in principle, the downstream industrial sector is a propulsive force in the generation of agricultural innovation, as a means of developing new product markets. As a consequence of this process, intrasectoral relations within agricultural

are replaced by intersectoral relations between manufacturing industry and agriculture.

There are two important consequences of this process. First of all, agriculture becomes increasingly capital using. Secondly, the activities previously undertaken at the level of the rural unit,-in periods of low intensity of work on the land (direct agricultural labour), are becoming substituted by industrially produced inputs that have to be purchased. Both tendencies imply that capital intensity increases.

The development of the upstream industrial sector which processes and transforms agricultural output is related to two processes. First of all, the proportion of food products processed and transformed by manufacturing industry increases with income, new tastes often being imitated from abroad. Secondly, urbanization creates further opportunities for industry. The growing gap between concentrated urban demand and dispersed agriculture, increases the complexity in the organization of (continuous) supply. This calls for the need to reduce perishability of agricultural production by means of advanced methods of storage, conservation, packing and processing and these require standardization and quality control on the production side. Lastly, it requires efficient distribution and transport systems. Considering these processes from a different angle, one could argue that a growing proportion of agricultural production, passes first through industry, before it reaches the final (urban) consumer. Regarding non-food agricultural products the development of the textile manufacturing industry is of extreme importance.

A general conclusion that can be drawn now is that industrialization eliminates activities that previously were realized at the level of the rural economy.

The development of these industrial sectors is similar to that of other industrial sectors: large sized (multiplant) firms with advanced technology emerge as leading firms with oligopolistic or monopolistic tendencies. This process takes place through the integration of markets at higher levels from local and regional to national markets and beyond. The dynamics of oligopolistic competition lead generally to diversification or vertical integration or both. The latter implies that the upstream industrial sector has a tendency to move backwards to ensure or control the supply of agricultural raw material and to establish quality standards. As a consequence there is a tendency for industry to establish direct contact with agricultural producers (contract schemes, technical assistance, credit, seeds, etc.). In some cases even, industry may assume directly the agricultural production concerned (plantations).

The observed tendency has an important implication. Namely, that in order to keep down the costs of these operations, industry will mobilize a limited number of large agricultural producers rather than a large number of small and dispersed producers. In other words, there will be a bias originating in industry, towards large scale specialized agricultural production.

A proportion of agricultural products will remain unprocessed, therefore it is necessary to consider as well the distribution subsector. Without going into detail here, suffice it to say that the more agricultural surplus is needed to meet rising urban demand the more complex the organization of the distribution/marketing sector becomes. The chains of intermediation become longer, and the margin of commercialization would tend to go up.

As a consequence, there will be increasing differences between farmgate and urban consumer prices. Secondly, the scale of which the market is organized increases, that is to say, from local to regional and from regional to national markets.

These two processes have significant effects on the rural economy. First of all, and regarding prices of agricultural products, it can be concluded that due to the changes in market organizations these are no longer determined by local conditions but they increasingly become determined by national ones. Secondly, there may be a tendency that large differences between retail and farmgate prices, caused by the organizational complexity of the distribution sector, lead to pressure originated within the distribution sector itself to increase the size of individual transactions, so as to reduce terminal costs. In effect, some intermediary links within the distribution sector are bypassed by means of direct farm to wholesale or to retail deliveries, e.g. in high income farm products such as vegetables, fruits, eggs, etc. This signifies a scale bias.

The impact of industrialization on the rural economy, can be summarized as follows. The incorporation of rural markets by consumer good manufacturing industry results in an elimination of non-agricultural activities which formed an integral part of rural income and employment. In addition it induces the further commercialization of agricultural production. The industrialization of agriculture itself is based on the development of the agro-industrial complex and generates increases in productivity and specialization of agricultural activities.

The downstream industrial sector has a labour saving effect to the extent that it absorbs indirect productive functions that previously were integrated in the rural production units, and has a capital using effect through the delivery/sale of industrial products to agriculture. In this way, intersectoral relations increase. On the other hand the development of the upstream sector is related to urban population growth, and to the growth and distribution of income. Its two components, processing and transformation industry and distribution sector, make that agriculture is lifted out of its local and regional structure and put into a national context. The upstream sector, given its characteristics generates a tendency to provide greater opportunities to the development of large scale agricultural production. The upstream sector tends to dominate the process of transformation in agriculture in the advanced stages of the formation of the agro-industrial complex.

In terms of the agricultural sector and its pre-existing structure (hacienda - peasant economy) one may conclude that the industrialization of agriculture generates an uneven distribution of opportunities, favouring the transformation of the hacienda towards large scale capitalist production⁵⁾ (capital intensity increase, scale bias). To put it in other words, the transformation of peasant holdings towards entrepreneurial farming depends on the effective (and unequal) competition exercised by large scale production. Although this process of industrialization distributes unevenly the opportunities for agricultural transformation, this does not imply necessarily an elimination of the peasant economy. Within our context one could say that the industrialization of agriculture does

not take place in all products. Neither in terms of the downstream sector (absence of new varieties and methods of cultivation), nor in terms of the upstream sector (absence of processing and transformation, and structure of demand as related to income distribution). In these cases it is most likely that there will be no effective competition between large scale capitalist and small scale peasant production, though unequal competition for land and capital remains of course.

In those products in which the development of the agro-industrial complex takes place, small scale agricultural production plays an essentially marginal role, which largely depends on what happens within the transformed estates.

2.2 Regional and Interregional Change

One of the conclusions mentioned before was that the development of the agro-industrial complex is that agriculture is lifted out of its local setting and put into an interregional and even international context of specialized production. To put it in different terms, in the traditional rural regional economy, the crop pattern is determined by local needs. It is relatively diversified. All those products that can be locally produced will be produced in that region, sometimes irrespective of their yield or "profitability". On the other extreme, in a completely industrialized agriculture, only those products are produced in the region which in the national context are the most profitable ones, given differences in costs, soil suitability etc. All other products will be supplied by means of interregional (international) trade. These extremes should of course be seen as tendencies and not as readily observable.

In terms of the process of interregional differentiation, it has been argued that the development and expansion of manufacturing industry occurs mainly in the initially most developed or core regions. The outward penetration of markets towards other regions, reduces non-agricultural employment in their rural areas while the increase in urban industrial employment favours the core region.

Industrialization of agriculture in as far as it takes place within the context of a national process of industrialization, will also initially be limited to the core region, where it induces the transformation of the estates. Peasants are evicted and/or turned into wage labour either in capitalist agriculture or they move to the cities where they are absorbed into the urban economy one way or the other. As productivity increases, due to the industrialization of agricultural production, land prices tend to go up in the area, which in its turn puts a break on the expansion possibilities of the regional peasant economy. Rural-urban migration extends the labour market for industry. When there is further development in industrialized agriculture, new crops are incorporated. This then leads to a process whereby the more profitable crop displaces the less profitable ones in that area - the core region. The last ones will be the basis upon which in other regions, the transformation of the estates will take place. In this way industrialized agriculture extends itself in successive waves over the various regions.

Two processes occur simultaneously. First of all, more land is incorporated into modern capitalist agriculture, whereby haciendas disappear. Secondly, within that - in geographical terms - expanding sector there is a

Continuous adjustment of the crop pattern of each region to the changing interregional circumstances. In other words one will find certain sequence in this process of interregional specialization. The two sides of this process are that on the one hand the share of a region in the national production increases and that on the other hand there will be a reduction in the agricultural diversification in each of these 'incorporated' regions.

The process will also have consequences for the rural wage labour markets. In the sense that it is likely that when this process advances (implying reduced diversification), the seasonal component in these markets will tend to grow, worsening the conditions for rural wage labour.

Essential to the process of interregional displacement cum advancement is the 'opening up' of these new regions. That is to say the creation of the necessary physical infrastructure, and also the built-up of the institutional and organization support which enables the effective incorporation of the area into the agro-industrial complex. Taking into account the analysis of the industry led incorporation drive, originally referred to by Pearse, we can now identify an agriculture led incorporation drive. Where as the former is guided by the market and profit considerations of consumer good industry, the latter is guided by agronomic and profit considerations within (capitalist) agriculture.⁶⁾ These two do not necessarily go together, nor happen each in a spatially continuous fashion

Various kinds of regional situations exist at a given point of time. In the core region the minifundium households see their non-agricultural employment opportunities reduced. Their industry led market incorporation pushes

them to sell more of their food products to the growing urban food market. However, there is little room for expansion of their holding (land price increase) rather the fragmentation further reduces their income basis. In the other region, to which industrial agriculture extends itself (agriculture led incorporation), the process outlined above is repeated, but depending upon the growth of the urban food demand in the core region, the effect on the peasant economy is partial or complete. Finally, in the most peripheral regions (i.e. peripheral in terms of the formation of the urban- and agro-industrial complex) the traditional peasant economy may be preserved.

3. AGRICULTURE-INDUSTRY IN COLOMBIA

3.1 Early industrialization

The period of early industrialization (1900-1950) effectively started after the "War of Thousand Days". This civil war, which ended in 1902 centered around the decentralization issue (federalism versus centralism), was settled in favour of a centralized system of government. The war marked, in a way, the beginning of the process of political integration of the Colombian nation state, which was a necessary condition to bring about the economic integration of the country.

The early industrialization meant a gradual move away from the agrarian export economy which had slowly developed itself in the 19th century, first in tobacco and quinine and later more firmly on coffee.⁷⁾ In the first decade of the present century coffee became to constitute around one third of total Colombian exports. Partly due to the

changing world market on coffee in favour of the fast growing post-WWI US economy, Colombian coffee exports rose rapidly to constitute around 70 per cent of total Colombian exports in the 1920's. This share went down during the great depression only to recover its importance immediately after WW-II.⁸⁾

Without doubt it was the growth of coffee production and exports that in various ways enabled industrialization to take place.⁹⁾ First of all, the structure of coffee production was much less concentrated than in the other agricultural sectors, generating a more favourable distribution of (monetary) income, and thus constituted an important source of demand for manufactured products. Secondly, the growing coffee exports generated the foreign exchange necessary to finance the imports of industrial machinery and raw materials. To this, one may add as a third point, that the coffee exports stimulated the creation of transport infrastructure, which enabled the physical entry and movement of industrial equipment.¹⁰⁾ During particularly the 1920's great advances were made in the expansion of the various railway networks in the country.¹¹⁾ Finally, the emergence of the industrial bourgeoisie is related though not exclusively with the development of coffee production and trade.¹²⁾

In addition to coffee, several other factors should be kept in mind which enabled the establishment and consolidation (as from 1930) of the industrial sector. First of all the temporal interruption of foreign competition, particularly during the first and second world war,¹³⁾ and during the great depression when protective measures, made necessary because of the reduced capacity to import, created a similar effect. A further factor of importance

has been the import of foreign loans and capital during particularly the 1920s, with which the public works in transport were partly financed. Foreign (US) capital concentrated particularly in oil extraction.¹⁴⁾

The main branches of manufacturing activities were food, beverages, textiles and clothing, complemented with other basic consumer good production. It was estimated that these branches increased their share in industrial employment from 40 per cent in 1925 to 56 per cent in 1945. The development of the sector as a whole was largely based on internal final demand and continued to rely heavily on the imports of intermediate and capital goods.¹⁵⁾ Domestic production of intermediate products only started to develop at the end of the period, whereas capital goods production was insignificant.

Initially, it developed as small scale competition industry, with only a gradual increase in size of the firms. Nevertheless there was a clear tendency of formation of oligopolistic structures, first on a regional and later on a national scale, particularly in textiles, beer and some food products like for instance chocolate and tobacco.^{16 a)} Periods of reduction of competitive imports, marked great spurts in the process of oligopoly formation by means of absorption of competing firms, followed by periods of incorporation of new technical progress leading to larger size of plants, which in its turn led to a further consolidation of these market structures.

Industrialization was not a generalized phenomenon. In the first two decades it basically developed in the Caldas/Antioquia coffee region (Medellin, and to some extent in Pereira and Manizales), in the eastern coffee

region, Cundinamarca (Bogotá) and in port cities like Barranquilla and Cartagena. According to Ospina Vasquez there were in 1916 more than 25 factories in Antioquia; in Bogotá 13, whereas in Atlántico there were more than 10 and finally there were 8 in the Bolívar department.

Summarizing, the basis of the interregional structure of industrialization became established by the end of this period of early industrialization. On the basis of the 1945 census one can say that the four principal industrial regions contained not only the bulk (Antioquia 26 and Cundinamarca 20 per cent and at a second level of importance Valle 13 and Atlántico 11 per cent of industrial employment) but also superior industries that is to say, the average firm size, productivity and value added as percentage of gross production, were markedly above the national average.

The process of urbanization advanced considerably during this period. Was the rate of urban population growth in the period 1905-1918 lower than the growth of the rural population (1.3 versus 3 per cent), in the next intercensal period (1918-1938) there was a clear spurt in urban population growth (5.9%), whereas rural population growth almost completely stagnated (0.8%). In the last part of the period of early industrialization (1938-1951), urban population growth continued at a high rate (4.5%) whereas rural population growth recuperated somewhat (1.04%)^{16b)}. These figures are indicative for the economic changes that were taking place. Industrialization needed and fomented the development and growth of urban labour markets. The massive investment programme in transport infrastructure of the 1920's stimulated rural-urban migration considerably¹⁷⁾. The share of urban population rose from 29% in 1938 to 39% in 1951.¹⁸⁾

If one examines the population figures of the departmental capitals it can be seen that although urbanization was relatively spread, it at the same time had its greatest intensity in the centers of industrial development. It will be recalled that in 1945 the four largest cities contained 70% of the industrial labour force.

From this brief account of Colombian economic development it can be concluded that the country went through very dynamic changes which in part reinforced each other: the production and export of coffee created demand and the reduction of competitive imports due to external factors stimulated a domestic supply response. Furthermore

coffee production made possible the accumulation of capital which in view of the external condition could best be profitably invested in domestic industry (rather than in trade); the infrastructure made possible by and necessary for the mobilization of the coffee exports, unified and extended regional markets for industrial production; whereas the infrastructural works employing rural labour stimulated rural-urban migration and the creation of urban labour markets. The migration fuelled the process of urbanization, which in its turn amplified domestic demand for industrial products.¹⁹⁾

In order to discuss the effect on agriculture, it is important to recall how the agrarian structure had evolved historically. The most striking features are the concentrated distribution of ownership and the low productive utilization of the land. Since independence the latifundia increased enormously in importance at the expense of Indian reservations (Resguardos), of lands

confiscated from the church and of public land. The large estates or haciendas owned the fertile plains, while the peasant holdings were to be found on these estates by means of traditional forms of tenure, and alongside these on the less fertile land and on the mountain slopes. The latter constitute the minifundio holdings which in larger concentrations were found on the highlands in Santander, Boyacá, and Cundinamarca and in the South (Nariño and Huila). The minifundio also developed at the expense of the communal lands and through settlement of public land. The low productive development of the land continued to be its principal feature. For instance, at the turn of the century, it was estimated that only 7 per cent of the land was used for crops and livestock, 40 per cent was owned but unused land, while another 34 per cent was not even effectively settled.²⁰⁾

Industrialization and the public works had a two-pronged effect on agriculture. On the one hand a pressure was generated on rural labour which had the effect of uprooting the traditional forms of tenure that for a long time had tied labour to the haciendas. Secondly, it had local-regional impact in terms of creating demands for food and agricultural raw materials. If data on wages and prices are used as indication, it can be observed that nominal wages started to increase in the nineteen-twenties. But since at the same time there were considerable increases in the prices of food, the real wages started to increase only in the second half of the decade. The increases in food prices can be seen as indication, the slow reaction on the supply side; further evidenced by the fact that in part these food price increases were mitigated by sharply rising food imports.²¹⁾

Landlords resisted the disruption of traditional tenure relationships.²²⁾ Although indeed new opportunities were created on the demand side, on the production side, however, very little changed, in the sense that traditional technologies remained unaltered and favoured peasant production. For the peasantry on the other hand much had changed. Several new opportunities came within reach. One was coffee production, which would yield considerable monetary income. Coffee production has no particular scale advantages. Furthermore its direct and indirect labour requirements make a full utilization of family labour possible. In this sense it is a pre-eminent peasant crop. A second opportunity concerns the commercialization of this subsistence crops for the growing urban markets with rising prices. The extension of the transport networks made this a viable opportunity. Finally there was the opportunity of wage labour in either the public works or industry. The rural conflicts of the period, centered around the pressure exerted by the tenants to eliminate traditional forms of tenure, to improve security of tenure and to guarantee compensation for land improvements made by tenants.²³⁾ Their organization in peasant leagues increased their political impact.²⁴⁾ The agrarian reform laws of 1926 and 1928 addressed themselves to these issues (as well as to put a maximum limit to the large estates). However, these laws did not fundamentally affect the agrarian structure, but stimulated labour mobility and the creation of local regional labourmarkets necessary for the development of industry.²⁵⁾

A second important element of agrarian policy was the incorporation of new lands, as a way to stimulate agricultural production. In the period 1910-1937 more

than 1 mln. hectares of public lands were converted into private property. However, also here, the latifundium-nimifundium structure was reproduced, e.g. only 9 per cent of the new lands were converted into holdings of less than 20 has.²⁶⁾ The latter may support the contention that this instrument was production oriented rather than reform oriented i.e. aiming at reducing unequal land distribution. It should be added that the liberal governments in the 1930s were more sensitive to the continuing rural conflicts, specially in Cundinamarca, by means of breaking up large coffee estates with indemnization of landowners and selling these as small holdings through the newly-created Agricultural Mortgage Bank. Finally, the Agrarian Bank was created in 1932 with the aim to channel credit to the peasantry facilitating their incorporation into the market.

If one analyses landuse within agriculture it can be observed that in 1915, 66 per cent of total crop use was devoted to food crops for direct consumption, 25 per cent to crops processed by industry (particularly sugar) and 9 per cent being dedicated to export crops (mainly coffee). In 1938 the distribution had changed in favour of particularly the export crops which increased their share to 26 per cent, all this at the cost of the relative share of direct food crops. The industrial crops only slightly declined in relative importance.²⁷⁾

The fragmentary information that exists seems to indicate that not only the production of food crops but also that of industrial crops remained within the realm of small scale peasants often on a share-cropping basis. With some noticeable exceptions such as sugar, large scale

agriculture did not and could not respond to the growing opportunities of increased industrial and urban demand for agricultural products. The development of the downstream industrial sector was yet to come, while also the upstream sector was only an incipient stage of development.

Despite the observed increase in crop production for industrial use, manufacturing industry continued to rely heavily on imports which were cheaper and/or of better quality. For instance with regard to cotton, it can be observed that in the period 1925-30 imported fibres constituted 30 per cent of apparent domestic consumption its share rose to more than 70 per cent by the end of the period considered here.²⁸⁾

Also the food price inflation and the growing imports of food point to the fact that agriculture was unable to keep pace with industrialization and urbanization.

If one examines the regional pattern of agricultural development one finds that it basically concentrated in the core regions of the interior of the country (with the banana export enclave the Costa Atlantica as the main exception).

In 1925 Cundinamarca was the main producer of most crops. Of the total area under cultivation 39 per cent is found in this department. This share becomes even higher when volume and value of production is considered (both 49 per cent).²⁹⁾ By 1937 and consistent with the patterns of industrialization Antioquia had become an important agricultural producer. In addition one finds Boyaca to become more important, which can be considered as related to the growth of Bogota. Taking into account climatic differences, one finds that these regions maintain a relatively diversified pattern of production, though

there is some specialization, most clearly the coffee region (e.g. Caldas). With respect to livestock no estimates are available. However, extensive livestock production characteristic for traditional hacienda land use can be assumed to be relatively spread throughout. Information from the Ministry of Agriculture of 1934 on pastures confirms this pattern.³⁰⁾

3.2 Import substitution and the formation of the agro-industrial complex.

The change from the period of early industrialization to the next was marked by a spectacular investment boom immediately after the second World War (1945-1950), during which annual growth rates were achieved in the order of 11 per cent. The period 1950-1968 is one in which the nature of industrialization underwent various and fundamental changes. Its pattern followed very closely the import substitution model. Periods of booms and recession follow each other in function of the import capacity of the exports (coffee).

Government responded to balance of payments problems with new protectionist measures, which stimulated the emergence of new sectors. It is particularly this feature of recurrent and in many respects systematic government intervention which marked an important difference with the previous period.

Whereas in the beginning of the period the traditional industries showed marked rates of growth and continued to employ the majority of the industrial workers, the growth of manufacturing industry was achieved more and more by the emergence and expansion of new sectors producing consumerdurables, intermediate and capital goods, such

that importsubstitution was extended further into new products but on a more and more narrow market of domestic demand.³¹⁾

Initially (1950-58) manufacturing production grew at a 7 per cent per annum. In the second part this went down to 5.8 per cent. More pronounced is the difference in employment growth which went down from 4.3 to 2.1 per cent. In terms of the latter, import substituting industrialization clearly lost its dynamic. An increasing portion of production growth became realised through improvements in productivity.

The growing protection of the internal market facilitated a process of oligopoly formation that already was underway since the nineteenthirties, and which tended to be based on technological (large scale) advantage.³²⁾

Whereas early industrialization was largely undertaken and controlled by Colombian groups, in this period foreign investment and multinational firms became more important. This is related to the fact that now Colombia entered in the second stage of importsubstitution (intermediate and durable consumer goods) and to this foreign investment can be clearly associated.³³⁾ But it should be emphasized that foreign investment and firms also extended into such traditionally Colombian owned sectors such as textiles (inc. clothing) and food.³⁴⁾

The situation of the domestic market became more and more evident by the end of the sixties. The unequal distribution of income in favour of high and middle incomes because of its different demand schedules, altered the orientation of industry. Away from mass production for low income demand to small production runs for high income demand. This not only refers to consumer durables but also "early industrial" sectors such as textiles, clothing and food.

Whereas in the beginning of the period these continued to expand in low income markets, displacing artisan production, they also gradually oriented themselves to higher income markets.³⁵⁾

In terms of regional industrialization some clear trends could be observed (table 1 annex). On the one hand there was a strong increase in the share of the capital region (Bogota), which went up from 20 to 30 per cent in terms of employment. Particularly in the first part of the period (till 1958) this region experienced a very high rate of employment growth (7.4%). With the improved internal communication, industry could also exploit better the international access of Cali. On the whole, and quite consistent with the theory on regional effects of oligopolistic competition there was a considerable strengthening of the industrial core regions at the cost of the periphery.³⁶⁾ In the second part of the period, when industrial growth slackened, this pattern of regional industrialization was further consolidated. The industrial core kept pace - Cali particularly increased its share most notably in intermediate industries - and the periphery lost further share.

It is extremely difficult to study the effect of industrialization on the rural economy, but according to some estimates there was a notable decline in rural artisan manufacturing production, though with considerable regional variation.³⁷⁾

In order to explain the developments in agriculture a number of factors need to be taken into account. First of all, the effects of "La Violencia" in certain regions of the country. On the one hand it had contributed to uproot the traditional tenure relations and distribution

of ownership. Peasant small holders/tenants, willingly but mostly unwillingly left their holdings, often never to return.³⁸⁾ The rural migration away from areas of violence - which may have involved more than two million persons - mostly ended up in the towns but also led to an extension of the agricultural frontier via the settlement of land in outlying regions (e.g. Caqueta, Putumayo and Medio Magdalena)³⁹⁾ Another mayor factor involved has been the fact that after World War II, new agricultural technology became available e.g. new and annual crop varieties, techniques of cultivation, machinery, fertilizer etc. which made large scale entrepreneurial production feasible.⁴⁰⁾ Supply conditions shifted in favour of the landlords.

Thirdly, demand increased for agricultural products. The rural violence had caused considerable migration. In the intercensal period 1951-1964 the annual rate of growth of urban population was as high as 5.7 %. Constituted the urban population in 1951, 39 per cent of total population, in 1964 this had gone up to 53.⁴¹⁾

Furthermore the growth of industrial output had increased demand for agricultural raw materials. The necessary features for the development of the agro-industrial complex started to shape themselves, both upstream and downstream agriculture.

This brings us to the third factor, namely, the role of government with respect to improvement of the downstream and upstream conditions for the commercialization cum industrialization of agriculture. First of all, it should be pointed out that the protection of industry from outside competition - effectuated by means of government policy - was important to induce industry to rely more on domestically

produced agricultural raw materials. In this way, industry could absorb inferior quality and higher costs, without affecting its own rate of profit. The former were passed on to the consumers. This phenomenon has been established in the case of cotton⁴²⁾ and also applies to other new industrial crops like soya, sorghum and african palm oil, raw materials inputs for the vegetable oil and animal feeds concentrated industries, that had developed in the sixties. Agrarian policies can be summarized under three headings⁴³⁾: 1) transfer of resources (credit) to agriculture at low rates of interests. Commercial banks were required to allocate an amount of credit equivalent to at least 15 per cent of call and termdeposits. This system which was initiated in 1959 (Law 26) was further improved in 1966 (Fondo Financiero Agrario) and 1973 (Fondo Financiero Agropecuario); 2) marketing and price policies . Whereas for industrial raw materials such as sugar and cotton, price controls were issued (since elaborated negotiations took place between agricultural and industrial interests "negotiated prices" would be a better term), with respect to food crops (wheat, maiz and rice) the government marketing agency intervened in the uncontrolled market with support prices. On the whole, here the emphasis was on smoothening of provision of urban market (wage goods); 3) agricultural technology and extension . Although the first experimental stations dated from the previous period, it was only now that through ICA this was undertaken at a larger scale (maiz and cotton varieties).

Finally one should take into account the role of producer associations, which were the main vehicles for the rapid diffusion of technological innovations as well as channels

for the distribution of industrial inputs, seeds and technical assistance. These producer associations emerged as a response to the monopolistic and oligopolistic structure of the agricultural product markets, caused by the concentration of industry and trade. These associations are the key link between the agro-industrial complex and the individual producer. The most clear examples apart from coffee and banana producer associations which concern export, are the cotton federations and the federation of rice producers which in this period only operated in domestic markets.⁴⁴⁾

Tables 2 and 3 in the annex summarize some of the main aggregate features of agricultural development in this period. The so-called commercial crops, which refer to those crops that are predominantly used as inputs for industry, have been the most dynamic elements in the transformation of Colombian agriculture. Their share in the value of agricultural crop production almost doubled from 10 to 19 per cent and continued to increase thereafter, though at a lower but still rapid pace. The fact that on the whole neither land nor labour productivities changed very rapidly, may indicate that a geographical widening of the base of the transformation occurred. Only in the second half of the sixties and early seventies a strong deepening of this transformation took place. To some extent the latter started already with regard to livestock, in the sense that the large livestock haciendas became less extensive and engaged increasingly in annual crop production. Government policies had made a smooth and relatively secure transition possible.

The production of basic low income foodstuffs such as maize, cassave, plantain and potato - with the noticeable exception of rice at the end of the period - remained

within the realm of traditional peasant agriculture. Given the fact that increases in productivity were relatively low in these products, the only way of explaining the increased supply is through the continuation of market incorporation of peasant agriculture and the expansion of the latter through colonization. The secular trend of rising real prices of food⁴⁵⁾ can be explained within this context. Since urban demand was largely concentrated in a limited number of fast growing urban centers, rising real prices are necessary so as to extend the (geographical) supply sheds emanating from those centers.

With regard to the position of the peasantry in the agrarian structure it can be argued that to an extent, it was displaced because of the elimination of traditional tenure in combination with the rise of large scale capitalist farming. On the other hand, through colonization of land-on existing estates, or "new" land it could partly maintain itself. Minifundio was estimated to increase during this period.⁴⁶⁾ The vast increase of, also, microfundio (i.e. holdings smaller than one hectare)⁴⁷⁾ must be considered in the light of the indicated proletarianization and the advanced fragmentation process within the peasant economy due to absolute and relative population pressures.

In terms of the position of peasant agriculture versus modern capitalist agriculture, one may argue that on the whole there was a division of labour between the two. Large scale agricultural units specialized in the production of industrial crops whereas peasant agriculture remained the principal producers of basic (low income) food stuffs. This does not mean that small scale agriculture did not participate at all in the new opportunities provided by the growing industrial demand for agricultural products.

What were the regional aspects of the emerging structure of agricultural production? First of all, one can observe a relative displacement of livestock production to outlying peripheral regions, enabled by the extension of the agricultural frontier, either on improductive estates (e.g. in the Costa Atlantica region) or on newly colonized land (e.g. Caqueta). So far, particularly the eastern part of the Costa Atlantica region (Magdalena and Cesar) had been relatively marginal. The "opening up" of this area came with the extension of the railwayline to Santa Marta.

But also within agriculture considerable changes occurred during this period (see table 4 annex). On the basis of land use data available for the principal 16 crops it was found that agricultural production expanded, most notably, in Bolivar/Sucre, Cordoba, Magdalena and to a lesser extent in Atlantico. The main crops through which this expansion took place are the commercial crops like cotton, sorghum and rice. In addition, it is Antioquia that thanks to an improved transport network, extends its agricultural frontier.

If one considers the commercial crops it can be found that a considerable amount of expansion cum displacement takes place. Existing specialized production areas switch to other crops and new production areas emerge, (sorghum, barley) in part replacing existing ones (barley, rice and cotton) With regard to the mixed and traditional crops, the interregional reallocation of production is much more limited. Either there are no concentrated production areas (maiz and platin), and when there are, these tend to account for a growing proportion of total production (except cassave). The latter tendency may be indicative for the ongoing process of market incorporation (potato, beans and tobacco)⁴⁸⁾

By the end of the period the development of the agro-industrial complex took a great leap forward. New agricultural technology - HYV's and related inputs - increased the capital intensity of agricultural production. This threatened to marginalize the participation of the peasant segment in this production. The number of small holdings went down (absolute decrease) and simultaneously agricultural wage labour employment opportunities went down and became even negative.

At the moment that industrial growth slackened as a result of the coming to an end of import substitution, and employment absorption capacity of industry was severely reduced, capitalist agriculture started to expel labour and peasant agriculture was threatened to become marginalized, which reflected itself in a lowering of rate of growth of food productions.

Two solutions were put forward to this "social" problem⁴⁹⁾. One was to keep the peasants in the country side. Recognizing the social function of land ownership, land reform would be the principal instrument to stem rural de-population.

The second was an urban solution via a programme of (labour intensive) urban housing construction. Both solutions were experimented with by successive governments.

So much there were outspoken differences with respect to the "social problem", as much agreement there was on how to tackle the structural problem of the economy. Namely, in stead of seeking an expansion of (internal) demand via intervention in and re-structuring of production, an expansion of production was aimed at via a re-orientation toward external demand. To this end a number of major economic reforms were introduced in 1968.

3.3 Export growth and the strengthening of the agro-industrial complex (1967-1975)

The reforms of 1968 aimed at exports as a prime generator of growth and to this end, a structural adjustment of the economy was an imperative. Key elements of the reforms were (50) a) a new exchange rate regime was established. The existing system of relatively stable but multiple exchange rates was replaced by a flexible exchange rate. With frequent small devaluations, serious balance of payment problems (causing large devaluations) were avoided. The persistent overvaluation of the peso, which tended to favour imports and discriminate exports, was now avoided. Furthermore a liberalization of imports took place; b) fiscal incentives for exports were increased; first only for manufacturers but later (1970) also for non-traditional agricultural products (corporate tax reduction certificates; c) new export oriented institutions were created like the export promotion fund; free trade zones were established in main cities; and, finally, d) the Andean Pack with its common external tariffs should give additional market leeway. (51)

The growth of industrial production increased up to an average of 8 per cent in the first five years (68-73), to slow down again when the effects of the international recession started to be felt. Manufactured exports had increased from 3.4 per cent of gross industrial product in 1970 to 9.1 per cent in 1974. Clearly there were considerable differences among the various industrial groupings. Sectors like furniture, leather, clothing and professional equipment for which exports became to constitute more than 20 per cent of their output, still represented a small share, whereas for large sectors such as food and textiles which were the largest exporters, external demand

still constituted no more than 10 per cent of total gross output. Furthermore, there was an important element of transnationalization, in so far as it were firms with foreign ownership that played an important role in this seemingly rapid export success. Notwithstanding, the fact remains that it drastically expanded the labour absorption capacity of industry. In the period 1967-1975 employment growth was on average more than 6 per cent per annum.

However real wages went down rather strongly as from 1970 onwards.^(52.) Not only had (imported) inflation gone up dramatically, but also industry in order to succeed in its export strategy had to keep wage costs down. The latter became an essential prerequisite of the strategy, the more so since cost inflation on account of imported intermediate and capital goods could not be avoided. In various ways this had further implications for the relation between industry and agriculture (see below). In terms of the spatial distribution of industry, it can be concluded that the changes in the economic orientation had a differential impact on the region. On the one hand, there was a clear tendency of further concentration in existing industrial core areas, most clearly Bogotá, but also some intermediate cities like Manizales, Cartagena, St. Marta and Tunja experienced high rates of growth.

For agriculture, the new policy orientation aided and strengthened an already emerging tendency. Already in the second half of the sixties surplus was produced in such crops like cotton, and sugar and in a later stage rice. The new policy measures offered new opportunities for expansion of capitalist agriculture, which in the sixties had experienced new technological change (seed

varieties, chemical disease control)

Now that both manufacturing industry and capitalist agriculture were leaving the confines of the domestic market, the price intervention of government lost its rationale. Price control system was either altered or eliminated altogether e.g. cotton, and international prices directly or indirectly, came to rule the domestic market. Whereas in the previous period of formation of the agro-industrial complex, there was a shift from local regional to national markets the shift to the next level was initiated in this period.

Non-traditional agricultural exports also had grown considerably. The value of cotton, rice and sugar exports contributed in 1970 already 9.5 per cent of total value of exports. This went up to 12 per cent in 1975.

It is sometimes suggested that the division of labour that had developed between capitalist and peasant agriculture is a given one. To put it in other words that agricultural production is characterized by a dualistic structure.⁵³⁾ Although it is correct that small scale agriculture became marginalized from the growing opportunities of industrial demand for agricultural raw materials (e.g. cotton), it cannot be maintained that the production of foodstuffs remained in the realm of peasant agriculture. There are a number of cases which illustrate that if technological conditions are present and the composition of demand changes towards industrial demand, large scale units will enter these product sectors. First of all, maize remained a so-called mixed crop since maize processing industry had stagnated, resulting as well in a - since recently - declining share of large agricultural units.⁵⁴⁾

The green revolution in rice contributed to the displacement of the traditional dry rice producers in the urban food market.⁵⁵) More recent examples that illustrate this also, are cassave and potato production. In the early seventies, industrial processing of cassave for the purpose of extracting starch began to occur at a significant scale. It led quite rapidly to the relative displacement of peasant production. In other words, industrial demand was met by larger scale agricultural units (> 20 has)⁵⁶) A final case is potato production, the industrial processing of potatoes for chips etc., has been entirely met by large sized producers who deliver directly to the industry, as in the case of cassave.⁽⁵⁷⁾ The above cases demonstrate that it is difficult to maintain the hypothesis of a dualistic structure. Nevertheless the penetration of capitalist large scale agriculture into basic foodstuff production has been limited, but by no means unimportant.⁽⁵⁸⁾

In regional terms, the process of consolidation of the agro-industrial complex produced a number of interregional shifts, and some of the tendencies that had started to shape themselves in the previous period, showed in full strength. In the live stock sector the intensification of production and further displacement to outlying regions continued to take place. But also with respect to agriculture considerable changes can be detected (table 4). The number of areas of specialized production went up, particularly with regard to the industrial crops. This tendency of concentration was often accompanied by important shifts from one major region to another (rice, sorghum and barley). With regard to the mixed and traditional crops no such tendencies can be detected clearly except for cassave, and to an extent maize. But only in one instance, beans, an opposite tendency could be observed.

If the concentration patterns at the level of each region are considered (table 5) than it can be shown that the urban-industrial regions became less specialized agrocultural producers (localized effects of urban demand opportunities). The agro-regions in the interior and the north show marked tendencies to specialization of production in a few crops, whereby it should be added that in the interior regions crops switch in importance, whereas in the northern region new additions are made. These two phenomena appear to be related i.e. interregional shifts in concentration e.g. cotton and rice.

In the peripheral regions (Cauca, Santander, Norte Santander) the levels of specialization are considerably lower, moreover these do not increase, rather they remain more or less stable or decline (Nariño and Boyacá). The peasant-economies that continue to predominate in these regions maintain a relatively diversified croppattern.

In the mid-seventies the Colombian economy was hit by the international recession. Half way of becoming a NIC, the economy got stuck between an outdated import-substitution model and an unfeasible strategy of export growth. The fact that no severe domestic recession followed is due to the fact that first a coffee price-cum export boom (caused by a frost calamity in Brasil) in 1976 and then the illegal drugtrade cushioned the effects of the world recession

The expansion of internal demand, (as well as the coffee bonanza and the growing of marihuana), served to demonstrate the structural problems in the urban food supply. The latter magnified by the wholesale speculation that surrounds it, caused food prices to

increase sharply.⁵⁹⁾ The stagnation in the production of basic foodstuffs is illustrated by the data on imports. In the period 1970-1979 the volume of imports of maize increased by a tenfold.⁶⁰⁾ In 1976 the government of Alfonso Lopez Michelsen launched a programme of integrated rural development. This programme, that is still being implemented, aims to stabilize urban supply, to reduce its real prices as well as to raise the income of the peasantry. Although the former objective is more functional to the economic strategy, it is nevertheless the first time in recent economic history of the country that peasant production is recognized as constituting, a real economic problem.

4. SOME FINAL REMARKS

The paper has attempted to raise some issues that so far have received little attention in regional studies. These refer to an interregional analysis of rural transformation. Regional land use and land use changes are explained in the context of the changing sectoral relations between agriculture and industry, whereby the evolving agrarian structure is taken explicitly into account. The conventional-static-theory of land use (Von Thünen) is of limited use in this respect. Not only because of the restrictive assumptions regarding the countryside - that do not permit a differentiated agrarian structure -, and the equally restrictive assumption regarding the town- undifferentiated market organisation -, but also because its framework consists of an isolated situation of one town and one countryside. In this paper we have attempted to show that the dynamics of change supersede and overrule this local regional frame.

Urbanization cum industrialization is mostly seen as the main driving force of the process of development of (rural) regions. Here we have attempted to show that the transformation of rural regional economies has much wider connotations and is much more complex. Next to an "urban-industry" led process, there is also an "agriculture" led process of regional differentiation. Using the above terminology, one could say that in addition to a differentiation of towns, there is also a differentiation of countrysides. It is this that needs more attention when discussing national programmes of integrated rural or area development.

It could be added immediately that the analysis is far from complete nor at the theoretical level or with respect to the case study. Notwithstanding these limitations, two implications can be drawn from it that deserve further discussion.

First, it follows from the analysis that the agrarian structure in terms of the concentration of landownership, is at the root of the division of labour between large scale capitalist and peasant agriculture. There is, however, no reason to assume, as we have seen before, that this division will remain unaltered. In this connection, one may recall, for example, that in the Colombian case it was found that real prices for industrial crops tended to decline over time, but that this was more than compensated by the rise of productivity. In the traditional food crops, an opposite tendency was observed with respect to prices, whereas increases in productivity were small. However, if in the context of policies for rural development the productivity in the latter is increased, the danger exists of "entry" of large scale agro-enterprises in the product sectors. An important question for policies directed to the improvement of the position of the peasants (rather than peasant production, which may have other aims), is to what extent the peasants can be "protected" from the "entry" of these agro-enterprises.

A second issue that emerges from the analysis is the interregional differentiation in rural poverty problems. One may find with respect to the peasant economy that in some regions the process of market incorporation has been completed both in terms of consumption and production, whereas in other regions this is not (yet) or partially the case. There are several factors that may cause this process to halt, such as the stagnation in the process of industrialization itself, as well as the slow-down in the rate of urbanization. In relation to industrialized agriculture, one may find in interregional terms different degrees in which peasants in the area are proletarianized, while on the other hand the degree of (cropwise) specialization and area concentration increases the seasonal demand component in the local rural labour markets. It is particularly this problem that continues to be neglected.



Figure 1: Administrative Divisions of Colombia.

Table 1 annex

Manufacturing Industry Employment, Colombia

Percentage distribution, average annual growthrates

	Employment				Growth rates		
	1945	1958	1967	1975	45-58	56-67	67-75
Antioquia	26	24	25	24	4.0	2.8	5.2
Atlantico	11	10	9	8	3.8	1.4	3.4
Bolivar	4	2	2	2	-0.6	1.8	6.8
Boyacá	3	3	2	2	2.4	-3.9	10.4
Caldas	6	5	5	5	2.4	2.2	7.1
Cauca	1	0.5	1	1	-3.6	8.9	11.8
Cordoba	-	0	0	0	-	-3.7	8.2
Cund'ca	20	30	30	33	7.4	2.5	6.8
Choco	-	-	0	0	-	-	4.1
Guajira	-	-	0	0	-	-	14.6
Hiulá	1	0	0	0	1.8	0.6	2.0
Magdalena	1	0.5	0.5	1	0.4	2.8	7.8
Meta	-	0	0	0	-	11.5	3.7
Nariño	1	1	1	1	4.5	0.4	-1.0
Norte Santander	2	1	1	1	2.3	-0.5	2.3
Santander	7	5	4	4	0.6	1.2	4.9
Tolima	3	1	1	1	-0.9	-0.8	3.9
Valle	13	16	17	16	5.8	3.5	4.9
Total	100	100	100	100	4.4	2.4	5.7

Sources: - 1945, Census, taken from Ospina Vazquez, op.cit. p.

- 1958 and 1967 taken from CID, 1970, Industria Manufacturera Fabrilmonografia estadistica Universidad Nacional, Bogotá.- 1975 taken from DANE, Industria Manufacturera, 1975, Bogotá

Table 2 annex
Agricultural Production, Employment and Cultivated
by type of land use - 1951, 1964, 1973^a

	Value of Production (10 ⁶ x \$ of 1970)			Employment (persons x 10 ³)			Cultivated Area (has x 10 ³)			Prod./Emp1.			Prod./			
	1951	1964	1973	1951	1964	1973	1951	1964	1973	1951	1964	1973	1951	1964	1973	
<u>A. Agriculture^b</u>	10952.5	61.4	1236.7	71.7	2.826	11.1	8.856	3.876								
	16206.1	59.7	1600.6	74.1	3.798	13.2	10.125	4.267								
	19464.8	52.3	903.3	63.2	4.667	14.2	16.851	4.171								
<u>of which</u>																
	Commercial Crops	1093.6	(10.0)	75.1	(6.1)	281	(10.0)	14.562	3.892							
	1964	3078.5	(19.0)	216.5	(13.5)	712	(18.7)	14.219	4.324							
<u>Mixed crops</u>	4663.4	(24.0)	136.3	(15.1)	896	(19.2)	34.214	5.205								
	1951	2680.9	(24.5)	391	(31.6)	976	(34.5)	6.850	2.747							
	1964	3317.1	(20.5)	429	(26.8)	1.167	(30.7)	7.732	2.342							
<u>Traditional crops</u>	1973	3082.0	(15.8)	171	(18.9)	1.053	(22.6)	18.023	2.917							
	1951	2432.8	(22.2)	360.1	(29.1)	669	(23.7)	6.756	3.636							
	1964	3388.0	(20.9)	415.1	(25.9)	740	(19.5)	8.162	4.578							
<u>Plantation crops</u>	1973	3646.8	(18.7)	258.7	(28.6)	929	(19.9)	14.097	3.926							
	1951	3459.7	(31.6)	350.7	(28.4)	698	(24.7)	9.865	4.957							
	1964	4544.0	(28.0)	466.7	(29.2)	908	(23.9)	9.736	5.004							
<u>Minor crops</u>	1973	4744.1	(24.4)	272.6	(30.2)	968	(20.7)	17.403	4.901							
	1951	1285.6	(11.7)	59.5	(4.8)	202	(7.1)	21.607	6.364							
	1964	1878.5	(11.6)	73.5	(4.6)	271	(7.1)	25.558	6.932							
<u>B. Livestock</u>	1973	3328.5	(17.1)	64.7	(7.2)	821	(17.6)	51.445	4.054							
	1951	5297.0	29.7	328.8	19.1	12.123	47.5	16.110	4.37							
	1964	8795.2	32.4	385.3	17.8	15.686	54.4	22.827	561							
<u>C. Other Uses</u>	1973	13613.6	36.6	251.8	17.6	18.425	56.1	54.065	739							
	1951	1587.5		160		9.767										
	1964	2144.4		174.6		6.917										
<u>D. Fallow Land</u>	1973	4169.1		275.6		5.414										
	1951					798										
	1964					2.454										
<u>TOTAL</u>	1951	17837.2	100	1725.5	100	25.514	100	10.337	699							
	1964	27145.8	100	2160.5	100	28.855	100	12.565	941							
	1973	37246.5	100	1430.2	100	32.870	100	26.043	1.133							

Table 2 annex cont'd

Agricultural Production, Employment and Cultivated
by type of land use - 1951, 1964, 1973^a (cont'd)

Sources: - Censos Nacionales Agropecuarios 1960-1971, OPSA - Agricultura
- Cuentas Nacionales, Banco de la Republica
- S. Kalmanovitz, la Agricultura en Colombia 1950-1972, Boletin Mensual de Estadistica,
no. 276-277.
- DNP, Estudio sobre el Mercado Laboral en Colombia, 1977 internal document.

a. Excluded are silvicultures, hunting and fishing.

b. Commercial crops: rice, cotton, sorghum, soya, barley, sesame and sugar cane.
Mixed crops : Maize, potato, tobacco and wheat
Traditional crops: beans, plantain, cassave, panela (unrefined sugar)
Plantation: banana, cacao, cafe.
Minor crops: vegetables, fruits etc.

c. Includes: housing and other rural construction, land improvements, irrigation and construction
for agriculture and livestock; marginal and supplementary crops etc.

Table 3 annex

Annual rates of growth, value of production,
employment, land, labour and land productivity - '51, '64, '73.

	Production	Employment			Land			Labour prod.			Land prod.	
		51/64	64/73	51/64	64/73	51/64	64/73	51/64	64/73	51/64	64/73	51/64
Commercial crops	8.3	3.8	8.5	-4.1	7.4	2.1	-0.2	8.3	0.8	0.8	1.7	
Mixed crops	1.7	-0.7	0.7	-8.0	1.4	-0.4	0.9	8.0	0.3	0.2		
Traditional	2.6	0.7	1.1	-4.2	0.8	2.1	1.4	5.1	1.8	-1.4		
Plantation	2.1	0.4	2.2	-4.8	2.0	0.6	-0.1	5.4	0.1	-0.2		
Minor	3.0	5.0	1.6	-1.2	2.3	10.6	1.3	6.6	0.7	-4.8		
<hr/>												
Agriculture	3.0	1.2	2.0	-5.0	2.0	2.0	1.0	5.0	1.0	-0.5		
Livestock	4.0	4.1	1.2	-3.8	2.0	1.5	2.7	8.2	1.9	2.5		
Total (incl. other uses and follow land)	3.3	2.9	1.7	-3.7	1.0	1.2	1.5	6.9	2.3	1.7		

Source: see table

Table 4 annex

Share of specialized production regions in total crop acreage, 1959, 1965, and 1974.

	1959	shifts ²	1965	shifts	1974
A. Industrial					
Sesame	(2)	82	(2)	78	+
Cotton	(4)	77	(2)	63	+
Sorghum	(2)	86	(3)	73	* -
Barley	(2)	84	(3)	91	*
Sugar ³	(1)	20	(1)	19	(1)
Rice ⁴	(2)	29	(2)	36	**+
					(4) 63
B. Mixed					
Maiz		0		0	+
Potato	(2)	61	(3)	67	(3)
Wheat	(3)	84	(3)	93	93
Tobacco	(2)	73	(3)	79	(3)
					83
C. Traditional					
Beans	(2)	41	(3)	58	-
Platain		0		0	0
Cassave	(5)	49	(3)	27	**
					(4) 35
D. Tree Crops					
Banano	(2)	46	(1)	37	+
Coffee	(1)	26	(1)	22	(1)
Cacao	(3)	56	(3)	49	(3)
					49

Notes

1. Specialized production regions defined as those regions that have a location coefficient ≥ 2 .
2. Refers to changes with respect to set of production region.
 * signifies a change in rank order among existing production regions.
 +, - refers to the change in number () of production regions.
3. includes traditional sugar production (panela)
4. includes both dry rice (traditional) and irrigated rice.
5. 1959 data from Agricultural Census, 1960
 1965, 1974, tabulation, Caja Agraria.

Table 5 Annex

Share of specialized crop production
in total crop acreage, by region, 1959, 1965, 1974 (a)

	1959	shifts	1965	shifts	1974
<u>Urban-Ind. Regions</u>					
- Cundinamarca	(3) 31	*	(3) 26	*	(3) 20
- Antioquia	(1) 6		(1) 6	+-	(1) 3
- Valle	(1) 26	+	(2) 30	-	(1) 24
<u>Interior Agro-Regions</u>					
- Tolima	(2) 23	-	(1) 7	*+	(2) 33
- Huila	(1) 6	*+	(2) 13	*+	(3) 32
<u>Northern Agro-Regions</u>					
- Atlantico	(3) 52	-	(2) 54	++	(4) 82
- Bolivar	(3) 42		(3) 49		(3) 47
- Cordoba	(2) 42	-	(1) 39	+++	(4) 90
- Magdalena	(4) 34	-	(3) 43	+-	(3) 41
<u>Periphery (South-West)</u>					
- Cauca	0		(1) 2		(1) 3
- Nariño	(3) 20	+-	(3) 39	*	(3) 31
<u>Periphery (North-East)</u>					
- Boyacá	(2) 30	+	(3) 44	*	(3) 35
- Santander	(4) 24	-	(3) 11	-	(2) 11
- Norte Santander	(1) 13		(1) 11		(1) 13
<u>Coffee region</u>					
- Caldas	(1) 65		(1) 58		(1) 65

(a) see notes table

Notes and references

1. Friedmann J. and M. Douglass (1975), Agropolitan development: towards a new strategy for regional development in Asia.
in: Lo FC and K Salih (eds), Growth Pole Strategy and Regional Development Planning, in Asia, UNCRD, Nagoya.
- Friedmann J., 1981, The Active Community, Regional Development Dialogue, 2
- Stöhr W.B. and F. Tödtling, 1977, Spatial equity - some antitheses to current regional development doctrine, Papers RSA, 38.
2. A. Pearse (1968), Metropolis and Peasant: The Expansion of the Urban Industrial Complex and the Changing Rural Structure.
Reprinted in Th. Shanin (ed.), Peasants and Peasant Societies, Penguin.
3. B. Helmsing, 1978, Oligopolio y Desarrollo Regional, Publicación 78.07, CIDER, Universidad de los Andes, Bogotá.
4. For the concept of the agro-industrial complex and the inter-sectoral relations between agriculture and industry, the author has drawn from P. Bye, 1975, Modalidades de Industrialización en el Sector Agropecuario, CEDE, Doc. no. 25, Universidad de los Andes, Bogotá.
For a more elaborate intersectoral and interregional analysis see B. Helmsing, 1980, Impacto de la Industrialización sobre la Economía Rural. Un Análisis Sectorial y Territorial, CIDER, serie 2, Universidad de los Andes, Bogotá.
5. In terms of Griffin's analysis, the technological change caused by the downstream industrial sector fits more closely to the landlord technological option.
K. Griffin, 1974, The Political Economy of Agrarian Change. An Essay on the Green Revolution, MacMillan, London.
6. This distinction is important in so far as it implies a break away from Von Thünen like "unity" of the isolated state. In our case it is not only a change in relative urban prices that causes spatial shifts but also supply conditions.

7. The first signs of industrialization can be traced back to the first half of the 19th century. However political and economic instability and civil war prevented its consolidation. Many also have been attempts of governments to promote its development. Cf. Ospina Vasquez, 1979, Industria y Protección en Colombia 1810-1930, Ed. Oveja Negra, Medellin (1° edición 1955).
8. W.P. McGreevey, 1975, Historia Económica de Colombia 1845-1930. Ed. Tercer Mundo, Bogota, table 26, p.211.
9. It is beyond this paper to enter into the debate as to precisely when and due to what early industrialization could take place and what has been the exact relationships between coffee and industry. On the first issue see for instance:
J.A. Bejarano, 1979, El Regimen Agrario de la Económica Exportadora a la Económica Industrial, ed. La Carreta, Bogotá. On the second issue Mr. Arango, 1977, Café e Industria, 1850-1930, Carlos Valencia ed. Bogotá, and M. Urrutia, 1979, 50 Años de Desarrollo Económico Colombiano, ed. La Carreta, Bogotá.
10. Cf. Urrutia, op. cit., chapter 2 and W.P. McGreevey, op.cit. page 262.
11. In the period 1922-1934 the total railway length rose from 1481 to 3262 kilometers. McGreevey, op.cit., page 262.
12. Cf. Urrutia, ibidem and R. Brew, 1977, El Desarrollo Económico de Antioquia desde la Independencia hasta 1920, Banco de la República, Bogotá.
13. In the periods 1920-1925 and 1945-1950 Colombian industry experienced its highest rates of growth, which can partly be explained on the one hand by the accumulated need to replace equipment and which was made possible thanks to accumulated exchange reserves. Cf. Poveda Ramos, 1970, op.cit.
14. J.Escoria, 1978, Historia Económica y Social de Colombia, Siglo XX, Ed. Presencia, Bogotá, Chapter IV.
15. G. Poveda, 1967, Antecedentes y Desarrollo de la Industria en Colombia, ANDI Revista Trimestral, No. 4, Julio and G. Poveda, 1970, Historia de la Industria en Colombia, ANDI Revista Trimestral, no.11, Octubre

- 16a. For an account of the process of successive take over and mergers in textile industry see Brew op.cit., pages 392-405, and, Helmsing B., 1979, *El Desarrollo de la Producción de Algodón, 1950-1978*, Bogotá, Universidad de los Andes (mimeographed) Chapter i.
- 16b. Bejarano, 1980, p. 44
Note: it is unclear how these figures were calculated since the rural/urban discrimination of residence was only initiated in 1938. Cf. Pardo Pardo, 1972, p. 81.
17. Bejarano, *ibid.*
18. Pardo Pardo, *ibid.*
19. We will not discuss here the controversy among the economic historian as to which has been the single most important factor. For a comparison see for instance Rodriguez (1972); Escoria (1978) Nieto Arteta (1942); Urrutia (1979); and McGreevey (1975).
20. Bejarano, 1979, op.cit., p. 142.
21. O. Rodriguez, 1981, Efectos de la Gran Depresión en la Industria Colombiana, Ed. Oveja Negra, Bogotá (1° edición 1972), op.cit. p. 43 and 45.
22. To make tenants more dependent, landlord in Cundinamarca prohibited the planting of coffee on their own plots. For a description of the resulting conflicts see Bejarano (1979) and Escoria (1978)
23. Bejarano, op.cit., part II.
24. Particularly in the rural areas of Cundinamarca and Tolima a great many peasant leagues were formed. Cf. G. Gaitan, 1976, Colombia, La Lucha por la tierra en la Década del Treinta. Ed. Tercer Mundo, Bogotá.
The return migration caused by the lay-offs of public works programmes and industrial unemployment at the beginning of the Great Depression has been important in so far as workers were familiar with forms of industrial labour organization (cf. Urrutia, 1969).
25. Kalmanovitz, 1976, Desarrollo de la Agricultura en Colombia, Bogotá, Ed. la Carreta.
26. Bejarano, 1979, op.cit., table 4 page 159.
27. Bejarano, (1979) quoting figures from Kathrijn, W.H. The Agriculture of Colombia, Washington, USDA, 1952.
Bejarano adds caution about the nature of the estimates. These should be considered only as a rough estimation and indication of importance. Note the McGreevey using different sources, estimated for 1938 a share of export production of 22 per cent.

28. Helmsing, 1979, op.cit., table 2-1.
29. Bejarano, 1979, op.cit., statistical appendix. See also footnote 30.
30. Escorcia, op.cit. p. 105, table 6.
The more important livestock regions are Boyacá, Bolívar, and Antioquia, each with 19, 16 and 14 per cent respectively of total estimated area in pastures (natural and artificial).
31. Bejarano, J.A., 1978, Ensayos de Interpretación de la Economía Colombiana, Bogotá, Ed. La Carreta p. 14-90.
32. Misas G., 1975, Contribución al Estudio del Grado de Concentración en la Industria Colombiana, Bogotá, Ed. Tiempo Presente.
33. Arango, J.A., 1976 Inversión Extranjera en la Industria Manufacturera Colombiana, DANE, Boletín Mensual de Estadística No. 302 and 303, and
Chudnovsky D, 1974, Empresas Multinacionales y Ganancias Monopolísticas en una Economía Latinoamericana, Buenos Aires, Ed. Siglo XXI.
34. For a detailed account see H. Ayala et.al, 1978 Gestión Tecnológica en la Industria de Alimentos de Colombia, Revista de la EAFIT, No. 31; and DNP, 1979, La Industria Textil, Revista de Planeación y Desarrollo, 11, 2 pp. 49-150.
35. Ayala, op.cit.
36. Cf. Misas G., 1975, Características generales de las industrias regionales en Colombia, Enfoques Colombianos, No. 4.
37. Urrutia M. and C.F. Villalba, 1969, El sector artesanal en el desarrollo colombiano, Revista de Planeación y Desarrollo, 1, 3, octubre, Preprinted in Urrutia 1976, op.cit., chapter 7.
38. Almost 400.000 holdings were deserted. It was particularly severe in Valle, Tolima and Cundinamarca, which, together, accounted for more than half of the total. P.Oquist, 1978, Violencia, Conflicto y Política en Colombia, Bogotá, Ed. Banc Popular op. cit. 323.
39. Helmsing, B., 1982 Agricultural Production in the Periphery, Development and Change, 13, 3.
40. Kalmanovitz, op.cit.
41. Pardo Pardo, A., 1972, Geografía Económica Y Humana de Colombia, Bogotá, Ed. Tercer Mundo, P. 81.
42. Helmsing, B., 1979, El desarrollo de la producción de algodón, 1950:1978 CIDER. Bogotá, Universidad de los Andes (mimeographed)

43. A fourth heading would be land settlement and land reform, which were addressing the peasantry, Helmsing, B., 1982,
44. Regarding the development of the cotton federations see for instance, Helmsing 1979 op.cit.
45. Kalmanovitz, 1976, op.cit.
The great fluctuations around this trend which are as significant as the trend itself are on the one hand related to the supply elasticity of peasant production and on the other to the organization of the marketing.
46. The share of minifundio (1-5 has) in the total number remained constant (37). Its number went up from 343.000 in 1954 to 459.000 in 1960. DNP, 1977, op.cit. p. 182.
47. In 1954 (i.e. after the peak of Violencia) 162.000; in 1960 298.000 DNP, 1977, ibid.
48. For wheat, as in the case of barley, which can only be grown in a few highland regions. Nariño in the south has received much of the production that was displaced in Cundinamarca.
49. For an elaborate discussion see J.A. Bejarano, 1977. Contribución al Debate sobre el Problema Agraria, in F. Leal, et.al, El Agro en el Desarrollo Histórico Colombiano, Bogotá, Ed. Punta de Lanza.
50. The reforms of 1968, in as far as manufacturing industry is concerned, built further upon export promotion measures that were established in 1961 (Plan Vallejo). These latter were also important factors that had attracted export oriented multinational establishments in the early sixties.
51. Bejarano J.A., 1978, Ensayos de Interpretación de la Economía Colombiana, Bogotá, Ed. La Carreta.
52. Real wages went down till 1977 when the effects of the "bonanza cafetera" on the economy were beginning to be felt.
Average annual real wage workers in industry 1971 = 100
71 72 73 74 75 76 77 78 79 80
100 97 89 85 83 85 80 89 95 96
Source: Dane, 1981, Colombia Estadística, Bogotá, p. 78.
53. Bejarano, 1977, en F. Leal, et.al, op.cit.
54. CIDER, 1978, Estudio Regional Integrado, para la Costa Atlántica Colombiana, CIDER, publicación 78.03, Bogotá, Universidad de los Andes.
55. Ibid.

56. CIDER, op.cit.
57. DNP, 1979, La Economia de la Papa in Colombia,
Revista Planeación y Desarrollo, 11, 1, pp. 69-125.
58. This aldo demonstrates the weakness of the (any) adopted static classification. However, the author had to use this classification for reasons of data consistence.
59. DANE, Colombia Estadistica, op.cit. p. 68.
60. DANE, op.cit. table 2.10 pp. 149-154.
It should be kept in mind that maize is part of the basic food staple and that it can be grown almost everywhere in the country.