

## Background to the Gezira Scheme

Gezira is the Arabic word meaning 'island' or 'peninsula'. It crops up in place names throughout the Arab world, notably in the name Algeria which is an anglicized form of the Arabic *al-guzayir*, 'the islands'. In the Sudan, Gezira means only one thing. It refers to that vast area of land which lies between the Blue and the White Nile. In particular, though, it refers to the part of that area which is irrigated and used for growing cotton, the staple export crop of the country.<sup>1</sup>

### *Some Geographical and Climatic Considerations*

The central area of the Sudan is characterized by huge expanses of clay plains. They stretch from the Nuba Mountains to the Ethiopian border (figure 1), and from the mountains of south eastern Equatoria to the meeting place of the Blue and White Niles at Khartoum, and northwards about 100 kilometres to Sabaluka on the main Nile. Barbour<sup>2</sup> considers that this general area of the clay plains must be divided into a northern and a southern region, such is the diversity between the desert north and the scrub and tropical forest of the south. This division is understandable; for from the north to the south of the clay plain area is a distance of about 1400 kilometres. The clay soils are of considerable importance to the present structure of the Sudan's economy. And within the region, the Gezira Scheme is of overwhelming importance.

The most outstanding feature of the Gezira area is its crushing monotony. Two impressionistic accounts will say more than any technical details.

Barbour wrote:<sup>3</sup>

... to the South of Khartoum one can stand in an apparently absolutely flat plain of grey cracked clay, where the thin natural vegetation has all been cleared and where there is neither a hill nor a village nor a tree nor a blade of grass in sight in any direction.

And Gaitskell:<sup>4</sup>

Gezira was a land of mirage. At dawn in winter the horizon stood up like a pink cliff circling a giant hollow in which a curious reflection of light

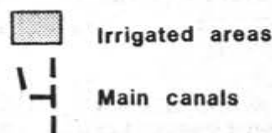
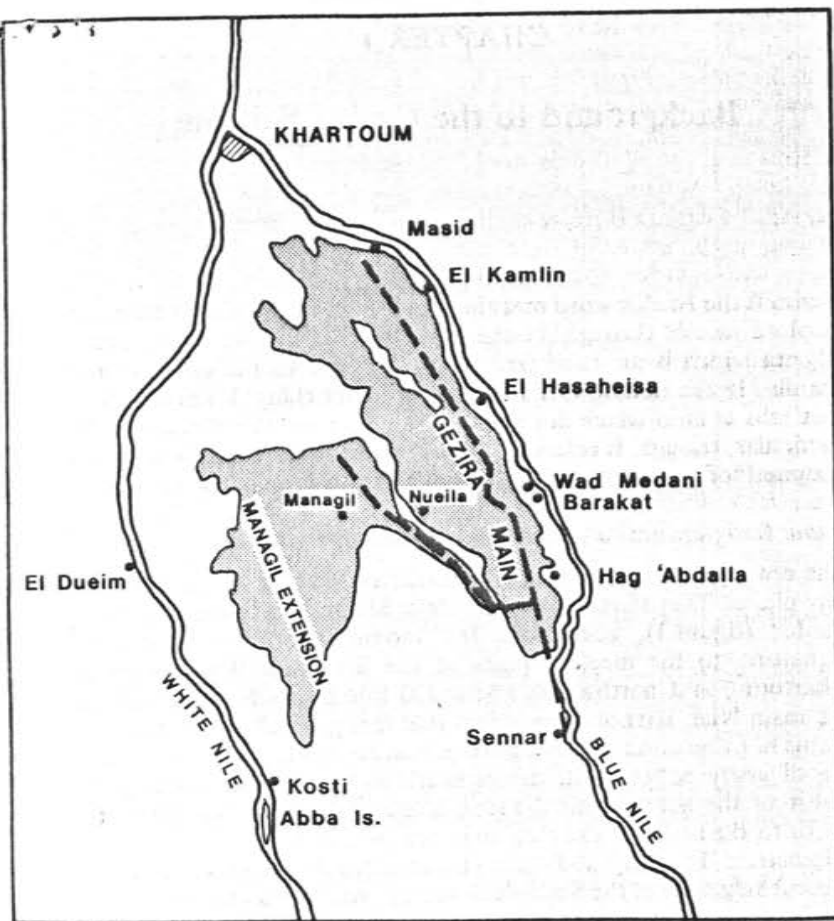


FIGURE 2  
The Gezira in detail

disclosed villages and fields beyond the range of normal sight . . . it was a hard land. The few trees were thorny, and on hot, dry, windy days dust-devils turned to dust-storms, creating an inferno of flying particles like sandstorms in the desert.

However, for all its monotony and even hostility, this land has one remarkable advantage; it is relatively cheap to irrigate. This is because of certain properties of the clay soil. Being impervious, clay allows the construction of canals which do not require expensive lining with concrete. Although water does seep into the subsoil, there is very little loss by this means. Indeed, it rarely seeps much deeper than a few centimetres.

Other properties of the Gezira plain make it admirably suited to the development of gravity irrigation. From the Blue Nile, the entire area slopes gently downwards towards the north and west. This made the siting of the canal system relatively easy, the mean slopes varying between 1 : 5,000 to 1 : 10,000. Further, a slight ridge runs from Hag 'Abdalla to Masid (figure 2) along the eastern edge of the Scheme. The main canal from the dam at Sennar follows the line of this ridge, thus giving good command over the whole area.

But, because of the low rainfall, the area could only be used for intensive farming under an irrigation regime. Rainfall in the Gezira is erratic and varies from the north to the south. In the north it averages something under 250 mm per year, rising in the extreme south to about 750 mm. Concentrated in the period from late July to early November, this pattern of rainfall enabled the people to create an economy based on the cultivation of *dura* (*Sorghum vulgare*) prior to the coming of irrigation. This subsistence grain economy was combined with the semi-nomadic herding of cattle and sheep.

#### *Why was the Gezira Scheme built?*

The history of the Gezira Scheme has been described in some considerable detail elsewhere.<sup>5</sup> For this reason little would be gained from a detailed recapitulation of that history. However, certain points do need to be made here.

Gaitskell sees the creation of the Gezira Scheme under the management of British commercial companies (the Sudan Plantations Syndicate (SPS) and later also the Kassala Cotton Company (KCC)) with the aid of a large loan guaranteed by the British Government, as having been a fortunate coincidence. It was in his opinion a remarkable example of development achieved by combining the entrepreneurial spirit of private enterprise with the paternalistic spirit of colonial government. Indeed he skates over the reasons for the establishment of the Gezira Scheme in a brief discussion of why the cotton manufacturers' pressure group in the

United Kingdom, the British Cotton Growers Association, wanted to establish cotton growing in the Sudan. He says:

The failure of the American and Egyptian crops in 1909 brought home to Lancashire Spinners the peril of relying on these two countries, especially for the longer and finer cotton then increasingly demanded for better quality yarns.<sup>6</sup>

And 'Abd al Rahim looks for his explanation in the general state of the cotton industry in the industrialized countries. He writes:

It is perhaps appropriate to add . . . that in the years prior to the first world war the British textile industry was facing rapidly increasing competition from Europe, the United States, and the Far East . . .<sup>7</sup>

In my opinion, however, the major factors in the establishment of the Gezira Scheme were not only the decline of the British cotton industry but also the requirements of the imperial grand strategy.

The Sudan was of utmost importance to the strategy of the British Empire. It formed an important link in the vision of a stretch of red on the map from the Cape to Cairo. Most importantly, it was an area which was essential to safeguarding the Suez Canal and the route to India. For these strategic reasons the Sudan had to be controlled by Britain, and was reconquered in 1898. The possibility of large-scale cotton cultivation had been realized as early as 1839,<sup>8</sup> and the idea was toyed with throughout the nineteenth century. However, the first real move in the direction of developing large scale cultivation came in 1904 when Leigh Hunt, an American, was granted a concession at Zeidab.<sup>9</sup> Faced with the necessity of administering a country as undeveloped as the Sudan in the early years of this century, it was essential that the British government should not be burdened by the expense. As in most colonies, the answer was to try and enable the Sudan to finance its own administration. This could be done by cotton cultivation. In the Sudan this would require enormous irrigation works. The British Government was unwilling to finance such an enterprise at first, because of the large loan (£3,000,000) which would have been required to build the dam and the canals. It was only under pressure from the Lancashire cotton industry, represented by the British Cotton Growing Association and the Lancashire M.P.s in Parliament, that the Scheme got under way.

As early as 1904 there was considerable anxiety in Lancashire about overseas competition. This was only symptomatic of a general trend. Whereas Lancashire had in the past had a virtual monopoly of textile manufacture, in the latter decades of the nineteenth century its position had been increasingly threatened by competition from the United States, Germany and even China. This competition

resulted in its gradually being pushed into the finer end of the market, and in the process into greater dependence on the fine long-staple cotton produced in Egypt. In Egypt itself, the oppression of the *fellah* was so great, the collection of taxes so vicious, at this time, that cotton yields were dropping as people left the land. This made the position of the Lancashire cotton industry that much more precarious. As its demands for fine cotton increased, so the yield decreased.

The affair came to a head in 1913 with the Parliamentary debate which enabled the loan to be given by the British Government to the Sudan Government. That the affair ever got to this legislative stage was largely through the efforts of the British Cotton Growing Association.<sup>10</sup> But the situation as it was presented by the cotton interests in the U.K. is best described in their own words. The participants in the debate set out the position clearly. One in particular put it in the following way:

Experiments have abundantly proved that the Sudan is not only the finest cotton growing country in the whole of the British Empire, but, what is more important, that it can grow that sort of cotton Lancashire requires. This is a subject of vital importance to the textile north, and it is essential that the millions engaged in and dependent on the cotton industry should no longer be at the mercy of bad seasons in India or North America. If the shortage of raw material is to be prevented Lancashire must be placed above the hazards of speculation and climate. This loan will develop the resources of the Sudan under British guidance in a way which will ensure the more permanent prosperity of the cotton industry.<sup>11</sup>

And Bonar Law, elected by a Lancashire constituency, said:

. . . if this experiment succeeds it is of direct advantage to the United Kingdom itself, for certainly, in my opinion, the great cotton industry, the greatest cotton industry in this country, can never be in the position in which we should like to see it so long as it is dependent entirely or almost entirely, for its supplies of raw material on foreign countries.<sup>12</sup>

But the clearest exposition of the economic importance of cotton growing came from another M.P., Mr. R.B. Denniss, elected by Oldham, a constituency right in the middle of that area of solid brick mills and mean houses to the north and east of Manchester. Denniss's grasp of the situation was so clear that it merits some extensive quotation. He said:

The Lancashire cotton trade has changed very much of later years. Foreign competition, India, Japan, China itself, have filched from it the greater part of what is called technically its coarse trade. Every year the weaving and spinning of the finer cotton cloths has been increasing, until at the present time . . . there are over 13,000,000 spindles spinning fine cotton to 35,000,000 spinning coarse American cotton. The 13,000,000

spindles are spinning Egyptian cotton, and the 35,000,000 spindles are spinning principally American cotton. The proportion between the two is constantly increasing in the direction of more spindles for spinning Egyptian cotton. The spinning of beautiful fine cloths and fabrics made every year and numbered for export is increasing. Lancashire is maintaining her preponderance in the markets of the world on account of the very fine quality of the cloths and yarns that she turns out. The falling off . . . of the crop in Egypt . . . is very serious for that branch of the trade . . .<sup>13</sup>

. . . while the world's spindles are increasing enormously the raw cotton supply is not increasing in any such proportion, and therefore we may find ourselves in great difficulty . . . it is necessary for us to increase our supply in the Soudan.<sup>14</sup>

The weight of concern exhibited for the future of a cotton industry in decline requires little comment. Whether or not there was actually a *shortage* of cotton has been queried; however, there was certainly a crisis in the textile industry, and it was the combination of this crisis with the needs of imperial strategy which induced Parliament to extend the loan to the Sudan, a loan which one M.P. was moved to describe as "a bounty for Lancashire".<sup>15</sup> After the interruption caused by the 1914-18 war, the Gezira Scheme got under way, and the dam at Sennar was completed in 1925. From then onwards, the irrigated area has been progressively extended. By 1950, when the SPS/KCC handed over control to the Sudan Gezira Board (a government corporation), the total area under irrigation was 1,141,139 *feddans*.<sup>16</sup> In 1957 work was started on the Managil Extension (figure 2), and this has increased the irrigated area by 807,139 *feddans*. In 1966 another dam was completed at Al Roseires on the Blue Nile, thus increasing the water available to the Scheme. And in 1972 the area was still being extended.

#### The organization of the Gezira Scheme

It is very difficult to discuss an undertaking as complex as the Gezira Scheme — complex both in human and technical terms — without being familiar with a broad range of basic data. In the interests of brevity, detailed historical and ethnographic data about the Gezira people is not presented here. This will be introduced where it is relevant in the discussion which follows. What is unavoidable at this stage is a general description of the way in which the Gezira Scheme is organized and some of its technical and agronomic features.<sup>17</sup>

The Gezira constitutes 12 per cent of the total area cultivated in the Sudan. It produces 75 per cent of the country's long staple cotton. In the past few years, between 30 per cent and 40 per cent of world production of extra long staple cotton has come from the Sudan (although not wholly from the Gezira). The main competitors

are Egypt which produces about 50 per cent of the total, Peru about 7 per cent, and the U.S.A. about 4 per cent. The two main types of cotton which are grown in the Gezira are Sakellarides and Lambert, although there is now a move towards the adoption of a local adaptation of the Lambert strain. This is called Barakat.

Although cotton is obviously the main crop which is grown in the Gezira, others are also cultivated. *Dura* is the staple food crop of the people. Although I have referred to it above as sorghum vulgare, there are many varieties.<sup>18</sup> Milled and processed it is turned into edible form as a type of bread called *kisra*. *Lubia* (*dolichos lablab*) is grown as an animal fodder, and in times of hardship the beans it produces are eaten by the people. Ground nuts (*arachis hypogaea*) have been grown increasingly of recent years, as has wheat. Indeed, the Gezira area now produces as much as 50 per cent of the Sudan's wheat and 15 per cent of the total groundnut production. Another crop which is grown, to a lesser extent, is Phillippesara, intended as animal fodder. Within the Scheme there are also vegetable gardens which are intended to improve the diet of the people.

The proportion of the land under each crop varies slightly from year to year, but the following figures (1968-69 season) present a pretty typical picture:<sup>19</sup>

Crop	Feddans
Cotton	592,675
Dura	322,587
Lubia	126,454
Groundnuts	157,588
Wheat	163,880
Veg. gardens	38,646
Phillipesara	10,132

In this example, 1,411,971 *feddans*, or about 64 per cent, of the total area was cropped. The reason for this is that each year large expanses are left fallow.

Clearly, in a farming operation of this magnitude, a rotation system is necessary. It is necessary for two reasons. First of all to conserve soil fertility, and secondly in order to prevent the carry-over of diseases and pests from one year to the next. For these reasons various types of rotation system have been experimented with during the history of the Scheme. Today two basic rotations are used. In the main Gezira an eight course system is used. This means that the cycle extends over eight years. Under this regime over 50 per cent of the land is left fallow in any one year.

The entire area is divided up into 90 *feddan* fields known as 'numbers' and each of these fields will be under different crops in the following succession over eight years:

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8
cotton	fallow	dura	lubia/ fallow	fallow	cotton	fallow	fallow

*Lubia* is grown because it fixes nitrogen in the soil, as well as being of use to the people. However, it is increasingly being replaced by groundnuts. Some of the fallow periods are also being replaced by wheat. This intensification is vastly increasing the productivity of the Gezira Scheme.

In the Managil Extension, a six course rotation is used:

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
cotton	lubia	dura	fallow	cotton	fallow

Once again, as in the case of the Gezira Main, *lubia* is now being replaced by groundnuts, and some of the fallow phases by wheat. Cropping is already more intensive in the Managil Extension, about 67 per cent of the area being utilized each year.<sup>20</sup>

Within the Gezira Scheme, the land is effectively owned by the Government. Formally speaking, it is leased by the Government at an annual rental of 10 piastres (pt) per *feddans*.<sup>21</sup> It is this absolute control of the land by the Government, a feature of the Scheme since its inception, which has been a contributory factor to its success. Because of this arrangement a tenant cannot mortgage his land, and this avoids subdivision and rural impoverishment. Moreover, the Government control of the land area has permitted the kind of large-scale, long-term planning which has been necessary. For reasons peculiar to the history of the area, it was relatively easy for the Sudan Government, after the reconquest, to organize such a system. The Gezira had been severely affected by the general disruption associated with the collapse of the Mahdist state in 1898. This had resulted in a very confused system of land tenure in the area. In an attempt to straighten out the situation, the Sudan Government passed a Titles to Land Ordinance in 1899. Under this ordinance possession or rent of land for five years prior to the date of a claim gave absolute title. And, in the absence of any superior claim, evidence of continuous possession since the reconquest gave an effective title to land. In the following decade severe restrictions were placed on the sale of land, in order to prevent its transfer to non-Sudanese speculators, such as Greeks and Egyptians. By 1912, a Proclamation had been passed which refused permission for sales of land in the Gezira "except for such sales to other natives of the same locality as had hitherto been customary and were deemed by the Governor to be proper".<sup>22</sup> These policies had important repercussions. In the first place, land holders in the Gezira were

largely beneficiaries of the Sudan Government, and could perhaps be expected to be well disposed to it. Secondly, although land was a marketable commodity, it was so only to a very limited degree. Thus, when the Government decided to lease the land for canalization, and offered the excellent unimproved rent of 10 pt. per *feddans*, there was very little opposition.

Under the irrigation regime from 1925 onwards, inhabitants of the area became 'tenants', allocated a holding of land to be worked on an annual basis under the direction of the S.P.S. The tenancies were allocated first of all to those who had proprietary rights. But as they were not allowed to occupy more than they could work with their families, few men received more than two thirty *feddans* units. Each of these was to be cultivated each year, ten *feddans* under cotton, 2½ *feddans* under *lubia*, 2½ under *dura* and fifteen left fallow. When a landowner had received his allocation, if he had held a greater area of land than this, he was allowed to nominate members of his family (including ex-slaves) to occupy tenancies. When there were no more nominees, the tenancies were allocated to other villagers who wanted to cultivate. Although the tenancy is occupied, strictly speaking, on a year-to-year basis, evictions have always been small in number. And it is true to say that tenancies can effectively be inherited by a man's sons, daughters or wives.

Today the rotation system is different from that which was practised in the early days. It is, as mentioned above, an eight course rotation in the Main Gezira, and a six course one in the Managil Extension. The eight course rotation was introduced in 1934 as a means of combating plant diseases. Its introduction necessitated a change in the size of the basic holding. This was increased from 30 *feddans* to 40 *feddans*. This system allows for more fallow to be included. However, as only 10 *feddans* are under cotton at one time, I shall refer in this study to a '10 *feddans* holding', a '5 *feddans* holding', a '2½ *feddans* holding' — meaning a whole, half or a quarter tenancy. I shall also have occasion to refer to a 20 *feddans* holding, meaning 20 *feddans* under cotton, but a total area of 80 *feddans*. I shall also on occasion refer to a tenancy as a *howasha*, which is what the people call it.

In the Managil Extension, the standard holding for a tenant is smaller than in the Main Gezira. As we have already seen, the cropping pattern is more intensive. This new system was introduced in the Managil Extension to increase the number of people who could take up tenancies. In the Extension, a standard tenancy, a standard *howasha*, is 15 *feddans*.

Within this rotation and landholding system, the annual agricultural cycle goes through the following pattern:

Month	Agricultural Operation
July	<i>Dura</i> and groundnuts are sown towards the end of the month, normally coinciding with the first rains.
August	Cotton is sown.
September	The cotton is thinned and weeded. <i>Lubia</i> is sown, and where vegetable gardens are included in the rotation, these are established.
October	The cotton and <i>dura</i> are weeded, spraying against pests begins.
November	Ploughing and preparation of next season's cotton land (at present fallow) is commenced. Wheat is grown where it is included in the rotation.
December	The <i>dura</i> is harvested, left in the field to dry and then taken to the village. Some groundnuts are ready for harvest. Cotton begins to ripen, bolls appear on bushes and preparations are made to pick it. Some picking takes place towards the end of the month.
January	Start of cotton picking. <i>Lubia</i> is ready for grazing.
February	Continuation of cotton picking.
March	Continuation of cotton picking. Wheat harvest. Vegetable gardens finish yielding.
April	End of cotton picking. Towards the end of the month the animals are let into the cotton fields to graze. Beginning of pulling out of cotton bushes. Each bush is pulled out by hand. They are then made into heaps and burned. This is a measure against disease and pests.
May	Continuation of pulling out and burning of cotton bushes.
June	All debris from the cotton is brushed into heaps and burned.

This entire cycle is based on the availability of irrigation water, and it is to a description of the irrigation that we shall now turn.

The hub of the Gezira Scheme and the Managil Extension is the dam at Sennar on the Blue Nile, and to a lesser extent the dam at Al Roseires. The water flows through the Main Canal, northwards from Sennar and parallel with the Blue Nile. At intervals, water is taken off from the Main Canal, and conducted into a Major Canal. Each of these in turn feeds a set of Minor Canals, and each Minor

Canal provides water for the fields where cultivation is carried on. A Minor Canal feeds water to a set of 90 *feddan* fields (known as 'numbers'). The water is taken off from the Minor Canal through a channel called an *abu 'ishreen*, which feeds a whole 'number'. And the tenancies within a 'number' are fed by smaller channels called *abu sitta* (figure 3). Within each 10, 5 or 2½ *feddan* plot there is another system of channels.

For administrative purposes the land area of the Gezira Scheme is divided into a number of Groups and Blocks. There are six groups in the Main Gezira and six in the Managil Extension. Each of these is divided into from six to thirteen blocks. This arrangement structures the administration of the Scheme, and is discussed in some detail in a later chapter. Within a block the farming area is divided into 90 *feddan* numbers. Each number is in turn divided into plots worked by individual tenants. Because of the rotation system, a tenant will not have all his crops in the same number. Rather he will have his cotton in one number, along with other tenants, so that the number will be entirely under cotton. His *dura* will be in another number, his *lubia* in another and so on. Depending on whether he is operating in a six or eight year rotation he will therefore cultivate his cotton and other crops in eight or six different numbers over the time of the complete cycle. This system of one crop per field (or at most two) permits the use of large scale tractor ploughing, aerial spraying and, of course, the irrigation programme itself.

The water comes to the field from the dam on the basis of a calculation of the total requirements of the crops at any particular time. Calculations are made on a block by block basis. These are transformed into indents for water. These indents are transmitted to the Divisional Engineer. The Divisional Engineer does not work for the Sudan Gezira Board (S.G.B.). He is employed by the Ministry of Irrigation. This ministry is responsible for the cleaning and maintenance of all waterworks from the dam to the Minor Canals. There are four Divisional Engineers in the Gezira Main Scheme and two in the Managil Extension. When these men have the total of indents for their areas, they pass on the request to Sennar. Here the total volume of water required for the entire Scheme is calculated and then released into the Main Canal. The water can take as much as four days to travel from the dam to the northernmost parts of the Scheme. Its flow is controllable after it has left the dam by means of a system of locks, water gates and overflow channels. These latter are of importance during the rainy season when a sudden fall of rain coming after a block indent has been made, combining with the irrigation water, could well wash out the young seedlings. This can be avoided by releasing some of the irrigation water through the

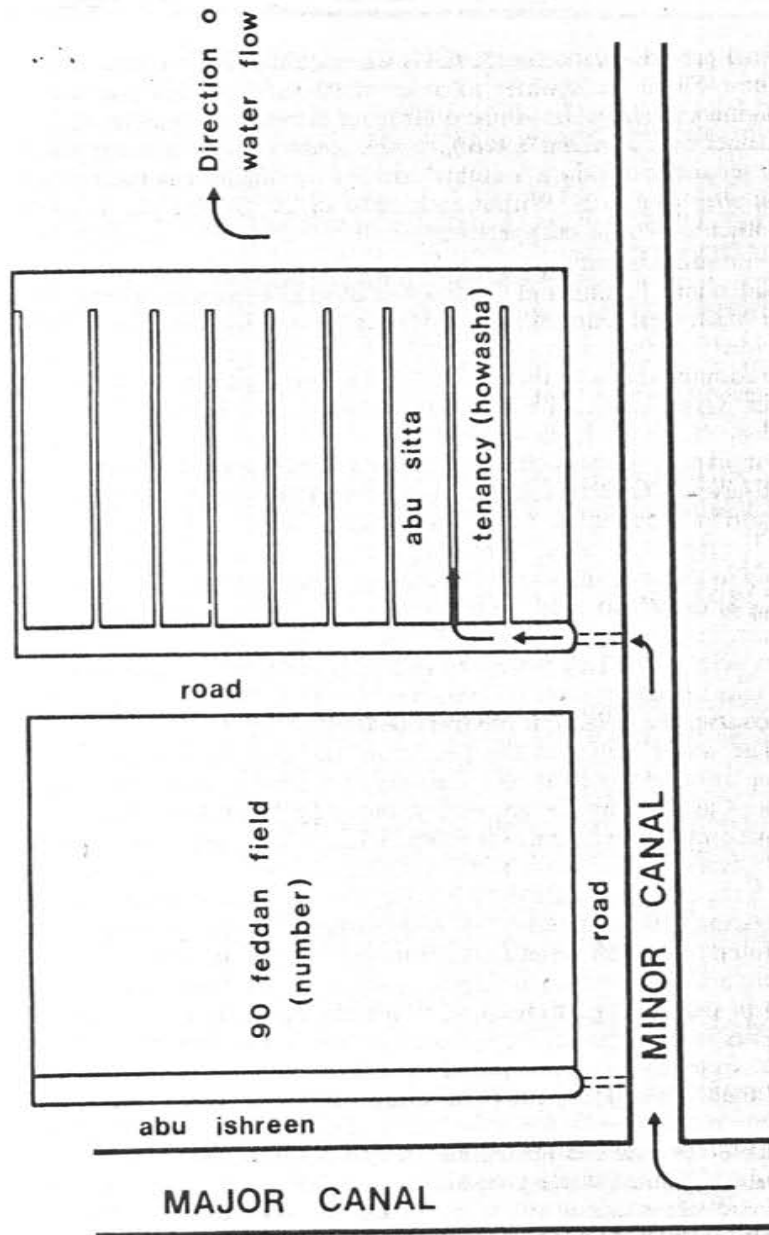


FIGURE 3  
Detail of the Gezira irrigation system

drainage system on to land which is fallow that season. This practice has its disadvantages, as water is often released on to roads, making travelling extremely difficult and hazardous during the rainy season.

The *dura*, *lubia*, groundnuts and wheat crops belong entirely to the tenant who cultivates them. He pays no tax or water rate out of the proceeds. The cotton, however, is a shared crop. The proceeds from this are shared between the tenants (on an individual basis), the S.G.B. and the Government, after costs which have been charged to their Joint Account have been deducted from the gross proceeds of the crop. There are various charges on the Joint Account. These include the costs of seeds, fertilizers, spraying, transporting the cotton to the ginneries and to Port Sudan for shipment, advances to tenants for picking the cotton, storage, and insurance. In recent years the cost of ploughing cotton land has been charged to the Joint Account, thus relieving the tenants of this cost, for which they were previously wholly responsible.

The net proceeds of the sale of cotton and the cotton seed are divided as follows:

36%	to the Government;
50%	to the Tenants. This includes 2% which is used to finance the Tenants' Reserve Fund. The T.R.F. is an equalization fund, maintained at a maximum level of £25.00 per <i>feddan</i> sown under cotton;
2%	to the Local Government Councils within the irrigated area. This contributes to health and education facilities in the region;
2%	to the Social Development Department of the Sudan Gezira Board. This department, established in 1950, is concerned with the provision of good water supplies, adult education and research into the needs of the people in the Scheme;
10%	to the S.G.B. to cover the costs of administration.

Each of these payments is made for a liability. The Government, which, as has been noted, effectively controls the land and the irrigation network, is paid for supplying water and other services. The Gezira Board administers the Scheme and provides the central management. It also organizes ginning, storage and transport as well as agricultural research. The tenants cultivate the cotton; they sow, clean, thin and pick the crop, handing it to the S.G.B. at various collecting stations. How this partnership works out in practice is one of the central questions to be examined in this book.

*Gezira cotton and the world market*

Like all underdeveloped countries, the Sudanese economy exhibits an extreme dependence on the agricultural as opposed to the industrial sector. Another characteristic of the underdeveloped economy is the concentration of its trading partners. In 1970 the four main importers of Sudanese products were the U.S.S.R., India, West Germany and Italy. They took (in the same order) 16.29 per cent, 10.27 per cent, 16.58 per cent and 10.74 per cent of total Sudanese exports.<sup>23</sup> So, in 1970, four countries took 47.68 per cent of all Sudanese exports. However, if this concentration of trading partners is startling (and it is by no means unusual), the concentration of nations from which the Sudan imports goods is more startling. In 1970, 20.12 per cent of all Sudanese imports came from the United Kingdom; India, the next largest source of imports, was the source of 13.29 per cent.<sup>24</sup> The exports are largely of cotton and other agricultural and animal products. The three largest imports were machinery (£S 11.5 m), cotton textiles (£S 8.67 m), and sugar (£S 5.74 m).<sup>25</sup> So, after almost fifty years of success with the Gezira Scheme, the Sudan remains an exporter of primary products and an importer of manufactured products as well as of certain basic food products. The total imports of all foods — wheat, flour, sugar, coffee, tea and others — were valued at £m 18.14 in 1970.<sup>26</sup> This was approximately 18 per cent of total imports.

This kind of dependence upon cotton monoculture places the Sudan in a precarious economic position in terms of its trading (not to say political) relations with other countries. The kind of extra long staple cotton which is grown in the Sudan is increasingly facing competition from man-made fibres, although this may change as the price of artificial fibres rises in response to increased oil prices. As well as this, in some of the main markets (U.K., France, West Germany, India and Italy) it has been found to have a relatively high price elasticity, as well as a high cross price elasticity with other similar varieties of cotton.<sup>27</sup> In other words, if the price rises, buyers will cease to buy or will purchase similar varieties at a lower cost. Thus the market for Sudanese cotton approximates to an oligopolistic situation. "It is a case of competition among few producers who produce almost the same product".<sup>28</sup> Tayfour states very clearly that the price for Sudanese cotton is determined by external buyers. It is not determined by the internal costs of production. On the whole the price tends to be set largely by the price of Egyptian cotton. On two occasions when the Sudan tried to hold out for a higher price, large stocks of cotton remained unsold, and were finally sold at a lower price.<sup>29</sup> It is quite obvious, then, that the Gezira Scheme, created in the interests of the Lancashire cotton industry, still stands in a dependence relationship to other

economies. Created as an appendage to Lancashire, it continues to operate as a focus of the dependent economy of the Sudan.

*The Gezira: Dependence and Development*

To anyone familiar with some other rural areas in Africa, the people of the Gezira would appear relatively privileged and well-off. They are, after all, assured of an annual income. They consume quite large amounts of what might be called luxury goods, and their diet contains considerable amounts of protein. Indeed, the Scheme is frequently presented as one of the major success stories of "development". At a time when millions of people in climatically similar regions of Africa, in the Sahel, are dying of starvation and experiencing total collapse of their environment (to some extent it must be remarked as a result of misguided policies by governments, both colonial and independent), the Gezira does indeed appear to be a major success story. It is, however, the argument of this book that in broader historical terms, and in terms of a wider understanding, the Scheme cannot really be considered as a successful example of development. On the contrary, it is stagnant, holds little hope of continually rising living standards for its inhabitants, and, as a major component of the Sudanese economy, it exposes that economy, and thus the society, to considerable potential and actual instability.

"Development" is not a concept which can be used to describe the style of life of individuals, small communities, regions or whole countries. That use of the term derives from the naive formulations of development theory characteristic of the 1950s and 1960s which dealt essentially in terms of indices of wealth whether of calorific intake, GNP or income *per capita*. This type of definition depends largely on an implicit summary of some features of western capitalist societies, where it has come to mean the widening of capitalist relations of production, with the concomitant widening of the wage labour base of the society. The purpose here is not to attempt any definition of the term "development". Such an exercise would be logically futile, for a social scientist cannot predict; he can only make very tenuous statements as to trends which seem apparent from a rigorous analysis of an existing state of affairs. The manner in which this state of affairs is described obviously determines the tendencies which can be identified, and may also affect the course of historical change, sociology and economics having as much to do with the formation of consciousness as with quasi-positivist fact-gathering. If social science prediction is limited to an activity akin to guessing what comes next in a conversation, then it is essential that not only the language must be understood but also the context of the language. At present we understand the language partially, but have almost totally ignored the context, and therefore have failed to



understand the meaning. This is certainly the case with theories which purport to deal with underdeveloped countries. Attempts at prediction were rife in the 1950s and 1960s,<sup>30</sup> but they concerned themselves with the collection of empirical data about individual "societies" and frequently ignored that vital feature of the concept of "development" — that it is a relative term. It is relative not only to some mythical future constructed from a mythical past of Europe,<sup>31</sup> but also in a contemporary sense: the relations between nations and societies in the world today.

The decades after the Second World War were a period when considerable attention was given to the so-called problems of the Third World societies, considered as though they were independent of the First and Second Worlds. Throughout this period, a process of growing understanding — understanding which has often been nudged onwards by events — can be traced. From the Eurocentric theorizing characteristic of the 1940s and 1950s, emphasizing the cultural blocks to development (stemming clearly from the ideology of colonialism and the experience of imperial administration), through the construction of artificial history, as for example in the work of W.W. Rostow, it has been very difficult to disentangle the contemporary elements in the analysis from the ethnocentric assumptions as to what ought to be inevitable and desirable in terms of social, economic and political "development".

The very term "development" contains within itself an entire range of assumptions which are based on the European heritage of the Enlightenment and a faith in the values of the West. This tradition, developed in the late eighteenth and early nineteenth centuries, still influences such thinking, whether it be that of the established Western sociology and economics or of established Soviet social thought. The emphases in both traditions are inevitably "progressiste" described in terms of increased material consumption, higher standards of living, greater centralization and scale, and the development of more technologically sophisticated and powerful state apparatus.

In the late 1960s it was becoming increasingly apparent that both conventional economics and conventional sociology were theoretically inadequate for the task of analysis which was required for understanding the events occurring in the Third World, the events which formed the constraints on the life-chances of the majority of mankind. Although Baran<sup>32</sup> and Clairmonte<sup>33</sup> had tackled the problem from within the Marxist tradition, it was the publication of the Club of Rome studies, for example the "Limits to Growth",<sup>34</sup> which attacked the "progressiste" tradition from within the bastions of capitalism. Whatever the purpose of the Club of Rome in financing such a study, the fact remained that no longer

could the world be conceptualized as a number of discrete societies; it had to be viewed as an interrelated system. No longer could the physical and environmental resources of that system be assumed to be infinite. Whatever the inaccuracies of the "Limits to Growth" assumptions,<sup>35</sup> the explicit message of the model was one of finite physical possibility, and thus of the impossibility of infinitely continuing "growth". The use of oil reserves as a political bargaining counter made the meaning of the model clear.

Parallel with these developments, refinements within the Marxist tradition also took place. Re-statements of the theory of imperialism, deriving more from Luxemburg<sup>36</sup> than from Lenin,<sup>37</sup> first in the attenuated form of the Latin American "dependencia" school, and then in the stronger form of the associated thinker, Andre Gunder Frank,<sup>38</sup> presented possibilities for understanding the historical and contemporary features of imperialism which the Club of Rome studies presented through the medium of systems analysis. From another direction, the work of economic anthropologists in France, such as Meillassoux,<sup>39</sup> began to indicate that so-called "primitive societies" could not be understood in isolation from the broader world-historical context. The persistence of pre-capitalist modes of economic and social production had to be explained in terms of their relationship to the society and economy of a world which had been unified by the expansion of European capitalist industrial production. *Their* internal operations as systems of production could only be analysed satisfactorily in terms of their functions within the broader system. This in turn raised questions of an historical nature, questions as to the nature of the development of Western capitalism.

Although the impetus came from these varied and somewhat disparate directions, the elements were present for the appearance of a new set of hypotheses, within which many features of Third World societies could be explained. In other words, the broad structural context was supplied within which sense could be made of the internal operation of Third World societies. No longer, for example, is it adequate to talk of "cultural blocks" to development; rather, these "blocks" must be understood as perceptual systems which serve to explain, for the actors, the structural constraints on their life chances. These structural constraints, in turn, have to be explained by reference to a broader set of structural social and economic relations. Thus, the dominant ideology of a society has to be seen in terms of its legitimation of a particular organization of production, and the persistence and change of that mode of production has to be explained by reference to its relationship to other modes of production. The present study attempts to work within this framework.

Thus, the development and present dynamic of the Gezira Scheme at all levels, from the organization of the administration to the organization of credit and debt relationships among the villagers, has to be understood in terms of this perspective. These phenomena, and the Scheme in general, considered as a specific mode of production, cannot be considered without an awareness of its history in relation to the Lancashire textile industry, and the contemporary relationships between the Sudan and the purchasers of the cotton it produces. The weight of its historical origins still bears heavily on the present-day operation of the Gezira. The day-to-day life of its inhabitants is constantly affected and formed in response to the overall dependent relationship between the Sudan and other economies.

#### *Dependency Theory, Origins and Development*

The explicit switch from an analysis which was intensely "progressiste" occurred in the face of failure to progress. Faced with experience which contradicts theory, one has to construct alternative explanations. The development of the "dependencia" school in Latin America took place in just such a situation of disillusionment in the face of reality. It became apparent in the Latin American situation that the sociological and economic myths derived from Western capitalist development were increasingly inappropriate as descriptions which might enable analysts to guess what was coming next in the historical sentence. Dependency theory was developed by economists working in the Economic Commission for Latin America (E.C.L.A.) during the period after World War Two. The problems which led them to develop the theory arose from the lack of fit between the paradigm provided by established economic theory and the economic experience of Latin America during the post-war period. Established theory suggested the following development scenario for Latin America:

- i A general process of industrialization led by increasing levels of import substitution;
- ii The creation of a locally controlled economy which would increasingly be dependent on foreign trade;
- iii A decline in the power of traditional oligarchies, leading to a process of political democratization;
- iv As a consequence of these changes, a more equal distribution of income and greater mass participation in the operation of Latin American society;
- v The appearance of development-oriented states which would give added impetus to the processes which were under way;

vi An eventual change of consciousness and the emergence of totally independent Latin American nationalism.

These processes did not occur. "By the 1960s it had become obvious that this model was in crisis. Import substitution and industrialization had not lessened dependence. Income distribution seemed to be growing more unequal, and a large segment of the population remained marginal. The feeling of cultural alienation was widespread, and Latin American societies still continued divided, unstable and unsure of themselves. National policies for industrialization had succumbed to the multi-national corporations, and industrialization in Latin America was being undertaken by foreign investors. And, finally, the military had extended its power in many Latin American countries. Clearly, this failure of national development needed to be explained. The search for an explanation resulted in the theory of dependency."<sup>40</sup> The basic hypothesis of this theory, which has a number of variants, is not new: this has to be emphasized. The notion that dependence is a conditioning situation in which the economies of one group of countries are conditioned by the development and expansion of others is hardly novel. Marxist thinkers always emphasized the role of imperialism. The new departure in dependency theory is the link it provides from an understanding of the world economic system to the further understanding of the internal structure of the particular socio-economic systems. Thus dependency in terms of international relationships, constitutes a conditioning situation within which the operation of underdeveloped societies can be understood.

#### *Frank's Position*

The work of Andre Gundar Frank stems very largely from the Economic Commission for Latin America dependency tradition.<sup>41</sup> It differs, however, in a number of ways. Basically, Frank proposes three hypotheses which constitute attempts to specify the nature of the dependent relationship between Latin America and Europe, and by extension between all developed and dependent economies. Starting from the assumption that analysis must be realistic and treat underdevelopment not as a descriptive term, but as a relational term (as with the Marxist use of the term "class"), Frank tries to demonstrate the nature of the relationship between developed and dependent societies. He is here presenting a hypothesis at three levels. First of all at the historical level, where he attempts to demonstrate the historical process which on the one hand produced dependency and on the other the development of Western capitalism. Secondly, he is presenting hypotheses concerned with the

persistence of the dependent relationships. Thirdly, he is concerned with the question of political strategy which follows from this type of analysis, for his analysis breaks most sharply with the Economic Commission for Latin America tradition where he states, in relation to Chile, that "... if the innate contradictions of capitalism continue to operate ... then no kind of capitalist development, be it toward the outside or toward the inside, can save Chile from underdevelopment. Indeed, if dependent and underdeveloped development towards the outside has been ingrained in the Chilean economy since the conquest itself, then the proposed option for independent national capitalist development towards the inside did not even exist in the nineteenth century; much less does it exist in reality today."<sup>42</sup>

The first contradiction which he identifies (and this becomes his first hypothesis) is that of the contradiction of expropriation/appropriation of economic surpluses. Put simply, what Frank means here is that a proportion of the total product of a society which might be used to improve and advance the standard of living of the people is instead realized in other spheres. It may be remitted as profit by a multi-national firm, the difference between producer prices and world prices may be appropriated by the state personnel and then spent on imported consumer goods, or the price paid to labour may be vastly below the price the commodity realizes when sold in the world commodity market. This continuing process, "the non-realization and unavailability for investment of potential surplus is due essentially to the monopoly structure of capitalism".<sup>43</sup> The point which Frank is making here is the simple, yet extremely powerful, one that within capitalism as a mode of production there is a conflict of interest between labour and capital, and within capitalism as a *system* of production there is a conflict of interest between those societies largely dependent on primary production from cheap labour and those who process these commodities through the use of large quantities of capital. It is within this framework that the introduction and persistence of cotton cultivation in the Sudan must be understood.

However, this contradiction is analysed in more detail in the form of the second hypothesis. This is that the process of appropriation does not consist of geographically and economically discrete blocks of appropriators and appropriated. Rather, there is a *system* of socio-economic links through which the process occurs. Capitalism is essentially a centralizing system of production characterized by increasing rationalization and bureaucratization. It has to be seen as a whole chain of metropolis-satellite relations through which surplus is extracted by the central capitalist metropolis. Thus, "this contradictory metropolitan centre-peripheral satellite relationship,

like the process of surplus expropriation-appropriation, runs through the entire world capitalist system in chain-like fashion from its uppermost metropolitan world centre, through each of the various national, regional and local enterprise centres ... once a country or a people is converted into the satellite of an external capitalist metropolis, the exploitative metropolis-satellite structure quickly comes to organize and dominate the domestic and economic, political and social life of that people,"<sup>44</sup> "the regional, local or sectoral metropolis of the satellite countries find the limitation on their development multiplied by a capitalist structure which renders them dependent on a whole chain of metropolises as above."<sup>45</sup>

Thus the relation between the Sudan and the purchasers of its cotton is not an absolutely dichotomous one. Rather it consists of a chain of social and economic relationships, of regional, local and sectoral metropolis-satellite relations. The tenants who work the Scheme appropriate surplus from the labourers whom they employ, they in turn are appropriated by the merchants who lend them money and by the officials who run the Sudan Gezira Board, and so on up the chain to the manufacturers of the cotton shirt sold in a boutique in London, New York or, for that matter, Delhi.

Frank's third thesis is concerned with the contradiction between the appearance of change and the reality of continuity. Thus, although the Sudan is no longer a colonial country, and the Gezira Scheme is no longer run by a British commercial syndicate, the underlying structure of dependence and underdevelopment is not altered. Similarly, as described in the present study, at the level of one village the traditional elite of the village have altered their basis of control but have, in the main, been enabled to remain dominant despite the apparently radical changes associated with the development of the Scheme. The overall implication of this hypothesis is that, despite change, continuation of dependence and underdevelopment is inevitable, because of the imperative for monopolization and centralization within capitalism.

#### *The Problems with Frank's Position*

Although Frank's development of dependency theory forms the explanatory framework of the present study, it is not without problems. It is not my purpose here to enter into an extended discussion of these. This has been done by Laclau<sup>46</sup> and more recently by O'Brien and Booth.<sup>47</sup> Rather, the intention here is to identify the problems in relation to two areas of discussion. The first concerns the refinement of the paradigm so that it enables a more detailed and coherent understanding of the processes at work in the

Gezira Scheme. The second concerns the implications of Frank's work for the more general consideration of development theory with which this section began.

Laclau<sup>48</sup> has argued that Frank's discussion of Latin America is seriously flawed in so far as it uses the concept of the capitalist *system* of production where the term capitalist *mode* of production is really appropriate. This leads to a crudeness of analysis in which any society or social formation which is involved in *exchanges* with capitalist societies, and in which there is a contradiction of interests between immediate producers and expropriators, is dubbed "capitalist". Laclau suggests that if the *latifundia* in Latin America are capitalist, as Frank suggests, then the term ceases to have any meaning. He further argues that Frank's ideological perspective obliges him deliberately to omit the relations of production from his definition of capitalism. And, indeed, one often suspects with Frank that his political aspirations detract from the clarity of his analysis, that the revolution must be made with whatever oppressed human material is available, and that above all the doctrinaire belief in Marxist support for a bourgeois democratic revolution is wrong. His reasons for suggesting this are based on a view that it is possible that each colonial and neo-colonial structure must be attacked differently. Thus, "the socialist revolutions have taken place in the weakest links of the colonial structure of the imperialist system (and not where the industrial proletariat has seen its greatest development). It is necessary to study the interpenetration of the class structure and the colonial structure in order to find the weakest points in the continental, national, regional and local levels".<sup>49</sup>

It is paradoxical that the real implication of Frank's position in this quotation is that analysis must be focussed on the level of *modes* of production and their articulation, not solely on the system of capitalist exchange. In fact, Frank's analysis of the capitalist system of exchange — with the rather vague notions of metropolis and satellite, which are all geographical terms rather than rigorous socio-economic ones — remains on the level of superstructural analysis. Whilst using the terms to illustrate the direction of surplus appropriation/expropriation, the framework fails to show the mechanisms at work. His use of the term "class" demonstrates this because it is restricted largely to the description of any two groups, one of which is the producer of surplus and the other the expropriator.

In fact, if Frank wants to analyse the revolutionary potential in any situation, it is more logical that he employs the framework of the mode of production, and the relationship between modes of production within the capitalist system. It is at this level of analysis that both structure and the structural weaknesses will become most

apparent. Equally, from the point of view of more thoroughgoing analysis in general, this is the central focus.

By emphasizing the capitalist system perspective, Frank leaves a substantial area unexplained. The use of the analytical terms "metropolis" and "satellite" leads to a superficial analysis, or, as Booth says: "... the collapsing of social relations and spatial relations into the same vocabulary denotes a lack of concreteness or, in other words, that a substantial residue remains to be properly explained."<sup>50</sup> This is what I shall call the problems of reproduction. The statement that the relationship of underdevelopment involves a whole chain of metropolises and satellites provides us with a sketch of the paradigm rather than a directive for the identification of research problems, whether the result be used for purposes of academic reflection or political strategy. The really interesting analysis, from both points of view, takes place at the level of understanding of the social and economic processes associated with the persistence of the relationship of dependency between metropolis and satellite at all levels. Thus, Frank's hypothesis concerning continuity and change becomes a mechanism for identifying research problems. This involves viewing the relationship, not as though it were a conveyor belt transporting surplus from place to place, but rather as though it were a conveyor belt which reproduces itself, which persists through time and is able to patch up the conflicts of interest which threatened its continued operation as an extractor of surplus from the satellite regions. Thus, at all levels, national, regional and sectoral, actors and groups of actors derive benefits from the structures of dependency which encourage them to continue in their roles, and thus enable the perpetuation of the overall dependency relationship.

In the case of the present study, then, we cannot state that the Gezira Scheme is a capitalist mode of production. Certainly it is a vital element in a dependent economy, and therefore can be said to form a part of the capitalist system of production. However, it does not itself constitute a capitalist system of production; it is not characterized by the exclusive use of free wage-labour. Rather, it consists of a whole range of productive relationships, some of which are very close to free wage-labour, and others of which are quite far removed from this form of organization. The problem becomes one of specifying the distinctive features of the Gezira Scheme, and trying to determine how it continues through time despite the various contradictions which it encompasses. In other words, how is continuity possible in what is apparently a situation of radical social change?

The second problem area which I want to discuss in relation to Frank's work is concerned with the much more general discussion of

the notion of "development" with which we began. The political prescriptions which are both implicit and explicit within the Frankian paradigm do not necessarily follow from his analysis. Basically, he comes to three broad conclusions with regard to political strategy. These are:

- (1) Development of the world's underdeveloped countries can only be achieved by withdrawal from the world system;
- (2) The only mechanism which will enable this to happen is a socialist armed revolution;
- (3) The revolution will be based on that social category or categories which are the weakest link in the chain of underdevelopment and dependence.

There is always an uncomfortable dialogue between the researcher's beliefs and aspirations about and for the world, and what his research shows him the world is like. It is often very difficult to identify the precise nature of this subtle dialectic, the dialectic of conscience with observation. Nowhere, perhaps, is this more difficult than in radical social science. There is always a tendency to let the research act itself betray the tenets of rigour and analysis which should form part of that tradition. It is essential that observations feed back to strengthen conceptual categories and theoretical systems. In the case of Andre Gundar Frank, the impression is received that the purely political consciousness is in danger of swamping the theoretical consciousness. This, I suggest, is the position which Frank has indeed reached. The implication of Frank's development of dependency theory is not revolutionary, or, if it is, it seems very likely that it implies a series of revolutions which fall victim to the coercive strength of the state and of the metropolis.

There are three possible strategies of revolution which can be developed from the Frankian standpoint. They are based on the assumption that capitalism so encapsulates the economies and societies of the Third World that they have no conceivable opportunity of breaking out of the net, except by means of revolution, and then by a policy of either isolation or alliance with the socialist societies. The revolution can be conceived as occurring in the underdeveloped society at that point or points where the links of dependence are weakest. Or it can be seen as occurring in the metropolitan societies, a revolution by the proletariat, and the third possibility is some combination of these two strategies. However, it is relevant to question both the assumptions and the conclusions of this aspect of Frank's work.

Frank seems to be suggesting that it is possible for countries to break out of the capitalist system of exchange. On the surface this might appear quite plausible but the problem is very complex

indeed. There is an ecological and natural resource based dimension to the problem as well as a socio-economic dimension. In short, the size of the country may well be an important factor which has to be taken into account. By "size" I do not mean only geographical area but some combination of this together with population and other natural resources. Thus, for example, China and Brazil are both vast countries with large resources in both human and natural terms. In the case of China it seems possible that by cutting off links with the capitalist system (and also by having links with the U.S.S.R. broken in 1960) some form of internal development has been possible. In the case of Brazil, perhaps a similar strategy might be tenable. In both cases some form of independent industrialization and internal control of the direction of change is and might be physically possible, given the break from the capitalist system. However, with the exception of these and a few other examples, this is not seen to be a possible strategy for many countries. It also has to be borne in mind that there are possibly degrees of underdevelopment and that China was never as dependent on the metropolis as is Brazil today. The argument that the capitalist impact on pre-capitalist societies is ambivalent<sup>51</sup> is, I suspect, more hopeful than analytical, for it ignores two aspects of the situation; one is the peculiar internal configuration of social forces in these societies, derived from capitalistic expansion, and the other is the relative monopoly of force manipulated from the metropolis, which supports the social structure. The majority of the fractured states produced by three hundred years of imperialism are not viable in the same sense that some of these larger states might be. They are not of an adequate "size" in the sense that this word is being used here. In the case of the large scale nations, the possibility of revolutionary withdrawal is something which has to be considered. However, even if we accept this view, this would still leave unanswered the question of what kind of development. In his discussion of Chile, Frank's implicit view of "development" is most clear, for he notes that Germany and Japan are examples of two countries which managed to develop through national capitalism because they had never been satellites. The characteristic features of this type of development are dependence on capital-intensive industry, capital-intensive agriculture, high rates of growth, commensurate urbanization, a strong state and centralization. However, in accepting this definition of "development", we once more encounter the "progressiste" view of human history. This view, developed from the European Enlightenment and the industrial revolution, assumes a Promethean view of man, rational, active, exploiting his environment, and it has tended to ignore the resource limitations on the spread of large-scale centralized societies. It seems a plausible hypothesis that it is not

possible for the majority of world societies to attain a standard of living and a form of social organization which is in any way similar to that of the industrialized West and Eastern Europe, rather other more decentralized forms of social organization with lower material standards of living may be the sole possibility. Inevitably, this leads to somewhat pessimistic conclusions. Changes in the world capitalist system are unlikely to come about from the periphery of that system, except in rather special circumstances. The system itself is dependent on a continuation of the relationship between the capitalist organization of production of the centre and the pre-capitalist and non-capitalist organization at the periphery. Because of the monopoly of coercion presented by the centre, change can only come from within the centre. There may be variations in the dependency relations of the international capitalist system, but it is unlikely that there will be radical changes in that system without there first being radical change in capitalist societies themselves, be they the original capitalist societies or those characterized by state capitalism. Until these changes occur, villages such as that described in this book, the Gezira, the Sudan, and other small societies and countries similar to them, will not experience any radical change in their circumstances.

#### NOTES

- 1 Cotton provides about 65 per cent of the total value of the domestic exports, some 17 per cent of the gross domestic product, and about 20 per cent of the money income generated in the Sudan. See A.A. Suleiman and D.J. Shaw, *Problems of Income Stabilization in Developing Countries: a case study of the Gezira Scheme*. Also, in 1969, cotton exports were worth £S 5.18 m. out of a total of £S 86.3 m. exports. In 1968 agriculture accounted for 38 per cent of the G.D.P. at factor cost, see Economic Commission for Africa, *Summary of Economic Data: Sudan 1970*, p. 3.
- 2 K.M. Barbour, *The Republic of Sudan*, p. 180.
- 3 *Ibid.*, p. 180.
- 4 A. Gaitskell, *Gezira: a story of development in the Sudan*, p. 26.
- 5 Notably by Gaitskell, *op. cit.*, and by A.W. 'Abd al Rahim, *An economic history of the Gezira Scheme*.
- 6 Gaitskell, *op. cit.*, p. 54.
- 7 'Abd al Rahim, *op. cit.*, p. 1.
- 8 A.T. Holroyd, *On Gezira Future - notes of a journey to Kordofan*.
- 9 This is not to say that cotton had not been grown in the Sudan prior to this. Cotton cultivation has been carried on in the country for centuries, see 'Abd al Rahim, *op. cit.*, p. 1.
- 10 Gaitskell, *op. cit.*, chapter 4.
- 11 *Parliamentary Debates, Fifth Series*, vol. 50, 1913, col. 17
- 12 *Ibid.*, vol. 50, cols. 25-26.
- 13 *Ibid.*, vol. 52, cols. 428-9.
- 14 *Ibid.*, vol. 52, cols. 431.
- 15 *Ibid.*, vol. 50, cols. 65-66.
- 16 1 feddan = 1.038 acres = 0.42 hectares.
- 17 There are three sources for basic data on the Gezira Scheme: *The Gezira Scheme from within*, edited by the Press and Information Officer of the Sudan Gezira

- Board; *The Gezira Scheme: Past and Present*, issued by the Ministry of National Guidance; and *The Sudan Gezira Board: what it is and how it works*, issued by the Ministry of Social Affairs and the Sudan Gezira Board.
- 18 See G.M. Culwick, *Diet in the Gezira Irrigated Area*, for an account of the different types.
- 19 *The Gezira Scheme: Past and Present*, *op. cit.*, p. 4.
- 20 D.J. Shaw, *The Managil South-Western Extension: an extension to the Gezira Scheme*, p. 11.
21. £S 1.00 = 100 pts. : £1 sterling = 83 pts.
- 22 Sudan Government Gazette, 1.2.1914., quoted in Gaitskell, *op. cit.*, p. 44.
- 23 Economic Commission for Africa: *Summary of Economic Data, Sudan 1970*, *op. cit.*, p. 14.
- 24 *Ibid.*, p. 14.
- 25 *Ibid.*, p. 13.
- 26 *Ibid.*, p. 13.
- 27 Sid Ahmed Tayfour, *The Economics of cotton in the Sudan with special reference to the Sudan Gezira Scheme*.
- 28 *Ibid.*, p. 194.
- 29 *Ibid.*, pp. 205-6.
- 30 For example in much of the work of Talcott Parsons. See T. Parsons, *Evolutionary Universals in Society*, *American Sociological Review*, No. 29, June 1964, and the same author's *Societies: evolutionary and comparative perspectives*.
- 31 This approach is most pronounced in W.W. Rostow, *The Stages of Economic Growth*.
- 32 P. Baran, *The Political Economy of Growth*.
- 33 R. Clairmonte, *Economic Liberalism and Underdevelopment*.
- 34 D.H. Meadows et al., *The Limits to Growth*.
- 35 They have been severely criticized in a number of places, notably in: H.S.D. Cole et al., *Thinking about the Future: a critique of the Limits to Growth*.
- 36 Notably in her *Anti-critique* in K. Tarbuck (ed.), *Imperialism and the Accumulation of Capital*.
- 37 V. Lenin, *Imperialism, the highest stage of capitalism*.
- 38 For example in *Capitalism and Underdevelopment in Latin America*.
- 39 C. Meillassoux, *Anthropologie Economique des Gouro de Côte D'Ivoire*, and his essay *From Reproduction to Production*.
- 40 See contribution by P. O'Brien in I. Oxaal, A.S. Barnett, D. Booth (eds.), *Beyond the Sociology of Development*.
- 41 See O'Brien, *op. cit.*, and D. Booth, in *Ibid.*, for a discussion of the links between the ECLA tradition and Frank.
- 42 Frank, *Capitalism and Underdevelopment*, *op. cit.*, p. 30.
- 43 *Ibid.*, p. 31.
- 44 *Ibid.*, p. 34.
- 45 *Ibid.*, p. 75.
- 46 E. Laclau, *Feudalism and capitalism in Latin America*.
- 47 In Oxaal et al., *op. cit.*
- 48 *Op. cit.*
- 49 In his essay, *Who is the Immediate Enemy?*, in J. Cockroft, A.G. Frank, D.L. Johnson, *Dependence and underdevelopment; Latin America's Political Economy*, p. 43.
- 50 Booth, in Oxaal et al., *op. cit.*
- 51 This argument is expressed notably by W.M. Warren in his essay, *Imperialism and capitalist industrialization*, and by E.A. Brett, *Colonialism and underdevelopment in East Africa*.