

**Chapter 7**  
**Employment Generation and Poverty Reduction in Sudan**  
**Report for the Study on “Macroeconomic Policies for Poverty Reduction in Sudan”**  
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**Introduction**

Information on employment in Sudan is sketchy and out of date. The results for the censuses carried out in 1983 and 1993 are likely to be comparable, at least for the North of the country. Although Migration and Labour Force Surveys were carried out in 1990 and 1996, the comparability of their results is questionable. Moreover, their results are not comparable to those for the two censuses. Hence, it is unwise to try to reach firm conclusions on employment trends over the whole period between 1983 and 1996.

There is no reliable information on employment since 1996 although the Sudanese workforce is reported to have been very mobile since that time due to a combination of factors, including natural disasters (such as droughts) military conflicts (principally in the South but more recently in the West) and economic difficulties (such as slackening demand for rural wage labour).

With these provisos in mind, this chapter is cautious in drawing conclusions on the recent dynamics of employment, including its extent, composition and quality. Still, current trends do not appear gloomy. Growth has accelerated in the late 1990s and much of this growth is concentrated in the agricultural sector, from which the majority of poor workers—farmers and herders—derive their livelihood. Moreover, if the peace agreement recently signed between the North and the South holds, a further upsurge of growth could follow upon the heels of increased foreign aid and investment. And the Government of Sudan could begin in earnest a more widespread public investment programme.

Although the rate of economic growth in the 1990s might be overstated, it has undoubtedly accelerated compared to the 1980s. Certainly, the economy has recovered since the early 1990s and, furthermore, its growth has accelerated since 1999. From 1990 to 1995, the growth of GDP was 3.8 per cent per year. From 1996 to 2000, according to the World Bank, it jumped to 6.6 per cent (World Bank 2003, p. 16). This translated into

a per capita rate of growth of about four per cent. Other estimates for the late 1990s, such as those in Chapter 1, give an even higher rate of growth. The growth of the late 1990s was powered principally by two sources: agriculture and oil. Agricultural production increased mainly because of good weather in Northern and Central Sudan. With regard to oil, construction of the oil sector began in 1996, which stimulated the construction sector, and oil production itself started in 1999, giving a noticeable boost to the economy.

Growth of agriculture is critical in Sudan because about four fifths of the labour force depend on it directly or indirectly. While the oil sector does not provide much direct employment, it has stimulated significant employment in the construction sector (through work on a long pipeline, refineries and other equipment) and thus has had wider multiplier effects on the rest of the economy. Its main value will be to generate substantially more public revenue, which can be allocated to propel growth and development.

The structure of GDP has not undergone much change since the late 1980s. During the period 1986-1990, agriculture accounted for about 40 per cent of GDP (Table 1). By 2001, this share was only slightly lower, namely, 39 per cent (World Bank 2003). From the late 1980s to 2001, the share of services, the largest sector of the Sudanese economy, dropped from about 48 per cent to 43 per cent. Over the same period, the share of industry rose from about 12 per cent to 18 per cent, mainly because of the rise of the oil sector and related activities. Given the state of national income accounting in Sudan, these estimates of shares should be regarded mainly as relative orders of magnitude and approximations of the direction of change rather than precise estimates.

**Table 1**  
**The Structure of GDP in Sudan (%)**

<b>Years</b>	<b>Agriculture</b>	<b>Industry</b>	<b>Services</b>
<b>1986-90</b>	40.2	11.6	48.2
<b>1991-95</b>	38.8	10.5	48.6
<b>1996-2000</b>	40.5	14.0	42.5
<b>2001</b>	38.9	18.5	42.6

Source: World Bank 2003

Nevertheless, the estimates point us towards four broad findings: 1) agriculture has remained a foundation for sustained economic growth and employment generation in Sudan 2) the oil sector has emerged as the main dynamic sector in the economy 3) the

non-oil industrial sector has remained relatively stagnant and 4) the service sector has continued to provide survival incomes for a broad segment of the workforce although it has grown slowly in recent years.

The paper now turns to a closer examination of employment trends, relying principally on the 1990 and 1996 Migration and Labour Force Surveys. However, the results should be treated with some degree of caution because of problems of comparability between the two surveys.

### **Employment Trends, 1990-1996**

In 1996, over 52 per cent of the labour force was in agriculture, about seven per cent in industry and over 39 per cent in services (Table 2). In rural areas three quarters of the labour force were in agriculture. The main alternative to agriculture in rural areas was services, which accounted for one fifth of the total. Industry accounted for only about four per cent of the rural labour force. In urban areas almost four fifths of the labour force were in services while only about 13 per cent were in industry.

**Table 2**  
**Labour Force by Economic Sector (%)**

<b>Sector</b>	<b>Total</b>	<b>Urban</b>	<b>Rural</b>	<b>Male</b>	<b>Female</b>
<b>Agriculture</b>	52.1	5.0	75.0	46.6	67.2
<b>Industry</b>	6.9	13.3	3.7	8.1	3.4
<b>Services</b>	39.3	79.1	20.0	43.5	27.6

Source: Ministry of Manpower, Migration and Labour Force Survey 1996

Note: The residual is the category "Not Stated".

If 1996 is used as the reference year for comparing labour force shares to GDP shares for the three major sectors of the economy, the following are the comparisons: 1) the share of industry in GDP is about 43 per cent higher than its share of the labour force 2) the share of services in GDP is about 10 per cent higher than its share of the labour force and 3) the share of agriculture in GDP is about 25 per cent lower than its share of the labour force.

These results suggest, not surprisingly, that agriculture is a sector with very low productivity. Although the large service sector offers higher incomes than agriculture, transferring labour into it from agriculture is not likely to appreciably lower poverty. The reasons: productivity levels in services are not high. Services have to function as a

sponge for rural migrants because industry is not growing fast enough to absorb them. Although the most productive sector, industry can offer employment to only a small share of the workforce.

There is little reason to believe that there have been dramatic changes in the sectoral composition of the labour force since 1996. The likeliest change would be the rise of employment in the urban informal service sector, as agricultural workers have migrated to urban centres. Outside of the oil sector and oil-related construction, industry has shown little dynamism.

Has economic growth led to an increase in the labour force participation rate during the 1990s? If the pace of economic growth is a reliable barometer, the rate should have increased, especially in rural areas where the participation rate tends to be higher. The participation rate for the population aged 15 years and older stayed virtually the same, namely, about 48.5 per cent, between 1983 and 1993. However, for the two Migration and Labour Force Surveys, the comparable participation rate rose from 39.3 per cent in 1990 to 45.5 per cent in 1996 (Table 3), even before growth began to markedly accelerate.

**Table 3**  
**Labour Force Participation Rates 1990-1996 (%)**  
**(15 Years and Older)**

<b>Year</b>	<b>Total</b>	<b>Urban</b>	<b>Rural</b>	<b>Male</b>	<b>Female</b>
<b>1990</b>	39.3	37.2	44.3	59.7	18.0
<b>1996</b>	45.5	38.7	46.6	63.6	28.2

Source: Ministry of Manpower, Migration and Labour Force Surveys 1990, 1996

The most dramatic increase was in the female participation rate, i.e., from 18 per cent to over 28 per cent. For both urban and rural areas, the participation rate rose only modestly.<sup>1</sup>

Between 1983 and 1993, the average rate of growth of the Sudanese population was 2.6 per cent. The urban population grew by 5.6 per cent, reaching 29.3 per cent of the

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<sup>1</sup> This suggests that either migration between the two resident areas or, more worrisome, a change in the sample weights for the areas explains much of the total rise in the rate. The latter factor makes most sense since migration was from rural areas (higher participation) to urban areas (lower participation) and would produce an effect opposite to that observed. The big jump in the female participation rate is also likely due, partly, to the changing sample weights.

total population by 1993. The population in Khartoum grew the fastest, i.e., an average of 6.6 per cent in the decade prior to 1993. Meanwhile, poorer areas, such as Kordufan and the Southern regions, had the slowest rates of growth because people were migrating out of these areas.

Continued fighting in the South since 1993 has undoubtedly accelerated the out-migration from poorer areas and contributed to the rapid increase in the Khartoum population. However, there are few opportunities for employment in Khartoum or other large urban centres, except in low-paying informal-sector trading and services. Anecdotal evidence suggests that the informal sector has mushroomed in size but there are no recent surveys to gauge this trend.

Between 1990 and 1996, the working age population (10-64 years) increased by 3.9 per cent per year (1998 draft NHDR for Sudan). The rate of growth for women was faster than that for men, i.e., 4.2 per cent versus 3.7 per cent.

The labour force grew even faster, namely, at 4.9 per cent per year, than the working age population (Table 4). This is another indicator of the impact of economic growth. But the remarkable trend was the rapid rate of growth, i.e., 7.8 per cent, of the female labour force. The rate of growth of the male labour force was less than four per cent.

Growth of the total labour force was most rapid in urban areas, namely 7.4 per cent. However, the urban female labour force, although small, was growing by a very rapid 11.6 per cent. At the same time, the rural female labour force was growing by 6.8 per cent while the rural male labour force was growing by only three per cent.

**Table 4**  
**Growth of the Labour Force 1990-1996 (% per year)**

<b>Labour Force</b>	<b>Total</b>	<b>Urban</b>	<b>Rural</b>
<b>Total</b>	4.9	7.4	4.2
<b>Male</b>	3.7	6.3	3.0
<b>Female</b>	7.8	11.6	6.8

Source: 1998 Draft NHDR

Women were entering the workforce in increasing numbers during the early 1990s, particularly in urban areas. Overall, their employment was increasing faster than men's—by about 10 per cent per year versus three per cent (Table 5). The likely explanation is that while economic growth was producing job opportunities, these were in

lower-paying occupations that women were willing to accept in order to supplement household income. While the open unemployment rate stayed at about 13 per cent for men between 1990 and 1996, it dropped modestly for women from a very high rate of 28 per cent to 24.3 per cent.

In urban areas the unemployed were growing at a much more rapid rate (12 per cent) than the employed (5.9 per cent) (Table 5). Men were entering the ranks of the open unemployed slightly more rapidly than women. Open unemployment is usually associated with workers who have been laid off from decent-paying jobs and are waiting for comparable job opportunities. With less opportunity to secure decent-paying jobs, women were more likely to take low-income employment. In other words, women were swelling the ranks of the underemployed, i.e., the “working poor”. However, it is still true that many of them were suffering from open unemployment.

In contrast to the unemployed in urban areas, the unemployed in rural areas were growing slower (3.1 per cent) than the employed (4.2 per cent). It was primarily women who were becoming employed in rural areas, no doubt to contribute to the work needed on additional farmland. The growth in their employment was four times faster than that of men. For men in rural areas, employment trends were relatively stagnant: the number of male unemployed was growing faster than the number of male employed. Although these results (especially for open unemployment) should be treated with caution, they do give us some insight into broad employment trends.

**Table 5**  
**Growth of the Employed and Unemployed**  
**1990-1996 (% per year)**

<b>Category</b>	<b>Total</b>	<b>Urban</b>	<b>Rural</b>
<b>Total Employed</b>	4.7	5.9	4.2
<b>Male Employed</b>	3.1	4.8	2.3
<b>Female Employed</b>	9.8	11.6	9.3
<b>Total Unemployed</b>	5.8	12.0	3.1
<b>Male Unemployed</b>	11.0	12.3	4.0
<b>Female Unemployed</b>	1.3	11.7	2.0

Source: 1998 Draft NHDR, p. 52

Economic growth in the early 1990s also increased the employment of very young workers and old workers. Whereas 1.8% of the total employed (10 years and older) were 10-14 years of age in 1990, this percentage rose to 4.6 per cent in 1996 (Table 6). In

addition, whereas 4.7 per cent of the employed (10 years and older) were 65 years or older in 1990, 5.3 per cent of the employed were in this age group in 1996. Among the working age population more strictly defined (namely, between 15 and 64 years of age), while 39.7 per cent were employed in 1990, this percentage rose to 44.3 per cent in 1996.

**Table 6**  
**Change in Employment Percentages**  
**of Young and Old Workers**  
**(1990-1996)**

Category	1990	1996
<b>Percentage of Total Employed Who Are 10-14 Years</b>	1.8	4.6
<b>Percentage of Total Employed Who Are 65+ Years</b>	4.7	5.3

Source: Ministry of Manpower, Migration and Labour Force Surveys 1990, 1996. Author's calculations.

These statistics point to a general upswing in employment generation by the mid 1990s that benefited various categories of workers. Female workers gained disproportionately but these gains were likely at the lower end of the income spectrum. Robust agricultural growth, primarily in the traditional rain-fed sector, created widespread employment on a larger expanse of farmland. But this was not likely to have markedly elevated rural income per person. Moderate rates of growth in the whole economy throughout the 1990s might have stimulated increased job opportunities in the urban sector. But these were concentrated in the informal sector, and in low-paying trading and services in particular. Economic growth was not concentrated enough in higher-paying sectors to provide widespread employment at decent wages.

### **The Informal Sector**

The distinction between the formal and informal sectors has become blurred in Sudan over time as the formal sector in urban areas has languished and migration into cities has expanded. One study in the 1990s estimated that the informal sector accounted for about half of total urban employment (1998 draft NHDR). The 1990 survey of 1,756 informal sector establishments by the Department of Economic Planning claimed that 43 per cent of them were industrial, 18 per cent commercial and 12 per cent maintenance

and repair (cited in 1998 NHDR, p. 58). At that time, half of the establishments had been set up in the last five years.

Since the early 1990s, trading and services appear to have supplanted industrial activity as the main forms of informal sector enterprise. These have included food preparation and selling, tea and coffee making and selling, tailoring, street vending of various items and domestic office services. The start-up costs for petty trading and personal services are much lower than for industrial enterprises. Moreover, until the late 1990s, the formal industrial sector was not growing in Sudan. Thus, the demand for inputs or services from small-scale industrial establishments was weak.

The growth of the informal sector in urban areas in the 1990s has been powered by internal migration. In the past, migrant seasonal workers secured temporary employment on the large irrigated farms, on the large mechanized rain-fed farms or in informal-sector non-agricultural activities in small villages. But in the 1980s and 1990s, migration to urban areas increased and informal-sector activities became predominantly urban. As early as 1990, 23 per cent of the employees in urban informal-sector establishments were reported to be from Southern Sudan, for example.

### **Migration Patterns**

The conflict in the South propelled much of the migration to urban centres. Another factor was the slackening of demand for seasonal agricultural labour—even as early as the 1980s when short- and medium-staple cotton replaced long-staple cotton, the traditional variety that had employed more labour per feddan. Another factor was drought in regions such as Kordufan and Darfur, which intensified the rural-to-urban migration pattern. Finally, refugees from neighbouring countries contributed significantly to the urban influx.

The Sudanese labour force has been very mobile in the last two decades. Thirteen per cent of the total population surveyed in the 1993 census had already changed residence since birth. Most of the internal migration was directed towards large urban centres. In 1993, Khartoum received about half of the internal migrants. Not all internal migration was, however, from rural to urban areas. About 38 per cent of migrants moved

from smaller urban centres to large cities. This was the result of a general lack of opportunities for non-farm employment.

The migrants have tended to be better educated than average. About 70 per cent of them were literate in 1993. Almost a third was students. Half of the migrants became formal employees.

Many Sudanese have left the country in recent decades. Of those who have left, about 85 per cent have been men (1996 MLFS). The main destination of emigrants has been the Arab States. About half of all emigrants have gone to Saudi Arabia. Another 18 per cent have gone to Libya. When the migrants to the Emirates, Yemen and Egypt are combined with those to Saudi Arabia and Libya, the total rises to almost 84 per cent. Only about four per cent has emigrated to Europe.

Emigrants have been even more educated than internal migrants. Of all emigrants, 86 per cent were literate in 1993 (Sudan draft NHDR 1998). The percentage with a secondary school education or higher was 62 per cent while a quarter had university degrees. About a third worked abroad as senior officials, professionals or technicians while another quarter worked as skilled production workers.

Thus emigration has led to the loss of a large number of skilled personnel. This has inflicted a heavy cost on the economy—representing a huge loss of the country's investment in human capital. The compensation for this loss of skilled labour has been the remittances that Sudanese workers abroad have sent back to their families. However, there is little evidence that remittances have benefited lower-income households. According to the results of the 1996 Migration and Labour Force Survey, 90 per cent of all remittances were sent back by the 62 per cent of emigrants with a secondary school education or higher. This statistic suggests that remittances are likely to have had a disequalizing impact on the distribution of income within Sudan.

In addition to receiving a small share of remittances, low-income households are adversely affected by the loss of emigrant labour. For example, agricultural households first report mainly a labour shortage as a result of emigration of a household member (1996 MLFS). Eventually the main impact is felt through the constraint placed on cultivating land and the ensuing reduction of production. About 86 per cent of

agricultural households reported this constraint as a problem that was attributable to emigration.

### **Industrial Development and Employment**

Industry has been an anaemic generator of employment in Sudan. The share of industry in GDP fell continuously from the mid 1980s until the mid 1990s. But after the mid 1990s, industry began to grow. Most of this growth was fuelled by the oil industry and foreign direct investment and took place in large urban centres such as Khartoum and Port Sudan. Between 1998 and 2001, industry grew by 10 per cent per year (World Bank 2003, p. 20).

In the late 1990s there were some large-scale investments in sugar and cement factories as well as oil refineries. This gave some stimulus to manufacturing. However, most manufacturing firms have remained small and medium in scale, concentrated in such sectors as food processing. Partly because of problems of irregular supply of electricity, most firms have operated below capacity. In 1997, for example, the leather industry operated at 50 per cent of capacity, the footwear industry at 28 per cent and the textile industry at 21 per cent.

Rural areas have benefited little from any multiplier impact of manufacturing growth in urban centres. About two thirds of manufacturing firms were located in Khartoum in 2001, for instance. The one bright spot is growing investment in food-processing industries, such as sugar refineries, which could boost employment opportunities in rural areas. Because of the large weight of agriculture in the economy and Sudan's continuing agricultural potential, the development of an agro-industrial sector would play a strategically important role in stimulating broad-based employment.

In the 1980s, food processing was a major component of Sudan's industrial development. Processing of non-food agricultural materials, such as textiles and leather, was also important. At that time, most of the 50 publicly owned firms were focused on processing agricultural materials (ILO 1987, p. 75). This was a legacy of the huge investments, mandated by the government's Breadbasket Strategy, which were made in publicly owned agro-industrial projects in the 1970s. These were financed by large capital inflows, primarily from the Arab States.

Despite this earlier effort, Sudanese industry has remained weakly linked to the agricultural sector. Light industry, such as textile firms, imported raw materials in the 1980s rather than buy them from domestic producers. Most manufacturing exports, such as ginned cotton, were only slightly processed—with little domestic retention of value added. Manufacturing's main weaknesses were its import dependence and focus on a small domestic market of high-income consumers. During the 1990s, Sudan's textile and garment industry was in decline, unable to compete with low-cost Asian producers.

There remain major constraints on Sudan's industrial development. The growing sectors of industry are largely foreign financed and heavily import dependent. Industry is poorly linked to agriculture, missing an opportunity to augment domestic manufacturing value added and generate widespread employment. This is an important area on which a new strategy of industrial development should concentrate.

The 2001 Industrial Survey conducted by the Ministry of Industry suggests that that has been no fundamental change in manufacturing since the liberalization of the economy carried out in the early 1990s. As Chapter 6 showed, manufacturing value added as a share of GDP was 8.26 per cent in 2002, a slight drop from its level in 1992, i.e., 8.69 per cent. Comparisons with other developing countries underline Sudan's underdevelopment. In 2002, the average manufacturing value added in developing countries as a whole was 20.3 per cent of GDP. Thus, over the medium term, manufacturing will account for only a small share of employment generation in Sudan.

The food processing industry is the leading subsector of manufacturing in Sudan. Food, beverages and tobacco accounted for almost two thirds of gross value added in manufacturing in 2001 (see Chapter 6). The star performer within this subsector during the 1990s was the sugar industry. Refined petroleum products ranked second to food, beverages and tobacco in 2001, accounting for 13.3 per cent of manufacturing gross value added. However, while the food processing industry is very labour-intensive, oil refineries are very capital-intensive.

Some diversification has occurred in manufacturing in recent years, as the chemicals and plastics subsector and the metal and machinery subsector have grown in importance. The former accounted for 8.6 per cent of all manufacturing employees in 2001 while the latter accounted for 7.0 per cent. The non-metallic minerals subsector was

very labour-intensive in 2001, employing over 16 per cent of all manufacturing employees even though accounting for less than three per cent of gross value added. Although the textiles and garments subsector declined in importance during the 1990s, it still accounted for 8.0 per cent of all employees in 2001. However, oil refineries, the second largest subsector in terms of gross value added, accounted for less than one per cent of all employees.

It seems clear that Sudanese manufacturing will continue to be dependent, for the foreseeable future, on the success of oil refining and agricultural processing industries. The Government's industrial policy gives priority to agro-processing industries, such as the food subsector. While this orientation is no doubt correct, the successful implementation of the policy depends on a range of factors, such as the provision of essential public services, such as electricity and roads, and the provision of adequate credit. Bringing these factors into play depends, in turn, on the state's ability to mobilize public revenue and banks' ability to mobilize domestic savings.

There is a danger, as pointed out in Chapter 6, that Sudan will remain heavily reliant on the export of oil and agricultural commodities, such as cotton and live animals. This would stunt its industrial development and economic diversification. The alternative is to use the comparative advantages in oil and agricultural raw materials as a basis to diversify manufacturing. For example, as suggested in Chapter 6, the naphtha and nitrogen produced in oil refineries could be used to start up a domestic fertilizer industry. This could provide a big boost to agricultural production. Also, continuing to focus on supporting agro-processing industries, such as in the food, footwear and textiles subsectors, would help diversify Sudan's manufacturing base and thereby generate employment.

Off and on, diversifying through agro-industry has been the industrial strategy of Sudan. But the Government has lost some control over industrial policy since the early 1990s by rapidly liberalizing its economy and opening it to external competition. It has also lost some control over policy through its privatisation of state-owned enterprises. Moreover, privatisation has had a significant adverse impact on industrial employment. Among the industrial firms privatised, about 30 per cent of the workforce has been laid off (see Chapter 6). While partly explaining the slow growth of industrial employment in

the 1990s, privatisation has been, in fact, only a minor factor. Much larger structural problems have plagued the Sudanese economy. A major constraint has been the lack of resources.

### **The Need for Development Banking**

The lack of development of domestic banking is a chief part of the problem. Since 1997, the Government has attempted to liberalize its banking sector (see Chapter 4). This reform has produced many of the problems common among financial institutions in other developing countries in the wake of liberalization. In addition, however, Sudanese banks have remained woefully underdeveloped compared to banks in many other countries. Building up a viable domestic banking system is a large, but high-priority, task in Sudan.

Stabilization of inflation and liberalization of banking have contributed little to monetary deepening and lending for productive investment. As inflation subsided in the late 1990s, the real cost of borrowing shot up. Deposits in banks have remained small, however, and mostly take the form of short-term demand deposits. Banks have been unable to mobilize much domestic savings because Sudanese do not have much confidence in them. The Sudanese economy remains very much a cash economy, with much investment channelled into real estate speculation.

Banks' provision of real credit to the private sector contracted by 23 per cent between 1993 and 1999. Banks are reluctant to undertake the risk of extending credit for investment purposes. This is particularly true for credit extended to agriculture. The main recipients of credit in agriculture are the large irrigation schemes, not small farmers. Instead of lending for investment purposes, banks would rather buy secure government securities.

The Government has tried to address the problem of the lack of credit for agriculture. Early in the 1990s, it established the publicly owned Agricultural Bank of Sudan, and then later the Farmers Bank and the Animal Resources Bank. However, despite such reforms, small farmers in traditional rain-fed agriculture still have virtually no access to credit. Most of the credit to rain-fed agriculture has gone to large mechanized farms. Over half of all agricultural credit goes to the large irrigation

schemes. Small farmers received in 2001 only about one per cent of all formal credit to agriculture.

These problems point to the priority of restructuring the Agricultural Bank of Sudan in order to allow it to perform the function of a development bank specializing in lending to small farmers. Needless to say, the Bank needs to be well capitalized in order to perform this function. Unless small farmers have access to credit, traditional rain-fed agriculture cannot hope to provide widespread employment that offers decent incomes.

### **Employment in Agriculture**

Employment conditions in Sudanese agriculture are diverse. Chapter 5, “Agriculture, Development and Poverty Reduction in Sudan”, examines agricultural trends in the 1990s. It shows that output trends have varied significantly across the four major agricultural sub-sectors: large-scale, irrigated crops; large-scale, mechanized rain-fed crops; small-scale, traditional rain-fed crops; and livestock.

Poor farmers are concentrated in traditional crop production and supplement their incomes with livestock. But nomad households account for most livestock production. However, poor farmers depend on the other two sectors, large irrigated schemes and large mechanized farms, for much of their employment. In the early to mid 1990s, traditional agriculture provided employment for only one third of the year. For the rest of the year, farmers migrated to secure seasonal wage employment on large irrigated or mechanized farms. But growth in these two sectors lagged behind that of traditional agriculture during the 1990s. Moreover, production in irrigated agriculture has become less employment-intensive as farmers have switched from cotton to wheat and other food crops.

Real value added in agriculture increased rapidly during the 1990s. Chapter 5 suggests that its annual rate of growth was close to 10 per cent (Table 7). Much of this aggregate growth was driven by traditional agriculture, which grew by almost 20 per cent per year. Livestock production, on which both poor farmers and herders rely for their livelihood, grew by almost 13 per cent.

These statistics are implausibly high. For example, three of the four main crops in traditional agriculture grew by 9-12 per cent—not 20 per cent (Table 7). Nevertheless, such a lower rate is still rapid and represents a definite acceleration of growth compared

to the performance of the 1980s. Also, agricultural GDP grew about three-quarters faster than total GDP over the decade (9.9 per cent versus 5.7 per cent). Much of this boost in growth can be attributed to drought-free conditions and a rebound from the drought-plagued, depressed conditions of the 1980s. It is worth noting, however, that agricultural statistics are collected only in Northern Sudan.

**Table 7**  
**Rates of Growth in Agriculture**  
**(1989/90-2000) (% per year)**

<b>Agricultural Category</b>	<b>Growth Rate, Real Value Added</b>
<b>Total Agriculture</b>	<b>9.9</b>
<b>Irrigated Crops</b>	<b>7.4</b>
<b>Mechanized, Rain-Fed Crops</b>	<b>0.9</b>
<b>Traditional Rain-Fed Crops</b>	<b>19.8</b>
Sorghum	11.7
Millet	9.8
Sesame	9.4
Groundnut	23.9
<b>Livestock</b>	<b>12.8</b>

Source: Chapter X, Tables 2 and 3

Note: Years for Sorghum, Millet, Sesame and Groundnut are 1989/90-2000/01

Based on such statistics, it is difficult to argue that the rural workforce suffered a decline in aggregate employment. However, the character and quality of employment must have changed. The overall impact on poverty remains unclear. The most likely scenario is that income poverty declined unless other factors, such a declining productivity or terms of trade, intervened to nullify this impact. Reliable data will have to await the results from a representative household survey (and a follow-up survey to establish a trend).

Irrigated agriculture grew by over seven per cent in the 1990s. By itself, this would tend to increase the hiring of seasonal workers from the traditional sector. But the composition of output on irrigated schemes changed significantly. The amount of land devoted to cotton in the late 1990s had dropped by more than half a million feddans compared to the mid 1980s. Cotton production is very labour-intensive, at least during the harvest. The land formerly allocated to cotton shifted to food crops, such as wheat, which are less labour-intensive than cotton. So, although the growth rate of irrigated

agriculture was healthy during the 1990s, especially compared to its rate in the 1980s, the impact on employment was not likely to be as high.

Chapter 5 estimates that the growth rate of mechanized rain-fed agriculture was less than one per cent during the 1990s. By contrast, official estimates place the rate at almost six per cent. In any case, even by the most generous estimates, this sector grew at only about half the rate of total agricultural production. Since this sector provided wage employment to some traditional farmers, its contribution to employment was likely to be anaemic during the decade.

The trends in both irrigated and mechanized rain-fed agriculture suggest that poor farmers in the traditional sector confronted a deceleration in the demand for their hired labour. If these supplementary sources of income were stagnating, poor farmers had to find viable alternatives. One option was to migrate to urban areas in order to secure informal-sector jobs, primarily in trading and services. The rapid growth of the urban population, particularly in large urban centres such as Khartoum, corroborates the increasing importance of such an option. However, the dominant motivation for such migration could well have been drought and conflict, instead of slackening demand for rural wage labour. More research is needed to disentangle the probable effects of these various factors.

Another option for poor farmers was to increase the intensity of labour in traditional agriculture. An increase in inputs such as fertilizer and pesticides was obviously not a practical alternative. If anything, access to such inputs was decreasing.

A shift from food crops, such as sorghum and millet, to cash crops, such as sesame and groundnuts, was another option. This appears to have happened to a limited extent. For example, while the area under cultivation for sorghum and millet increased by about seven per cent, that for groundnuts increased by over 12 per cent. Groundnut yields also increased by about six per cent. This could have helped offset the fall in rural incomes due to slackened demand for hired labour.

The statistics for increases in land area point to the main method used by traditional farmers to employ their labour more intensively. The total feddans used for the four crops almost doubled during the 1990s. Thus, total household employment had to increase, at least in terms of the greater allocation of labour time to agriculture. Labour

was used more intensively but mainly because it was spread over more land. Lacking access to other inputs, traditional farmers were fortunate to have access to more land. However, it is unlikely that their total land and labour productivity both increased.

One might assume that the new land brought under cultivation was likely to be of lower quality but there is no firm evidence on which to base such a judgment. Circumstantial evidence marshalled in Chapter 5 suggests that the productivity of newly cultivated land was not lower. It appears that for some of the main crops (such as sorghum and groundnuts) yields were comparable, if not higher, on the larger expanse of cultivated land. This was likely due to a more intensive application of household labour.

Thus, the aggregate effect of the utilization of more land was bound to boost total household income. It was also likely to augment income per person since the rate of growth of the rural population was in decline. Declining prices could have mitigated this volume effect, as suggested in Chapter 5. In other words, there could have been a worsening of the terms of trade for agriculture, and for traditional agriculture in particular, including herding. Chapter 5 cites the 24 per cent decline in the net barter terms of trade for Sudan between 1990 and 1998 as circumstantial evidence of such a trend. But the information necessary to fully evaluate changes in the terms of trade is not available.

An additional explanation is that the monopoly power of traders could have kept farm gate prices low. This is a popular explanation. But farmgate prices would have had to decline substantially in order to overwhelm the impact of the increased volume of output on household incomes.

Hence, output per capita of traditional farmers is most likely to have increased. This has been due mainly to greater intensity of labour, not greater productivity. Consequently, since land is not likely to remain an abundant resource, this survival strategy is not sustainable. Despite the doubling of cultivated land for crops, some researchers argue that land is already scarce. Days (or hours) of employment per person in traditional agriculture have increased but the quality of employment has not been enhanced. Moreover, this source of income is likely to be a poor substitute for wage employment on large irrigated and mechanized rain-fed farms.

Long-term, the main alternative is a substantial increase in public investment that directly benefits traditional agriculture. Part of this investment should take the form of augmenting rural economic and social infrastructure. Another part should go directly into improving technologies appropriate for small-scale agriculture in Sudan.

### **Policy Recommendations**

Although dated, the 1987 ILO report on Sudan, *Employment and Economic Reform*, still provides a good starting point for elaborating a development strategy that is more growth inducing, more employment-intensive and more poverty reducing.

Its analysis for the 1980s suggested that although Sudan's comparative advantage was in agriculture, its policies were biased towards large capital-intensive irrigation schemes and mechanized rain-fed farms and neglected providing public support to traditional rain-fed farming and nomadic herding. Chapter 5 of this report has provided several recommendations on how to remove this bias and how to institute reforms in the irrigated and mechanized sectors in order to make them more efficient and employment generating. These include converting the tenants on the large irrigation schemes into entrepreneurial farmers and reducing the leasehold size of the large mechanized farms in order to make their production more efficient.

Provided that the peace process is sustained, Official Development Assistance is substantially boosted and the Government is able to mobilize additional domestic resources, a large public investment programme should be concentrated on improving productive conditions in traditional farming and herding. Employment-intensive public works programmes to build badly needed rural economic and social infrastructure should become the centrepiece of a pro-poor rural development policy. Many of these public works should be focused on small-scale infrastructure, such as storage facilities and rural roads, which could directly and immediately benefit poor farmers and herders.

Although Sudan's strategy of the 1970s to become the "Bread Basket" of the Middle East—which was fuelled by investment from the Arab region itself—was overly ambitious, Sudan should not forsake opportunities to export more agricultural commodities, such as cotton, sorghum or livestock, to the Arab region, Africa or elsewhere. Sudan's economy will continue, for the foreseeable future, to be decisively

influenced by its ability to export agricultural products as well as oil. But whatever Sudan can do to add value to these primary commodities will be helpful. Exporting processed agricultural products could contribute to the diversification of Sudan's exports and its manufacturing base.

Sudan's comparative advantage also lies in agro-industrial products and therefore in a closer integration between its agricultural and industrial sectors. Another part of the 1987 ILO report notes that much of Sudan's manufacturing sector produced only slightly processed goods for export and produced very few wage goods for the large majority of Sudanese. Instead, manufacturing had become very import dependent and focused on a small domestic market of rich consumers.

Sudan's industrial strategy should focus more on small and medium-scale urban and rural industries that have linkages to agriculture, i.e., backward linkages such as processing of agricultural commodities and forward linkages such as the supply of agricultural inputs. Food processing is a major example of such an industry. Such agro-industrial firms would be less import dependent than average.

But they would still be dependent on the provision of public infrastructure, such as energy, water, transport and communication—the lack of which has constituted a major roadblock to industrial development. Providing such infrastructure, some of it necessarily large-scale, would be another component of a comprehensive public investment programme.

Building public works focused on stimulating broader agricultural and industrial development will stimulate the employment-intensive construction industry and provide temporary employment to large numbers of Sudanese workers. And policies advocated here for broad-based agricultural and industrial development will help generate more permanent and widespread increases in employment. But this has to be employment that provides to large segments of the workforce incomes that are significantly higher than current levels—namely, high enough and sustainable enough to substantially reduce poverty.

As formal-sector employment at decent incomes becomes more widespread, poor workers will move, of their own accord, out of low-paying urban informal sector employment. Also, the increased agricultural prosperity that is generated in rural areas

will create broader non-farm employment opportunities that will help supplement low farming incomes.

Although public investment is crucial for growth and employment generation in Sudan, it can solve only part of the problem. Additional resources will be necessary and these must come from the banking sector. Banking regulations need to be reformed to induce commercial banks to lend for long-term private investment. As in many other countries, financial liberalization in Sudan has not led to more lending to private enterprise. Also, publicly owned, development-oriented banks, such as the Agricultural Bank of Sudan, need to be empowered to mobilize domestic savings to lend to small-scale entrepreneurs, principally in small-scale agriculture but also in urban manufacturing and services.

The traditional anti-poverty interventions focused on poorer and more vulnerable workers, such as microfinance or micro-enterprise, will be an integral part of the broad pro-employment development strategy that this report is advocating. By improving the access of poor households to credit and other resources, such interventions will enhance their ability to take advantage of the employment opportunities generated by the new economic policies and development strategy that this report is advancing. However, such focused interventions alone cannot generate the broad-based employment opportunities that will contribute to sustainable poverty reduction.

General economic policies need to be reformulated in order to sustain more rapid economic growth, broader employment generation and deeper poverty reduction. Part of the strategy involves more expansionary fiscal policies focused on mobilizing domestic and external resources for ambitious public investment programmes. Small-scale poverty-focused infrastructure projects, especially in rural areas, are part of this strategy; but so are large-scale infrastructure projects designed to connect the far-flung reaches of such a large country to a common transportation, power and communication network.

Mobilizing substantially more domestic resources is critical to the success of this strategy. The increase in non-tax revenues from oil production can be harnessed for this purpose. But the very low level of taxes in Sudan also needs to be raised. In addition, external resources are absolutely crucial. A good-faith start for donors would be the cancellation of Sudan's onerous external debt (as happened recently in Iraq). Until its

severe debt problem is resolved, Sudan will not be able to achieve sustainable long-term economic growth and development.

But the country is also badly in need of a huge infusion of new foreign aid in order to finance its reconstruction and development. If Sudan is to have any chance of accelerating progress towards the Millennium Development Goals, a substantial increase in Official Development Assistance will be necessary. A sizeable proportion of this new ODA will have to be channelled, early on, into building up state capacity to effectively disburse funds for development purposes. Developing such capacity is an indispensable part of the effort to strengthen 'national ownership' of Sudan's development strategy.

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