

PART IV

Economic Policy for the New State

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South Sudan's Priority Development Programmes, Projects, and Policies

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Introduction

One of the main reasons South Sudanese voted overwhelmingly for separate statehood from North Sudan is the quest for socio-economic development. Although many foreign commentators imply that the poverty of South Sudan makes it an unviable separate country, virtually all South Sudanese believe that the present poverty of Southern Sudan will persist and never begin to be tackled as long as South Sudan is ruled from Khartoum. Consequently, all South Sudanese are looking forward to a government of the Republic of South Sudan that puts socio-economic development as one of its priorities.

To sustain peace and national solidarity, the government of the new country must put in place short, medium, and long-term development programmes and policies. Most of the past and current problems of instability and violence can be attributed largely to the poverty and limited opportunities in South Sudan. With expanding opportunities, a hopeful future becomes possible and antagonisms may be greatly reduced. The intra- and inter-ethnic conflicts are not new and are not inherent in the nature of the people but are largely a result of extremely limited socio-economic development in South Sudan since its incorporation into the present Sudanese and world systems. With

equitable transformative socio-economic programmes and policies such conflicts will be greatly reduced. Hence, the government of the new country must pursue policies that bring optimism to the majority of South Sudanese. The population should be able to see that there are concrete projects in the pipeline which will soon alleviate their poverty. For basic educational, health, and water projects, deliverables should be available within two to three years. Domestic food production can be substantially increased within one to two seasons, especially if the peasants are given incentives through attractive producer prices and availability of marketing, transportation, and storage facilities.

Fortunately, the Government of Southern Sudan (GoSS) has already initiated some of these activities during the Interim Period of the Comprehensive Peace Agreement (CPA) and will not have to begin from zero as was the case in 2005. Furthermore, GoSS has founded some of the institutions of a state and gained experience during the six-year Interim Period.

Given the dearth of development and pervasiveness of poverty in the new country, both quick-impact and long-term development activities need to be embarked on immediately. The quick-impact activities are to alleviate poverty and lay the foundation for long-term development, while the long-term programmes will bring about cumulatively self-sustaining development. The quick-impact projects must include those in agriculture, education, health and sanitation, water supply, transport and bridges, and small-scale off-farm activities.

The long-term projects will be in the same sectors as well as in energy, mining, and manufacturing, which will eventually lead to an integrated industrial economy. Such projects must include the building of oil refineries and the oil-pipeline to the Kenyan port of Lamu, speeding up of large-scale gold exploitation, the construction of major hydro-electric projects, the establishment of the three major Southern universities, and the construction of modern secondary schools, teacher training colleges, and modern referral and research hospitals. Serious initiation of some of these projects under a five-to-ten-year programme will give the citizens an optimistic view of the future as they will have something to hope for. The projects should be sequenced appropriately so that they are not just meant for political appeasement of the population. The political leadership, at all levels of government, must continuously explain to the people what is being done, why things may not be happening as expected, and what corrective measures are being put in place.

Short-run and Medium-run Programmes

A growth strategy that is aimed at reaching the bulk of the population is essential for improving the living conditions of the majority and giving them a hopeful future. Given that the majority of the South Sudanese are scattered in the countryside, rural development and decentralised administration should be the basis of such a strategy. With lack of so much pre-requisite physical and social infrastructure and limited agricultural production, little manufacturing industry should be expected in South Sudan in the next few years. Hence, absorbing the urban population in gainful employment will be a daunting problem in the near future. However, the creation of many productive activities in the rural areas will slow the rate of urbanisation. Thus, John Garang's strategy of 'taking the towns to the people instead of the people coming to the towns', at least for now, should be interpreted as putting emphasis on rural infrastructure, peasant agricultural production, crop marketing (cash payments and storage facilities), cottage industries, and the development of education, health, and water supply in the counties, payams and bomas.

With at least some rudimentary roads now linking the urban and rural areas, import substitution of food production should be seriously embarked on. This needs prioritisation on rural roads, bridges, lorries (trucks), bicycles, storage facilities, paying farmers cash on delivery, etc. Both the public and private sectors should be involved. Domestic food supply should displace much of the imported food as transport cost will be lower if roads and bridges are reconstructed or constructed. Rising incomes in the rural areas will have multiple beneficial effects such as ability to undertake community self-help activities, reduce dependence and corruption as the rural population will earn their own incomes instead of depending on government-employed relatives whose income cannot take care of all relatives; and are hence induced to supplement their salaries illegitimately. Taxes on internal trade in South Sudan have to be abolished. Local governments can supplement their revenues by charging minimal poll taxes, based on the incomes of their residents but not on quantities of particular commodities produced, as taxes on specific commodities tend to stifle production.

As most food imports from Kenya and Uganda will increasingly come to be produced in South Sudan, these countries, among others, will be propelled to trade with South Sudan in higher-value manufactures, which will take time for South Sudan to produce. With abundant and cheaper food supply in urban areas, the cost of living will fall and so will the cost of production in industry and other sectors. The tax bases of state and local governments will

also be enhanced and so will their abilities to undertake their programmes in fields such as education, health, and water supply. Raw material for agro-industry and export earnings for servicing and expanding the economy will be ensured, thus reducing overdependence on oil for foreign exchange and domestic revenue.

For a long-term strategy to minimize reliance on exhaustible resource such as petroleum, South Sudan should begin to develop a variety of export crops. In addition to oil seeds, coffee, cotton, tea, and palm oil have been grown for cash in South Sudan. In the 1990s, other crops had demonstrated their potential for supplying the local and export markets. These crops included shea butter, chillies, sunflower, gum Arabic, soybeans, vegetables, fruits and honey. In the shortrun, expansion in the production of these crops should be encouraged. But in the medium and longrun, research into these crops for varieties that are high-yielding, pest and disease resistant will be important (Yongo-Bure 2007:33-50 & 204-206).

Availability of consumer goods gives the peasants incentives to earn more income. Since there is hardly any domestic manufacturing in South Sudan, imports of consumer goods should be biased towards the basic needs and wants of the peasants. Importation of household utensils, basic textiles, blankets, bicycles, sewing machines, farm implements, baggage, building materials, etc will spur higher development effort. In the meantime, South Sudan should be planning to eventually produce these products.

There should be continuous programmes to vaccinate livestock. Also essential for the animal industry are the provision of dry-season watering points, and the creation of large reservoirs or mini-lakes for dry-season watering and grazing. Training of many veterinarians and veterinary assistants must be greatly expanded. Research and cross-breeding will have to be restarted. Veterinary laboratories for vaccine production and testing have to be constructed. Local government taxation of cattle could help speed up the controlling of chronic animal diseases and provision of watering points as well as improvement of rangelands and primary education. A one-pound tax per head on half of one's herd of cattle, and the tax revenue used in the local community, would probably be acceptable to the majority of the livestock owners.

Construction of local access rural roads should be among the priorities of quick-impact programmes. In the light of the constraints on construction capacity, there is need to institute labour-intensive public works programmes at the county level to begin work on rural infrastructure. Each county should

be equipped with a basic package of road construction equipment with maintenance capacity. The county road equipment will be complemented with rural manual labour, thus increasing employment opportunities and reducing instability as many cattle-rustling youth will have alternative fields of productive employment. The use of local labour will infuse more cash into the rural economy and raise income and trade, in addition to raising the general productivity of the economy.

Oil refineries should be built in the oil producing areas, with pipelines linking the refineries to the major national consuming areas. Large oil storage depots should be built in every county. All these measures will ensure reliability of fuel supply at lower prices. The multiplier effects of the construction and operation of refineries and pipelines will considerably contribute to the alleviation of poverty.

GoSS has done substantial work in the area of providing social services such as education, health, and rural water supply. However, there is need for a functioning hospital in each county. Each state should have at least a modern referral and research hospital in the next five years. Sending government officials abroad for medical care is too expensive and discriminates against the ordinary citizen. Let South Sudan create its own modern facilities such as those in Kenya, South Africa, Uganda, etc, to which government officials go for better medical treatment. The national facilities will have far greater impact on health in South Sudan than the foreign ones.

The problems of water-borne diseases can be most effectively addressed by supplying clean water in both rural and urban areas. More boreholes should be drilled in the rural areas so as to eventually cover all the rural population. Piped water supply should be available to all residents of cities in the long run. In the short run, boreholes should supplement urban water supply. In the long run, however, boreholes are not appropriate means for urban water supply given seepage from pit latrines and sewage systems. Sewage systems should be developed in urban areas beginning with the large cities.

Facilities and spare parts for the servicing and maintenance of water supply machinery, equipment, and vehicles should be available at the county level. Other important long-term policy issues, regarding drinking water, include the building of community capacity to maintain the installed facilities as well as the extension of the services to cover all the population. This will involve training of servicing and maintenance capacity at the county and eventually at the community level. Local sources of funds, to be supplemented with central resources, will have to be developed.

To achieve the goal of universal primary education, higher education will have to be greatly expanded to produce the necessary number of teachers and other human resources. Even though there has been a substantial expansion in primary and alternative education during the Interim Period, the gross number includes young adults. This is fine, but it also means that many children of school age are not yet able to attend school. Hence, primary education needs more expansion and improvement of quality in terms of teachers, buildings, school supplies, etc.

Secondary education needs a major boost. As of 2009, there were about 44,027 students attending secondary school (grades 9-12) in the whole of South Sudan (MOEST 2010). Yet it is from this number that the universities and training institutions will recruit in the near future. Given the paucity of properly educated and trained human resources in South Sudan, this figure is very low. Hence, great efforts should be exerted in secondary school expansion. In any case, such a policy should be inevitable given the recent substantial increase in primary school enrolment. In the 1960s, the International Development Association (IDA) availed loans for the development of education in many newly independent countries. South Sudan should explore this avenue given that IDA's loans are not expensive to service and repay. After about a generation, the organisation charges an interest rate of 0 to 2 per cent (World Bank 2009).

The universities of Juba, Upper Nile, and Bahr el-Ghazal should be considerably expanded in both student-intake and the variety of courses dependent on the needs of the country. For the various developments envisaged and for the efficient running of both the public and private sectors, South Sudan needs a basic stock of well-educated and trained people. Beginning at a low level of stock, a big push has to be made to fill the wide gap otherwise whatever development is initiated in the short run will not become sustainable. The implementation, management, monitoring, and evaluation of all programmes and projects need well educated and trained human resources. While importation, especially from neighbouring countries, may fill in the gaps, in the long run local human resources will be important for the sustenance of development. There must be a conscious and genuine effort to recruit and encourage the South Sudanese in the Diaspora to return home to contribute. Recruitment for available posts in South Sudan can be undertaken in the country's embassies where there are large South Sudanese communities instead of requiring those in the Diaspora to return home before being considered for employment.

In fact, to enhance productivity in the public sector as well as to boost the indigenous private sector, redeployment of South Sudanese human resources is necessary. Veterans and aged civil servants should be deployed to productive activities in the private sector and be substituted with new graduates who are trainable in current technologies and processes. If given some handsome retirement packages, which they deserve, South Sudanese war heroes can have substantial positive impact on the private sector through investing their pensions and gratuities in construction and housing, farming for the market, security, trade, trucking, and so many other activities in the private sector. Institutions should be established to train and guide them in transitioning to productive private-sector activities. If given some training in various types of commercial enterprises, they can pick up areas of activities consistent with their aptitudes, interests, and locations. A productive private sector dominated by war heroes will give it respectability with the general public.

As much as a number of foreign banks have moved into South Sudan, the country needs to develop its own banks, which in the long run will come to dominate its banking industry. Considerable efforts must be made to develop such a vital sector. It will take time before the habit of banking becomes widespread. Therefore, it must be consciously developed. The persistent problems that the Nile Commercial Bank has been experiencing must be seriously addressed. Each state should establish its own bank(s) with the capital contributed by the central, state, and county governments. The citizens of each state should also buy shares in their state bank(s). This will reduce future complaints about unfairness in the functioning of the national banking system. At least an insurance and re-insurance company/corporation must be set up. States may also establish their own insurance companies, again with shares from the citizens of each county and state. Plans should be devised to educate and train human resources for the establishment of the nucleus of a financial system.

Manufacturing should focus selectively on those activities relevant to rehabilitation and construction, using as much local material as possible. The building materials industry is among the priority sectors. There is need for carpentry at the local level for the manufacture of furniture. Repair and manufacture of farm implements will enhance the growth of the agricultural sector. The manufacturing of packaging materials will gain in prominence as agricultural production and exports increase (Yongo-Bure 2007:62-63). Other products that can easily be produced in the early stages of manufacturing and are essential include hosiery, aluminium utensils, cardboard boxes, sanitary fittings, nails and screws, toothpaste, and many others.

Textile and leather industries have strong linkages to the national economy as the raw materials either already abound (animals) or can be produced annually (cotton). With rapid urbanisation, the manufacturing of sanitary products and fittings will be urgent. To expand education at as low cost as possible, many educational supplies will have to be manufactured in South Sudan. Hence, there is need to develop the pulp and paper industry from the abundant local papyrus as well as from agricultural (e.g., sugar cane and sorghum stalks) and wood by-products. The manufacturing of various spare parts for vehicles and industry will improve the overall performance of the economy, as high capacity utilisation will be made possible. Given the low level of entrepreneurship in the modern manufacturing sector, government policy will have to play an important role in the acquisition of skills and the development of local entrepreneurship.

Small-scale Cottage Industries

Small-scale and handicraft industries can make a significant contribution in generating employment, supplying inputs, and consumer goods. Most of cottage industries usually consist of activities already being undertaken, but due to lack of some complementary inputs, their full potential is not being realized (Yongo-Bure 1992). Therefore, public policy support to these activities could considerably improve the quality and quantity produced. The importance of this sub-sector in the reconstruction and development of South Sudan arises from the fact that this is the only industrial sub-sector that has had greater role than large-scale urban manufacturing in the new country. The skills for the revival and expansion of this sub-sector exist. Given the fact that this sub-sector requires less demanding complementary facilities and inputs, it could respond much more quickly to the recovery and development of South Sudan. Moreover, this sub-sector is of immediate direct benefit to the rural population through agricultural production, employment, and incomes as well as poverty alleviation and minimisation of rural-urban migration. Furthermore, together with peasant-based agriculture, it provides a sound basis for further development, as rising rural incomes will provide the necessary market for the other economic activities to be undertaken domestically.

Rural industry also contributes to food security as it supplies and repairs the farm tools and implements. It increases the market for agricultural output, leading to increased food production as well as the ability to purchase food for those not directly engaged in farming. In case of crop failure, rural non-

farm employment can provide earnings for food purchases from other areas and/or imports. Part-time rural non-farm activities reduce underemployment and therefore increase the income of the rural population and enhance their ability to purchase food and have a diversified food basket.

Some of the various activities that have been carried out at the subsistence level, both in the rural and urban areas consist of pottery, fibre weaving, leather works, carpentry, wood-carving, iron-mongery, home-made yarns, building materials, carpet making, cheese, granary, and musical instruments. Small-scale rural and urban industries undertaken mainly on commercial basis include tailoring, grinding mills, brick laying, brewing, crop processing such as tobacco curing, and repair works – especially of bicycles. While assistance to handicraft activities in the urban centres is not in dispute, greater efforts should be directed at encouraging these activities in the rural areas. Dispersed small-scale industries can reduce the rate of rural-urban migration. This effect would minimize the problems resulting from urban population concentration with stagnant employment opportunities in the towns.

Brick production is already widespread all over South Sudan. It should be promoted in every community as it is important for both public and private sector construction in terms of building schools, health centres, stores and houses. The making of large granaries for crop storage, from durable local materials such as bamboo, will contribute considerably to easing some constraints in the marketing system before large modern silos can be substituted for them.

Tailoring is of considerable significance in scope, employment, value added and income. Most of the rural population buys made-to-order instead of ready-made clothing. However, the cost of both second-hand and new sewing machines has risen beyond the means of most peasants. The high cost of sewing machines limits the number of tailors in the rural areas, which forces the rural population to walk long distances to purchase clothing and other modern necessities. This is largely because tailoring in rural South Sudan has been undertaken jointly (in the same premises) as retailing. This leads to the reduction in the supply of farm labour due to the time and effort spent walking long distances to obtain these services. The introduction of a hire-purchase system all over South Sudan can ease the constraint on sewing machine ownership.

To realize the production of adequate food supply and agricultural exports, the peasants must have plenty and reliable supply of farm tools and implements such as hoes, axes, pangas, matchets, slashers, etc. While most of

the inputs will continue to be imported, facilities for repair and maintenance will be a local responsibility. Given the scattered nature of the population in the vast area of South Sudan, it will not be possible to establish repair and maintenance centres for most peasants. The local blacksmiths will be crucial in providing the bulk of these services. This sub-sector should be given financial, technical and material support to enable it to upgrade the quality of its products and increase its productivity. Acquisition of information on farm tools and equipment from neighbouring countries or from countries at similar level of development is important. Examples include the FAO agricultural equipment improvement project in Kenya, the FAO village workshop project in Zambia, and the UNIDO project on village production of agricultural implements by local blacksmiths in Tanzania (ILO/JASPA 1983).

For easier rural transport and to increase competition in crop marketing, repair facilities and spare parts for bicycles must be widespread in the rural areas. Availability of grinding mills and water boreholes at the village level will enhance labour productivity as more time and effort will be released for other activities. Hence, the availability of tools and spare parts for the maintenance of these facilities as well as the training of local maintenance personnel at the village level is a must. Carpentry for chairs, tables, trays and cupboards at the village level can supply the local needs for these household items. The village carpentry will be necessary for the maintenance of the local school furniture.

Although processing of farm products for export will require modern facilities, local processing is important in such sub-sectors as fishing and hides and skins. In the remote fishing villages, fish not eaten or sold fresh is smoked, sun-dried or salted and sun-dried. The third method of local fish processing is the most efficient. Hence, availability of salt is critical for boosting food supply in the local fishing industry. The quality of hides and skins can be greatly improved through the way they are treated by the local herdsman during drying and storage. Shade and frame drying techniques should be expanded. New and better methods of treating hides and skins will raise the value of these raw materials for the tanning and leather industries. Consequently, South Sudan will be able to produce large and high quality leather products such as shoes, suitcases, belts, purses, etc. The thrust in this sub-sector is to raise productivity by supporting what is already being undertaken instead of introducing new activities.

Medium to Long-term Programmes

While most of the actions, projects and programmes discussed above are mainly short to medium-term, GoSS also needs to initiate plans for the long-run strengthening of the new country's economy. Where does GoSS want to see the new country ten to twenty years from now? This calls for projects which will have transformative impact on the country. This is where the major projects in industrialization, energy and power, irrigation, mining, and training of various specialists become pertinent. GoSS should give an indication of its plans for the development of the Fulla and Bedden

There is need for new hydroelectric projects as well as the development of transmission lines to the central, eastern, northern, and western parts of South Sudan, given that the hydroelectric potential of the country is concentrated south of Juba. The adaption of solar and wind energy technologies should also be seriously pursued. The extraction of alluvial gold, from Kapoeta and southern Bari was said to be important during the war. Can these goldfields be exploited on a large scale and help reduce South Sudan's overdependence on oil for foreign exchange and domestic revenue? What other Southern mineral deposits are commercially viable? What are the country's long-term plans for building a diversified self-sustaining economy and its relationship to the neighbouring countries' economies? What are the plans for an integrated transportation network in the next ten-to-fifteen years (major roads and railways, etc)? Indications of serious actions in these fields will give people some ideas about their future and get engaged in productive dialogue with optimism.

While GoSS may have already developed and appraised its post-referendum projects, this chapter suggests a look at a number of projects that were planned in the past but were halted because of the war. Some of these projects can be re-evaluated and incorporated in any of the short, medium, and long-term programmes of the new country (Yongo-Bure 2007:61-74).

Mefit's Projects

In the second half of the 1970s, the Regional Government of Southern Sudan contracted Mefit, an Italian consulting firm, to undertake a comprehensive analysis of the Southern Sudanese economy (Mefit 1979). Mefit produced a number of reports including one on projects that could produce goods for export, for the South Sudan market, as well as for local markets. There were eleven export market projects, seven for the Southern market, and nine local market projects.

Most of the projects were agro-industrial. The same pattern of development is still relevant for the predominantly rural economy of South Sudan. However, given the time that has elapsed since Mefit undertook its comprehensive surveys and analyses of various aspects of the economy of South Sudan, GoSS should commission a similar study that should come up with a number of implementable programmes and projects, and/or undertake a re-evaluation of the feasibilities of Mefit's projects so that those which are still profitable may be implemented with appropriate adjustments for the changes over time. With increase in population and incomes, most of the South Sudan market and local markets projects will have to be up-scaled and/or duplicated. Increased agricultural production and development of the power sector will fasten the implementation of many such projects.

Export Market Projects

The eleven export market projects were all in the crop and livestock production subsectors. They dealt with the processing of groundnuts (peanuts), pineapple, tea, cocoa, tobacco, and sorghum; cattle, sheep, and poultry raising centres; and egg, milk, and beef production. Maize (corn) production and processing should be included in this group. These projects were essentially medium-sized estate schemes each with an out-growers peasant component. The peasant out-grower component of each of these projects is important for a broad-based poverty reduction development strategy.

Mefit argued that increased production and processing of groundnuts and sorghum would be among the fastest industries that can be developed in South Sudan. Except for the areas of water-logging, both crops are grown all over South Sudan. Mefit suggested an integrated project for the two crops. The objectives of Mefit's groundnut project were to: (i) increase the availability of edible oils for the Sudanese and export markets; (ii) substitute export of groundnuts with those of its products such as oil and flours, which have higher values; and (iii) produce highly nutritive flour so as to improve the quality of both human and animal nutrition in South Sudan.

The project was to consist of: (i) a groundnut mill; (ii) specialized farms to be cultivated in groundnuts, sorghum and/or maize; and (iii) the improvement of productivity in peasant farms.¹ The annual output of the mill was to consist of flour and shells. While Merfit's preferred location of the mill was Juba, the farms can be located anywhere in South Sudan where there is no water-logging.

The sorghum project was to consist of specialised farms to be located near the major population centres, and improvement in the productivity of peasant

production around the specialised farms. With extension services to raise peasant productivity, the whole project would eventually become profitable. In the short run, the importance of the project results from its social benefits of providing basic food, and the profitability of the groundnut project integrated with it.

Thesorghum would be grown both for marketing and for seed. Seed production must be integrated by a functioning agricultural extension service so that peasants can effectively take advantage of it. The specialised farms would have flour processing and packaging plants. The sorghum varieties would be short enough for mechanical harvesting. They would have to be resistant to birds, contain a high percentage of proteins, and meet consumers' taste.

Mefit proposed an integrated pineapple export project to be located in the Meridi area. This is one of Mefit's projects which is being implemented in the post-second war period. The key project components were to include a factory capable of processing more than 20,000 tonnes of fruit a year, a specialised farm managed directly by the factory, and a system of family-managed farms. The family farms were to be situated around Meridi, Ibba, Mamba and Eidi. The total annual output of the project was estimated at 42,000 tonnes of fresh fruit. The canning plant would have a processing capacity of 22,000 tonnes of fresh fruit, which are approximately 12 to 15 thousand pineapples in eight months per year.

To increase the acreage and productivity of the family farms, it would be necessary to improve the road system and extension services as well as to extend loans to the farmers. Transportation for domestic and export markets would also need to be improved. It was also observed that verification of the appropriate pineapple varieties most suitable for the environment was essential so as to maximize productivity. Otherwise pineapple growing is widely practiced in the area, and favourable soils exist to permit further expansion. In addition to the fruit processing plant, the project would need an accessory plant for the production of metal cans for the export of fresh fruit, a nearby source of packing material (wood shavings, cartons), a refrigerated plant and refrigerated equipment for transporting the fruit. A thermal electric plant was installed in Meridi in February, 2011.

One of the components of Mefit's tea growing and manufacturing project was being implemented at Upper Talanga in the 1980s. Mefit confirmed the Yei area, on the basis of rainfall, as one of the most suitable area for growing the crop. Tea had been produced at Iwatoka, in the Yei area, since colonial times. Mefit envisaged the establishment of four integrated production

centres in South Sudan. Each centre was to consist of a factory with a yearly productive capacity of 500 tonnes of dry tea, and a group of family-managed tea farms, located in the factory's surrounding, covering a total cultivated area of 625 to 750 feddans. The Upper Talanga and Yei tea projects are planned for re-activation.

Mefit assessed cocoa as a marginal crop in South Sudan mainly because of rainfall requirements.² After providing for supplementary irrigation, the consultant identified the Tombura area as the most suitable location for a cocoa growing and manufacturing project. This project has the longest gestation period. But once all the areas destined for planting are fully developed, the project would give an annual export of 600 tonnes of cocoa beans. Later production of chocolate and powdered cocoa may be considered. The entire agro-industrial enterprise would become fully productive in about 16 years. While low immediate profitability characterizes this experimental project, the smallholders may eventually increase their acreage and productivity when its profitability is proven.

Commercial production of tobacco started in South Sudan in the 1950s. Being a crop of relatively low rainfall requirements, the crop has adapted itself to many areas in South Sudan. Mefit's proposed project consisted of three independent agro-industrial centres. Smallholders were to grow most of the crop. Each centre was to consist of: (i) a factory with a yearly processing capacity of 500 tonnes of dry tobacco leaves; (ii) a specialised farm covering an area of 375 feddans of which 250 would be cultivated in tobacco; the farm would be managed by the factory's administration; (iii) a number of family-managed farms, covering a total area of 900 feddans growing tobacco; these farms would be located in the area surrounding the factory; (iv) a total area of 1,150 feddans of tobacco plantations.

The annual yield provided by each specialised farm was estimated at 125 tonnes of dry tobacco leaves. Each family-managed farm should produce 360 tonnes of dry tobacco leaves per year. The factory would have to guarantee the purchase of tobacco from private growers. It would have to process it and supervise its marketing both domestically and abroad.

The cattle and sheep raising centres and related processing plants were to take advantage of the large livestock industry of South Sudan. However, in spite of the readily available raw materials, the project would take some time due to the need to train personnel and establish a steady supply of young livestock. The faster peasants would respond to raising and marketing of calves and lambs, the shorter the gestation periods for both projects. The rate of return on the beef

and lamb processing plants can be higher if the feeds can be supplied without irrigation as the investment costs would be lower. Still a better rate of return can be obtained if both processing plants can be merged into one unit with two processing lines, one for beef and the other for lamb. This should permit great saving with subsequent reductions in both investment requirements and operating expenses for the same level of production.

Each of the beef and lamb processing projects consisted of three distinct sections: an agricultural section for the production of fodder, an animal husbandry section for fattening of livestock or sheep, and an industrial section for slaughtering and meat processing. The project aimed at raising 30,000 heads of cattle per year, to yield 5,250 tonnes of meat (in half carcasses) for export, and the production of feed and fattening of livestock on five farms, each with an area of 3,000 feddans. In each of the five farms, 2,750 feddans would be irrigated for the production of maize and sorghum, a fattening centre for 6,000 heads of cattle, and silos and warehouses would be constructed for stocking the forage. The 30,000 cattle per year would be slaughtered in a location as central as possible to all five farms.

The production process would include the processing of the maize and sorghum into silage as maize, maize cakes or mash, and sorghum flour. Calves would be purchased on the South Sudan market for fattening. These would consist of male calves with average weight of 70 kg (one year old). These calves would be raised for an average period of 300 days, until they reach a medium live weight of 350 kg. The 30,000 heads of cattle would be slaughtered in one slaughtering-refrigerating processing plant. The annual output of the plant would consist of beef in half carcasses, hides, a variety of meats (entrails), and protein flour.

The sheep project aimed at raising 120,000 lambs a year to produce 1,800 tonnes of carcasses of meat. The lambs to be fattened would be purchased locally, with a live weight of 15 kg (six to eight months of age). Production of feed and fattening of stock would take place in four farms, each with a size of 850 feddans. In each of the four farms, 790 feddans would be irrigated for the production of maize and sorghum. Each farm would have a fattening centre with a capacity of 10,000 lambs capable of completing three fattening cycles a year, giving a total of 30,000 lambs altogether. Silos and warehouses would be constructed for stocking the feed. The 120,000 lambs fattened every year on the four farms would be sent to a butchering-refrigerating processing plant to be built near the farms. The annual output of the plant would consist of lamb in carcasses, kip (hides), protein flour and pluck (entrails).

Mefit suggested the area north of Malakal, particularly the Renk area for the location of both projects because, by then, the Middle East oil exporting countries were the markets targeted. However, during the second war, cattle from southern Bahr el Ghazal were exported to Uganda. Moreover, the tsetse infested Green Belt and Western Bahr el Ghazal are protein deficient regions. Kapoeta is another area with plenty of raw material, especially sheep. Kapoeta is also closer to the Kenyan market and other export markets. Furthermore, the potentially large market of the Democratic Republic of Congo and to a lesser extent the Central African Republic (CAR) markets are available for meat exports from South Sudan.³ Moreover, population growth, economic growth and development, and increasing urbanisation will result in greater demand for food and meat, particularly by the non-farming population.

Egg and poultry consumption is the cheapest sources of animal protein. Egg and poultry production can be undertaken almost anywhere in South Sudan. Hence, Mefit proposed the establishment of poultry raising and egg production centres. These centres were to be located in the agricultural areas around Juba as Juba was/is the largest market in South Sudan. Moreover, Juba was linked by good transportation to the other towns of South Sudan as well as to North Sudan, and neighbouring countries. Furthermore, Juba Airport was being upgraded to international standards. However, now the project can be located in many centres in South Sudan as population and incomes have grown.

For the Mefit project, an integrated poultry breeding system was to be established. A poultry company would be responsible for the feeder mill, brood-stock raising, incubator, the processing plant (slaughtering, dressing and freezing), and the marketing of the finished products. Individual farmers would be responsible for raising poultry for fattening. A contract system would be established between the farmers and the poultry company. The company was to supply the farmers with one-day-old chicks, feed, medicine and disinfectants, technical and veterinary assistance. The farmers would attend to the chicken raising and bear the costs of labour, litter material and operation expenses. At the end of each raising cycle, the company would buy the chicken from the farmers for processing. The processing would involve slaughtering and refrigeration. The raw material for the feeds would be from the local production of maize, sorghum, groundnut flour, cottonseed cakes, and sesame-seed cakes. Hence, the project would lead to increased production in other sub-sectors. Training and organising the integrated farmers would play an important role in raising the productivity and profitability of the project.

The egg-processing project was initially to depend on the import of one-day-old female chicks from Italy to produce 55.5 million eggs per year (or 153,000 eggs per day). This was because of the modest capacity of the project that could not justify the implementation of a brood-stock raising *system*.⁴ The project was to consist of six brood-stock raising centres, 12 laying centres, one egg grading and packaging centre and one droppings dryer plant. A feed mill, which could be integrated into the poultry fattening system, would take care of processing and supplying the feed stuff. The droppings should be dried to produce high-value organic fertilizer.

South Sudan Market Projects

The main consideration Mefit took into account for the selection of projects for the South Sudan market included increase in employment, a better and more efficient use of local resources, and greater integration of existing productive resources. Therefore, the consultant recommended projects that would use wood, quarries, hides and skins. The bicycle and soap projects were included due to the need to facilitate mobility in South Sudan and the necessity of lowering the cost of raising hygiene and sanitary standards. A factory for making blankets should be included in this list.

The building components industries project was basically the production of prefabricated panels of reinforced concrete to be used for private homes, industrial sites, road building, and public buildings such as schools, hospitals, administrative buildings, etc. The importance and hence the scope of this project would increase with population and economic growth and development. With increasing urbanisation and industrialisation there will be an increased need for housing, industrial, and other productive units such as warehouses, livestock and breeding farms, etc. The project has also strong backward effects as it has strong linkages to the brick, cement, and wood industries. Hence, its impact on production, employment and income in South Sudan would be substantial. Moreover, its products would increase the longevity of capital goods in South Sudan, particularly in the construction sector.

The construction phases of the project would last about two years. Depending on the availability of the required labour and other complementary inputs and services, the prefabricated panel industry would take about three years to generate its maximum employment and a fully productive working schedule.

The building material industries project was proposed to furnish the construction components necessary for the building of low-cost housing, including do-it-yourself. The simplicity of assembly of the selected

components would guarantee rapidity of construction, as well as a high grade of building quality. This project would complement the building components' project, as it would also include the prefabrication of reinforced concrete panels for public and industrial buildings.

The project was to consist of two plants. The first plant was to handle the acquisition and processing of raw materials, that is expanded clay. The second project was to prepare prefabricated blocks of diverse types in relation to the various mains and supporting masonry, partitions and coverings. The production process was to be flexible such that, the dimensional pattern could easily be amplified and reproduced according to the needs of the building materials of the area. With the growth in population and income, this project can be replicated in many locations.

The wood processing industry was to include products such as doors, windows, office furniture, and components of kitchen furniture. With increased economic growth and development, and population growth, there would be an increase in demand for housing and public buildings, which in turn would lead to increase in demand for the products of the industry. Furthermore, there would always be demand for all and various types of restructuring and repairing activities for existing homes.

The bicycle project was included in the development plans of the Southern Regional Government in the 1970s, but was not executed. Bicycles of various types and sizes were to be produced. Mefit foresaw on-the-spot construction of bicycle frames, painting of the same, and the assembly of imported accessories. The project was to be expanded to the assembly of motor cycles; and the manufacture of chassis, parts for agricultural and industrial machines as more skills were gained. The bicycle has been an important means of cheap peasant haulage of produce to local markets and can play an important role in crop marketing. The motor-cycle has become a major means of passenger transportation in the post-second war period. Special designs of both the bicycle and motor-cycle could be developed to suit the local conditions and purposes.

The manufacture of matches was an import substitution project aimed at taking advantage of South Sudan's abundance of the main raw material, wood. After meeting the national market, in the first phase, expansion in the second phase would lead to production for export to North Sudan as well as to other countries. Two different groups of machines were to be installed: one for the production of small wooden pieces of the match base, and the other for the production of matches. Two types of matches were to be produced:

a family type made up of 100 matches with rough phosphorous, and the Swedish safety match, in boxes of 50 matches.

The manufacture of leather products was to be transformed from traditional to more efficient industrial processes. The products of the modern manufacture were to include purses, shoes, suitcases, etc. The presence of plenty of skins and hides, as well as the development of the animal industry and the processing of animal products provides ample supplies of raw materials. After meeting the needs of South Sudan, the capacity of this industry would be expanded for the export market.

The soap-manufacturing project was aimed at improving the living conditions of the population by raising hygiene and sanitary levels. A locally-made product would be relatively cheaper than imports, and would lead to a more intense use of these products. The plant was to produce several types of soap – in bars, flakes and powder – so as to satisfy the various family-level requirements such as personal hygiene, washing clothes, kitchen use, etc. The plant was also to be able to produce more sophisticated products as basic chemicals became plentiful. Products such as detergents were/are only imports in South Sudan. The project was to make the import substitution of such projects possible, both for family as well as for handicraft and industrial use.

Local Market Projects

Mefit's proposed nine local market industrial projects were sheet metal fabricating, paint and varnishes, wire products, bakelite electrical accessories, hosiery, aluminium utensils, corrugated cardboard boxes, sanitary fittings, and a tooth paste unit. Mefit envisaged that the local market projects would be located in district/county headquarters. These projects could easily be undertaken, as the investment on them would be quite limited. All these projects would be executed in about 12 months, except for the paint and varnishes plant, which would take 16 to 18 months to construct. Furthermore, the goods can be made with local inputs. Finally, these projects would help in the transformation of such existing activities that use inefficient traditional methods, through the introduction of modern techniques and forms of labour organization. On the whole, the projects Mefit proposed are based on very simple technological processes, do not require very qualified human resources, use mainly local resources, and are highly remunerative. Each of these projects can be replicated in many counties on scales dependent on the population.

The sheet metal fabrication project was to produce laminated metallic material for use in the production of tables, chairs, tanks and similar products. The annual productive capacity of each plant was projected to range from 100 to 120 metric tonnes. The raw materials were to be made up of 150 metric tonnes of steel per year, and 4,000 litres of water per day.

The paint and varnishes project was to supply the building industry with an annual output of 300 metric tonnes. This plant may be replicated in other areas. The input requirements for each plant would include 30,000 litres of dry oils, 30,000 litres of solvents, 25 metric tonnes of colour pigments, 100 kW of electric energy and 80,000 litres of water per day.

The wire products project was to produce nails, screws, clips, and other metallic products, designed for use in the building and construction sector, including office and housing. The productive capacity of the plant was planned at about 25 metric tonnes of metal parts per year. The necessary raw materials include about 30 metric tonnes of steel and 10 to 15 kW of electric energy, glues, lubricants, etc. The output of this unit was to be about 25 metric tonnes of metal parts annually. With the boom in the building industry in the post-second war period, many plants of this project would be necessary.

The aim of the bakelite electric accessories unit was to produce electrical materials such as plugs, switches, etc., for the building industry. The projected annual output was 80 to 100 thousand switches, 40,000 plugs, 10,000 junction box plates and 20,000 lamp holders. The raw material consists of four to five metric tonnes of formaldehyde powder, seven to eight metric tonnes of brass sheets, and 250 to 300 pounds of polystyrene moulding powder. Once again, more plants of such a project would be needed to meet the increased demand for its products.

The hosiery unit was to produce clothing and knitwear of simple types and broad consumption. Its annual production was to consist of 300,000 units of cotton dresses and robes, and 350,000 units of personal knitwear. The base raw material for these products was placed at about 50 metric tonnes of spun cotton per year, and 15 to 20 kW of electric energy per day. With increased demand and an increasingly sophisticated market, large quantities of a diversified product would have to be manufactured. Increased cotton production should be encouraged.

The aluminium utensils unit was to produce kitchen utensils for the local market. The utensils were to include plates, pans, knives, forks, spoons, etc. It was geared to produce 30 metric tonnes of utensils annually. Its daily

consumption of electricity was estimated at 40 kW, while a total of 32 metric tonnes of aluminium raw materials would be required per annum. This is another project whose production capacity would have to be greatly expanded in consistence with population increase.

The corrugated cardboard box unit was meant to produce cardboard boxes, paper envelopes, and similar objects for wrapping and boxing products such as soap, clothing, electrical products, and the like. The plant was to produce 170 metric tonnes of corrugated cardboard cartons, and 85 metric tonnes of kraft paper and straw paper; 90 metric tonnes of cardboard or millboard; and 25 metric tonnes of adhesives. More such projects are needed in the post-second war period.

Conclusion

The hope for improved living conditions in South Sudan, under a separate nationhood, was one of the major factors in the overwhelming vote for secession. Consequently, the government of the new country is expected to immediately initiate a serious programme of socio-economic development. The programmes, projects, and policies outlined in this chapter constitute some of the feasible activities that can substantially reduce poverty in South Sudan within a few years. Not all the projects and programmes outlined above are to be undertaken by the government, but the various levels of government are to play leading roles in organising and coordinating all the actors: public, private, and co-operative sectors; NGOs, bilateral, and multilateral donors. Given the great need for physical and social infrastructure, the public sector will have to play a very important role in the economy since the private sector rarely undertakes infrastructural projects. The private and co-operative sectors should play important roles in undertaking the directly productive activities.

Redeployment of veterans and old civil servants to more remunerative activities in the private sector will allow for the recruitment of new trainable civil servants, with the relevant levels of education, in key positions in the public sector. Such a policy will enhance the efficiency and productivity of the public sector. At the same time, it will infuse both capital and relatively experienced and trained domestic human resources into the private sector.

The largest private sector in South Sudan, at this stage of its development, is the peasant sector. Tapping this potential through appropriate policies will impact considerably on South Sudan's medium and long-term development. More efforts should be exerted on the development of this domestic sector rather than on the present vigorous hunting for foreign investors. Foreign investors will

not need much effort to attract when the profitability of the economy will have been enhanced through investing in the local factors. Profitability of the domestic economy will depend largely on improving its productivity and enlarging the domestic market. Permanent improvement in productivity will depend on investment in human resources and infrastructure; while growth in the domestic market will depend on cumulatively rising gross domestic income. The latter is dependent on raising the incomes of the majority of the population who, at the present moment of South Sudan's development, are predominantly peasants.

Notes

1. 1 feddan = 1,038 acres= 4,200 m².
2. The rainfall requirements for ideal cocoa growing were not available in Southern Sudan at the time of the study (late 1970s). These requirements include 1,500-2,000 mm annual rainfall, uniformly distributed. However, supplementary irrigation can correct for the natural rain in parts of South Sudan such as Yambio.
3. The areas of Central African Republic and the Democratic Republic of Congo (DRC) are also infested with tsetse fly, and hence have limited livestock industries. The DRC, with its huge resource potential and large population is a large potential future market for the countries surrounding it; and especially for animal products in the case of South Sudan.
4. With growth in population and rise in incomes, a large plant(s) may be possible; and hence, a national brood-stock raising system may become economical.

References

- International Labor Office (ILO/JASPA), 1983, *Appropriate Farm Equipment Technology for the Small-Scale Traditional Sector, Synthesis Report*, Addis Ababa/Geneva.
- Mefit S.P.A., 1979, Regional Development Plan, Vol. 1-Part Two: Key projects, Rome.
- Ministry of Education, Science and Technology (MOEST), 2010, *Education Statistics for Southern Sudan 2009 Statistical Booklet*, Juba.
- World Bank, 2009, *Sudan: The Road Toward Sustainable and Broad-Based Growth*, Washington, D. C., December.
- Yongo-Bure, B., 1987, 'Prospects of Socio-Economic Development in the South', in Francis M. Deng and Prosser Gifford, eds, *The Search for Peace and Unity in the Sudan*, Washington, D. C.: The Wilson Center Press, pp. 36-55.
- Yongo-Bure, B., 1988, *North-South Relations in Sudan since the Addis Ababa Agreement*, Khartoum: Institute of African and Asian Studies and Khartoum University Printing Press, (Co-edited with Mom Kou N. Arou).

- Yongo-Bure, B., 1989, *Economic Development in Southern Sudan: An Overview and a Strategy*, Sudan Research Group, Institute for World Economics and International Management: University of Bremen.
- Yongo-Bure, B., 1992, 'The Role of Small-Scale Industry in the Recovery and Development of the Southern Sudan', in Martin Doornbos, Lionel Cliffe, Abdel Gharffar M. Ahmed, and John Markakis, eds., *Beyond Conflict in the Horn: Prospects for Peace, Recovery and Development in Ethiopia, Somalia and the Sudan*, The Hague and London: The Institute of Social Studies and James Currey, pp. 165-171.
- Yongo-Bure, B., 2005, *Peace Dividend and the Millennium Development Goals in Southern Sudan*, Sudan Economy Research Group, Institute for World Economics and International Management, University of Bremen, Germany, September.
- Yongo-Bure, B., 2007, *Economic Development of Southern Sudan*, Lanham, MD: University Press of America, February.
- Yongo-Bure, B., 2007, *Human Capital Policy in Southern Sudan in the Post-Second War Period*, Policy Brief # 53, The William Davison Institute at the University of Michigan: Ann Arbor, April.
- Yongo-Bure, B., 2007, 'Southern Sudan: A Macroeconomic Perspective on Development Priorities, Challenges and Opportunities', in Philip Ochieng, ed., *Building a New and Prosperous Society in Southern Sudan in the Post Conflict Period*, Nairobi: African Research and Resource Forum, pp. 57-83.

