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153p
diagrams
tables

KENYA SUBCONTRACTING AND PARTNERSHIP EXCHANGE

SUB-CONTRACTING
IN THE
AGRO-INDUSTRY SECTOR IN KENYA

A Preliminary Survey
of
Present State, Opportunities and Constraints
and
Proposals for Exploiting Potential

Report Prepared for KSPX and UNIM

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Abbreviations/Acronyms

CLSMB	Cotton Lint and Seed Marketing Board
FAFS	East African Fine Spinners Ltd
FKE	Federation of Kenya Employers
GDP	Gross Domestic Product
ISIC	International Standard Industrial Classification
"jua kali"	(Swahili-hot sun): informal sector enterprise/activity
KAM	Kenya Association of Manufacturers
KBS	Kenya Bureau of Standards
KIE	Kenya Industrial Estates
KIRDI	Kenya Industrial Research and Development Institute
K-MAP	Kenya Management Assistance Programme
KNCCI	Kenya National Chamber of Commerce and Industry
KNTC	Kenya National Trading Corporation
KSA	Kenya Sugar Authority
KSPX	Kenya Sub-contracting and Partnership Exchange
KTDA	Kenya Tea Development Authority
MoI	Ministry of Industry
NCPB	National Cereals and Produce Board
PTA	Preferential Trade Area for Eastern and Southern Africa
SEFCO	Small Enterprise Finance Company Ltd
SITC	Standard International Trade Classification
UNIDO	United Nations Industrial Development Organization

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We wish to express our deep gratitude to individuals in businesses both small and big who provided information on operations of their firms and insights on a wide range of issues. The Federation of Kenya Employers and the Kenya Management Assistance Programme made special contribution regarding the institutional framework of the KSPX and we are grateful to them.

The study team wishes to record its indebtedness to the efforts of other researchers, particularly those at the University of Nairobi whose on going work and publications provided additional information and synthesis that we were able to draw upon.

CHAPTER ONE

INTRODUCTION

1.1 Overview of concept and issues of sub-contracting

Sub-contracting is a device of industrial organization, widely used as a strategy of production management in many fields. It is unrefuted that a totally integrated industry with the entire production process from raw material input to final output for every component is technically impracticable and inefficient. A manufacturing firm may engage several sub-contractors to undertake part of the production systems. Economies will be realized through scale of production, specialization leading to higher quality and flexibility in terms of production planning and inventory management.

Why the concern? The pre-occupation with investment and economic growth, and the quest for industrialization by developing countries makes it imperative for managed industrial development vis-a-vis the spontaneous, market-determined alternative. In particular there is a realized need for structural adjustment of the economy to increase the role of manufacturing so as to enhance the value-added of domestic production for sustained economic growth, price stability of farm products and increased international competitiveness. At any rate, assisted sub-contracting aims to re-inforce the development process and is not an end in itself. The Kenya Subcontracting and Partnership Exchange (KSPX) was set up for the purpose of fostering industrial growth through promoting and facilitating sub-contracting between firms.

In Kenya, government economic policy emphasizes efficient use of resources. Growth of industry has fallen behind the rest of the economy in the last decade as "infant industry", created under the protective policies of the the 1960s and 1970s, has failed to become competitive internationally. Production capacity is underutilized partly because of the increasing gap between import requirements and foreign exchange availability. Export earnings and domestic production have stagnated in response partly due to unfavourable trends in the world economy and partly due to deficient macro-economic policies. Inefficiency in resource use and continuing subsidies to public industries have brought about budgetary drain in a period when resources have become increasingly scarce. It is against this adverse background that a new approach in industrial strategy has been put forward. According to Sessional Paper No 1 of 1986,

2

Kenya's prospects for accelerated development have highest potential in agro-industry. Not only does it entail high local value-added, particularly in foreign exchange terms but it has advantage in income distribution and employment creation.

1.2 Study rationale, objectives and scope

This study aims to identify the potential, scope, opportunities and constraints of sub-contracting in the agro-industry sector of the Kenyan economy. It appraises the institutional and implementation mechanisms of the KSPX and proposes policies and actions to enhance the effectiveness and sustainability of the exchange. The study focusses on manufacturing and processing of agricultural and agro-forestry products. The activities included are those in the International Standard Industrial Classification (ISIC) all 4-digit code range between 3111 to 3420, shown in Appendix A. The purpose is to provide information to enable the KSEV plan the approach and mobilize resources to embark on extending its operations and programmes to the sector in the near future.

1.3 Methodology of Study

In view of the fact that the sub-contracting exchange is a novelty in Kenya, this enquiry could not be formulated in all respects a priori. An inductive qualitative and exploratory approach was pursued, rendering unsuitable statistical methodology for handling the information gathered. Within the time and budget resources of this study project, information was sought by means of literature review, discussions with officials of the KSPX and its affiliated institutions and through case studies of firms judiciously selected from the agro-industry sector, whose members of management could provide the needed help. Visits were made to these firms which were considered to be representative of their respective sub-sectors in terms of the sub-contracting phenomena. More information on other firms was collated from current active directories of trade associations, particularly KAM and K-MAP. The Consultants also relied upon their previous consultancy results to complement the above information.

The findings and conclusions will, therefore, remain tentative until more information of relevant factors becomes available. The results provide hypotheses and a basis for conducting detailed quantitative studies which, indeed, is recommended as an action agenda of the KSPX.

A Literature review

There is a fairly wide body of general information in the area of industrial linkages and sub-contracting¹. However, information on specific industries and products in Kenya is sketchy, outdated or totally lacking. We review briefly below the most relevant and readily available material which we were able to draw upon for this study. It should be noted that some policy and administrative documents of the Ministry of Industry and the KSPX, made available under confidential cover, are excluded in this review.

The Central Bureau of Statistics has, in the past, prepared input/output tables modelling resource flows between all sectors in the entire economy. While highly informative, they are handicapped by obsolescence and irregular appearance. In addition to these problems Surveys of Industrial Production are faced with lack of detail and incomplete coverage. (CBS 1977 and 1980)

During the past ten years when the focus of economic development has been directed at export-promotion industrialization, the work by the Industrial Research Project at the Department of Economics, University of Nairobi, has provided the most broad and detailed studies of the state of the Kenyan industry. The continuing project has culminated so far in two books (Coughlin 1988 and Coughlin 1991) in which some 30 papers of policy analysis and case studies of industrialization in Kenya reveal achievements, problems and opportunities. A persistent theme of the papers is inefficiency and capacity underutilization as the main weaknesses of industry at firm and sectoral level. Defective policy, weak institutional structures and unfavourable domestic and external political influences are considered to be the main exogenous causes inhibiting rapid industrialization.

A UNIDO-sponsored seminar held in Nyeri in 1990 laid the foundation for the establishment of a sub-contracting exchange in Kenya. The seminar report (UNIDO 1990) brings together perspectives and information on aspects of sub-contracting by a number of government and donor agencies, statutory bodies and private enterprises. With the exception of the footwear industry, the information provided in papers presented is of general or sketchy nature. A strong case for a sub-contracting exchange in Kenya with a phased programme of implementation was put forward.

We did not come across any quantitative information

¹See bibliography

pertaining specifically to sub-contracting in the agro-industry sector. However, three studies contain significant findings. Schluter (Schluter 1984) argues that there is a large potential market for food and beverage exports based on high-value, low-volume crops produced in Kenya. It requires certain institutional and policy development in the agro-industry sector to break into this market. McCormick has pointed out that small firms in Kenya tend to survive and grow by proliferating and diversifying rather than expanding their operations - a risk-management strategy as well as a manifestation of lack of adequate managerial capability (McCormick 1992). It is doubtful, therefore, that small-scale enterprises can readily participate in the industrialization process, through, say sub-contracting, unless the risk-prone environment is improved. A study of outgrower contract farming schemes (Ayako 1989) for sugar cane, tea, tobacco, sweetcorn and horticultural and oilseed crops found mixed results of success. The main constraints of sub-contracting were poor management, inability to penetrate high-value export markets and technical extension to improve farming methods in the field. It is recommended that an enabling environment, which reduces various risks to small-scale farmers is a prerequisite for the success of these schemes.

The list of secondary information sources is in the bibliography of this report.

B Discussions with officials of the KSPX and affiliated institutions

- i As a starting point, the Consultant was first familiarized with the set-up, organization, management, operations and programmes of the KSPX. The exchange manager and the industrial engineer of the KSPX provided information on the exchange, including a number of relevant documents.
- ii Discussions were also held with officials of the following institutions:

K-Map
Ministry of Industry
Federation of Kenya Employers

The discussions dealt primarily with macro-economic environment and the institutional setting of the KSPX. They also touched on the potential technical resources which could be provided by institutions affiliated with KSPX.

- iii Information was obtained from secondary sources on these organizations:

K.I.R.D.I.
K.B.S.
K.I.E.

The main interest was the potential interventions they could provide to facilitate sub-contracting.

C Field survey (case studies of selected firms)

The list of firms and organizations contacted for this study is presented in Table 1.3. Interviews were conducted with officials of some ten organizations. Responses were sought by means of discussion, using the list of factors in Sections 2.3 and Section 3.1 of this report. As there was ample documentary information on two organizations in the leather industry (Bata and Tiger Shoe) it was decided to utilize the information rather than pay a visit to the firms (UNIDO 1990).

Selection, survey instruments, enumeration, response

As wide a cross-section of types of agro-businesses as possible was included in the survey. Selection was based on the researchers' knowledge of and familiarity with conditions in the industry. An attempt was made to diversify the selection, taking into account such factors as the economic activity, geographic location, raw materials, products, processes, corporate status, etc.

As explained above, a checklist of descriptive and appraisal factors pertaining to the firms and their sub-contracting environments was developed and used as a guide for discussion with the individuals in the organizations which were contacted. These factors were identified through briefings between the consultant and officials of KSPX. A physical reconnaissance of kiosks, markets, stores, supermarkets and butcheries was conducted to supplement information gathered from the interviews.

The consultant team comprised of an industrial economist and a statistician/survey expert, assisted by a research assistant. The field study was conducted by the survey expert and the research assistant. Because selection of the firms was subjective and the information sought of qualitative nature, the rate of response was not of importance. A firm, if selected, which could not be accessed because of inability or unwillingness of management to participate in the study was disregarded and substituted by another which was similar to it.

Table 1.3: Case Study Selected Organizations/Firms and Activities/Products

Organization/ Firm	Agricultural Raw Materials	Products
K.T.D.A. (representing 39 tea factories)	Tea (green, small-holder)	Tea (black)
K.S.A. (representing all sugar co.'s)	Sugarcane	Sugar, Molasses, gasohol, potable alcohol, bagasse
Trufoods Ltd/ Kenylon Ltd/ Kabazi Cannery Ltd	Fruits and Vegetables	Jam, Sauces, Squashes and assorted foods and ingredients
Unga Group Ltd (Unga Maize, Unga, Elianto, Unga Feeds, Elliot, Proctor & Allan, Ufuta)	Maize, wheat	Maize flour, wheat flour, animal feeds, pasta, cooking oil, breakfast cereal, bread
East African Fine Spinners	Cotton	Yarn and Thread
Panafrican Paper Mills Ltd	Trees, (Sugarcane)	Paper and Board
Bata Shoe) Tiger Shoe	Hides and Skins	Footwear
Farmers Choice Ltd	Pig	Meat (Pork, Sausage, Ham, Bacon), Lard
Mr Wachira (Jua Kali furnit- ure maker)	Timber	bed, table, chair, wardrobe cabinet, bookcase, upholstered suite, general/special furnit
Deacons Ltd	(Ready-made Garments)	Retailing apparel goods
Tetra Pak Conver- ters Ltd	(Paper)	Liquid food packag.(industrial)

D Analysis

In order to realize the objectives of the study explained above a synthesis was performed of both the information from secondary sources and the qualitative data obtained in the field study.

The effort to promote and facilitate sub-contracting is taking place in a macro-environment of a mixed economy in terms of public and private ownership, and local and foreign investment. The monetary economy of Kenya has its roots in colonial era during which mercantilism was first established and subsequently succeeded in importance by agriculture. Current policy thrust is to enable industry to assume a leading role. Chapter Two describes the structure and evolution of the Kenyan economy tracing the origins and development of industrialization and highlighting the strengths and constraints of the agro-industry sector.

This study gained a picture of the sub-contracting practices in the agro-industry sector through case studies of firms directly or of organizations representing a cross-section of industry (eg KSA). The findings are reported in Chapter Three. Specific opportunities of sub-contracting in the agro-industrial sector are described in tabular form in Chapter Four. Potential for involvement of other sectors is also discussed. Reviewing the present management, organization, operations and programmes of the KSPX, Chapter Four proposes actions and institutional changes which the exchange should undertake in order to become an independent and self-reliant entity, able to extend its coverage to the entire manufacturing sector. Government must continue to facilitate an enabling environment for industry to diversify and grow. Through a framework of classification and analysis of relevant factors, certain broad suggestions of policies and actions are made in Chapter Five. The chapter concludes with recommendations of an action plan and implementation strategy which KSPX should embark upon.

Table 1.4
Coverage of Terms of Reference

i	Overview of current state of sub-contracting	Chapt. 3
ii	Potential areas of sub-contracting in sector	Chapt. 4
iii	Institutional framework involved in agro sec	Chapt. 5
iv	Prop. instit./KSPX co-op. to enhance s/contr	Chapt. 5
v	Findings & recommendations on i, ii, iii & iv	Chapt. 6

1.4 A Summary of Key Results and Conclusions

A catalogue of sub-contracting opportunities within, and potential for involvement by other sectors in the agro-industrial sector is given in Chapter Four. Profiles of some sub-sectoral linkages in the agro-industrial sector are presented schematically in the appendices of this report.

The scope and realized potential sub-contracting in the agro-industry sector at the present time is small, relative to the significance of the sector in terms of its national product and size (number of firms and labour force). The most promising possibility to stimulate agro-industries through sub-contracting lies in a two-tier strategy, namely, first commercializing certain agricultural activities at the farm level and then, secondly, creating and expanding markets for inputs and outputs. This preliminary study has drawn some conclusions based on limited literature review, discussions with informed managers/experts in the industry and observations of conditions and factors prevailing in the Kenya economy:

- a. Research in and the market for sub-contracting are hampered by the lack of relevant and up-to-date technical information on activities, products and processes in the economy. Until the establishment of the KSPX in 1991 no system, formal or informal, of data network and information exchange on sub-contracting had been attempted in Kenya. A large section of the concerned publics are still yet to be made aware of the existence and activities of the KSPX. Policy intervention in practical terms has been inadequate.
- b. Although agriculture and agricultural industries contribute significantly Kenya's GDP the scope and the exploited potential of sub-contracting in both sectors is small. The local market for processed food is small because the majority of the population produce and consume food on their own farms. Sub-contracting in the food manufacturing sector is manifested mostly in packaging. The two most important cash crops, tea and coffee, are produced mainly for the export market.
- c. Agro-industry manufacturing in Kenya involves mainly assembly line and chemical process systems using high-investment capital intensive technology. These utilize mostly imported specialized machinery and equipment for which there is a relatively small market for sub-contracting. Most food commodities are perishable and their processing requires exacting demands of hygienic handling, making it unsuitable in Kenya conditions for a manufacturer to use sub-contractors.

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- d. Kenya's industry is young, using relatively simple technology - in most instances aiming to produce from raw material to the consumer product. The intermediate goods sector is underdeveloped. In similar vein the skill endowment of the industrial labour force in the economy is insufficient for effective absorption and diffusion of sophisticated industrial technology.
 - e. There is a reported prevalent attitudinal barrier to open market sub-contracting premised on the fact that most industrial firms are non-indigenous family concerns whose owners are reluctant to co-operate with up-and-coming indigenous enterprises.
 - f. The business environment, whereby the economic and social consequences of enterprise failure are severe, inhibits small firms growing. Remaining small - and consequently below the threshold size to undertake industrial sub-contracting - is a rational risk-management strategy commensurate with the risks and opportunities faced by new and up-coming firms. This phenomenon underlies the stunting of formation of a dynamic manufacturing sector.

CHAPTER TWO

DEVELOPMENT AND PRESENT STATE OF THE AGRO-INDUSTRY IN KENYA

In order to appreciate the policy context of sub-contracting in the agro-industry sector and an institutionalized service medium like the KSPX, we first examine the macro-economic framework and the underlying factors. This chapter describes the structure and trends of the Kenya economy, focussing on issues which necessitate a dual agro-industrial strategy as a means for orderly and efficient development.

2.1 Historical Development and Macro-Economic Overview

The importance of agriculture in the Kenya economy cannot be overstated. It is the focal activity, providing the basis for development of other sectors of the economy. Agriculture is geared towards food production and generation of raw materials and processing of commodities for export. Over the years the sector has endured negative terms of trade with the rest of the economy (Sharpley 1974).

Origins of Industrialization

The economy of Kenya has always been and continues to be dominated by agriculture. With a rapid growth rate of population which has remained well above 3% p.a. for decades and the persistent subsistence inertia, the vast majority of people are engaged in and depend for their income on agriculture.

Although manufacturing was not given priority during the colonial era, free enterprise resulted in the creation of a nucleus of activities, mainly in food processing, around Mombasa and Nairobi. Thus, industrialisation process started involuntarily and by the 1950s the foundations of Kenya's industry had been laid and East Africa's economies were booming. Kenya was able to exploit to the full Nairobi's advantage to become the centre for growth industries serving the East Africa region. By early 1960's the manufacturing sector constituted 9% of domestic production while agriculture contributed 31%.

After Independence Kenya embarked on a policy of accelerated industrialization. Measures to encourage new industries included affirmation and strengthening of a free enterprise environment and provision of a substantial degree of protection of domestic industry by quantitative restrictions and tariff measures against imports. A plethora of import-substitution industries mushroomed all across the country.

expanding the contribution of the sector to 12% of gross domestic product by 1970. The first decade of Independence witnessed an impressive 6.6% p.a. growth rate of the economy. This was, however, achieved at the expense of high cost, uncompetitiveness in the export market and hence a burden to the domestic consumer of locally manufactured goods. Manufactured exports account for about 15% of the sector's output.

Dualism

The Kenyan economy has a dualistic character. The formal modern sector with large and medium sized firms located mostly in urban areas and which are based on capital intensive products and production methods utilizing hired, relatively well-remunerated labour. Thousands of small informal enterprises now thrive all over the country, operated by self-employed with low capital investment using labour-intensive methods to produce commodities primarily for the low-income groups. The linkages between the two sectors, though growing, are weak.

Diversity

In relation to its size and the level of development of the country the manufacturing sector is well diversified. The structure of industrial output is shown in Table 2.11

Table 2.11: Percentage Distribution of Number of Firms in Manufacturing Sector 1988

Industrial Sub-Sector	%
Food, beverage & Tobacco	37
Clothing and Textiles	12
Fabricated Metal Products	22
Chemicals, Petroleum and Plastics	15
Wood, Paper and Printing	12
Other manufacturing	2
T o t a l	100

Source: CBS

Size of Firms and Labour Absorption

Employment generation in manufacturing is limited because of the high share of large, capital-intensive firms and because of the system of incentives which makes the relative price of capital lower with respect to labour. Total employment in the manufacturing sector in 1988 was 252,000 of which 57% was in the agro-industrial sub-sectors. There is a

predominance of large firms. It can be readily verified in Table 2.12 that the establishments with 50 or more workers account for over 85% of employment.

Table 2.12: Kenya Number of Establishments, Employees and Earnings by Employment Groups and Economic Sector, 1988

Economic Sector	Employment Group					Total
	0	1 - 4	5 - 19	20 - 49	50+	
AGRICULTURE, LIVESTOCK AND FISHERIES SUB-SECTOR						
Number of Establishments	275	246	347	225	385	1459
Employment	-	727	7432	7050	100,257	111,732
Earnings	..	..	..	..	..	1148,518
MANUFACTURING SECTOR						
Number of Establishments	769	357	578	417	616	2787
Employment	-	1127	6671	17441	148,606	169,757
Earnings	..	..	..	..	..	1257,086
ALL SECTORS						
Number of Establishments	1044	603	925	642	1001	4246
Employment	-	17,929	176,444	187,295	1902,008	1995,219
Earnings	..	..	..	..	..	1,807,106

Source: Central Bureau of Statistics Statistical Abstract 1989

Adjustment to Cope with Changed Circumstances

Following a sustained rapid growth rate of 6% p.a. in the first decade of Independence, the economy began to slow down in 1974-75 as restrictive policies were introduced to deal with the first OPEC oil crisis. In the late 1970s the policy of protection could no longer be sustained and measures were instituted to orient industry more towards export promotion. The second oil crisis in 1979 precipitated world-wide recession and declining commodity prices, plunging Kenya into multiple difficulties of stalled economic growth, high inflation, budget deficit and balance of payments. A structural adjustment programme, accompanied by a stabilization programme, was embarked upon by the

government, with support of the World Bank and IMF. Among the measures of these programmes was that there must be less dependancy on foreign aid and foreign investment to finance growth. The underpinning strategy of this policy, which is the focal point of the current development plan, is to increase the role of manufacturing while taking advantage of agriculture. In the words of the Sixth Development Plan (1989-1993).

"...the development of the industrial sector occupies the second priority position after agriculture..."

Previous approaches must be discarded:

"...in placing too much emphasis on consumer goods substitution, there were no commensurate incentives for the development of intermediate and capital goods..."

A quarter of the Plan (Kenya 1989) is devoted to the development of agriculture, industry and human resources.

2.2 Role of Agro-industry

Whilst the land area available for agriculture is small, Kenya benefits from an excellent climate in which a wide variety of crops thrive. Agriculture produces adequate food for the country's rapidly growing population and a surplus for both export and local industry.

Coffee and tea are the leading exports. The farms are privately owned but basic processing of coffee and tea is undertaken by co-operatives and state-owned enterprises and marketed through statutory boards. In addition, a wide range of other crops are produced for domestic consumption and export. Development of the agricultural sector has been assisted by government and heavy investment by multinational companies has significantly boosted production of barley, pineapples, sunflower seed, tobacco, cut flowers and horticultural produce. A power alcohol factory based on molasses from the sugar factories is a special development. So is the soon to be built additional paper machine at PFM Webuye, which will rely on de-pithed bagasse, also from the sugar factories.

Kenya's natural and man-made forests cover 3% of the land area. These have been used extensively as raw material for mechanical and chemical wood-based industries. Production potential on a sustained basis is estimated at 2 million cubic metres of wood per annum.

Employment

The agricultural sector provides occupation for about 80% of the labour force. In the employment scenario, depicted in Table 2.21, about 240,000 persons in the modern sector are engaged in agriculture (large mixed farms and plantations) and forestry.

Table 2.21: Kenya Labour Force Distribution, 1988 ('000)

	Rural	Urban	Total
Labour Force	6,933	1,623	8,556
Modern Sector Employment	443	924	1,367
Private sector	217	443	660
Public sector	226	440	666
Self employed	-	41	41
Urban Informal	-	441	441
Small Farms	6,055	-	6,055
Rural non farm	435	-	435
TOTAL EMPLOYMENT	6,933	1,365	8,298
Unemployed	-	258	258

Source: Development Plan 1989-1993, p.198

Tourism

The agro-industry contributes directly to other economic sectors. High quality luxury foods are important for the tourism sector. In 1989 about 700,000 tourists visited the country, staying for an average of 14 days in 300 quality city and beach hotels and game lodges. Of these 400,000 came from Europe, 100,000 from North America, 50,000 from Asia and 150,000 from Uganda, Tanzania and Zambia. Tourism earned more foreign exchange (432 million K.pounds) than coffee (221 million K.pounds) and tea (315 million K.pounds).

2.4 Market for Agro-Industry: Scope and Structure

Kenya manufactured products comprise

- standardized products such as cement from modern plants which are competitive in world markets
- commodities based on natural resources, including soda ash, leather etc
- products which can be exported in small amounts to neighbouring countries because of cost advantage and marketing connections such as beer and cigarettes; this category accounts for nearly 70% of manufactured exports.

Local Market

According to the 1980 population census, Kenya had a population of 21.4 million, with an annual growth rate of 3.5%. More than half of the population is below the age of 20 years. Only 13% of the land is arable and still more than 90% of the population live in rural areas, although the lack of opportunities there leads to a growing influx to urban centres. The local market for food and other agricultural-based commodities is, therefore, large, growing and transforming rapidly.

The production and consumption of selected agro-industrial commodities is presented in Table 2.31. Although there are adequate facilities to meet local demand, the country continues to import sugar because of underutilization of capacity. Consumption of spirits exceeds local demand, necessitating importation to cover the deficit. Generally, Kenya is able to produce enough of the other commodities with a surplus for export.

Table 2.31: Domestic Production and Consumption of Selected Agro-Industrial Commodities, 1984-1988

Commodity	Unit		1984	1985	1986	1987	1988
Sugar	Thousand	Production	409	407	370	390	407
	tons	Consumption	410	446	495	439	416
Cigarettes/ Cigars	1,000 mill. sticks	Production	5.4	5.7	5.8	6.4	6.6
		Consumption	5.1	5.2	5.3	5.8	6.2
Tobacco	Thousand tons	Production	5.9	3.0	3.2	2.6	2.2
		Consumption	6.6	3.7	3.4	2.5	6.2
Beer	Million litres	Production	230	263	302	308	314
		Consumption	230	260	255	308	316
Mineral waters	Million litres	Production	138	102	182	197	176
		Consumption	138	101	174	196	176
Spirits	Thousand litres	Production	530	449	553	910	967
		Consumption	653	697	791	1132	1189
Fabrics	10 ⁶ sq. metres	Production	82.7	82.7	86.3	86.6	89.6
		Consumption	35.5	82.8	87.6	91.9	94.3
Biscuits	Thousand tons	Production	4.5	3.3	3.7	3.6	3.2
		Consumption	4.2	2.7	3.6	3.3	3.0

Source: C B S

Regional Market: the PTA

The Preferential Trade Area (PTA) of Eastern and Southern African States² was established to promote co-operation and development in all fields of economic activities with the ultimate object of having a common market in the region. The countries will gradually reduce and eventually eliminate customs duties and non-tariff barriers. Imports of agricultural commodities into Kenya and other PTA countries from non-PTA countries represent a sizeable market which could readily be exploited with suitable policies. Among the main commodities imported, which could be produced (or their substitutes obtained) within the PTA, are palm oil, dairy products, rice, sugar, soya bean oil, paper and cotton. The PTA is working towards a policy to enhance the spatial and temporal marketability of local crops through processing at the site of production.

Table 2.31: Kenya's Domestic Exports of Principal Commodities to PTA Countries, 1980 (KSh)
Kenya Shreds¹

	Uganda	Tanzania	Rwanda	Zimbabwe	Ethiopia	Somalia	Burundi	Others	Total
Meats	-	192	-	-	-	-	-	-	192
Vegetables, all kinds	295	2	67	-	11	242	2	285	1,000
Tea	37	-	23	-	25	1,707	-	78	1,842
Beer	7	219	-	-	6	-	-	-	232
Cigarettes	-	70	271	-	1	1,844	100	-	2,416
Paper & Paper Board	2067	982	848	608	1,851	49	81	75	6,015
Textile yarn	22	134	122	412	17	-	-	26	745
Fabrics	25	9	141	427	532	1	-	17	1,144
Man-made articles	721	167	27	-	564	103	26	22	1,634
Printed matter	602	543	20	5	22	5	20	22	1,749
Office stationeries	358	674	17	475	247	122	43	45	1,961
All other commodities	57,978	22,639	15,702	8,517	5,475	3,423	5,949	8,627	127,906
TOTAL	62,150	25,473	16,542	10,396	8,781	7,596	6,225	9,349	166,462

Source: CBS Statistical Abstract 1980

Note (1) Mainly petroleum products and constituents, pharmaceutical products, cement and metal products

As shown in Table 2.32 Kenya exports a wide range of agro-industrial products to the PTA. The value of imports from

² The Treaty establishing the PTA was signed on 21/12/1981. The 18 member countries are Angola, Burundi, Comoros, Djibouti, Ethiopia, Kenya, Lesotho, Malawi, Mauritius, Mozambique, Rwanda, Somalia, Sudan, Swaziland, Tanzania, Uganda, Zambia and Zimbabwe

FTA countries in 1989 was 59,719 Kenya Pounds, with Tanzania, Uganda, Zambia and Zimbabwe being the main sources. The principal goods are metals and alloys, spares and electrical equipment. Among the agro-industrial raw materials are tea, animal feeds, oil seeds, timber and hides and skins.

World Market

Exports

The principal destinations of Kenya's products are the EEC, Japan, USA, Sweden, India, Pakistan and Eastern Europe. Main exports are tea and coffee whose combined value is about 50% of all visible exports (Table 2.33). Other agricultural products include horticultural produce, cut flowers, fruits and pyrethrum extract. The main non-agricultural exports are soda ash and petroleum products.

Table 2.33:
Kenya (Value of Principal Export Commodities by Main Trading Partners, 1989 ('000 Kenya Pounds)

Commodity (C.I.T.C. Description)	U.K.	West Germany	Nether- lands	U.S.A.	Sweden	Italy	Others	Totals
Tea	171,275	1,043	6,174	9,793	-	-	127,922	271,009
Coffee not roasted	15,199	47,747	17,545	15,546	15,292	7,172	45,497	263,854
Pineapples, tinned	9,771	4,794	3,978	557	639	5,002	12,344	37,086
Pyrethrum extract	361	595	19	12,405	118	749	2,505	14,692
Soda Ash	1,274	374	744	59	-	389	11,178	14,340
Other agro-products	5,749	190	1,577	950	9	4,970	72,225	85,669
All other commodities	34,444	14,052	19,749	10,471	413	8,496	249,677	495,555
T O T A L	198,792	66,476	49,685	49,749	16,000	14,954	570,172	996,841

Source: CBS Statistical Abstract 1990

Imports

Kenya's imports from the rest of the world are summarized in Table 2.34. In addition to the countries listed, the other main trading partners are Belgium and the Netherlands, the Far East and Australasia and Middle Eastern countries.

Table 7. Balance value of Main Imports by Principal Country of Origin, 1989 (Mill. Kenya Shillings)

Commodity (C.I.T.C. description)	U.K.	Japan	West Germany	U.S.A.	France	Italy	Others	Totals
Animals/veg. products	0.73	-	0.17	0.50	-	0.30	69.50	71.2
Food - live animals	5.96	0.01	7.96	8.96	7.39	0.30	43.50	74.0
Beverages - tobacco	2.17	0.02	0.19	0.17	1.45	0.01	1.01	5.1
Crude materials, inedible except fuel	0.76	3.25	6.90	1.95	1.45	3.22	32.63	50.3
Mineral fuel-lubricants	10.25	0.11	5.23	1.47	7.00	6.39	324.77	355.4
Chemicals	52.15	12.3	57.4	40.2	18.7	16.8	155.9	353.5
Manufactured goods	60.9	52.4	76.4	6.7	25.3	19.2	167.0	398.5
Machinery & Transport equipment	149.6	147.4	28.6	98.8	133.0	50.7	172.7	679.7
All other goods	39.5	9.9	5.9	5.7	2.4	4.2	21.1	89.0
T O T A L	351.0	245.5	189.8	164.2	195.7	100.1	982.7	2,379.0

Source: CBS Statistical Abstract 1990

2.4 Capacity utilization and efficiency

For an industrial economy to grow and sustain itself it is necessary that it must possess adequate capacity and operate efficiently in the medium and long-term. If inefficiency is demonstrated then it must be remedied to reduce effort, avoid waste and conserve resources. The *raison d'être* of sub-contracting is to enhance efficiency and optimal utilization of capacity. A thematic framework for assessment of industrial efficiency incorporates, among others, the factors listed below. Reference is made to incidence of the factors in the establishments covered in this study.

- Profitability:** the return on capital in both the micro- and macro- senses:
Many firms (eg Elliotts) still remain in business even though they have under utilized capacity.
- Quantity:** whether output is maximised for given resources:
The most glaring example is the profusion of firms operating a single shift where it is feasible to run continuously. Trufoods is a case in point.
- Quality:** whether output has desirable and superior characteristics to command favourable position in the market. Tea, coffee and pineapples are examples of superior quality, while apparel (for adults) an example of modest quality - by international standards.

- d Performance: the technical aspects of utilization and maintenance of production facilities. Unreliable supply of electricity leads to production disruption.
- e Adaptability for change: ability to vary inputs, outputs in response to changed technology, markets and other externalities. Companies with a substantial capital base, like Panpaper and Unga can adapt more readily; similarly can the very small jua kali enterprises - but not the public-owned concerns like EAFS.
- f Conservation of energy and materials: Panpaper is involved in re-forestation; sugar companies utilize bagasse to generate steam and electricity.
- g Time minimization: Sugar cane husbandry can be improved to lessen maturation time by development of appropriate seed varieties or by irrigated cultivation; efficient transport (vehicles and roads) can enable cut flowers and horticultural produce to be delivered to markets expeditiously.
- h Environmental impact: either positive (rare!) or negative (eg leather processing effluence)

To fully appraise the efficiency of a single firm or an industrial sector would require complex modelling taking into account the above factors as well as various constraints such as weather, land quantity and quality, finance, legislation, availability of labour and skills, etc. We do not have specific information on the performance of Kenya's agro-industry, the causes and extent of various factors, and to what degree sub-contracting might attenuate these factors. Scattered information suggests wide variations in different aspects of efficiency (Coughlin 1988). Over-dimensioned size of industrial plants is partly because many of them (eg the textiles) were established to serve the East African regional market, and their capacity exceeds domestic demand by a large margin.

CHAPTER THREE

OVERVIEW OF SUB-CONTRACTING IN THE AGRO-INDUSTRY SECTOR

There is a diversity of sub-contracting practices, reflecting the range of activities, inclination to change and the dynamic market which manifest the state of the agro-industry sector today. In this chapter we present findings of the field survey, showing a picture of the situation in the industry, the factors which tend to facilitate or inhibit the incidence of sub-contracting and attempt to identify possibilities for enhancing linkages.

3.1 Current State and Practice of sub-contracting in the agro-industry sector

At the present time there is no source of organized information on the state of contracting in the economy. According to the impressions gathered in this study, including the literature referred to in Chapter One, industrial linkages in the agro-industry sector in Kenya are few in comparison with, say, the automobile or metal sectors. This is largely due to small number of firms and the intrinsic nature of the industry - the factor of perishability of agricultural produce being a major determinant of related production technology. None the less, there are significant variations in the practice and conditions of sub-contracting which takes place. Whether a firm undertakes sub-contracting and the nature and extent of linkage is dependent on, first and foremost, its inherent state ie the management strategy, activity, product(s) range, production process(es), location and siting, size and ownership or corporate status. Additionally a number of extrinsic factors, the range and options of inputs, their sources and the market for main and secondary products, will influence the desirability and feasibility and scope of sub-contracting. Models of linkages within some of the agro-industry sub-sectors are shown in Appendix C. Specific opportunities of and potential for sub-contracting is the subject of the next chapter.

The Environment of the Agro-Industrial Firm

The factors listed below which prescribe the occurrence and extent of sub-contracting are numerous, but precise information on their interaction in the Kenyan setting is scanty.

a Characteristics of the Firm

- i Management strategy, eg a multinational using local sub-contractors, vertical integration, etc, is a matter of attitude and orientation of management. Deacons uses 100 odd suppliers and imposes stringent standards of quality on

them. It is necessary to have high calibre and capable management of specialized technical knowledge to employ sub-contracting.

- ii Activities engaged in eg fruit processing, cut flowers, vacuum pan sugar milling etc may preclude sub-contracting. Farmers Choice stated that they have little scope for sub-contracting because of the nature of their operation.
 - iii The industrial process (type and scale of technology) may determine feasibility of linkage. EAFS and other textile mills use imported machinery and parts whose spares cannot be produced economically by local firms and, therefore, does not have backward linkages. An industry with a composite tandem of operations provides more sub-contracting chances.
 - iv Product range and characteristics (perishability, type of packaging, etc). The sugar industry, with several mills, has a broad range of suppliers of inputs.
 - v Size as measured, usually but not necessarily, by the size of the labour force may be related to the capital base and, therefore, the ability to invest. Panpaper can afford to invest in two paper mills, one utilizing bagasse from sugar cane and the other recycling paper, because of its substantial and healthy financial base. The two mills have created considerable backward linkages.
 - vi Flexibility of procurement policy depends on the corporate status (eg local/foreign, public/private limited liability company, parastatal, etc). Tea factories operated by KTDA, a parastatal, are private - limited companies which run efficiently and profitably. The KTDA has a liberal policy on selection of suppliers of machinery and services for each factory. Ownership of many medium-size manufacturing firms is dominated by families of Asian origin, the majority of whom have no interest in the attainment of long-term dynamic and sectoral linkages (Coughlin 1991:pp 376).
 - vii Location and siting (eg rural/urban area, region of the country) are frequently selected on the basis of availability of potential sub-contractors (eg Unga Group) in the same vicinity. Conversely, isolated firms (eg Mumias Sugar) tend to be more independent and, hence, more integrated.
- b Input type, source and requirement in time
- i Type of raw materials, requirements and other inputs affect the prospects of sub-contracting in many ways, examples of which are given below.

Availability of amenities eg health and education facilities and infrastructure eg water and telephones will attract not only the right manpower but also other industries which can undertake sub-contracts if the main industry is isolated (eg Panpaper and Mumiās run schools and board&lodge houses)

Raw materials may be few and specialized eg "the Tetra Pak " systems, or commonplace eg metal and plastic cans in the case of liquid packaging. The former has less potential suppliers than the latter.

Goods to be re-packed/sold without further processing tend to create greater linkages eg paper.

Energy self-sufficiency is a feature of sugar industry where bagasse is a steam and power generation fuel.

Engineering, repair and maintenance (eg boiler service) tend to be readily contractable to the metal, engineering and electrical sectors.

Supplies and secondary inputs, eg chemical and pharmaceutical compounds, are readily sub-contractable.

Packaging/Container and labels are readily sub-contractable to other sectors like the printing industry.

Transport and storage are readily sub-contractable, except where specialized facilities eg pneumatic and refrigerated vehicles and storehouses are required.

Availability of labour and skilled manpower can be a limiting (textiles) or enabling (Bata Shoe) factor for sub-contracting.

Building and construction are readily sub-contractable to the relevant sectors.

Installation (machinery, plant and equipment) is readily sub-contractable to the metal and engineering sectors.

Business services are readily sub-contractable to firms in the service sector.

ii The type of input source determines the procurement strategy and nature of contractual arrangement. Examples include:

All sugar companies together source 18% of cane from their own nucleus estates; the rest from outgrower farmers on contract basis.

Farmers Choice procures half of the pig intake from a sister company: Trufoods and Kenylon have similar arrangements

A large proportion of services are provided by ad hoc supplier/contractor arrangements by tender eg plastic container or cans for liquid packaging

Not many cases of dedicated supplier/contractor such as Tetra Pak Converters were encountered.

The small-scale firms, particularly the "jua kali" enterprises rely usually on retail sources/agencies for procurement of their inputs and disposal of their products.

iii Demand of sub-contracted services depends on the time frame of requirements, as below:

- . Inceptive eg factory electrical installation
- . Continuous eg Tetra Pak packaging
- . Periodic eg boiler maintenance service
- . Sporadic eg special orders for Deacons

c Output/Consumption

i Range of Products

The choice is passive or active, depending on the industry, as illustrated below:

- . Main Products: single (eg tea) or multiple (eg Trufoods)
- . Secondary Product (eg packing on contract by Tetra Pak)
- . By-products such as molasses, seed cake/oil
- . Services such as amenities (schools, board & lodge) provided by isolated firms (eg sugar companies)

ii Form of Product

- . Finished, ready for purchase eg Farmers Choice products or bulk eg sugar or paper which have to be converted or repacked before reaching the consumer.
- . Semi-finished eg EAFS products

iii Market

- (Size and structure and distribution channels)
- . Retail (domestic) eg Trufoods
- . Specialized/Industrial eg EAFS, Tetra Pak
- . Export eg tea

iv Volume

- . Large volume components can be readily sub-contracted eg shoe lasts for Bata; tobacco or sugar contract farming.

3.2 Enabling Factors

a Technical

Use of existing knowledge is the easiest and practicable recourse

New product development requires research capability, a factor which is under-developed in Kenya

Invariably all products require ingredients made of other materials: this underpins the philosophy of sub-contracting

Processing is dependent on availability of water and electricity: cooling facilities are of critical importance for perishable products.

Packaging systems and materials are critical determinants in transforming agriculture to be a business.

Combination of known technologies in different ways is possible through innovative management and engineering research

Technology transfer can be facilitated through licencing of products and processes and through activities of an organization like the K.I.R.D.I.

Legislation/control aims to maintain quality and ensure process/product safety

The Market, both local and export, is perceived to be expanding due to such factors as growing population, increasing incomes, expanding world trade, etc.

Availability/access to scientific and technical manpower and services (eg KBS) determine the capability to support a sub-contracting infrastructure.

b Geographic advantage

Raw material access / proximity to market:
Kenya has a well developed and diversified agriculture as well as a growing market because of rising incomes and growing population.

Regional development:
Some regions of the country eg western Kenya have been designated specially for the development of agro-industry. Concentration is likely to give rise to economies of scale to the sector and sub-contracting in particular.

The trade protocols of the PTA and rationalized industrial development will result in a much expanded market for Kenya's agro-industry.

3.3 Constraints / Limiting Factors

Inspection to ensure quality and conformity of sub-contracted products and processes is an expensive process. In addition the following are some of the obstacles which impede a more integrated industry.

Inherent low amenability to integration of agro-industry manufacturing and processing is largely due to the capital-intensive methods of available technology.

Management competence, a critical factor in enabling sub-contracting, is underdeveloped. In particular there is a shortage of expertise in negotiation, quality control and input/materials management.

Technology diffusion rate is low because technical skills of labour is low. There is a shortage of scientific and technical manpower.

Capacity utilization (scale, specialization, reliability/stability, quality etc) is inept as discussed above.

The small, isolated, urban, fragmented, imperfect, domestic oriented market can be stimulated through enabling Government policy initiatives.

Bureaucratic obstacles and weak institutional framework remain despite declared policy of liberalization of the economy.

Taxation is considered excessive and tariff policies inhibitive to industrialization. Some taxes, like P.I.T. are discriminatory.

Agricultural pricing, eg sugar and sunflower, discourages farmers.

Specific opportunities and potential for sub-contracting in the agro-industrial sector are described next.

 CHAPTER FOUR

POTENTIAL AREAS FOR SUB-CONTRACTING IN THE AGRO-INDUSTRIAL SECTOR

This chapter sets forth specific sub-contracting opportunities in the agro-industrial sector. It also describes generally the potential scope for involvement of other sectors.

4.1 Sub-contracting within agro-industrial sector

At the present time the scope for sub-contracting, by way of undertaking part of the production process, is still limited. Existing relationships are manifested mainly as supply arrangements through competitive tendering or other prudent selection procedure. None the less there are growing opportunities which can be enhanced still by services provided by KSPX.

Broadly there are three product forms of sub-contracting within the agro-industry sector, as illustrated by the following:

- a Raw materials
 - carrying out a major pre-process activity such as contract farming eg sugar, tobacco, oil seeds etc
 - re-cycle or re-use material eg waste paper
 - by-products eg bagasse, cotton seed cake/oil, bran
- b Semi-finished goods and components
 - unrefined oil; commercial starch; dairy products to be processed further eg milk curd; shoe or garment components eg soles or collars, respectively; buttons and zippers
 - yarn and thread
- c Processes
 - Solid form optimizing eg pelletizing, crumbling, granulating and flaking animal feed
 - Food preserving (drying, high temperature treatment, fermentation and pickling, concentration, adding chemicals and irradiation)

To facilitate a concise representation, Table 4.1 gives a tabular account of all activities, products, processes, and a list of firm involved, and some specific sub-contracting areas in agro-industry sector.

A full list of firms, their addresses and product range arranged by economic activity is provided on a diskette in LOTUS 123

Table 4
Potential Areas for Sub-Contracting in Agro-Industrial Sector:
Activities, Products, Processes and Firms Involved

Activity (SIC code)	Products (By-products)	Processes, components, additives/ingredients, inputs	Firms Representative of the Sub-Sector (Comprehensive list of names and addresses provided on districts)	Potential to Sub-contract or be Sub-contracted
1 2111 Slaughtering, prep. and preserving meat	Beef & veal, pork, lamb, sausages, ham, bacon, chicken, offal Hides & skins, bone, blood, oils etc.	Holding (storage/fattening) Slaughter / skinning Process (dress/cut) Preserve (cure/brine etc.) Packaging Process by-product (e.g. sausage)	Farmers Choice, Kenya Meat Commission, Kenchic	supply livestock pre-process operations eg holding, sausage casings, breed/batch, prepare ready-to-eat foods eg process by-product
2 1111 Manufacture of milk and dairy products	Milk (whole, skim, condensed, powder) Butter, cream, Sour milk, yoghurt, Cheese, ice-cream, ghee Ice-cream, whey	Cool, Filter Pasteurize (thermal/electrical), homogenize Separate Sterilization Process (sterilize) Special transport Sugar sweeteners Cream, starch, Flav.	S.C.C., Bisco, Nestle Foods, Kitinda Bungeo, Kenya Central Co-op., Naroga Thiba, Kenya Lusso, Egerton Univer., Uthi Kabeta, Nairobi Dairy Training Institute, (several small private dairies)	pre-process operations: milk cool, filter, transport supply semi-processed products eg skim powder milk, special packaging eg Tetra Pak etc., process selected product eg yoghurt
2 1112 Canning and preserving of fruits and vegetables	Fruits (fresh and processed) Vegetables Jams, Jellies, Sauces Margarines, Jellies, Soft, etc.	Screen, wash, grade Chop vegetables Soak, blanching Dehydrate Preserve Process (press/fit)	EPF Kenya, Green, Kabari, Kenya Fruit, FM Kenya Packers, Kenya Sunshine, Njoro Canning, Pan African Vegetables Nairobi	Recover fruit waste: express juice Pre-process raw materials: process, wash, grade Contract farming
2 1113 Canning, preserving and processing of fish	Dried fish Whole fresh chilled fish fillets Fresh/frozen crustacea and molluscs; Fishmeal	Processing Dry pickle/dehydrate Preserve/sterilize Cure Refrigerated storage & transport	African Fishing Industries, Kenya Cold Storage, Saeki Industries, Tanzania, S.V.P.	Refrigerated transport Cold storage Marine aquaculture for sea foods
2 1114 Manufacture of animal and vegetable oils and fats	Edible oils & fats Feedstuffs (Oil/protein cake)	Oil seeds (nutton seed, groundnuts, palm, coconut etc) Waste germ Coke seed Animal fat Extraction (maceration, press, chemical solvents) Wash Refining: Hydrogenation Box Design	Aberdare Oil Works, Arka Industries Eldoret, Bido, E.P., Coastal Industries, E.A.I., Elitape Oils, Kenya Ind., Kenyapala, Sanyra	Oil extraction - rendering - pressing - use chemical solvents Prod. by products
2 1115 Grain mill products	Maize flour, rye, wheat flour, Oats, Rice Bran/husk, milled starch, pasta, malt, etc.	Mill/roller/hopper Screen/stone/sift Grading Convey Clean/polish rice	Agri Vet Supplies, Jacob Flour Millers, Vahan-gora, Kenya Millers, Kenya Sifters & Millers, Pines Indus., Kitale Indus., Maize Ltd, Narabos Millers, Milling Corporation of Kenya Nairobi Flour, Nairobi Flour, Kafiki, Swan, Unga, Unga Mills, United, National Milling Corporation, Fraxer, Kisumu Millers	Process by-product
2 1117 Manufacture of other products	Bread Pastries (buns, pies) (cakes, scones, etc) Biscuits Cookies	Dough (mix/blend) Fermentation Baking Ingredients: flour, bran, sugar, dairy products, leavening prod., shortening	Elliots, Pidi, Broadway, House of Manni, Mafuta, Mothers Empire, Sanyra, Septoria, Shah Nanji Latha, Victoria	Formulate recipes, knead & ferment Bake Cook/bake pastries, rolls, etc

Activity (SIC code)	Products (By-product)	Processes, equipment, inputs, additives, ingredients, inputs	Firms Representative of the Sub-Sector (Comprehensive list of names and addresses provided on diskette)	Potential to Sub-contract or be Sub-contracted
1710 Sugar Cane and Sugarcane	White sugar Refined sugar Cane Jaggery By-Products: Molasses, Bagasse fibre, Cane wax, Filler cake	Cane cultivation Cane harvesting Cane transport Milling process Refining process	Mwanja, SONY, Nzola, Cheesil, EAST Mbaroni, Mwanji, Yala, West Kenya Sugar Jaggeries	Cane cultivation harvest & transp. Process by-prod. - molasses for microchemicals and animal feed - deslash bagasse
2110 Manufacture of con- fectionery, chocolate and ice cream products	Cocoa-based food Ice-cream, Chocolate, Confectionery (candi- tes, toffees, sweets, bubble-chewing gum, lollipops, pastel confections)	Sugar-boiling proc. Flavouring Mixing Ingredients: Sugar, Starch, Coc- coa, Concentrates, Pastes (gel, dairy)	Cadbury Schweppes, Erskin & Price, House of Mangji, Kenya Sweets, Anna Industries, Nyanza Mattresses, Falcon, Swan, Wrigley (EA)	Prepare ingredie- nts
2010 Manufacture of food products	Tea Coffee Baked/culinary products (flour, yeast, crust, dough, batch top, savouries, etc) Mushrooms Cachew, macadamia	Tea: wither, roll, ferment, dry, sort Coffee: green, pack wash, dry parch Other: roast, pack Ingredients: sugar, crack, vinegar, oils and fats, dai- ry, preservatives	KTBA, Brook Bond, Eastern Produce, George Willison, Chai VSCU, Coffee Board of Kenya, VNEC, (hundreds of co-operative societies and unions catering for small-scale coffee farmers) Elianto, Kenya Cachew Nuts, CO, Creamer, EAI, Erskin & Price, H of Mangji, International Flavours & Fragrances, Kenya Spicers & Packers	Leaf transport Taste & blend tea Waste, instant tea Process parchment Coffee storage Taste blend coff. Pre-process culi- nary products Process ingredie- nts for other food sub-sectors
2120 Manufacture of pro- cessed animal products	Cattle feed Poultry mash (chick grower, layer) Pig feed Cat food	Roller/masher mill Shredder Screen/sieve/filter Pelleting, crumbling granulating, fish- ing, coating Blending Ingredients: Protein/Meal Cotton seed cake Bran/Muste Flour Fish meal, Meat by- products blood/meat Minerals & vitamins	ABC Foods, Agri Vet, Agro Chemical Food, Unga Foods, Belfast Millers, Kibungo Indust., Kitala Indust., Milling Corporation of Kenya, Muis, United Millers	Formulate recipes Produce form opti- mizing, pellet- ing, fishing, etc Blending & pre- mixing
2130 Distillation, rectif- ing and blending alcohol	Drinkable alcohol (whisky, vodka, gin, gin, brandy, wine, apple/pearl brandy, fortified spirit, flower alco- hol)	Molasses Grapes & other fru- its Flavours Fermentation Distillation, Aging Blending/Flavouring Packaging/Design	Agro-Chemical Food, Mwanji Sugar, F.M.A.L., International Distillers Kenya, Mohan Meakin, Jozza Ltd	Press fruit juice Distil ethyl al-
2140 Malt (barley and wheat)	Beer (ale, lager, stout) Malt Distillery Wash	Malt, Mill, Mash, Extract, Separate, Add hops, Boil, Fer- ment hops & prerin- g, Separate, Ferment Separate yeast, Age	Kenya Breweries, Unga Manufacturers, Kibuku, Chibuku	Malt, mill, mash & extract

Product Code	Description	Processes, components, additives, ingredients, inputs	Firms Representative of the Sub-Sector (Comprehensive list of names and addresses provided on disttette)	Potential to Sub-contract or be Sub-contracted
1000	Soft drink concentrates Soda Soft drinks and carbonated waters Soft drinks and juices Soft drink bases	Carbonation Flavouring Pasteurizing Ingredients Water, refined sugar, concentrates, etc.	Coca Cola (Nairobi, Eastern Kenya, Equator, Kisumu, Malindi, Coastal) Highland Mineral, Jeffrey's Mineral, Equatorial	Prepare dry ice Make gas under pressure
1001	Cigarettes Cigarette wrapping paper, tip filter	Cultivate & harvest Strip: cure (flum) Bale: market grade Process: fixation Age: Fergant Cigarette making	B.A.T., Mastermind	Cultivate and harvest tobacco Flum cure Strip Grade and bale
1002	Cotton lint Seed rate & oil	Ginning Oil extraction	Ginneries: Mwa, Nery, Mabuoni, Mola, Kibos, Malava, Lushoto, Malindi, Nakhala, Ndara, Mwa Bay, Randa Bay, Kiboi, Malindi, Lamu	
1003	Yarn, dyed or grey, multi-fiber Spinning Woolen, silk, shirt Woolen, silk, shirt Woolen, silk, shirt Woolen, silk, shirt	Treatment of raw fibre Spin Dyeing Woolen, silk, shirt Woolen, silk, shirt Woolen, silk, shirt Woolen, silk, shirt	Shoren, Blanket Industries, Kagan Enterprises, KTM, KPM, Mumbo, Raymond, Pivater, EAFS, Spinners and Spinners, Sunflag, Thika Cloth Mills, United Textiles, Vanden, Kenya Thread, African Cotton, Fine Knit, Kenya Rayon, Knit Spinners, Kencom, Synthetic Fibres	Pre-process open clean fibre etc. Make yarn & card Make thread Make bobbin, spools, spindles, cones, cheeses etc. Dye Bleach Blend/dye fibre
1004	Curtains, sheets, napkins, tablecloths, bedspreads, blankets, canvas products, towels, bangas etc	Cutting Sewing Press Dyeing process	Bijena Curtains, African Cotton, Blanket Industries, Colour Labels, Mombasa Towel, Izaro, KTM, Thika Cloth, Shah Clothing, Samuels, Bnna, Canvas Manufacturers, Kenya Canvas, Taren, Crown Industries, African Cotton, Moxa	Design Cutting Sewing Dyeing fabric Stitch/sew
1005	Sweaters, T-shirts, socks, underwear, sweaters/pullovers, cardigans	Bleach/dye/finish Knit Cutting Stitching	Birds Fabrics, E A Garment Factory, Jaydoo, Ken Knit, Mombasa Textile, Pivater, Spin Knit, Sunflag	Bleach, dye Knit Cut fabric Stitch/sew
1006	Jute/sisal sacks, steel rope/twine, mats, sisal/polypropylene, rope, twine, twine, twine, twine, twine, twine, twine	Spinning/twisting Knit/weave	E A Bag & Cordage, Kamba Manufacturing, Tanta Estate, Kilifi Plantations, Polysack, Sisal Industries (Wasi, Wai Sisa)	Pre-process eg clean and sort Spin/knit Knit Weave
1007	Blouses, dresses, jackets, shirts, trousers, jeans, skirts, industrial clothing, ties, sportswear, suits, lingerie, etc	Design: patternmake Cutting Sewing/embroidering Press/oid process Inputs: Fabric, lining, thread, buttons, zippers, etc	Over 200 firms, ranging from very small workshops to the largest textile firms	Make part of garment assemble (cutting/sew) Finish (buttons, zippers, press, crease, etc) Make whole garment
1008	Raw blue leather, aged, tan, leather, chrome crust leather	Dress: hair/flesh Tanning process Dyeing, currying, and finishing	Alpharosa, Bata, Dulleys, Leather Industries Ltd Kenya, Sagana, Kasili, Tanners, Nairobi Chrome, Nairobi Tanners, E.A. Leather, New Market, Aziz Bin	Pre-process (raw flesh/hair) Treat (tan) Dye, finish

Activity (SIC Code)	Exports (By products)	Processes, components, additives, inputs	Firms Representative of the Sub-Sector (Comprehensive list of names and addresses provided on distell)	Potential to Sub-contract or be Sub-contracted
1 7000 Manufacture of products of leather, animal hair and sewing apparel	Shoes and articles; Luggage, handbags, belts, etc.; Textile goods; Buttons, zippers	Cutting; Sewing; Embroidering; Laminating; Decorating; Assembling	Booth Manufacturing, Bulleys, Kenya Suitcase, Orbitexports	Make components; Make accessories (buttons, lining, zippers, etc.); Assemble products
1 7000 Manufacture of leather goods	Shoes, sandals	Design, Cut, Stitch; Put, Stork, Lasting; Polishing, Finishing, Treating; Leather, thread; Gro, Buffer, Elastic; Wood, Cotton, Laces; Solelets	Bata, C & P Shoe, Joy Shoe, Tiger Shoe, East African Leather, United Footwear, Maseno Boots, Orbitexports, Shamba, Khan Carriers, Aziz Bin, Slipper Shoe, Eilat Footwear	Make components (leppers, soles, lining, eyelets, laces, buttons); Make shoe lasts; Assemble products
1 7000 Sawmills, Planing and other woodwork	Timber (timber, doors, windows and doors); Planks, other wood; Building material; Prefabricated parts and structures; Lumber; Wood preservation; Plywood, block board	Cutting/felling; Trimming, logging; Sawing, Edging; Veneer cutting; Plywood making; Wood preservation	Economic Housing Group, Elgeyo, Shah Timber, Gerbrandes Sharamshi, Sai Elwood, Timberland, Tinsales, Veneers.	Wood treatment (season, kiln); Pre-fabricate structure; Carry out one or combination of processes
1 7000 Manufacture of wood and cork products	Wood carvings, Wooden crates, crates, egg crates; Industrial frames; Synchocipant, shoe; Wooden components; Moldings, Joinery; Parquet flooring; Crills (eg. seriettes); Panels, Brackets	Moulding, shaping and assembling of wooden articles	Tycodes, Wood Products, Boraah Bros, M.B.I., Enterprises, Saboro, Manshad Trading Company, Eldara, Elgeyo, Crown Cork, Woodmasters, Farlav	Make wooden component (eg handle); Assemble product (eg shoe brush); Carry out one or combination of processes
1 7000 Manufacture of furniture and fixtures, except metal	Chairs, Suites, Tables, Cabinets, Beds, Beds, Benches, Stools, Wardrobes	Design; Wood seasoning kiln; Convert wood to etc; Thickness; Sawing, planing, moulding; Grooving; veneer; Jointing; staining; dovetailing, dovelling; Sanding; Cleaning; Staining; Polishing, Spraying	Booth, Carousel, Fine Wood Works, Furniture International, K/J Furniture, Modern Furniture House, Shah Timber, Silentnight, Tobina, Indiba, Mondway, Furnitures, Mobilia, Victoria Industries, Furniture Masters	Carry out one or combination of processes; Saw, plane, mould, groove, etc; Make furniture sub assembly; Make concrete units to order; Upholster
1 7000 Manufacture of pulp, paper and paperboard	Pulp, Paper, Paper board	Logging & Transport; De-bark, Chipping; De-int waste paper; De-pith bagasse; Pulp/Paper process; Quality determine/enhance; Finish	Panafrikan Paper Mills, Madhupaper International, Chandaria Industries, Kenya Paper Mills, Kenya Match, Highland Paper Mills	Logging; De-int bagasse; Transport raw material; Procure waste paper; De-int waste pap.
1 7000 Manufacture of pulp, paper and paperboard, specialties	Tissue/Enit paper; Car, letter, envelopes; Bags; printing str; Machine rolls; Paper corrugated; Cardboard container; Paper, card, balers; Machine rollery; Bags; envelopes; Cellulose, bags, etc	Cutting; Folding; Embossing; Coating; Graining; Laminating; Printing; Stitching	Afri International, Chandaria Industries, F.A. Packaging, E.P. Paper Pag, Bodhia Packaging, Embassy Industries, Yartasi, Kenya Matches, Paper Converters, Paperbags, Tetra Pak, Wiggins Teape, Higiene Products, Everwell, Coast Pak, Selpack, Carton Manufacturers	Carry out one or combination of processes

4.2 Potential for Sub-contracting by other industrial Sectors

4.21 Spare parts, engineering and maintenance

A General

The need for maintenance and supply of spare parts in all industrial establishments need not be stated. Agro-industrial machinery and equipment is designed for bulk handling and processing, in terms of the usual scale of operations in Kenya. It requires heavy capital and technologically advanced investment with substantial demand on utilities (water and power) to operate. Many industrial installations in Kenya are integrated and often automated for processing or fabrication of main products and by-products. Among the firms surveyed there was a broad range of machinery and equipment types.

It is common for the firms to endeavour to be self-reliant as much as possible and depend on industrial engineers and other sectors (metal, electrical/electronic and plastics/rubber) as a last resort. As a result the engineering sector has developed at a very low pace, and failed to provide opportunities of sub-contracting. Factory installations in the agro-industrial sector comprise combinations and tandems of component and sub-assemblies of machinery which the metal, electrical and rubber/plastics sectors could have an ample role in service and supply sub-contracting.

B Special Industry Machinery

Textile machinery and thread looms (eg looms, sewing machines).

Wood-working machinery (cut/saw, sand, glue/laminate, plane, etc)

Paper making machinery

Leather-working machinery

C General Machinery and Equipment

Pumps and pumping equipment: pneumatic conveyor systems

Air and gas compressors

Blowers and exhaust, and ventilation fans

Air conditioning, warm air heating equipment, commercial and industrial refrigeration

Industrial ovens

Power transmission, speed changers, drives and gears

Power switchgears, motors, generators and industrial controls

Measuring and dispensing devices

Scale and balances (proportioning and weighing), computers

D Processing Devices

- i Solids
Screening, sieving, filtering; Grading; Conveying; Dosing; Washing, Dewatering; Sulphurizing; Die-Roller Shells and extrusion devices for pelleting, flaking, crumbling, granulating etc; Roller grinding, Hammer milling; Blending.
- ii Liquid/Plastic
Thermic treatment (hot/cold); homogenization; Sieving, filtration; centrifugation; carbonation; deaeration; Pasteurization, electric (UV, IR, irradiation treatment), chemical; extrusion

The ready sub-contracting opportunities for the metal and other sectors to supply and service machinery and equipment include:

- a Moulding and casting of plastic and metal alloy parts
- b Fabrication of filters, die and roller shells (for forming, extrusion, baking tins, elevator buckets)
- c Grinding and fluting of milling rollers, silo and bin cleaning
- d Sharpening of knives and shredders
- e Machining and tooling of parts
- e Winding of motors

4.22 Chemical and pharmaceutical compounds, Transport and Storage

The chemical/pharmaceutical sectors supplies formulations and ingredient concentrates and products while the transport sector specialized vehicles such as refrigerated and pneumatic trailers and tanks. Similarly the storage sector could provide refrigerated and special environment storerooms and tanks.

4.23 Packaging and Printing

Printing sector: metal containers; plastic can, bottle, cup and satchel; glass bottle; Tetra Pak

Plastic and wooden containers and crates

4.24 Services

Product/Recipe formulation; Garment/Fashion design; Research (product or process, market, etc); Engineering services

In the rest of this report we discuss some policy reforms and possible ways to improve the operations of KSPX in order to take advantage of the above opportunities.

CHAPTER FIVE

INSTITUTIONAL FRAMEWORK AND INFRASTRUCTURE FOR SUB-CONTRACTING

In this chapter we describe the present organizational plan of Kenya Sub-Contracting and Partnership Exchange (KSPX) and how it has functioned since its inception. The interaction of the exchange with the institutions with which it is formally affiliated is examined in the light of the comments made by representatives of the firms and organizations which were polled in the field study. Since it is to be the focal point for inducing accelerated industrialization, we propose a number of changes in organizational policy and structure, systems, incentives and skills as a strategy to reinforce the total process of structural adjustment of both the agricultural and industrial sectors.

5.1 KSPX Establishment and Development

Kenya Subcontracting and Partnership Exchange is the first of its kind in this country and in Sub-Saharan Africa. It was designed pragmatically, on the basis of prevailing circumstances in the economy and relevant organization models of public and private institutions. It is expected to evolve gradually into an independent and self-reliant entity (Kenya 1991:p. 30).

KSPX was established in early 1991 by the Government of Kenya with support of the United Nations Industrial Development Organization (UNIDO). The primary role of KSPX is to foster industrialization through promoting and facilitating industrial sub-contracting between small and medium scale enterprises and large firms.

According to UNIDO assessment, the lack of medium sized modern manufacturing firms is perhaps the single most significant deficiency in Kenya's industrial structure; as the absence of such firms makes diffusion of industrial skills and production technology from the big to the small business sector very difficult. Thus, the small business sector could be boosted by the vertical and horizontal sub-contracting and technological links to be created by the exchange throughout the economy, and with the rest of the world. Left on their own to establish the necessary linkages, without the facilitation of a suitable institution to provide the information and co-ordinate the required activities, many opportunities open to the small firms would be lost.

a. Set-up

During the initial phase of two years KSPX is a UNIDO pilot project. It is located within the offices of the Kenya Management Assistance Programme (K-MAP) at Standard Chartered Chambers, Kimathi Street, in Nairobi. A proposal has been put forward to give the exchange a corporate status of limited company (limited by guarantee with no share capital), established under the Companies Act (Cap. 496) of the Laws of Kenya. We have suggested a number of changes which would strengthen the effectiveness of KSPX.

b. Management/Organization

A steering committee, chaired by the Director of Industries in the Ministry of Industry is responsible for formulating and controlling the policy of the exchange. The committee, which meets periodically, comprises representatives of a number of public and private bodies which are involved in different aspects of national industrial policy and strategy. They include

- Ministry of Industry
- Ministry of Finance
- Ministry of Technical Training and Applied Technology
- Kenya Industrial Estates (KIE)
- Kenya Industrial Research Development Institute (KIRDI)
- Kenya Bureau of Standards (KBS)
- Small Enterprise Finance Company (SEFCO)
- Kenya Association of Manufacturers (KAM)
- Federation of Kenya Employers (FKE)
- Kenya National Chamber of Commerce and Industry (KNCCI)

The exchange has a staff of six, consisting of the Exchange Manager, the Industrial Engineer, the Computer Programmer and administrative support personnel (secretary, driver and messenger). A UNIDO industrial development expert is seconded to the exchange.

c. Operations/Programmes

The exchange performs the role of a clearing house for providing assistance necessary to foster industrial sub-contracting. It is yet to become fully operational. Current KSPX activities include the following:

- i. evolving linkage between large and small industries:
 - the exchange has developed a standard sub-contract agreement whose terms are symmetrical to the contractor and sub-contractor in terms of delivery time, costs, etc.
 - the exchange handles routine enquiries of general and

specific nature on all aspects of sub-contracting

- ii conducting industrial surveys to determine sub-contracting scope, product development, potential marketing channels and outlets; to assess potential areas of sub-contracting; and, and to evaluate existing sub-contractors;
- iii operating and maintaining a data base on sub-contractors and main contractors
to date the exchange has compiled technical profiles of 130 firms in the metal sector based on information collected in a survey at the end of 1991
- iv providing detailed economic information about the scope and demand of components, parts or equipment which are produced locally and on types of raw materials, imports, exports and rate of capacity utilization;
- v organizing sub-contracting meetings, seminars, workshops and buyer/seller meetings;
- vi organizing participation of enterprises in national and international sub-contracting fairs and exhibitions;
- vii conducting training on related aspects of sub-contracting such as quality assurance
the exchange has carried out 2 seminars attended by 40 participants from 10 organizations.
- viii sensitizing the relevant publics about the exchange and its programmes through visits, mail shots and advertizing in the general and special target media.

During the initial two-year phase the exchange is to cover the metal and engineering, automotive, rubber and plastics, and agro-industry sub-sectors of manufacturing.

5.2 Institutions Directly Affiliated With KSPX

As noted above KSPX is affiliated with a number of institutions in government and the parastatal sector and with the three main trade associations of the private sector in Kenya. Their involvement has largely been advisory on the executive committee. They all have a potential to play a more active and substantive role by virtue of their missions and objectives, as well as their relative positions in industry. A few of them have data bases on some aspects of industry, which the exchange could tap. Apart from information and their respective technical resources there are possibilities of specific and purposive support they could render to the KSPX (Shumbusho 1990). Table 5.21 shows some of the facilities which affiliated organizations could

provide to assist ESPX.

Table 5.21: KSPX Affiliated Institutions Membership, Facilities and Funding Sources

ORGANIZATION	MEMBERSHIP	FACILITIES	FUNDING/ SPONSORSHIP
MoI	n.a.	Government services	Government
KIRDI	n.a.	Industrial R&D	Government
ERS	n.a.	Industrial Laboratories	Govt Levy
EKE	c2,000	IR, train., consultancy	Self & Donor
KAM	c1,200	Technology & Trade Info.	Self
FINCI	c3,000	Trade Information	Self
EMAP	c 500	Training, Management	Donor Grants
SEFCO	n.a.	Financial Services	Self

Co-operation between the exchange and these institutions is, at present, weak and informal. There is need to strengthen it and co-ordinate the services they provide, within the broad aim of facilitating and promoting sub-contracting.

5.3 The Role of Government

It is a basic obligation of the government to create a clear and stable legal and institutional system within which industry can develop. In addition, it has the responsibility of providing education and training, building infrastructure, making available business and technological information and knowledge and protecting consumer welfare.

In Kenya, the government has considerable involvement, both direct and indirect, in the agro-industrial development process. Its role ranges in activity from economic planning to mobilizing domestic and foreign resources, facilitating the process of capital accumulation, to control and regulation. In addition to government ministries and departments functions (directors of Industry, Agriculture, Technical Training and Applied Technology etc), the government asserts its influence via investment in the productive sectors, either directly or through national, sectoral, regional development agencies and financial intermediaries. In all there are well over 300 parastatal, government investment and public institutions and statutory boards. They include development institutions, financial intermediaries, commercial concerns, regulatory and advisory bodies, co-operatives, etc. The list of public organizations in the agro-industrial sector is given in Appendix B.

The involvement of government directly in productive activities as well as the aptness of the control and

regulatory framework have come under question. There are conflicting views and evidence about the performance and positive role of the public sector (Grosb 1987). On one hand it has been argued that a large public sector will contribute little to dynamic industrial growth and become a drain on public finances, requiring a net inflow of resources to cover its capital needs and, hence, discourage the growth of the private sector. This negative stereotype of parastatals contrasts with evidence which suggests that parastatal firms are more efficient and profitable than private firms, which casts doubt on the case for privatization. Among the measures of structural adjustment and liberalization has been divestiture of government interests in some of the less strategic investments.

In so far as the agro-industrial sector development is concerned and in particular fostering linkages, the main bottlenecks are manifested in the following ways:

- There is a lack of effective planning at sectoral and project level.
- Poor coordination among ministries and agencies debilitates economic integration.
- Lack of data and weakness of information systems at national, sectoral, regional as well as project level and near-absence of applied research knowledge in the agricultural economics area conceals opportunities.
- Shortage of managerial and technical manpower, and the menace of political interference in most parastatals and agricultural co-operatives hampers proper decision-making.

The options of intervention by government include direct and indirect policies and strategies to overcome the above problems and, in addition, seek opportunities of transforming the economy to attract investment, be more productive and expand internal and external markets. Of particular concern is the need to change the inward-oriented industrial policies to stimulate firms to become outward-oriented and less vertically integrated, with affinity to employ sub-contracting to create capacity and achieve quality to compete strongly in the world market.

- Among the policy measures taken by Government (Kenya 1986, Kenya 1989 and Kenya 1991) are
- agricultural transformation
 - rural industrialization
 - export strategy (export processing zones and manufacture under bond, etc)
 - divestiture of some parastatals

We note from responses in the field study and the literature that although policy statements are well-defined, in

practice they are not fulfilled or supported in all respects (Coughlin 1991: p.373).

5.4 Some Emerging Issues Regarding the Future of KSPX

During the field survey of this study an attempt was made to elicit views about two related strategic issues relating to the future of the KSPX, namely,

- pertinence of the idea of the exchange and the appropriate institutional framework; and,
- the means and prospects of its sustainability and willingness and ability to participate in sharing its costs.

a Accountability and Control

Two broad views were expressed

Either

- i KSPX should be an independent entity, with the support of, but not controlled by, government; in particular it was stressed that the exchange could not be effective within the government (civil service) environment.

Or,

- ii To obviate the proliferation of tertiary business institutions which businesses have to deal with, KSPX should be affiliated formally to an existing organization with which there could be a strong symbiotic relationship, as at present. The present set-up should undergo objective and independent summative evaluation to determine the suitability and need of the same or similar arrangements.

b Sustainability

Given the substantial magnitude of resources needed to operate, the exchange needs to continue to be subsidized with a grant from the government or donor agency for a period before it became self-sufficient. It would be up to the management of the exchange, under the proposed corporate set up, to contrive revenue-generating activities and projects to attain and maintain self-reliance in the long run. Respondents in this study emphasized the need for efficient management of the exchange so that effective delivery of services is achieved with minimal resources.

At any rate users or "beneficiaries" of the services would ultimately have to contribute to the bill in either or both of the following possibilities:

- i Pay for services directly
- ii A levy charged to all industries

CHAPTER SIX

FUTURE DIRECTIONS OF SUB-CONTRACTING:
PROPOSALS AND RECOMMENDATIONS

The KSPX is expected to become a key business assistance centre which links manufacturing firms locally and internationally to carry out sub-contracting between them. In the foregoing chapters we have argued for it to have a clear mission, institutional setting, viable networks and sufficient resources in order to be effective.

In the context of the agro-industry in Kenya, possibilities of sub-contracting on a large scale have not fully materialized because of two reasons. First, the level of specialization of production technology is low and, secondly, the number of firms in the economy is small - and consequently the number of possible linkages too is small. Additionally, there exist attitudinal inhibitions against sub-contracting and growth of enterprises by expanding and specializing.

In order to boost the agro-industry sector requires more than merely stimulating existing industries: it is necessary to increase agricultural productivity at farm level and expand markets, both local and export. These require policy initiatives, most of them outside the mandate of the KSPX. The question of sub-contracting is, therefore, associated with policies covering the entire agricultural and manufacturing sectors.

This chapter is devoted to specific suggestions on the institutional reform, operations, support mechanisms and the implementation strategy which should be embarked upon by the KSPX in order to extend its coverage of providing services to the agro-industry sector.

6.1 Institutional form of KSPX and relationship with associated organizations

- a Officials of the firms polled in this study expressed positive interest in and need for a body to enable sub-contracting between manufacturing firms. Although most of them were unaware of the existence and activities of the KSPX, they expressed willingness to co-operate with the exchange. Steps should be taken to improve the quality of linkage with the private sector.
- b KSPX is at the present time in pilot phase, wholly supported financially by UNIDO and the government. Since no alternative financing is available presently, UNIDO should extend the period of the project for at least another two

years. At the end of the period the project should have attained a degree of autonomy and self-reliance. Meanwhile, the executive committee of the KSPX should initiate a process to enable the institution to embark immediately on establishing itself as an independent entity.

In order to meet its objectives, KSPX should assume a corporate status which would enable it to become sustainable and self-reliant. In particular it should mandate its own policy and provision of its resources.

- It has been proposed that KSPX should have a corporate status of a limited company by guarantee and not having a share capital. The essence of this proposal is that while it would strive to pay for itself through entrance fees, subscriptions and charges for services, it would be non-profit. The proposal also aims to ensure the perpetuation and stabilization of certain institutions' interests such as government, the main trade associations (KAM, FKE, KNCCI).

We agree with this proposal and further suggest that

- i. The Government, trade associations and all industries in general should, through appropriate instruments, mandate KSPX to be established formally as a legal entity mooted above with immediate effect.
- ii. KSPX should be enabled to access resources, particularly information, which the government, trade associations and other affiliated agencies possess which are of utility in provision of industrial exchange services.
- iii. KSPX should strengthen its secretariat qualitatively by means of the most up to date management information systems in order to handle effectively centralized data requests.
- iv. A package of technical assistance and training provided by institutions with which KSPX is affiliated should be prepared, to be offered to clients of the exchange. Management training and business consultancy/extension programmes of K-MAP and FKE, and the Total Quality Management training offered by the latter should be focussed on the specific needs of KSPX.
- v. KSPX should, in collaboration with MoI and the FTA secretariat, explore possibilities of gradually extending its coverage to the regional market.

6.2 Operations, activities, products and processes to be dealt with by KSPX in agro-industry sector

In so far as the agro-industry per se is concerned the Kenya economy has not achieved the threshold, both in technology sophistication and production capacity, to take advantage of

sub contracting to a great extent. None the less, there exist some opportunities, set forth in Chapter Four, which the KSPX can aid to flourish.

- a. KSPX should undertake a thorough diagnostic study, seeking more comprehensive and detailed information on the state of structural linkages in the economy, their determinants and trends. Sources of such information could be an ad-hoc survey, supplemented with data produced by the Central Bureau of Statistics and other government agencies. Research by academic and other institutions could provide analytical perspectives to give additional insight into operational mechanisms of the economy.
 - b. Through its on-going programme of surveys it should identify specific firms in the agro-industry sector and their sub-contracting environments (needs and potential contribution). In addition to this information the exchange could tap data readily from other sources. Trade associations (the KAM and FKE) do have some information on their members who, in all, number about 2,500 distributed in all sectors of the economy. The CRS Master File of Establishments is a computerised data base, which has details of industrial activity, geographic specification, employment and earnings profiles of all firms in the country.
 - c. The training and extension project should be expanded and refined qualitatively, based on experience gained over time and on seminar/course evaluations. In addition to the seeking general participation, special effort should be made to target the sub-sectors or specific industries that are predisposed to readily benefit or take advantage of sub-contracting. KSPX should undertake sectoral studies to identify such special needs.
 - d. Finance is a key constraint facing small-scale firms which wish to take part in sub-contracting arrangements. KSPX needs to collaborate with financial and development institutions, such as SEFCO, IDB and KIE, which can avail loan funds and other facilities to support sub-contracts. The terms and conditions of such loans need to be tailored to the business environment in which sub-contracting takes place.
 - e. KSPX should inventory and maintain a roster of specialized engineering and design resources available locally, including universities, polytechnics and consulting firms. Such resources would provide sub-contracting services on consultancy basis, thereby obviate the need for KSPX to have to increase its size or technical resources.
- 6.2 Support mechanisms to stimulate greater exploitation of sub-contracting potential

- a. KSEY should devote greater effort in publicizing itself and its activities. It should create and maintain a positive awareness of sub-contracting as a co-operative and not adversarial linkage between any two firms. We recommend that a publicity agency should be engaged to advice in this respect and more channels (eg direct mail, the electronic media etc) used for more effective communication.

- b. In order to give further impetus to industrialization and hence increase the capacity for sub-contracting, efforts should be directed to adaption, absorption and diffusion of imported technology. KIRDI, KRS and KIE should be more forthcoming in collaborating with industry to identify viable alternative production, processing and preservation technology which can be applied to solve specific technical problems and challenges such as product design, engineering, manufacturing processes and production planning.

- c. According to information obtained in this study, the scope of sub-contracting within the agro-industry is small, while the amount of linkages with other manufacturing activities moderate. There is potential to increase linkages with the plastics, metal, paper, conversion, electrical and electronics sub-sectors, to manufacture and repair agricultural machinery, food processing machinery and equipment, silos, packaging, etc. This calls for a comprehensive Government industrial policy. Such a policy should be consistent with and mutually reinforcing other sector policies, particularly the fiscal policy and policies on education and training.

We propose that the Ministry of Industry should undertake a comprehensive industrial policy analysis which, among other things, lays an emphasis on the development of production of capital goods, light machinery and durable consumer goods.

- d. In order to promote sub-contracting, a package of incentives such as tax exemptions should be offered to those firms which are export oriented and actively seek to foster co-operation with small and medium-size firms in the economy. KSEY should commission a study to determine the nature and modalities of such incentives.

6.4 Implementation plan/strategy and priorities

KSEY should prepare immediately a detailed plan spanning the period up to when it will become fully operational covering the entire range of manufacturing activities in the country.

Our proposal of actions and their priorities are as follows

- i) KSPX be incorporated as a corporate entity with more active involvement of the private sector in its governing body (board of directors to succeed the steering committee).
- ii) KSPX set up management and operational systems, including marketing (publicity), with clearly defined objectives, both short-term and long-term.
- iii) KSPX undertake a detailed study to examine, identify and specify linkages in the agro-industry sector, using the conceptual framework in Chapter Three.
 - iii: Among the identified specific potential linkages in the agro-industry sector as well as the metal, plastics and rubber and other sectors already embarked upon, facilitation of sub-contracting should proceed quickly and methodically in order to demonstrate the value of the exchange to the pertinent public, and to determine the efficacy of the management and operational systems.

6.5 Summary and Conclusion

Manufacturing industry should play a greater role in the economy. Sub-contracting is a technical tool which can enhance production, capacity utilization, productivity and efficiency. This requires a viable institutional framework and effective operational mechanisms to be set up in KSPX.

Having been in operation for a year and more under the sponsorship of UNIDO and within the infrastructure of the E.M.P., the KSPX has made a start with capability to provide sub-contracting exchange services to the metal sector. It is necessary for the KSPX to upgrade qualitatively its operations and modify its institutional structure to become independent and self-supporting in order to expand its activities to the entire manufacturing sector so as to realize its long term objectives.

This study, which focused on the opportunities, problems and challenges of sub-contracting in the agro industry sector in Kenya, has identified several related factors which account for weak industrial linkages in the economy. These include the low technological threshold, weak structural and policy framework and the relatively small number of intermediate goods transactions. The suitable responses embrace wider issues than the scope of policy and objectives of the KSPX. It is, therefore, necessary to address such issues - in particular formulate a comprehensive and consistent industrial policy - in order to realize healthy, orderly and sustainable growth of the manufacturing sector.

A P P E N D I C E S

APPENDIX A

List of agro industry activities by ISIC codes

ISIC 4 digit code	Description of Industrial Activity
2111	Slaughtering, preparing and preserving of meat
2112	Manufacture of dairy products
2113	Canning and preserving of fruits and vegetables
2114	Canning, preserving and processing of fish
2115	Manufacture of vegetables and animal oils and fats
2116	Grain mill products
2117	Manufacture of bakery products
2118	Sugar factories and refineries
2119	Manufacture of cocoa, chocolate and sugar confectioneries
2121	Manufacture of food n.e.c.
2122	Manufacture of prepared animal feeds
2123	Distilling, rectifying and blending spirits
2124	Malt liquors and malt
2125	Soft drinks and carbonated waters industries
2140	Tobacco manufactures
2210	Cotton ginneries
2211	Spinning, weaving and finishing textiles
2212	Manufacture of made-up textiles goods except wearing apparel
2213	Knitting mills
2215	Cordage, rope and twine industries
2219	Manufacture of textiles n.e.c.
2220	Manufacture of wearing apparel, except footwear
2221	Tanneries and leather finishing
2222	Manufacture of products of leather, except footwear and wearing apparel
2240	Manufacture of footwear, except plastic footwear
2311	Sawmills, planing and other wood mills
2312	Manufacture of wooden and cane containers
2319	Manufacture of wood and cork products n.e.c.
2320	Manufacture of furniture and fixtures, except primarily of metal or plastic
2411	Manufacture of pulp, paper and paper-board
2419	Manufacture of pulp, paper and paper-board articles non
2420	Printing, publishing and allied industries

APPENDIX B

List of Parastatals, Statutory Boards and Government Investments
in the Agro-Industrial and Related Sectors

Agricultural Development Corporation
Industrial and Commercial Development Corporation
Kenya Industrial Estates
Industrial Development Bank
Agricultural Finance Corporation
Cereals and Sugar Finance Corporation
Kenya Tea Development Authority
Horticultural Crops Development Authority
Kenya Meat Commission
Uplands Paeon Factory
Cotton Lint and Seed Marketing Board
Pyrethrum Marketing Board
Tana and Athi River Development Authority
Lake Basin Development Authority
Kenia Valley Development Authority
National Irrigation Board
National Cereals and Produce Board
Kenya Sisal Board
Coffee Board of Kenya

Co-operative Bank of Kenya
Kenya Planters Co-operative Union
Kenya Co-operative Creameries
Kenya Grain Growers Co-operative Union

Chemelil Sugar Company
E.A. Sugar Industries
Mumias Sugar Company
Ngara Sugar Company
South Nyanza Sugar Company

Food and Crop Processing

Tea Factories

Livestock

Textile and Fibre

Beverage

Fishing

Chemical and Pharmaceutical

Wood and Paper

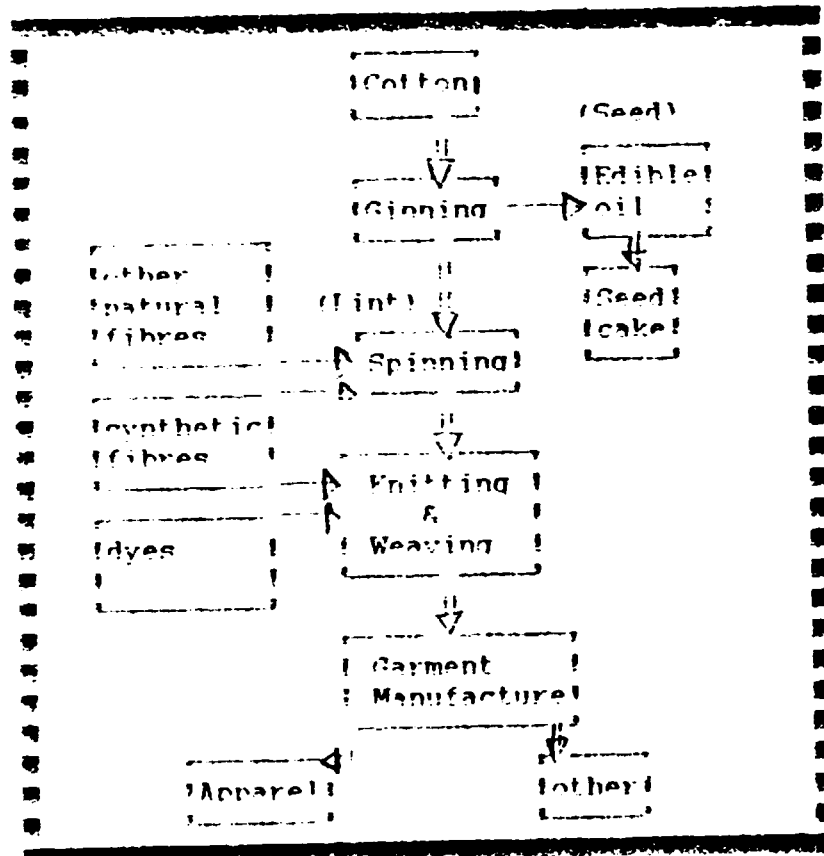
Kenya Sugar Authority
Sisal Board of Kenya
Tea Board
Kenya Dairy Board
Dig Industry Board

Kenya Bureau of Standards

Kenya Agricultural Research Institute
Coffee Research Foundation
Tea Research Foundation
Kenya Industrial Research and Development Institute

Schematic Models of Linkages in Agro-Industrial Sub-Sectors

1. Linkages in the textile sub-sector



Case Studies: East Africa Fine Spinners Ltd and Deacons Ltd

SOME FACTORS RELATING TO SUB-CONTRACTING IN THE SUB SECTOR

Integration/diversity of firms: Mixed. EAFN is highly specialized unlike the majority of other firms: Asian family businesses keep diversity within same family or community. Deacons sources from a wide variety of suppliers.

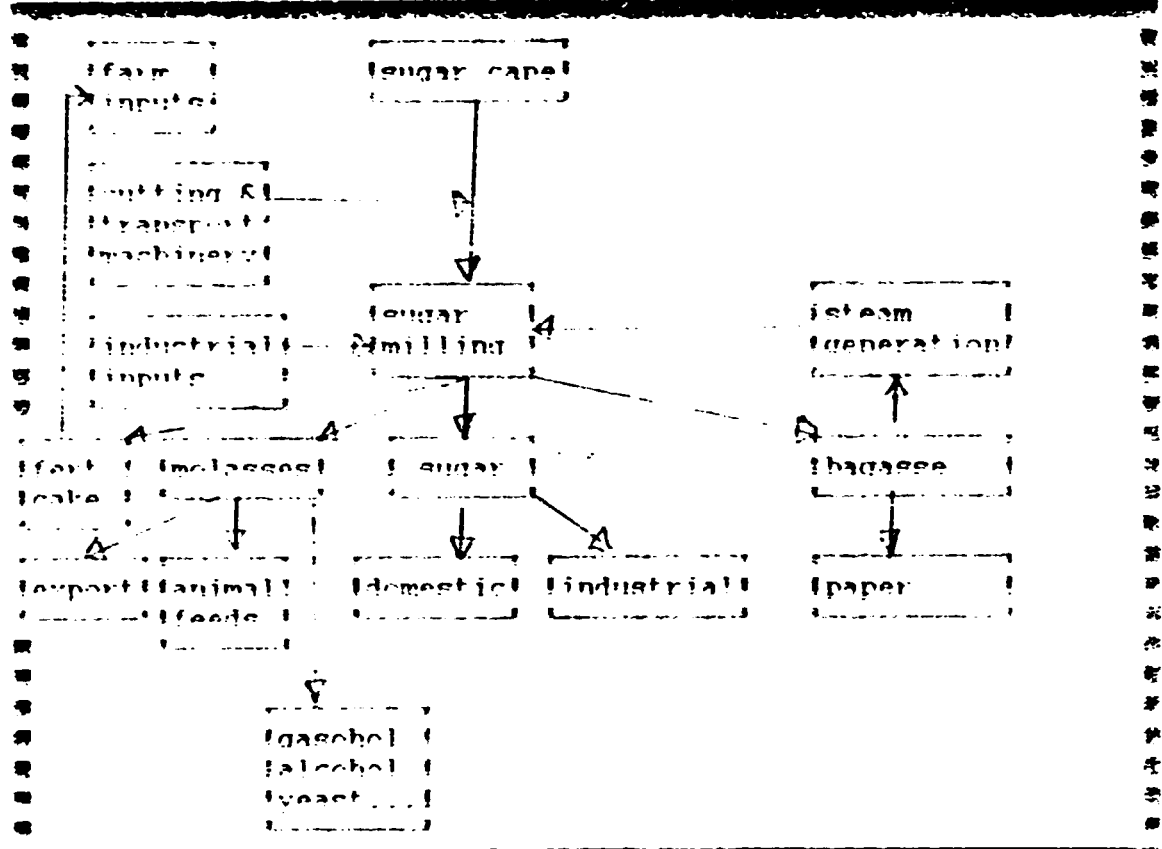
Continuity/similarity of technology: Kenyan firms use low technology, which provides opportunity for ready entry of small firms.

Access/Availability of production factors (management, capital and skills): Generally there are no bottlenecks.

Product market: Oriented to domestic consumer market

Government intervention: Cotton supply monopolized by CLEMA; government investment in several textile firms, including EAFN

ii Linkages in the sugar sub-sector



Case Studies: KSA (5 sugar companies)

SOME FACTORS RELATING TO SUB-CONTRACTING IN THE SUB-SECTOR

Integration/diversity of firms: Diversity imposed by defective Government policy (inefficient outgrower organization mechanism); marketing/distribution monopolized by KNTC - a parastatal. Mumias Sugar has diversified slightly into provision of engineering services. Sugar companies unable to depith bagasse to make it readily usable by Panpaper. Industry concentrated in Nyanza and western Kenya.

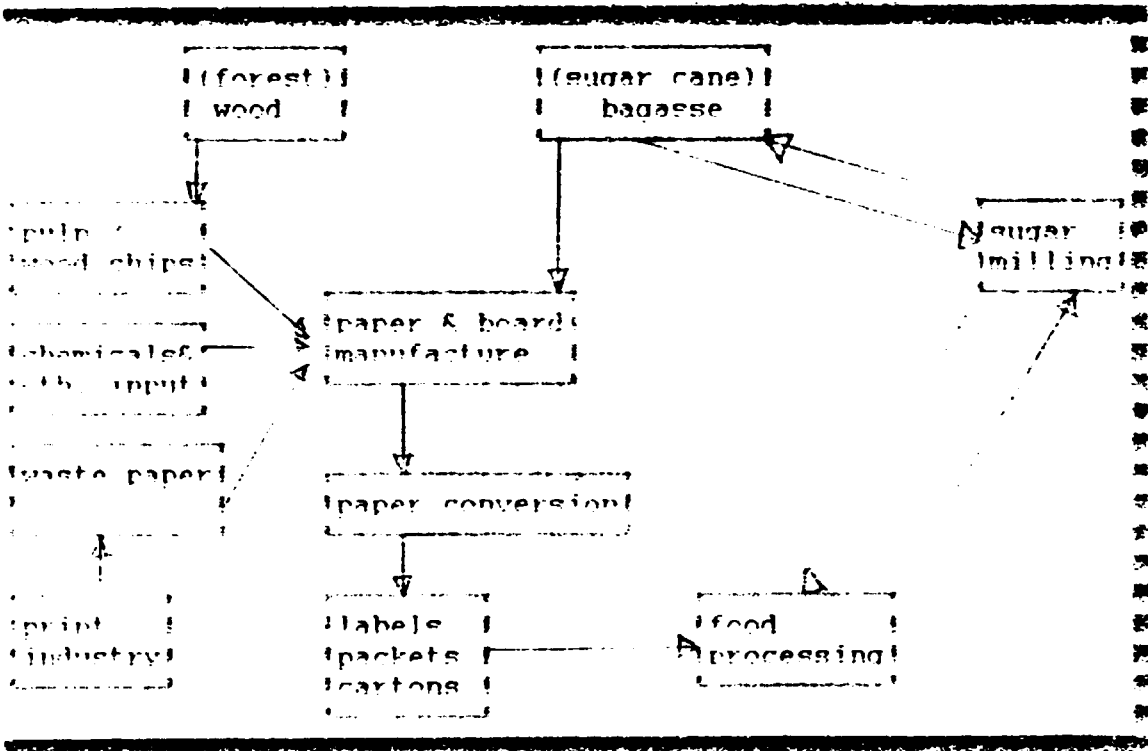
Continuity/similarity of technology: Two dissimilar technologies in use (vacuum and open pan sulphitation. Kabras Sugar and jaggeries use the latter)

Access/Availability of production factors (management, capital and skills): High threshold, not readily available.

Product market: Industry unable to satisfy local demand on sustained basis, notwithstanding underutilized capacity.

Government intervention: Price control of producer and consumer prices but not inputs; direct investment in 5 sugar companies; fiscal policy (eg excise duty on sugar)

(iii) Linkages in the paper sub sector



Case Studies: Panafrikan Paper Mills, Tetra Pak

SOME FACTORS RELATING TO SUB-CONTRACTING IN THE SUB-SECTOR

Integration/diversity of firms: Firms are integrated and highly specialized.

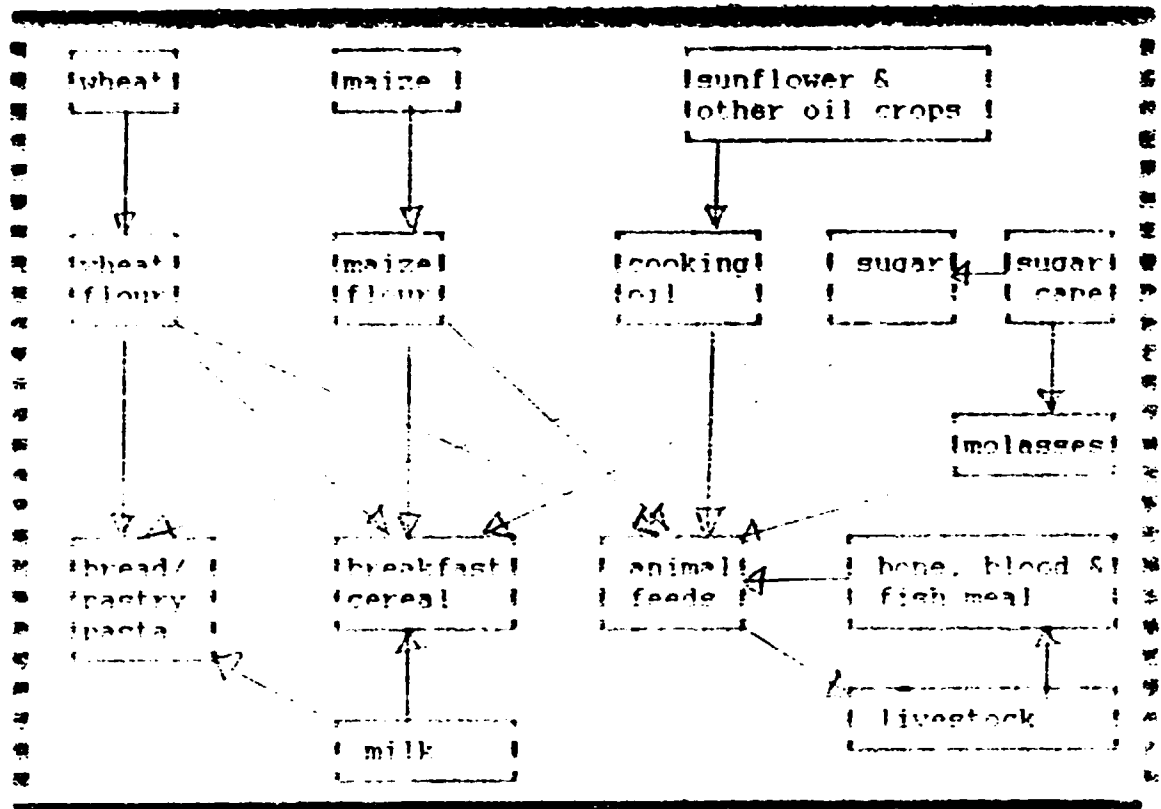
Continuity/similarity of technology: Complex engineering process requires a plethora of technologies (in the case of Panpaper, chemical, mechanical, civil/environmental, electrical, instrumentation - to name some) supplied mainly by overseas firms. Panpaper has several options of raw material (raw wood, debarked bagasse, pulp and used paper). Nature of Tetra Pak packaging imposes severe limitation of options for industry which adopts the system.

Access/Availability of production factors (management, capital and skills): Severely limited because of technology and scale.

Product market: Large unsatisfied domestic market; industry is capable of competing strongly in exports, especially PTA.

Government intervention: Policy and programme of afforestation for production of raw material; Fiscal policy (eg recent imposition of sales tax on printed material); direct and indirect investment in the industry.

iv Linkages in the cereals and animal feeds sub-sector



Case Studies: Unga group of companies

SOME FACTORS RELATING TO SUB CONTRACTING IN THE SUB SECTOR

Integration/diversity of firms: Many firms in the industry employ strategy of high degree of vertical integration. Diversity is perceived as a hedge against vagaries of highly competitive market.

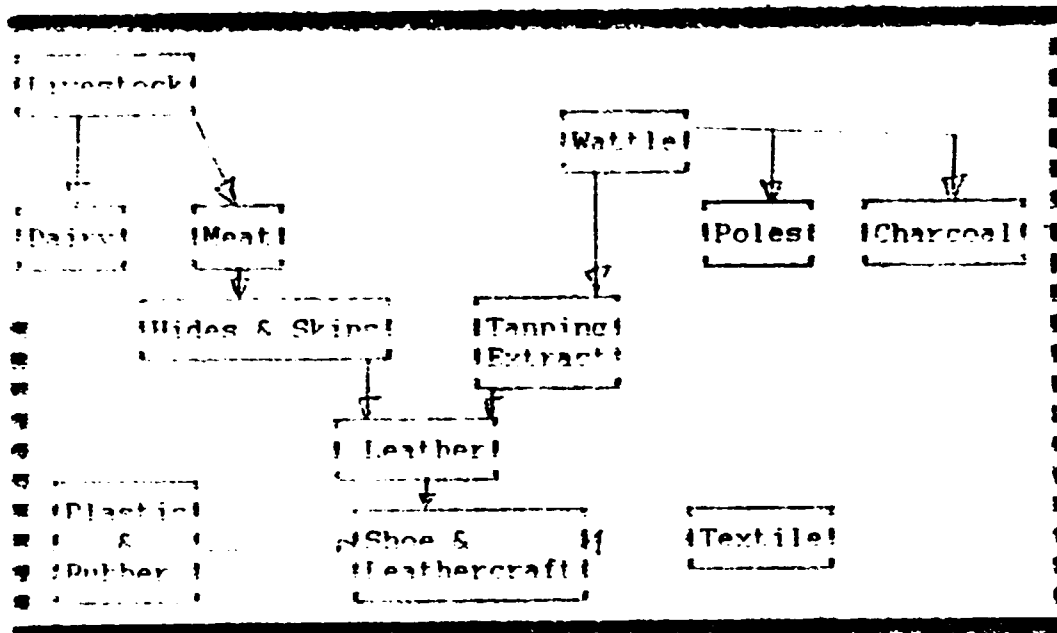
Continuity/similarity of technology: Integration is predicated by nature of by product of processing grain and oil seed crops. However, the technology of processing by-products often differs radically from that of the primary product.

Access/Availability of production factors (management, capital and skills): Entry moderately restricted but within capability of resourceful entrepreneur.

Product market: Oriented to domestic consumer market; fierce competition but subject to regulation by government through pricing and zoning of market territory. Innovation and differentiation eg introduction of pasta by Elianto and House of Manii is attempt to increase market of processed food.

Government intervention: Price control, zoning, government investment; Limited monopoly of grain marketing through NCPB

Linkages in the Leather Industry



Case Studies: Pata Shoe and Tiger Shoe

Some factors relating to sub-contracting in the sub sector

International/diversity of firms: Moderate degree of vertical integration. Because quality plays a key role in determination of price and market there is a strong tendency for specialization. Pata, with its enormous international resources and substantial command of the market engages in sub-contracting liberally.

Continuity/similarity of technology: It is possible to have a one man shop or a complex factory with thousands of workers.

Access/Availability of production factors (management, capital and skills): It is feasible to enter the industry at any level of firm size.

Product markets: The footwear industry grew out of import substitution development and has had difficulty to penetrate the export market, or survive under competition (Tiger). Moulds and modules for non leather, which could be made locally, are imported from Europe and the Far East. The leather industry faces severe competition from cheap plastic moulded and fabric-made footwear products.

Government intervention: Limited government investment-facilitation of export promotion.

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