



Natural
Resources
Institute

Policy Series

17

***PROSPECTS FOR SUSTAINABLE
TREE CROP DEVELOPMENT IN
SUB-SAHARAN AFRICA***

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TREE CROP DEVELOPMENT IN
SUB-SAHARAN AFRICA***

**Natural Resources Institute: Enterprise, Trade
and Finance Group**

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PREFACE

This series is principally concerned with current policy issues of importance to developing countries but also covers those relevant to countries in transition. The focus is upon policies which affect the management of natural resources in support of sustainable livelihoods. Much of the series is devoted to concerns affecting the livelihoods of poor people in rural areas, recognizing the linkages with non-natural resource-based livelihoods. It also includes the interests of the urban poor, where these are linked to the use of natural resources as part of livelihood strategies.

The series takes a holistic view and covers both the economic and social components affecting livelihoods, and associated factors, notably with respect to health and education. The aim is to provide topical analyses which are based upon field research where appropriate, and which will inform development practitioners concerned with issues of poverty in development.

The series is timely, given the increasing focus upon poverty and poverty elimination in the agenda of the development community. It is also timely with respect to the growing body of recent work which seeks to replace earlier, simplistic structural adjustment programmes, with more flexible approaches to livelihoods, institutions and partnerships.

Policy analysis is often assumed to be the remit of social scientists alone. Whilst it is recognized that social science may play a pivotal role, interactions with other disciplines may also be critical in understanding and analysing policy issues of importance to the poor. The series therefore draws upon a wide range of social and natural scientific disciplines reflecting the resource base at the Natural Resources Institute.

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EXECUTIVE SUMMARY

The objectives of this policy series paper are to identify key issues for the development of the tree crop sector and particularly those affecting smallholder production. The study examines the conditions under which these crops are produced and constraints that can arise, for example, in relation to production factors and marketing systems. It also reviews the impact of policy, especially the effects of liberalization. Concluding sections review the scope for interventions to tackle constraints, including institutional development and capacity building. Strategic options such as diversification are examined, coupled with other possible interventions in production and marketing systems.

The focus of the study is upon cocoa, coffee, tea, oil palm, rubber, cashew and coconut in the humid tropical belt, and shea nut (*karité*) and gum arabic in the Sahelian region. These crops often provide the main source of exports and foreign exchange earnings for many African countries, and particularly for those in the least developed group. Cocoa is Africa's most important tree crop, and it provides 70% of world exports, worth nearly US\$ 2 billion. Africa also supplies 15% of the world coffee market, worth approximately US\$ 1.5 billion. Production of rubber, oil palm, coconut, cashew and tea comprise only a relatively small share of world exports but are an important source of income to certain countries. In addition, Africa supplies most of the world demand for shea nuts and shea nut butter, and gum arabic. In spite of diversification into other export crops, and declining real prices, tree crops remain a vital source of income and employment for millions of smallholders. The poorest strata of the population are frequently involved in this type of commodity production.

There has been no World Bank lending for tree crops in Africa for 12–15 years, whereas there has been substantial support for this sector in Asia and

Latin America. The focus of World Bank and other donor investment in Africa is increasingly through poverty reduction strategy programmes including programme credits and community-based, rural development projects. However, these, particularly the former, are concerned primarily with institutional development and policy reform, rather than direct support to revenue-generating activities. Nonetheless, targeted investment in the tree crop sector can complement and enhance these programmes since tree crop output could probably be doubled through better agronomic and post-harvest management and new, high-yielding planting stock. At present there is no supportive institutional capacity to assist in the development and maintenance of distribution systems required for input supply and marketing.

There is a need to explore new financing instruments to facilitate investment, for example, in Colombia funding has been used for smallholder oil palm development within the framework of a community-private sector agribusiness partnership. In Asia various instruments are used for long-term financing such as cess and trust funds, grants and commercial credit. The opportunities offered by private-public partnerships for financing tree crop production and processing plants in Africa could, therefore, be explored. Other donors involved in the sector include the Common Fund for Commodities (CFC), funding commodity support projects, and USAID's Sustainable Tree Crops Programme in West Africa.

Tree crop commodity markets are typified by slow demand growth in major developed country markets, and over supply for many mainstream products. However, there is scope for growth in niche market areas through supply of new varieties, filling in seasonal gaps in specific produce markets, and supply of organic products. However, in both mainstream and diversified/niche markets, there is particularly strong competition from both Latin American and Asian suppliers. Long-term downward pressure on real prices is likely to remain a feature for most tree crop markets.

Most tree crops are exported in semi-processed form, which faces negligible import tariffs, whilst processed products are subject to escalating tariffs. Efforts to increase processed exports have met with limited success, as a result both of marketing and trade aspects as well as technological and infrastructural constraints. Whilst value addition may be seen as one way of reducing dependence on exports of primary commodities, there may be few direct short-term benefits to tree crop producers themselves.

Implementation of liberalization policies has particularly affected tree crops, since marketing boards that played a large role, albeit often inefficiently, in services to smallholders, including input supply, crop purchasing and price management, marketing and quality control, no longer exist. Whilst the private sector has taken on some of these roles formerly covered by the state, its operation has often been less effective in certain areas. One such aspect is quality control, where the private sector has often been slow to appreciate the importance of quality components in international markets, and their influence on prices. As a consequence quality control systems often require improvement. The private sector has also frequently been slow to develop input supply systems, partly because of the limited commercial attractiveness of supplying small-scale, dispersed producers.

Liberalized marketing has also led to the shifting of risk towards the producer, i.e. predominantly smallholders, who often experience more volatile prices. These in turn are a cause of vulnerability and create difficulties for planting decisions and ongoing crop management. Problems are exacerbated by the lack of information provided to farmers. Lack of access to trade finance has led to private traders having to buy and sell more quickly than the marketing boards, and their inability to use futures markets has sometimes contributed to lower and more erratic producer prices. Trade finance and improved access to information are thus important components of tree crop production and for enterprises that surround these activities. In the longer term, tools to manage risk can also play a complementary role.

However, the overriding conclusion arising from the impacts of liberalization is that the most important areas for future development are institutional. The development (or revival) of producer bodies is needed to improve the operation both of input supply and output marketing, for example, via bulking up of orders for inputs and subsequent distribution to members, and similar bulking up of produce for marketing coupled with enhanced negotiating power with buyers. Ultimately such bodies can also generate savings and credit management capacity.

Development of producer bodies can be linked to more flexible production and marketing systems offered, for example, by various forms of outgrower schemes. There is also additional scope for encouraging interaction between differing categories of institutions, depending upon their capability and local needs. Facilitatory and intermediary roles between smallholders and final markets can be played by more sophisticated producer bodies, commercially minded NGOs, private companies and hybrids such as companies limited by guarantee.

1

INTRODUCTION

THE ROLE AND IMPORTANCE OF TREE CROPS IN SUB-SAHARAN AFRICA

In this paper, a tree crop is defined as ‘a perennial plant, with a self-supporting woody main stem whose annual non-timber products have a potentially marketable and/or nutritional value for the farmer’. The tree crops considered here are cocoa, coffee, tea, coconuts, cashew, oil palm and rubber in the humid tropical belt and shea nut (*karité*) and gum arabic in the Sahelian region.

Tree crops have a long gestation period, taking several years from planting to production of the first crop. Several more years may then be needed before the tree reaches full productivity, while a tree’s economic life may extend over several decades. The long period to reach maturity means that there is often a considerable lag between price signals and changes in market supply of the crop.

Tree crops should be regarded as offering potentially valuable opportunities for agricultural development. They are often considered relatively simple to establish and maintain, because of their appearance of permanence. However, their long period of maturity, coupled with poor selection of sites and planting material, substandard maintenance, and inadequate attention to processing and marketing frequently negate their positive attributes.

Tree crops play a dominant long-term role in sustaining the livelihoods of many millions of smallholder producers in sub-Saharan Africa (SSA) as well as influencing the incomes received by intermediaries, processors and governments.

- They can provide an additional source of income for smallholder farmers, as well as providing a primary source of income to commercial farmers and traders. They are a major contributor to GDP and foreign exchange earnings in a number of countries, and tree crops often provide better opportunities for value addition compared to most staple crops.
- They represent an appreciating asset over a significant number of years. They also reduce risk by providing reasonable yields even in years when average rainfall is low (because of their deep rooting systems which provide an advantage over annual crops), and providing diversification of food and income at the farm level.
- They are generally environmentally beneficial, provided that their development, exploitation and processing are undertaken in a sustainable manner. Tree crops can be used in production systems that are less reliant upon agro-chemicals, assist in stabilization of agro-ecosystems, enhance biodiversification, and contribute to carbon sequestration.
- There are species and groups of tree crops that can be combined which, together with other farming enterprises, provide small-scale producers with a balanced, sustainable and viable future.

Table 1 shows the relative economic importance of tree crops (i.e. cocoa, coffee, coconut, cashew, oil palm, rubber and tea) in SSA. Sub-Saharan Africa contributes nearly 19% of the value of world trade for these commodities. The most important exports are beverage crops, whilst oils and oilseeds are relatively minor. Cocoa is the most important export tree crop with SSA providing 70% by value of world exports and earning US\$ 1.8 billion. Coffee is the second most important export tree crop for the region, with a large number of countries exporting the commodity. Sub-Saharan Africa supplies approximately 15% of the value of coffee exports worth US\$ 1.4 billion (FAOSTAT, 1990–99 average figures). The region accounts for 20% of the value of world tea output, and is now a major force in world tea production, producing teas of high quality and good bright colour which are used for blending all over the world. Tea producing countries in Africa include Kenya, Malawi, Tanzania, Zimbabwe and South Africa.

<http://www.tea.co.uk/tGloriousT/africa.htm>

Shea nut and gum arabic are produced virtually entirely in Africa from a mix of wild and planted trees. Over 99% of shea butter world exports comes from Africa valued at US\$ 670,000 (1990–99 average value), although most

nuts are exported in unprocessed form. The main producing countries are Nigeria, Mali, Burkina Faso, Côte d'Ivoire, Ghana, Benin and Chad. Shea butter is used locally as well as exported. From 1996, after several years of decline, world imports of gum arabic have increased; in 1997 global exports totalled 25,000 tonnes, worth an estimated US\$ 34 million. A handful of countries dominate the trade, namely, Sudan, Chad and Nigeria, which account for approximately 55%, 30%, and 10% of the trade, respectively.

Table 1 Sub-Saharan Africa's share of world exports and world share of African exporters for eight commodities by value (average value 1990–99)

	Cocoa	Coffee	Tea	Palm oil	Cashew	Coconut	Rubber	Shea butter*
SSA share of world trade, by value (%)	69	15	20	2.17	47	1.51	1.27	99
Share of main African exporters, by value (%)	CI 43 GH 14 NG CM TG	UG CI ET KE CM 4 0.4	2.7 2.5 2.5 2.4 1.2	KE 15 MW 1.4 RW 0.6 UG 0.6 ZW 0.5	CI 1.3 CM 0.3 KE GH 0.6 BJ 0.1	TZ 27 8 CI 4 NG 3 KE 0.5	CI 1.3 MZ 0.1 SA 0.03 KE 0.01 0.01 0.05	NG BJ 34 CM BF 33 TG 19 CI 12
World trade value (US\$ million)	2593	9344	2565	4813	215	1010	497	0.678
Value of SSA exports (US\$ million)	1790	1400	515	104	100	15	6	0.7

Source: FAOSTAT.

Notes: * Value of shea butter exports only; excludes value of whole nuts exported. Value of nuts exported in 1997 was US\$ 10.04 million.

BJ Benin	GH Ghana	NG Nigeria	TG Togo
BF Burkina Faso	GW Guinea-Bissau	RW Rwanda	UG Uganda
CM Cameroon	KE Kenya	SA South Africa	ZW Zimbabwe
CI Côte d'Ivoire	MW Malawi	SZ Swaziland	
ET Ethiopia	MZ Mozambique	TZ Tanzania	

Nigeria and Côte d'Ivoire are the main palm oil producers in SSA, but Africa's market share is small (2.2%), compared to its Southeast Asian competitors whose yields per hectare are over one third higher. The income generated by trade in coconut is even smaller; SSA captured an average of only 1.5% of the coconut market world-wide between 1990 and 1999.

LIVELIHOODS AND VULNERABILITY OF THE POOR

The production and transformation of tree crops in SSA is undertaken both by smallholders and estates, and in various scales and combinations. However, although the pattern varies by commodity and by country or region, smallholder production predominates for most tree crops. Coffee and cocoa can be classified as predominantly smallholder crops, whereas tea is traditionally considered an estate crop. However, countries such as Kenya and Malawi have seen an expansion of smallholder tea production, which now accounts for more than 50% of national output in Kenya and nearly 10% in Malawi.

In spite of diversification into other export crops, tree crops remain a vital source of income and employment for millions of smallholders who often form part of the poorest strata of the population. Increased income is arguably the most visible impact of tree crops on the asset base of smallholders and other micro- and small-scale entrepreneurs. However, such incomes are not necessarily sufficient for livelihoods as is evidenced by malnutrition which has been recorded in Ghana's largest cocoa growing area.

Human assets can also be increased through improved skills and knowledge acquired for tree crop export production. This may involve technical knowledge for producing a crop, improved understanding of quality control mechanisms, or better commercial skills. In addition, increased household income as a result of tree crop production enables better access to health services and higher levels of participation of children in schooling (and estate-based/outgrower commodity production may include some provision of such social services).

Smallholder tree crop production is mainly undertaken by men, whilst food crop cultivation tends to be dominated by women and as a consequence, women may have little access to tree crop income. However, the picture is not uniform since women may be less willing to work on tree crops within

smallholder plots, whilst pursuing opportunities in the commercial sector. An example is provided in Kenya, where neglect of smallholder tea plots was reported to be largely due to misplaced expectations by male tea growers concerning their wives availability and willingness to provide large and regular amounts of labour. In contrast women working as labourers often take advantage of employment opportunities on estates or commercial farms.

Age may also be a factor determining economic roles in tree crop production. For example, a large proportion of cocoa growers in West Africa are over 50 years old, and younger people are reluctant to work in the sector. In Ghana, young people are more likely to work as hired labour to earn money for investing in their own farms (Blowfield, 1994).

Table 2 summarizes vulnerability factors that can arise in commodity production. Participation in the production of a particular tree crop may increase or lessen the exposure to shocks, or the impact of major exogenous trends. The impact of such exposure will also depend upon the nature of producers involved in differing production systems.

Table 2 Tree crop production and vulnerability

Vulnerability context factor	Examples
1. Trends that cause stress (either regularly or intermittently). The existence of such trends and sudden changes in such trends.	Declining and volatile prices for export tree crops over time; rising environmental degradation (biodiversity loss, pollution, habitat destruction); rising inflation rates and interest on borrowing.
2. Shocks: conflict between resource users (e.g. large-scale/small-scale).	Economic shocks (e.g. devaluation); sudden fall in crop availability; outbreak of disease.
3. Seasonality.	Seasonal availability of commodity and implications for incomes; seasonal labour requirements and possible conflicts with other livelihood options; seasonal disease and pest problems; seasonal changes in prices.

2

TREE CROP EXPERIENCE TO DATE

KEY ISSUES, CONSTRAINTS AND OPPORTUNITIES

Land availability and land tenure

Problems have often been experienced with the availability of adequate land with appropriate characteristics and quality, within climatic zones that are well suited to tree crop development. Suitable land areas may need to be in close proximity, especially where concentrated management techniques and/or specialized central processing are required.

More fundamentally, land availability has often been closely intertwined with land tenure systems and associated social systems. There are often complex systems of land tenure in SSA, and generalizations regarding their impact on tree crop development need to be treated with considerable care. Although planting of trees in some areas can help in securing ownership of land, the absence of tenure can often be a major constraint on growing tree crops as farmers are less willing to plant on land they do not own, favouring annual crops instead.

There has been an ongoing debate over land reform, which can be simplified into two schools of thought. The first regards traditional land tenure systems as a major constraint to tree crop development and productivity, since they place limitations on the ability to increase production and improve land utilization, partly by stifling capital investment. This school, therefore, advocates various reforms, notably the introduction of systems which provide title to land, and which may extend to total state control over land. The second school favours customary systems arguing that they adjust to changing economic demands.

In practice under traditional systems, security of tenure has depended primarily on good social behaviour and has generally been sufficiently strong to allow and encourage cultivation of cash crops, even by migrants (Migot-Adholla and Place, 1991; Toulmin and Quan, 2000). There may nonetheless be certain circumstances where titling may be desirable – such as where indigenous systems are absent or weak, land disputes are common, major project interventions require full land privatization, or where population growth and market access have led to intensification of farming systems (World Bank, 2000).

Population growth is in any event placing growing pressure on production systems in many parts of SSA, with a consequent need to develop more intensive production practices. At the extremes, landlessness is emerging and/or growing concentrations of landholdings are seen amongst a small numbers of individuals.

Labour availability

One of the attractions of perennial tree crops has been that a smallholding could be established with family labour. Whilst hired labour is increasingly used, employment for wages of members of the extended family is also important. Studies of different tree crops and locations reveal a variety of labour arrangements, for example, in the cocoa sector in Ghana – caretakers, sharecroppers, daily waged labour, communal labour and fixed-task contract labour. In some cases, the type of perennial tree crop production is influenced by labour considerations. Labour-use strategies can also affect how the crop is cultivated, for example, sharecroppers are characterized by a preference for extending the area cultivated rather than intensification of production. In Nigeria, farmers with large cocoa holdings prefer to expand acreage rather than increase the amount of time invested in a given land area (Blowfield, 1994).

Although family labour is still widely used, its characteristics are changing over time, for example, smallholders are often simultaneously entrepreneurs, employers and labourers. Similarly there are a variety of forms under which non-family labour may be contracted, not all of these being simple wage employment. In developing the tree crop sector, therefore, it is, important that variability and complexity of labour availability and labour relations are recognized.

Infrastructure status

Physical infrastructure is a key element of a functioning commodity chain, and broader-based rural development. Well-established tree crop chains are often characterized by improved physical infrastructure such as better road access or collection centres, which in turn reflects government and donor priorities that have often favoured the export tree crop sector at the expense of domestically traded food crops. Nevertheless, lack of adequate and well-maintained road, rail or water and other communication facilities have frequently hampered efficient agricultural/tree crop development.

Equally if not more important are shortfalls in 'soft' infrastructure such as financial and legal institutions and systems. Limitations, for example, in banking and the legal environment, can pose major constraints especially where wider commercialization is being attempted (e.g. the extension of sales of tree crop products into regional or international markets).

Input supplies

The availability and timely delivery of inputs is probably one of the most effective ways of raising productivity. Access to inputs (e.g. seeds, chemicals and fertilizers) has often become more difficult as input distribution has passed from the public to the private sector and subsidies have been reduced or removed. This has invariably raised prices and the lack of affordability has either constrained usage or effectively reduced the return from the crop received by the grower. Shortage of planting material of appropriate genetic and physical quality has also been a general problem with tree crop projects.

Shortfalls in input availability have contributed to other on-farm problems, for example, one of the most severe problems faced by cocoa and coffee farmers is pest and disease control. Yield losses due to disease are estimated to range between 10% and 80%. Chemicals, cultural practices and biological control can all be used to control pests and diseases, but depressed produce prices do not encourage farmers to use inputs or undertake appropriate cultural practices involving costly labour. Prior to liberalization many producers received free or subsidized pesticides, and many who relied on state-sponsored pest and disease control services have not continued to treat their trees after state systems were withdrawn. This together with other factors, for example, limited replanting and lack of

access to quality planting material, poor levels of technical knowledge and technology transfer, have caused declining yields.

Project development models and patterns

Despite the wide range of tree crop development models that exist, some of which are summarized in Box 1, appropriate models have not always been used in practice.

Research and extension

Weakness in research capacity and activity throughout SSA has created severe constraints to successful tree crop development, with inadequacies in appropriate applied and adaptive research, and particularly research which is relevant to smallholder growers. A major factor has been the decline in publicly funded research in much of SSA which has partly been an outcome of liberalization policies. Thus whilst crop cesses are sometimes still used to pay for research, much of the recent work on tree crops has been undertaken by the private sector. Outputs of private research are seldom made widely available and may often in any case not be relevant to many of the needs of smallholders. Some research is supported by donors – the French state-supported research organization, CIRAD, undertakes research in cocoa, coffee, coconut, oil palm and rubber to support more productive crop sectors and ensure agronomic and economic sustainability. However, the scale and scope of such assistance does not offset the widespread deficiencies elsewhere.

Extension, like research, has often suffered a similar withdrawal of state support. Services have been cut back and deficiencies in operational budgets in particular mean that even where extension staff remain in post, they are constrained by, for example, chronic lack of transport and other operational needs. In some countries moves towards decentralization, whilst intended to improve rural services, have in the short term at least led to further shortfalls in the quality and coverage of extension. Systems of extension and the types of messages being promulgated have also often failed to incorporate more recent thinking and practice that is applied elsewhere. For example, there is also a need for extension services to take a more holistic approach that responds to farmers' real constraints rather than providing "exhortations to adopt ideal practices" (Carr, 1993), probably geared more to plantation conditions than smallholder circumstances.

Box 1 Tree crop development models

- Government-assisted smallholder land schemes

In Malaysia, there were three government-assisted and centrally managed smallholder land schemes for the new planting or replanting of tree crops. These three schemes – RISDA, FELDA and FELCRA – all achieved high degrees of technical success, but tended to be expensive per family and per unit area of land developed. Grant and credit support were afforded to smallholders. Similar arrangements were used in East Africa for tea development projects such as KTDA.

- Nucleus Estates and Smallholders model

This development model (NES) was first used in Papua New Guinea to promote oil palm development. The nucleus estates were generally government-owned but commercially managed, and smallholders were partly resettled farmers and partly ‘outgrowers’, who planted oil palms on their own land holdings. This model has been widely used but has enjoyed mixed success.

- Resettlement blocks without a nucleus estate in Indonesia

This pattern of smallholder tree crop development contained the basic ingredients of the NES system, but without the nucleus estate. The North Sumatra Smallholder Development Project is an example of this model in Indonesia, and it has been widely used elsewhere. The model has had mixed success, it has a high cost, and involves a large credit component coupled with land titling.

- Smallholders on their own land – Project Management Units

Under this pattern of smallholder tree crop development, which has been widely used in Indonesia, existing farmers undertake credit-based replanting or new planting on their own land in a focused manner under the guidance of local Project Management Units (PMU), which are in turn co-ordinated centrally. The only infrastructure provided relates to the provision of PMU services. No processing facilities are provided. These PMU-style projects in Indonesia have been remarkably successful where adequate and timely funding has also been available.

- Smallholders on their own land – partial approach

Under this model assistance is given to smallholders to develop estate crops on their own land, but assistance is limited to an initial one-year period. This model is widely used throughout poorer rural areas in Indonesia and has had mixed success, mainly because of difficulties in ensuring that inputs are provided in a timely manner during the grant-assisted initial development year, and the lack of follow-up field maintenance in the subsequent years leading up to crop maturity.

- Smallholders on their own land – dispersal approach

The dispersal approach has been tried on a pilot scale for rubber in Indonesia to assist progressive farmers through the provision of good quality planting material and access to processing facilities and basic extension services. No formal credit or grants are involved.

Rural credit and information services

Following the implementation of liberalization policies, there has been a decline in the availability of adequate and appropriate rural banking and credit facilities that could help to support future tree crop development. These constraints arise because of the long-term nature of tree crop development and the inherent associated risks. Most smallholders' lack meaningful collateral acceptable to financial institutions, and these bodies in any event are often unwilling to service a sector which is relatively high cost and high risk. The lack of grower organizations, coupled with insecure land tenure rights and the consequent denial of access to affordable credit, is probably the major constraint facing the cocoa farmers of West Africa and the coffee growers of East Africa. Limited alternative employment and income opportunities for smallholders intensify these problems.

Smallholders could benefit from the increased availability of knowledge and information, particularly that available via modern information technologies. In many instances, this can only happen indirectly, for example, decentralized information systems using rural radio can become an important interface between the global flow of information and smallholders in remote areas. The failure of traditional extension services points to the need for more effective and pro-poor agricultural knowledge and information systems.

Governments, institutions and donor activity

Returns to cash crop production are heavily dependent on government policies and their implementation including taxation, exchange rate and input-supply policies (Carr, 1993). Control exerted by governments at local and central levels has undoubtedly adversely affected many tree crop projects in the past. Killick (1999) argues that "...it is domestic inflexibility and policy unresponsiveness which are the main enemies of poverty reduction, not the forces of globalization". This, possibly controversial, view nonetheless highlights the wider need for adequate domestic policies, and perhaps even more important, effective policy implementation mechanisms. Opportunities continue to exist for reform of government structures and operations, thereby facilitating improvement of the tree crop development environment, but some recent programmes including decentralization, have had a mixed effect at best.

In the past, many international and bilateral donors (e.g. World Bank, EU, ADB, CFC, DFID, USAID) have provided sizeable budgetary support to the tree crops sector, including support for cocoa research and various cocoa projects. Examples of donor support programmes are given in Box 2, highlighting the case of the cocoa and oil palm sectors.

Box 2 Examples of donor supported initiatives in cocoa and oil palm

- Cocoa

One of the latest programmes is the International Sustainable Cocoa Programme (ISCP) and the related Sustainable Tree Crops Project (STCP). The latter has a wider brief than cocoa, although it is the problems of the cocoa sector that is the centrepiece of its activities. The STCP has brought together donor organizations (USAID is the moving force), producers (predominantly from West Africa), chocolate manufacturers (including Mars and Cadbury), researchers (CIRAD, CAB International), environmentalists and NGOs. Against the background of rising cocoa demand, pest and disease threats and changing land use, the STCP aims to support the small-scale farmer through an international co-ordinated research and development programme. This would also include environmentally sound pest and disease counter-measures, technology transfer, education and training programmes and, long-term economic incentives.

- Oil palm

Migros, a large supermarket chain in Switzerland, contracted WWF in the context of large-scale forest clearance for the cultivation of oil palm and other agricultural purposes. Clearance was driven by demand for palm oil, which is an important ingredient of many processed foods. Together, Migros and WWF drew up criteria for responsible oil palm cultivation to ensure that Migros could purchase palm oil from plantations that have not been created from forest clearance and which follow regulations for protecting the existing forests, fauna and flora. This project won an award from the United Nations and the International Chamber of Commerce at the World Summit in Johannesburg on sustainable development (Burotrop, 2003).

The role of international commodity organizations

Economic aspects, particularly market controls, have been a major area of involvement on the part of international commodity bodies (ICBs). The long-term decline in real commodity prices is the result of excess supply and ICBs and International Commodity Agreements (ICAs), therefore, need to recognize and distinguish between long-term and short-term price instability (Maizels, 2000), and to encourage production strategies which are better informed by production and demand forecasts. These can assist producer

countries to decide their longer-term production plans while consumption may also be stimulated and price volatility reduced.

However, the Production Management Plan (PMP) of the International Cocoa Organization, based on this strategy, has failed because of difficulties associated with control over output. Production is prey to disease, pests and weather and output cannot easily be fine-tuned. The application of the PMP approach is still at an early stage: it needs to be linked closely with diversification strategies, and it remains to be seen to what extent it can contribute to more balanced commodity markets.

From the early 1990s, a key role for ICBs has been the accessing of funds from the Common Fund for Commodities (CFC), a small UN-supported, international financial institution specializing in multi-country projects which address general problems of commodity production, marketing and trade, particularly for the least developed countries. CFC activities have focused mainly on funding commodity-based projects with measures aimed at encouraging diversification, improving quality, expanding local processing, developing new uses, and improving pest and disease control, etc. The CFC is one of the few international bodies focused upon support for commodity trade development. In recent years its agenda has become increasingly poverty focused in line with those of most major donors. It has also increasingly sought to finance projects that explore more novel approaches, for example, with respect to trade finance and ethical trade. Projects funded by CFC of particular relevance to tree crops in Africa are listed in Box 3.

MARKET ACCESS AND RISK MANAGEMENT

Market access

Tree crop commodity markets are typified by slow demand growth and over supply with a long-term decline in real terms (The Economist Commodities Index has recently been at its lowest level in 150 years). Examples of recent price trends for selected commodities are shown in Table 3. Recent fluctuations plus downward movement for coffee and palm oil are quite marked. The recent trend for other commodities is more mixed.

Price instability and long-run decline is coupled with stronger market power on the commodity importers' side following increased concentration through mergers and acquisitions and substantial brand advertising. The position of

Box 3 Recent CFC-funded projects on tree crops relevant to Africa

Cocoa

- Pilot plants cocoa by-products
- Use of molecular biology techniques in search of varieties resistant to witches' broom disease
- Cocoa germplasm and conservation: a global approach
- Improvement of cocoa marketing and trade in liberalizing cocoa producing countries
- Establishment of the physical, chemical and organoleptic parameters differentiating fine and bulk cocoa

Coconut

- Coconut germplasm used to promote sustainable coconut production

Coffee

- Study on marketing and trading policies in selected coffee producing countries (completed 1999)
- Improvement of coffee production in Africa by the control of coffee wilt disease
- Enhancement of coffee quality through prevention of mould formation
- Development of gourmet coffee potential
- Integrated management of coffee berry borer
- Coffee market and trade development in eastern and southern Africa
- Pilot rehabilitation of coffee plantations (project preparation facility approved in 1999)

Rubber

- African rubber quality improvement
- Evaluation of an instrument for effectively characterizing the processing behaviour of rubber

Tea

- Increased demand for tea

Table 3 Price trends for selected tree crops

Year	Cocoa (US cents/lb)	Coffee (US cents/lb)	Tea (US cents/lb)	Cashew (US\$/lb)	Palm oil (US\$/tonne)
1997	73.41	133.49	2.01	2.5	531
1998	76.19	109.05	1.90	2.5	671
1999	52.08	85.76	1.80	3.0	436
2000	40.27	64.56	1.97	2.2	310
2001	49.03	45.67	1.52		286
2002	80.58	47.69	1.49		
2003	96.08	52.34	1.49		

Sources: FAOSTAT; Topper and Kasuga (2003); Burotrop (2003).

commodity exporters has also been weakened following the dismantling of marketing boards with their monopoly over foreign sales, plus a trend against government price stabilization interventions in world markets (Megzari, 2001).

A large proportion of commodity production enters world trade and is consumed in industrial countries with mature markets. However, in such markets there still remains scope for further development of niche/specialist markets and scope for high quality products. Faster growth in demand is occurring in areas such as Asia, the Pacific, East and Central Europe as well as the producing and other developing countries. Accession of former centrally planned economies to the EU could improve the prospects of overall market expansion within the community.

The declining share of commodity exports, particularly for the least developed countries, is of even greater concern. These countries have suffered more from loss of market share than from adverse movements in their commodity terms of trade. Competitiveness on world commodity markets is, therefore, considered even more important than stable or improved commodity prices (Megzari, 2001). Developing countries such as Côte d'Ivoire and Kenya, and to a lesser extent, Cameroon, appear to have remained successful primary commodity exporters as well as following a programme of diversification into other economic activities.

At a recent UNCTAD/CFC workshop on enhancing productive capacities and diversification of commodities in the least developed countries (UNCTAD/CFC, 2001), representatives of 24 least developed countries, the majority in SSA, called for assistance in the following market-related areas:

- product differentiation and development of niche markets ('decommoditization' of commodities)
- value addition through local processing, particularly at the small and medium-scale level
- entering new regional markets and development of home market
- harmonization of national and regional standards
- building of national and regional capacity for quality testing and certification
- ensuring consistency in quality and supply from near-subsistence producers
- market information and commodity exchanges

- price risk management to mitigate the effects of volatile commodity markets
- institution and human capacity building

A major feature of tree crops markets in SSA over the past decade has been the replacement of state-controlled marketing bodies by more liberalized production and marketing environments favouring a private sector-led development. The reorientation towards liberalized policies dramatically changed the relationship between a country's government and its agricultural sector. It has resulted in a reorganization of public sector institutions, adjustment, usually devaluation, of the exchange rate, a relaxation of foreign investment restrictions, elimination of price controls and import/export restrictions, initialization of private-sector initiatives to determine agricultural priorities, and consolidated democratic practices and institutions (Topper and Caligari, 1999).

Before liberalization, monopoly marketing and service provision helped to provide smallholders with stable prices and access to various inputs, including credit, although it was at a substantial cost and with a high degree of inefficiency. However, smallholders did not necessarily gain, for example, from systems which included price controls that effectively acted as a tax on the producer. Pan-territorial pricing also led to distortions in patterns of output that were unsustainable unless subsidized. However, whilst creating considerable opportunities to raise productivity and output, liberalization has generated problems of its own. Under market liberalization "there is growing evidence that hasty and ill-planned liberalization, without the appropriate flanking measures, can damage the livelihoods of poor people in developing countries" (Oxfam, 2000). Overall, the diversity and complexity of both the smallholder producer of tree crops and producing countries in which they operate makes it difficult to generalize on the balance between positive and negative effects.

Although liberalization has invariably increased competition and lowered transaction costs leading to growers obtaining a greater share of the export unit price, risk has been shifted along the marketing chain. Smallholders have now become much more vulnerable to global price volatility and uncertainty, creating difficulties with regard to planting decisions, the ability to purchase inputs, obtaining finance and/or credit, and accessing markets. The ending of pan-territorial pricing has intensified polarization, both within communities and within regions and countries.

Intensified competition has tended to result in lower quality in a number of instances. The abolition of parastatals often weakened quality control systems, which combined with fierce competition amongst newly emerging traders who had limited appreciation of the importance of quality in determining international prices and sales, led to a deterioration of quality (and price). Changes in the systems of quality control and certification have led to reductions in the premium obtained by some producers and a decline in the reputation of exporting countries in international markets. Meanwhile quality controls and phyto-sanitary regulations are becoming increasingly important in many developed importing countries and regions, notably the EU and USA. When coupled with other problems perennially faced by producers (including climatic changes, disease, variable input qualities, etc.), the effect has often been to raise risks and diminish returns to small-scale producers.

Thus, as a result of market liberalization, smallholders now face greater price volatility and uncertainty. While the level of world prices is usually the major component of the price received by growers, other important influences will include transport costs and quality. The ending of pan-territorial prices invariably means that the more remote the producing area, the lower the price received by the grower and for many producers and traders, transport costs continue to be an important cost component of trading activities and hence profitability.

Risk management

The ending of fixed producer prices has led to greater price uncertainty with international price volatility impacting directly on to the domestic market. Throughout the 1990s, the World Bank and UNCTAD promoted the use of improved risk management instruments in developing countries, success of which should be assessed prior to designing new systems. Designing effective instruments, including insurance schemes, against the vagaries of agricultural production that ultimately benefit the poor, remains a key challenge.

Traders need substantial amounts of short-term credit to fund purchases from growers, who in turn need pre-harvest (seasonal) credit to purchase agricultural inputs, while post-harvest credit is required to ease cash flow constraints, assist in the timing of sales and generally accelerate agricultural development. Risk management strategies can be used to free up liquidity and hence improve the financial capacity of smallholders, farmers groups and traders.

Possible policies and instruments to reduce risks include crop diversification, forward selling, the use of futures and options contracts, warehouse receipt financing, the use of price-fixing formulas and outgrower schemes, development of a domestic or regional commodity exchange, as well as value adding (Burnett and Greenhalgh, 2000).

Economics of value adding

Producing countries retain an average 15% share of the final retail value of products made from the main primary agricultural commodities, while the producing country share for products such as cocoa that require extensive processing is as low as 6–8%. Most exports by producing countries are in semi-processed form, which face negligible duties. Efforts to increase the level of processing in exports have met with limited success. This is related both to marketing and economic factors, such as market access, tariff escalation, packaging requirements, blending, retailers' buying strategies, regulatory constraints and capital cost, as well as to technological and infrastructural constraints such as the availability of suitable technologies. Large-scale machinery and artisanal methods are often the only two scales available. Extraction rates from artisanal methods are often poor, resulting in lower prices and wastage. Capacity utilization and lack of raw material are related issues.

Adding value to primary products by further processing (i.e. vertical diversification) is nonetheless still considered to have further potential. Thus, by using this strategy, Thailand and Malaysia were able to reduce significantly their dependency on exports of primary commodities. Given the dominance of the agricultural sector in SSA, such a strategy seems indispensable for the creation of much needed non-farm jobs. Owing to cost considerations, some global market players are contributing increasingly to this strategy by shifting certain operations in the commodity chain (e.g. processing and packaging industries) closer to the site of raw material production. Hindering this potential today is the continuing structure of tariff rates, which usually increase with the degree of processing (Binswanger and Lutz, 2000).

Some of the product areas for adding value to tree crops are shown in Box 4.

Box 4 Selected tree crop products and by-products

Cocoa: cocoa powder, liquor and butter

Cashew: nuts, jams, jellies, cashew nut shell liquid – used in industrial products like paint

Coconut: copra, coconut oil and oilcake, coconut milk/cream, desiccated coconut, coir fibre and dust, coconut shell charcoal fee

Coffee: roasted, instant and freeze-dried coffee, and organic fertilizer

Shea: shea nut butter, used in soaps, cosmetics, chocolate and as a cooking fat

Source: www.enterpriseworks.org

Long-term financing and investment promotion

The least developed countries' key concerns on finance and investment in recent years include:

- lack of financial infrastructure
- need to create enabling conditions to attract foreign direct investment
- lack of access to bank credit for producers, processors and traders
- high interest rates
- volatile and declining commodity prices
- need for institutional and human capacity building.

Possible mechanisms for promoting investment include encouragement of public-private partnerships, an example of which is given in Box 5, and creation of smallholder associations (see Box 6). Other options include use of environmental facilities, for example, GEF and examination of opportunities for linking with responsible business. There is scope for involvement of the smallholder sector, for example, credit facilities tailored towards small farmers, land entitlement including granting of long-term leases to individuals or village/business groups, recognition of 'sweat equity'. An overall facilitatory requirement via public sector activity is the creation of an enabling environment for investment including reviews of taxation.

Box 5 Public-private partnerships – examples from the rubber industry

Michelin Nigeria Ltd and the European Investment Bank are discussing potential for a US\$ 15 million, long-term loan to finance expansion of Nigeria's rubber sector, which the Nigerian government is expected to guarantee. The loan represents 60% of the US\$ 25 million required for the establishment of 10,000 ha of new rubber plantations. Michelin will provide the remaining US\$ 10 million required. Over the 10 years, co-operatives will also benefit from the loan. The beneficiaries will repay the loan through sales to Michelin Nigeria who will guarantee the farmers competitive prices. In spite of low world prices, it is hoped that Nigeria's share of world production will increase as it has the ideal soil type, climate and yield per hectare.

The International Finance Corporation will lend US\$ 3.5 million to the Liberian Agricultural Company, 75% owned by SOCFINAL, a Luxembourg holding company, in the first large-scale private venture in Liberia's rubber sector since the civil war. The project will employ 2000 people at full production and provide health and education for 10,000 people. Rural infrastructure, including housing, roads, electricity and water supply will be upgraded, and about 800 smallholders will earn income by delivering latex to the company.

The Commonwealth Development Corporation (CDC) has operated in the Côte d'Ivoire since 1974. Its investments, totalling US\$ 60 million, include rubber plantations, oil palm and pineapple cultivation and forestry. It has recently opened a new rubber processing factory in the western region at a cost of US\$ 5.4 million, with the capacity to process 12,000 tonnes of rubber annually and employ over 1000 people. It also purchased the neighbouring rubber plantation and invested in its development, including housing, medical and education facilities. Despite the fall in the price of rubber, which is about a third of its level 4 years ago when CDC was considering this acquisition, CDC went ahead with the investment, anticipating that its successful implementation would act as a catalyst for further development in a relatively remote area of the country.

Box 6 Promoting smallholder groups

Formation of groups with sufficient 'critical mass' to generate economic power is a key step for improving market and credit access, competitiveness and quality control, particularly where pan-territorial pricing is ended. Such groups perform a range of marketing and investment functions such as collection and bulking, arranging transportation, price negotiation, accessing credit, and processing/adding value. Examples include the collective marketing of coffee in Tanzania by the Kilimanjaro Native Co-operative Union and a successful cocoa farmers' association in Ghana, Kuapa Koko (KK). Since its establishment in 1993, and despite a number of major difficulties, KK has become a relatively successful and expanding cocoa farmers' group, paying its members higher prices than the prevailing producer price. Its trading arm, KK Ltd, a Licensed Buying Company (LBC) with Fair Trade status, has become one of the largest LBCs and will become a direct exporter.

ENVIRONMENTAL IMPACT

Tree crops are often regarded favourably in terms of their impact on the environment, and there is growing interest in a widening range of perceived benefits including carbon sequestration. However, opening up new plantations through clearance of natural forest needs to be carefully assessed in terms of environmental components. Similarly, large-scale processing capacity may lead to monocropping over wide areas which can be associated with negative environmental effects, for example, depletion of soil nutrients, over-use of chemicals and degradation of water resources and water quality. Research and extension rarely target environmental and sustainability issues and little information and training is available on environmental protection from better tree crop husbandry and management.

Over the past century, production of cocoa and coffee in Côte d'Ivoire and Ghana has been maintained by the westward migration of production and labour into virgin forest areas. Few new areas now exist for further expansion and there are increasing concerns about the sustainability of production practices and their environmental impact. The huge increase in world coffee production since the 1950s has adversely affected the environment in some producing countries through soil degradation, water contamination and deforestation, as producers abandoned traditional methods and turned to input-intensive techniques (Oxfam, 2000). More recent trade liberalization has led to less government control over what farmers produce and where they plant, which in some cases has led to expansion into areas unsuitable for sustainable production, with subsequent environmental degradation, biodiversity loss and habitat destruction.

Some tree crop processing is associated with environmental pollution, for example, coffee pulping which leads to pollution of water. In some instances interventions, including donor-funded initiatives, can address such problems. For example, DFID-funded work in Kenya has identified methods for reducing the volume of water used and processes for improving the removal of waste from coffee processing.

3

FUTURE STRATEGIES

This section proposes a number of policy options and possible donor actions, many of which could be applied to a range of tree crops and countries. The suggestions below focus on development assistance, and institutional frameworks, that will have a direct impact on smallholder livelihoods.

POLICY OPTIONS AND DONOR ACTIONS

Assessing suitability of location

Opportunities to improve the selection of areas for tree crop cultivation include the building and/or use of a sound information base on soils, climate and land suitability, including the establishment of appropriate GIS databases, with which crop development could be targeted. For the majority of tree crop species, it is the climate, and particularly the quantum and seasonality of rainfall, which is of paramount significance in determining the potential for successful cultivation. Topography, altitude, temperatures and the physical and chemical properties of the soils are also important, and interact with the rainfall patterns to affect land capability potential.

There is scope to develop databases in the context of local capacity and resources to establish the database and mapping itself, and to interpret these sources so as to promote more effective tree crop planting.

Improved planting materials, inputs and credit

Liberalization of the tree crop sector has tended to reduce input use by smallholders. This is partly because many farmers cannot afford to buy at the true economic cost of such items, and partly because privatized

systems of distribution do not cater for smallholder needs. Projects that can improve input availability, including distribution channels, as well as provide assistance to farmers on the application of inputs are, therefore, of key importance, although development of sustainable programmes will not necessarily be straightforward. Flexible approaches are needed that involve producer groups and which draw upon best practice in extension and applied technology.

Opportunities can arise from the use of appropriate crop species and improved varieties, based on knowledge that has resulted from commercial experience or research findings. Transgenic modification of temperate fruit trees is already taking place in developed countries to improve fruit quality and make fruit more profitable to producers and retailers. Genetic modification of tropical tree crops, for example, to increase pest and disease resistance could benefit smallholder producers, but these types of development will need to be assessed in the context of potential views of consumers, particularly for edible tree crop products. Equally, environmental issues would have to be assessed. Whilst the private sector can potentially supply improved and affordable material, its suitability in terms of wider market and environmental considerations may need public sector and/or donor assistance. Similarly there will be a need to assess the extent to which such material can be tailored to smallholder production patterns.

Opportunities for future improvement in rural banking and credit facilities will not be easy to achieve in isolation. What is required is greater attention to devising and identifying viable tree crop models for particular areas, which could potentially improve farmer cash flow and thereby facilitate improved credit repayment schedules. Donor assistance could be used to facilitate the development and/or fine tuning of credit and to develop financial services to growers. The development of warehouse receipts systems is one specific proposal to ease access to finance for farmers and traders, although there remain questions over its viability for smallholder producers.

Project development

Opportunities exist in more appropriate selection of development models for future tree crop development projects. It is particularly important to strike an appropriate balance between the roles to be played by governments and the private sector (commercial enterprises and private farmers), and their access to project benefits. Inter-cropping, particularly with perennial tree

crops, can help to spread risk, and although inter-cropping strategies are not panaceas for coping with uncertain price trends, they can provide some level of security. The main problem attached to inter-cropping is the difficulty of identifying suitable alternative crops and the dilemma over reduced overall yields and returns over the longer term. Donor organizations could assist by supporting the development and/or use of GIS techniques to identify suitable agro-climatic areas for specific crops.

Capacity building

A whole range of capacity building improvements are possible within the tree crop sector, including strengthening local entrepreneurial and management skills, improving financial capability and institutions and access to credit, developing trade analysis capacity and export promotion centres, and improving the collection and dissemination of information needed by market participants. Agricultural research and extension services can be assisted towards more effective targeting, especially for commercial and post-harvest issues. Assistance needs to be given to national capacity building to deal with international level issues, particularly trade negotiations, the implementation of trade rules and protection of intellectual property rights.

Other options include improving infrastructure to help lower transaction costs and improve marketing activities. Smallholder marketing can also be helped by improvements in scientific and administrative capabilities, in part to deal with food standards, plant and animal health inspections, and quality controls. Efforts also need to be made to improve quality control through extension, training, provision of equipment and the development of effective regulatory authorities. Donor funding could be used to design and implement strategies to try to ensure that cost-effective systems of quality control are adopted. Assistance in development of capacity to establish and run GIS systems may also be appropriate.

Institutional support

Capacity building needs to be improved in association with institutional development and support, if it is to be more effective. Donor assistance could be appropriate for programmes which provide support to farmer or smallholder associations which are focused upon collection, bulking, arranging transportation, price negotiation, processing and value addition,

etc. An appropriate strategy is likely to be one which builds up associations from relatively straightforward activities initially, to ones which progressively require more commercial understanding and action. As well as activities concerned with marketing, associations can also be vehicles for promoting savings and/or accessing credit. In the long term, they might be able to take on the management of some risk management instruments – perhaps working through apex organizations.

Following export liberalization, a number of different types of export company have become involved in trade. The provision of training for these companies is required in a wide range of disciplines, including documentation requirements, commodity price and currency risk management, storage and quality control, transport and shipping. Training within other sectors may also be required, perhaps in the use of warehouse receipts as loan collateral, where such systems are realistic and feasible. The involvement of local and potentially international banks would be required for the latter to be successful.

Other institutional support needs include the strengthening of local entrepreneurial and management skills, the improvement of financial institutions, enabling access to agricultural and business credit, as well as the development of trade analysis capacity and support to export promotion centres. Donor funding could be made available for capacity building, particularly for training trading company personnel in a range of business practices including export marketing, as well as improving input supply availability through the introduction of best practices.

Market information, risk management and trading strategies

Successful existing systems need to be replicated and/or new systems developed which collect and disseminate timely and appropriate information to smallholders and traders. Information needs to be linked to development of capacity, for example, in producer bodies, to analyse market opportunities and potential. On past experience there is also a critical need to develop systems that can be cost-effective and sustainable. The latter implies carefully focused information collection and dissemination based upon the changing needs of recipients and, ultimately, paid for by them. Information technology could assist the modernization of the tree crop sector through the use of internet auctions and other types of e-commerce, provision of crop prices and other market information, and electronic

toolboxes for policy-makers, investors and trainers. Overall, the degree of use of such tools will need to be based upon realistic assessment of local capabilities and requirements.

There may be scope to develop risk management strategies and instruments as part of the development of an enabling environment and reduction of risk. Issues that will require particular care will be the assessment of the capacity and willingness of producers to cover the additional costs of many price risk instruments. Potential donor support needs to recognize that even where there is interest, small-scale producers may not necessarily either perceive the degree of real risk, or be willing to pay for its amelioration. A second aspect is the capacity of local institutions to handle instruments, especially in the early stages of implementation. Capacity building and institutional support may, therefore, be required.

Rural infrastructure

Farmers and traders need lower transaction costs and improved market access to maintain and improve competitiveness. The most obvious way of achieving this is by better rural feeder roads, improvements to rail and port infrastructure, and improving the communications infrastructure. Ongoing donor support in these areas remains important. It is also recognized that 'soft' infrastructure including strengthening of legal and financial institutions, may be of central importance. Donor support to appropriate local policy interventions and facilitation in these areas is equally important.

Strategies for diversification

Diversification strategies include the development of niche markets, for example, specific grades or categories within commodity groups, and/or the development of organic markets (Kilcher *et al.*, 2002). Niche market options can include filling in seasonal gaps for produce where there is all year round demand – as is the case in EU and US markets for many fruits. A further option is by the supply of new varieties which may meet specific market needs. Organic produce represents an opportunity, but whilst organic markets in developed countries are growing rapidly, their overall scale remains small. In all cases market requirements are becoming more stringent and donor assistance, including that from NGOs, is needed to help in the development of realistic market diversification strategies.

It is also necessary to recognize that a balance needs to be struck between diversification and specialization since the latter is required for efficient production and marketing systems. There is already a diversity of organizations and projects working with smallholders in this area throughout SSA. However, there is frequently a lack of co-ordination between these various efforts, which can make the identification of an individual problem or project area amenable to donor or public funding difficult. Further scope for donor support may lie in particular with medium-term loans to facilitate investments with longer maturity, for example, tree crop planting.

National policy measures

Policies are needed which reflect a holistic pro-poor framework that allows smallholders and other small-scale operators to participate in the commodity chain. Elements of this framework should include an enabling macro-economic environment, taking into account micro- and small-scale entrepreneurs needs; mechanisms to reduce risk and vulnerability of smallholders as a consequence of internal and external shocks. Where the commercial or estate sector has an actual or potentially important net contribution to the livelihoods of the poor through employment generation, national policies and institutional processes should additionally provide an environment conducive to such private investment. At the same time, policies concerning, for example, appropriate labour standards, should be in place.

Roles of international agencies

There is scope to promote greater representation of smallholder interests in activities covered by ICAs and ICBs, and also international bodies concerned with commodity trade, recognizing that such changes can often take time to implement effectively. Emergence of larger producer organizations or apex bodies may provide means for improving representation of such interests. Improving effectiveness of institutions, for example, ICBs, can also be achieved in part by strengthening the representation of commercial interests as a whole. The latter would also assist agencies such as the CFC in the generation and selection of projects to support areas of commodity and tree crop development. ICBs should also retain the roles of providing market information and improving market transparency, which can be especially important for developing country exporters attempting to enter international markets. They can also continue

to assist in the identification of appropriate research and development and in the promotion of best practice.

The new Millennium Round of trade talks at the WTO provides an important opportunity for producing countries to effect improvements in the rules governing commodity trade and investment. The overall objective should be to reduce the barriers to agricultural trade, including the effects of subsidies and tariff escalation that exist in major importing countries, notably the EU. Policies to assist in trade reform include:

- strengthening producing countries' capacities to negotiate a fairer deal, including greater resources to facilitate their ability to analyse the economic and social impacts of a range of policy options
- selective support for 'fair trade' and 'ethical trade' initiatives
- promotion of 'smallholder friendly' quality assurance schemes as a means of improving capacity to meet stringent sanitary and phyto-sanitary standards.

Long-term investment prospects and competitiveness

Investment in tree crops is typically a long-term proposition, but there is a danger that short-run behaviour of market prices may exert too heavy an influence over decision-making. If a period of high prices caused by inadequate production capacities (or adverse climatic factors) induces heavy investment in new plantings, the optimistic price assumptions underlying the investments may never be realized. Major swings from under-capacity to over-capacity are made worse by the nature of the economics of tree crops – since once a tree has been planted and allowed to reach maturity, smallholders will have every incentive to continue harvesting as long as the selling price covers the direct cash costs of harvesting and marketing.

For these reasons, it is necessary to look beyond the short-term behaviour of prices and to assess the long-term trends and future prospects in the production costs of leading/competing producers, and their relationship to the long-term trends in world market prices. Comparison of production costs and selling prices for each of the crops under consideration will generate an objective means of determining the most profitable crop over the life of the plantation. However, this is not a simple task since there are many countries competing in the market, and each is subject to changes in

technology and in key input costs. Building capacity in investment analysis and decision-making is, therefore, an important area for support to the sector.

Improving systems of quality control

The abolition of parastatal marketing organizations has often led to a weakening of quality control systems. There are several instances where the quality of cash and export crop production deteriorated during the initial stage of market reform (e.g. cocoa production in Cameroon and Nigeria, and coffee production in Cameroon, Madagascar and Uganda). In part, this was the result of the failure of government to make provisions for the continuation of quality control services following the abolition of quality controls on exports, partly because of exchange rate distortions and partly because of the fierce competition among traders – many of whom had recently entered the business – to obtain products of any quality from farmers.

Following liberalization, various schemes were devised for the provision of quality control services. In some cases it has been left to the private sector either with individual companies undertaking their own quality control or companies employing specialist businesses to provide quality assessments. Sometimes public services have continued to undertake quality-monitoring activities. The ability of the private sector to provide quality control systems (as well as other services previously provided by parastatals) is a key factor behind the success of market reforms. Assistance in the promotion of best practice in quality control systems is particularly valuable, including analysis of cost-effectiveness of systems.

Agricultural market access and services

Throughout Africa improved access to markets and agricultural services (mainly input supply, extension and financial services including credit) offers substantial opportunities for enhancing the livelihoods of tree crop producers. In many cases this requires contractual arrangements between service suppliers and farmers. Co-operation among farmers at the primary level can also assist this process.

Various local and international initiatives have been undertaken aimed at improving service provision usually involving private companies or NGOs.

They involve the development of farmer-controlled enterprises, outgrower schemes, linkage credit schemes, joint venture companies, inventory credit, input supply networks and rural assembly markets. However, progress in capitalizing on these opportunities has been slow, and the range of services available to most smallholders remains weak (with adverse consequences for livelihoods, soil fertility and food security). This is attributed to a combination of problems, including the high transaction costs of dealing with smallholders, default on credit repayments by farmers, absence of trust between farmers and service providers, shortage of entrepreneurs, weak policies and produce quality considerations.

Criteria used in the promotion of best practice to improve access could focus upon cost-effectiveness of specific schemes, their sustainability and potential for growth. Additional factors include transferability to other crops and countries, cost-effectiveness, and social inclusiveness – current and prospective.

Development of contract farming and outgrower schemes

The development of contract farming and outgrower schemes has the potential to substantially improve the livelihoods of many smallholder tree crop producers. Not only can they facilitate the marketing of smallholder produce and overcome the problems of scale economies in the processing of higher value products, but also they can be used as important vehicles for obtaining inputs and the delivery of services. There are a number of examples of outgrower and contact farming schemes, such as palm oil in Papua New Guinea, tea in Sri Lanka, cotton and vegetables in Zimbabwe. Examples can be used as a basis for analysis and identification of desirable models for further dissemination

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ABBREVIATIONS

ADB	African Development Bank
CDC	Commonwealth Development Corporation (UK)
CFC	Common Fund for Commodities
CIRAD	Centre de Coopération Internationale en Recherche Agronomique pour le Développement
DFID	Department for International Development (UK)
EU	European Union
FAOSTAT	Food and Agriculture Organization statistical database
FELDA	Federal Land Development Authority (Malaysia)
FELCRA	Federal Land Consolidation and Rehabilitation Authority (Malaysia)
GDP	Gross Domestic Product
GEF	Global Environmental Facility
GIS	Geographical Information System
ICA	International Commodity Agreement
ICB	International Commodity Body
ISCP	International Sustainable Cocoa Programme
KK	Kuapa Koko
KTDA	Kenya Tea Development Agency
LBC	Licensed Buying Company
NES	Nucleus Estates and Smallholders Programme (Indonesia)
NGO	Non-Governmental Organization
NRI	Natural Resources Institute
PMP	Production Management Plan
PMU	Project Management Unit
RISDA	Rubber Industry Smallholders Development Authority (Malaysia)
SSA	Sub-Saharan Africa
STCP	Sustainable Tree Crops Project
UNCTAD	United Nations Conference on Trade and Development
USAID	United States Agency for International Development
WTO	World Trade Organization
WWF	World Wide Fund for Nature

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The **Policy Series** focuses upon policies which affect the management of natural resources in support of sustainable livelihoods, primarily in developing countries. Its core is issues which affect livelihoods of poor people in rural areas, but the series also recognizes linkages – notably the role of non-natural resource components in livelihoods, the interests of the urban poor, and the role of associated factors such as health and education.

The series is timely, given the growing focus upon poverty elimination and the search for more effective solutions to replace earlier, simplistic structural adjustment programmes. It aims to provide topical analysis to inform development practitioners concerned with issues of poverty in development. Whilst it is recognized that social science plays a pivotal role, the series also draws upon other scientific disciplines within NRI which may be crucial to the understanding of policy issues of importance to the poor. It will be of interest to development practitioners and those who have a concern in issues of poverty in development.

Tree crops remain an important source of income for many small-scale farmers in sub-Saharan Africa, although Africa as a whole often has a relatively small share of global trade. **Prospects for Sustainable Tree Crop Development in Sub-Saharan Africa** highlights current issues confronting the sector, including the effects of liberalization policies. Implementation of these policies has tended to shift risk to the producer, whilst the private sector has sometimes been slow to sustain or revive the required input supply and quality control systems. Scope for future development arises through new investment and development of trade finance, but the most important areas for innovation are institutional, including encouragement of producer bodies.