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INVESTMENTS IN AGRIBUSINESS:

A Retrospective View of a Development Bank's Investments in Agribusiness in Africa and East Asia

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Investing in Agribusiness:

*A Retrospective View of a Development Bank's Investments in Agribusiness in
Africa and Southeast Asia and the Pacific*

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1. Executive Summary and Lessons Distilled

Purpose of the Study

Recent increases in the prices of agricultural commodities have been instrumental in spurring a surge of private investment in farming and agribusiness.¹ After decades when host developing countries tried to encourage investment in their agriculture sectors, many are now faced with difficult decisions about the number, size, and type of investments to accept. A corollary to this increasing interest have been rising concerns about whether large-scale investment in commercial farming—and more especially large-scale land acquisitions—do indeed deliver public goods, and about the effects these investments and acquisitions have on local communities.²

While there are some very good and very bad agribusiness investments the general view is that the majority create a mixture of positive and negative impacts. The positives are mainly related to economic development in terms of jobs and access to markets, but often also include some investments in social infrastructure, improved access to rural infrastructure, the transfer of useful technologies and skills, and in a smaller number of projects, increased production of staple foods. The negatives are most often associated with a lack of consultation with the communities concerned, limited transparency, an absence of mechanisms for resolving disputes, and issues involving land rights – especially informal land rights. Negative impacts may also be seen in irresponsible environmental practices and in the social and economic consequences if the investment fails. In view of these concerns over the risks associated with increased interest in larger-scale investment in agricultural land, a retrospective review of a large number of private and public sector agribusiness investments was commissioned to generate objective empirical knowledge about outcomes; to differentiate between alternative business models; to provide insights into the likely correlates of success and failure over time; and to deliver this knowledge into the public domain.

This study analyses the experience of the Commonwealth Development Corporation (CDC) as an investor in commercial smallholder and estate agriculture and agro-processing in Sub-Saharan Africa and Southeast Asia and the Pacific between 1948 and 2000.³

CDC was established in 1948 as the Colonial Development Corporation. It was created as an agency of the British Government assigned to promote economic development⁴ in the remaining British Colonies and thereby to improve the availability of food and raw materials within the Sterling Zone. The survey covers 179 projects in 32 countries, representing a large and diverse set of agribusiness investment experiences – albeit not necessarily representative of either the countries concerned or of their agribusiness sectors, given that CDC had its own objectives and priorities that changed repeatedly over time.

¹ The term ‘agribusiness’ is defined for the purpose of this study as commercial farming (by smallholders, outgrowers, estates, and plantations), fishing, aquaculture, and forestry and directly-related input supply and processing businesses.

² We refer here to projects that are actually implemented. A different “land-grab” issue is where land concessions are obtained on the promise of agricultural development but once acquired are sold on for speculative gain and/or used for other purposes.

³ Generally referred to as “Africa” and “Asia” in the report

⁴ While agribusiness was a high priority for CDC, it also invested in a wide range of other economic sectors, e.g. mining, power generation and distribution, manufacturing, housing development, hotels, financial institutions

Summary of Investments

Two-thirds of the projects surveyed were in Sub-Saharan Africa. 77 percent were concentrated in 13 countries.⁵ Nearly one-third of the projects focused on three crops: oil palm, sugar, and tea. Nearly 90 percent of the projects involved some form of processing of raw material. Just over 80 percent of the projects were wholly or partly oriented towards export markets.

46 percent of the projects were estates/plantations – large-scale farming operations with no smallholder component. 22 percent followed the nucleus estate and smallholders (NES) model in which an investment is made in a processing plant that has an adjoining large-scale farm coupled with outgrowers supplying the necessary raw material. 12 percent were outgrower schemes with no significant estate element. The remaining 20 percent had no farming component.

Over 60 percent of the projects were start-ups, while one-quarter involved the expansion of existing, ongoing concerns. 13 percent involved the rehabilitation of moribund enterprises/assets.

CDC was the main shareholder in nearly one-third of the projects and managed nearly half of them. A little over one-third of projects were promoted by private investors. 20 percent of CDC's investments were in the form of loans to governments or parastatal enterprises. Using 2011 values, the average investment made by CDC was US\$33 million, while there were 12 projects in which CDC invested over US\$100 million.

Results

Four components of project performance were assessed for the whole portfolio:

- *Technical*: achievement of production and physical productivity targets, suitability of technologies used
- *Direct Development Impact*: creation of sustainable livelihoods (e.g. formal employment, income-earning opportunities), explicit contribution to national development goals (e.g. export earnings, food production)
- *Financial Viability*: creation of financially self-sustaining enterprises
- *Equity Returns*: dividends and capital gain to shareholders, where equity capital was involved

For each component, project performance was classified as:

- *Fail*: total or substantial project collapse during implementation or shortly after completion
- *Moderate Fail*: some positive achievements, but far fewer than planned
- *Moderate Success*: substantial on-going benefits although fewer than planned
- *Success*: Main objectives achieved or exceeded

Some projects were technically sound and well-implemented but went on to collapse financially owing to low market prices (e.g. tung oil in Malawi) or civil war (e.g. rubber in Liberia).

Some projects contributed substantially to national development objectives, but with lower-than-planned profit margins. Financiers consequently having to “write-off” a substantial portion of their original loans in order to achieve continued financial solvency, while shareholders had to “write-down” the value of

⁵ Malaysia, Kenya, Malawi, Zambia, Tanzania, Swaziland, Nigeria, Indonesia, Cote d'Ivoire, Zimbabwe, Thailand, Fiji, Papua New Guinea.

their equity stakes to reflect a realistic valuation of the net-worth and actual business performance of the company.

Financial Restructuring of the Mpongwe Development Company, Zambia

The Mpongwe arable crops project in Zambia was a case in point. At the beginning of the 1990s it was insolvent, unable to service the debt taken on for the development to-date, in spite of generating some positive cash flow.

Both the initial lenders and shareholders (normally one and the same, e.g. CDC, IFC, DEG) had to take a “haircut.” Technically, CDC converted its debt to equity and then “wrote down” the value of the equity in its own balance sheet. The government of Zambia bought the loans and equity of the other investors for a small percentage of the face value, and then also converted these loans to equity.

This served to establish a joint venture between CDC and the government which was almost entirely free of debt in the long term, providing a solvent, fresh platform for future, successful expansion.

The performance ratings have been based on objective indicators where available (e.g. actual production, employment, financial solvency, equity returns data, crop production statistics) but there remains a subjective element to the classifications, especially in the border-line cases.

In broad terms the analysis shows that:

- fewer than one in five projects surveyed were rated complete failures, delivering no significant direct development or financial benefits
- nearly two-thirds of projects achieved the intended direct development impact
- over half achieved reasonable or good overall financial performance
- when equity investment was involved, one in six achieved compound equity rates of return of over 12 percent

Unfortunately it is not possible, with the available data, to calculate the profitability of CDC’s total or regional agribusiness portfolios. CDC itself, after early losses, reported a profit in its accounts every year from 1955 to 1997. Given that some of CDC’s agribusiness equity investments yielded very large capital gains (e.g. the BAL plantations in Sabah were sold in 1996 for £100m) it is probable that the agribusiness portfolio yielded a positive return overall in monetary terms although not necessarily in real terms (i.e. after adjusting for inflation).

A simple analysis of the data was undertaken to determine whether success and failure could be correlated to any critical factors. 79 (or 49 percent) of the projects were classified as failures or moderate failures in financial terms.

- In 60 percent of these cases, the major cause of failure was that the project concept was fatally flawed, for example wrong location, wrong crop, or over-optimistic planning assumptions. About one third of these were unknowable at the time of appraisal.
- One in five had the “bad luck” to be adversely affected by government policies (10 percent), or closed down due to civil unrest (8 percent), or suffered from a collapse in markets (2 percent).
- About 20 percent failed due to bad management.

On average, investments in Asia did better than in Africa. For instance, 70 percent of Asian investments were at least moderately successful in financial terms, compared with 44 percent in Africa.

The proportion of projects that suffered from flawed concept and from bad management was very similar in the two regions. Overall, just over one quarter of all projects were flawed in their concept and about 8 percent were poorly managed. A significant difference between the two regions was the proportion of projects in which failure was attributable to bad luck. Bad luck caused 13 percent of African projects to fail, but only 2 percent of Asian projects.

The relatively greater success rate seen in Asia was in part the result of the post World War II boom in palm oil. All 10 investments in Asia which had an equity internal rate of return estimated at more than 12 percent were oil palm projects. The African counterpart to oil palm has been the success story of sugar and tea. However, whereas Asia faced no market limits to the expansion of its palm oil industries, the growth of the African sugar industry was in practice constrained by domestic demand and EU and USA import quotas. World tea prices have been in decline throughout most of the post war period.

NES schemes had a higher probability of success than either stand-alone estates or stand-alone outgrower schemes, both in terms of development impact and financial performance. CDC rarely invested in smallholder/outgrower schemes unless their raw material output was closely tied to a related industrial processing facility, as is the case with green leaf tea, sugarcane, or oil palm fresh fruits bunches (all of which cannot be stored and must be processed within a reasonable distance from the point of harvest). Typically they would only introduce outgrowers into the business model when any technical and production issues had been resolved.

When CDC did venture into supporting smallholder crops that could be stored and/or sold to third parties, (side-selling), the schemes usually ran into credit-recovery difficulties such as in the cases of oil-seeds in Kenya and tomatoes in Philippines.

The results showed significantly higher levels of failure among start-ups and investments in moribund enterprises, compared with investment in expanding existing agribusiness.

Broader Developmental, Environmental and Social Impact

It was not until the mid-1990's that CDC began to systematically set standards for, and to monitor, the developmental, environmental and social aspects across its entire investment portfolio, establishing a Development Committee of the main Board in 1996, and starting the production of regular Development Reports to complement its Annual Financial Report and Accounts.

It is not possible therefore to undertake a systematic historical analysis of the broader effects of CDC's agribusiness portfolio based on its published Annual Reports. Instead we have reviewed a selection of projects which illustrates some of the wider potential and pitfalls of agribusiness investment without suggesting any overall "success" or "failure" ratings.

In general, CDC strived to be a model promoter or supporter of agribusiness ventures, according to contemporary standards – which have however evolved greatly over the past 60 years, and some of CDC's earlier activities and priorities would not be acceptable today.

Perhaps its main weakness was a focus primarily on resolving issues within the project boundary (e.g. land conservation; pollution control, health and safety standards, employee housing standards) while paying relatively little attention to broader consequences outside (e.g. growth of shanty towns for casual labour, project roads providing access to sensitive environments for informal exploitation; impact of promoting smallholder cash crops on household food production and nutrition).

In most cases CDC avoided controversial land acquisition/resettlement issues either by taking over existing moribund estates (e.g. the BAL plantations in Sabah) or purchasing land that was already in private hands but underutilized (e.g. cattle ranches were acquired for the Swaziland Irrigation Scheme and the Kaleya smallholder project). In its earlier years it was not controversial for CDC to convert areas of previously logged, natural forest for agriculture and plantation forestry (e.g. Sarawak Oil Palms, SODEFOR teak plantations in Ivory Coast) but by the early 1990's it was essential to incorporate integrated plans for management of the total concession, including areas for preservation, and to consult with, and recognize the traditional use of forest areas by, nearby local communities (e.g. the Kilombero Valley Teak project in Tanzania)

When, in 1983/4, CDC did directly venture into leasing land from smallholders (the proposed NDC/CDC oil palm project at Loreto, Mindanao, Philippines) the adverse publicity proved to be unsustainable and CDC withdrew.

Lessons Distilled

This review of CDC agribusiness investments corroborates the view that agribusiness investments are risky, particularly when the investment is in a start-up. While only one fifth of projects were rated complete failures, one third of equity investments generated at least moderately attractive internal rates of return, and overall about 55 percent resulted in financially viable projects (i.e. financially self sustaining). The majority of projects in both Asia and Africa ended up being sustainable businesses that delivered broadly the number of jobs and level of turnover that had initially been anticipated. This raises the question of why, despite this low level of returns on equity, these businesses often survive.

The answer appears to be based on sunk cost. Although the initial investment often fails to achieve intended levels of profitability, and although project implementation often takes longer than planned, if the venture is capable of generating positive cash flows there is usually nothing to be gained by closing it down. It is therefore either re-capitalized by its owners or sold on, at a discount, to a second or a third investor injecting additional capital. Ultimately, the total amount invested is typically more than could be justified on a purely financial basis, but the final investor generates a sensible return on their marginal investment and the business continues as a "going concern."

High *ex-ante* "hurdle rates" are often set by private investors because they need to have potential equity "stars" that can compensate for some inevitable "dogs." Actual average rates of return realized *ex-post* are generally much lower. This raises an important question about the potential for "patient" forms of capital. These instruments support innovation and long-term development by helping the original private investors to bridge the often extended period between their first investment and the eventual realization of positive financial returns.

Overall, projects were more likely to succeed in the long term when the agronomic and economic fundamentals were sound. While bad luck and bad management can destroy a sound enterprise, good luck and good management can rarely compensate for a project that is fundamentally flawed.

The study demonstrated that outcome is in large measure dependent on the attitude and processes of the funding institution. In its first few years the CDC exhibited high levels of overconfidence and naivety. Projects were approved on the basis of minimal analysis and without proper review. The results were very poor. Around 80 percent of equity investments failed. When new management⁶ took over at the start of the 1950s, a much more rigorous and commercially-orientated approach was taken, including an

⁶ Lord Reith, the founder of the BBC, was appointed Executive Chairman on 1 November 1950, with a mandate to sort out the mess.

insistence on proper agronomic trials before launching into full scale agribusiness developments. Unviable projects were weeded out. A proper review process was set in place to consider each investment on its merits. Performance significantly increased. The percentage of equity investments rated as failures dropped to around 40 percent. This improved performance lasted until around the start of the 1970s. The United Kingdom Government became more involved, insisting that the CDC should use its funds to achieve greater development impacts. More risky projects were taken on. Investments were more frequently made in indigenous businesses. This high toleration of risk resulted in increased levels of equity investment failure, but not to the levels seen during the late 1940s.

The findings indicated that nucleus farms have historically been the least risky of the different business models. Although this is an encouraging result for those advocating the inclusion of smallholder farmers into business models, the nucleus farm model should by no means be seen as a panacea. The reasons for their relatively high success rates are believed to be partly attributable to the type of crop enterprises that were invested in. CDC's focus was sensibly on a limited range of industrial crops, including oil palm, tea, sugar, and rubber. The financial institution built up a core expertise on business models developed around the production and marketing of these crops. Most often the production technology was largely resolved, normally initially as an estate type operation, before smallholder elements were introduced. During the periods shortly after countries became independent, CDC was approached by governments requesting that smallholders be included in the agribusiness models generally as outgrowers producing raw materials to supply the agribusiness.⁷ These adaptations were actually found to work better than many had expected, and subsequently became incorporated into the design and planning of more future investments. The importance of incorporating smallholders into proven business models was underscored later in the institution's history, when it attempted to include smallholders in business models before they were thoroughly tested. Some of these projects failed, leading to the outgrowers having to shoulder a portion of the downside.

While the finding that start-ups had a lower success rate than investments into expanded existing concerns is not surprising, it does suggest useful lessons. Firstly, it explains the focus of the newer private agriculture funds on existing agribusinesses and farming enterprises. Secondly, while being a first mover is risky, a proportion of these investments have a transformative effect. Successful pioneers can both attract further investment and also stimulate investment on the part of those who follow. And this must be one of the purposes of state-funded development corporations and banks.

Many of CDC's agribusiness investments were pioneering. Some represented the first such operations in a particular country, for instance the introduction of tilapia in Lake Kariba, Zimbabwe; sugarcane in Swaziland and Papua New Guinea; and oil palm in Sabah and Sarawak. Others were pioneering in introducing a new production model, for instance organised smallholder tea production in Kenya and Malawi.

Some of these initiatives, in which CDC served as promoter or financier, helped to pioneer innovations that subsequently grew organically through a series of expansions into very large undertakings. These included:

- the Federal Land Development Authority in Malaya, which involved the settlement of landless farmers to become rubber and oil palm outgrowers. Begun in 1957, over the ensuing 40 years, some 120,000 families were settled in over 300 new communities;

⁷ Outgrowers are generally smaller scale farms surrounding the processing plant who grow crops specifically for the agribusiness, generally under some sort of contractual arrangement

- the Kenya Tea Development Authority (KTDA), which involved the promotion of smallholder tea growing to supply dedicated factories. It began in 1960 with 940 hectares under smallholder tea cultivation. By 1984, some 145,000 participating smallholders were cultivating tea on 58,000 hectares. Currently Kenya's small scale tea growers produce about 2/3 of the export crop which delivers around US\$300 million of farm gate income to these small holders annually;
- Zambia Sugar, the first sugar estate in Zambia, began in 1967 with an initial field and factory capacity for 35,000 tonnes of sugar, by 2011 was producing 385,000 tonnes.

A number of successful pioneering projects wielded demonstration effects through which their practical example came to serve as models for projects elsewhere:

- The KTDA for instance would provide a model for outgrower tea projects in Uganda, Tanzania and Malawi.
- The commercial oil palm and cocoa production that CDC pioneered in Malaya, Sarawak and Sabah (despite early teething problems in the latter) encouraged other investors to develop new plantations and to convert existing rubber estates to these more profitable crops. By 1996, 40 years after CDC introduced the crop, Sabah alone accounting for 7% of world palm oil production
- CDC was one of the earliest promoters of export oriented horticulture in Kenya on the Osarian and Kuraiha Estates and while CDC itself failed to achieve profitability, the farming assets that were established became the nucleus for the horticultural⁸ industry which later thrived in Kenya.

Conclusions

A key lesson of CDC's experience is the value of patience. Several ultimately successful investments went through very difficult phases early in their development. Early losses made CDC unsure whether to cut its losses or persevere. In each case, review teams determined that the fundamentals were good and that CDC should be patient and commit more resources. Examples include a loss making rice project in Swaziland converted to sugar cane, a struggling arable estate in Zambia that achieved economies of scale via expansion and merger with an adjacent State farm, an abaca fibre plantation in Sabah successfully converted to oil palm and cocoa and a rubber plantation and factory development in Ivory Coast that came on stream when world markets prices were in a slump - CDC financially supported the venture for several years and realised a substantial equity profit during the subsequent commodity price boom.

A second key lesson is the importance of managing the risks of investing in agribusiness by establishing a diversified portfolio – by country and by sector. Commercially, CDC got it wrong when it invested heavily in tung oil plantations in Malawi (market lost to synthetic substitutes) and got it right when it helped to pioneer oil palm plantations in S E Asia. Financially CDC lost heavily investing in Uganda (considered a jewel in the colonial crown) whereas it did very well pioneering commercial agriculture in the colonial backwater that was Swaziland (considered destined to be absorbed into the Republic of South Africa).

A third major lesson is to have a broad outlook, looking beyond the project boundary at the wider developmental, environmental and social implications of a proposed development. In the colonial era it may have been sufficient to argue that the expected economic benefits of a proposed development would outweigh any environmental and social costs. In today's more democratic, transparent and contested world it is necessary to actually mitigate any adverse consequences where possible and to adequately compensate where not.

⁸ Mainly high value vegetables and cut flowers

A fourth lesson is to adapt to the socio-political realities of the times. CDC began as an instrument of British Colonial Office. It was able to purchase huge tracts of undeveloped or underdeveloped land for agricultural development, generating little controversy – other than a fear that it would be a waste of British tax-payers' money, like the “Groundnut Scheme”. CDC could have faded away along with the Empire. Once most colonies had achieved independence, by 1963, CDC re-invented itself as a development agency under the new Ministry of Overseas Development. In the 1970's it supported the nationalisation of major agribusiness ventures (e.g. Kilombero sugar in Tanzania, the development of state enterprises (e.g. Hevecam rubber plantations in Cameroun) and the training of local managers to take over from its own seconded expatriates. In the late 1980's and 1990's it supported privatisations (e.g. acquiring the Cavally rubber estate from the Government of Ivory Coast), it refocused its new investments exclusively in the private sector of poorer countries and it began to explicitly report on the broader developmental, environmental and social impact of its activities. By the end of the period under review, CDC had decided that the political and commercial risk of directly owning and managing large-scale agricultural plantations was too great and it sold most of its remaining direct agribusiness equity holdings and switched to more indirect, forms of investment (e.g. in private equity funds).

CDC's experience should help to dispel any pessimistic myths that investing in poor developing countries or in the agribusiness sector or working with smallholders is doomed to failure. It should also dispel the contrary myth that foreign investors exploiting third world agricultural resources always make huge profits. The analysis of CDC's agribusiness portfolio demonstrates both historical potential and pitfalls and illustrates the need to continuously adapt and innovate to achieve both political and commercial sustainability.

2. Background and Sources

This study builds on an earlier review of the CDC investment experience in Sub-Saharan Africa titled “The Fall and Rise of the Colonial Development Corporation,” which was prepared for the World Bank as a case study within the *All Africa Review of Experiences with Commercial Agriculture*, which in turn formed part of the larger study *Competitive Commercial Agriculture in Sub-Saharan Africa*. The present paper expands that review to include CDC investments in Southeast Asia and the Pacific, and presents a more detailed account of outcomes and analysis of the reasons for success and failure. CDC annual reports published since 1948 make up most of the references for this report, which also benefitted from a recent history of CDC. Christopher Brain, (the history's principal author) and Godfrey Davies (CDC's Chief Financial Officer) also provided critical additional information on the outcomes of many of CDC's more recent investments.⁹

A search for similar studies yielded few results. Insofar as we can tell, this type of study is rare in that it deals with the entire investment portfolio from a historical perspective to examine investment trends and their returns. While some similar reports have been produced, such as an evaluation of Fundacion Chile and a sector evaluation by IEG of IFC's food and agribusiness operations, they differ with respect to their objectives and scope.^{10,11}

3. The Origins and Evolution of CDC

The Commonwealth Development Corporation, originally the “Colonial Development Corporation” (CDC) was established in 1948 as an agency of the British Government. In the immediate aftermath of the Second World War, Britain was short of food and raw materials. It was also short of US dollars to pay

⁹ Christopher Brain and Michael Cable (2008). *Pioneering Development*.

¹⁰ *Fundación Chile: Historia e Impacto* (2006) by Jorge Quiroz with Mónica Ríos, Jorge Bravo y Gabriel Piña.

¹¹ *Food and Agribusiness: An Evaluation of IFC's Investments in the Sector*.

for imports. The Ministry of Food was therefore determined to promote increased production from within the Sterling currency zone, i.e. mainly the remaining colonies. Within the Colonial Office, the pace of economic development in the colonies was widely regarded as being too slow, and this was seen as being attributable to the inertia of local administrations. The solution proposed was to establish a central body to conceive and carry out major projects independently of existing colonial authorities. In the end two separate statutory bodies were created.

The **Overseas Food Corporation** came under the Ministry of Food. Its first and last major initiative was the East African Groundnuts scheme in Tanganyika. This was an almost complete agronomic and commercial failure. The term “groundnut scheme” became a byword in Britain for grandiose, ill-conceived, and poorly implemented government projects.

The **Colonial Development Corporation** came under the Colonial Office and was assigned a broader purpose. Its mandate was to improve “the standard of living of the Colonial peoples by increasing their productivity and wealth.” CDC was not envisaged as an “aid” agency. CDC took the form of a statutory corporation, with no share capital of its own, but with access to long-term loans on near commercial terms from the British Treasury. As a statutory corporation it had no equity capital, and was required to break-even each year. A borrowing facility of £100 million was made available – equivalent to around £2 billion today. CDC’s statutory financial obligation was to break even rather than to make a profit i.e. it was not required to make a profit beyond that needed to service what it borrowed. As a business model, this was logically flawed because it entailed debt on commercial terms while most financing consisted of long-term equity investments. Many of its early investments were moreover poorly researched and implemented. CDC was insolvent within three to four years of start-up.

CDC initially had no intention of simply being a banker, on-lending to public or private ventures at a higher rate of interest and with good security. It saw itself directly tackling the type of projects in the kind of countries that the private sector would be wary of. The first annual report in 1948 noted that “*it is already clear that it is in the least developed, rather than the most highly developed territories that the Corporation’s main work will be done... The tasks of development are too large, and the financial return too distant or the risks too great, to attract sufficient private capital.*”

The Corporation therefore “preferred venture to caution” and determined that the bulk of its investments would be made in the form of equity. In fact some of its projects were undertaken “directly,” without incorporating a separate legal entity for the project. This meant that all of the liabilities and risks fell directly onto CDC’s own balance sheet. CDC organised itself administratively into production divisions: agriculture, fisheries, forestry, mining, transport, power, hotels, etc., each with an intended capability to plan, implement, and manage commercial projects in the colonies.

From the beginning, agriculture—and African agriculture in particular—was always a high priority, and was expected to play a major part in CDC’s activities. “Africa, the Board believe, is the most promising field for large-scale development In the sphere of agriculture much worth-while work can be done immediately by larger production of crops for the local market and by using such schemes to popularise more productive methods of peasant farming ... the Agricultural Division is regarded as potentially the largest sphere of the Corporation’s activities.” During its first three years, over 50 percent of CDC’s investment and financial commitments were for agribusiness ventures. At the end of 1951, 48 percent of CDC actual and committed investments were in agribusiness.

CDC’s original geographical scope was restricted to British colonies. This mandate was later extended, first to include former-colonies that remained within the Commonwealth, and then to include any developing countries as sanctioned by the British Government. This history explains the early focus on such countries as Swaziland, Bechuanaland (Botswana), Malaya, North Borneo (Sabah), and the later extension to such countries as Cote d’Ivoire, Mozambique, Philippines, and Indonesia.

CDC has always had the flexibility to promote economic development in a wide variety of ways: initiating its own projects and supporting the initiatives of others; undertaking projects directly on its own balance sheets (i.e. divisions of CDC) and providing equity and loan finance to separately incorporated companies; investing in private ventures and in public-private joint ventures; and making sovereign loans directly to foreign governments. In addition to finance, CDC has provided technical resources and industry specialists to plan and manage projects in mining, hotels, electricity generation and distribution, cement manufacture, and other sectors as well as in agriculture. It has also provided technical assistance to third parties.

CDC's objectives and character have changed substantially over time, including the aims of its agribusiness operations which in the beginning focused on helping to feed the British public and supply raw materials after the war years. This subsequently changed to a focus on providing foreign exchange earnings for colonies about to achieve independence, in line with evolving views of what constitutes sound economic development. Its original mandate was to promote new economic activities and expand existing ones. When its initial focus on "direct" projects and equity led to near insolvency, CDC switched to more conservative, secure lending, often as sovereign debt. After a financial restructuring in the mid 1950's, CDC refocused its new investments on development banking, primarily providing long-term loans to creditworthy public and private sector enterprises, often co-financing with the World Bank. This provided CDC with a strong cash flow and ultimately allowed it to build up a capital base of "reserves" which could be used to finance equity investments, without risking overall solvency. CDC continued to manage projects where it was the controlling investor. Under this more risk-averse business model the share of agribusiness in CDC's investment portfolio shrank to 31 percent by 1962.

From the mid-1960's CDC's geographical remit was gradually extended to include all developing countries, and CDC was encouraged by the UK government to support projects based upon "renewable natural resources." These projects would benefit the poor more directly, for instance through smallholder agricultural schemes. Many were in the public sector, and some with CDC providing management services. CDC also facilitated the nationalisation of some of projects in which it was an investor, e.g. Kilombero sugar in Tanzania, and promoted the training of national managers to take-over from its seconded expatriates¹².

During the world food crisis of the 1970s, priority shifted to helping developing countries to produce more food themselves, with particular focus on smallholder production. When several borrowing countries defaulted on their international debts in the 1970's and 1980's, foreign exchange earnings again became a prominent issue and CDC looked to equity investments as a way of soaking up debt service payments accepted in local currency. CDC shifted its primary focus to supporting private sector enterprises through a mix of debt and equity finance, following the model of the International Finance Corporation (IFC). Yet CDC was unique amongst development finance institutions (DFIs) in continuing to promote and manage agribusiness ventures in which it had a controlling stake. The share of agribusiness in CDC's portfolio rose to a peak of 53 percent in 1986.

It was not until the mid-1990s that it was given permission to participate in acquisitions per se, by which time CDC was itself being targeted for privatisation by the British Government. Its investment strategy once again focused mainly on equity, either in the form of controlling equity stakes in ventures managed by CDC or in the form of venture capital style investments, as CDC strived to achieve a level of commercial performance that could facilitate its own eventual privatisation. CDC management believed this strategy offered better chances to achieve levels of profitability more typical of private sector firms.

¹² CDC established and financed the Managa Agricultural Management Centre in Swaziland in 1971

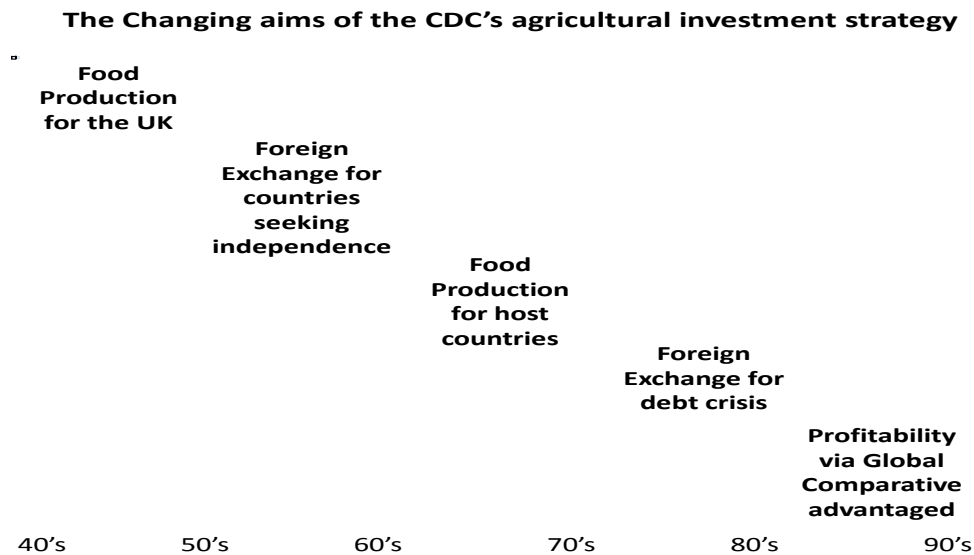
These included creating “world class” businesses and focusing on private equity transactions. By the year 2000, the share of agribusiness in CDC’s portfolio had decreased to 20 percent.

New management brought in to spearhead the sale of CDC concluded that investments in agribusiness were unlikely to achieve an acceptable risk/reward balance. CDC’s willingness to take controlling stakes in, and manage, large-scale agribusiness enterprises had allowed it to pioneer many important developments in difficult situations, but it was becoming increasingly untenable politically for CDC to be directly responsible for the livelihoods and working and living conditions of thousands of employees in agribusiness subsidiaries around the world. In its 2000 Annual Report the Chairman of CDC announced that its agricultural investments were “for sale,” and CDC was converted into a limited liability company.

Ultimately, CDC’s anticipated privatisation was cancelled and it was transformed into a “fund of funds” investing in private equity funds rather than directly in underlying projects.

Throughout the period under review, CDC had the challenge of combining its status as a public body – subject to political pressures from governments and civil society in the UK and overseas and needing a clear public purpose to justify its existence - with the need to maintain its own solvency. Its mantra was “doing good without losing money”. In broad terms it reconciled these two objectives by promoting projects that the private sector saw as too risky or too long-term to develop or by providing concessional finance as an incentive to private and public sector project developers to reduce their exposure and risk. However, since most projects had to compete in competitive markets, CDC expected them to operate on a fully commercial basis to give them the best chance of surviving – and being able to repay CDC’s investment.

Graphic 1 Investment Strategy over Time



4. The Base Data

Between 1948 and 2000, CDC invested in a heterogeneous mix of agribusiness ventures with a range of financial instruments and technical resources, and with a fluctuating mix of commercial and developmental motives. This makes for a rich and varied history, albeit a challenging one to analyse and

interpret, and one that reflects CDC's changing priorities but is by no means representative of agribusiness in the target countries more generally.

The data cover the following countries in Sub-Saharan Africa and Southeast Asia and the Pacific by region and in chronological order according to the year that CDC agribusiness investments began in each.

Sub-Saharan Africa

1948	Gambia, Malawi	1973	Ethiopia
1949	Swaziland, Nigeria, Tanganyika	1974	Cote d'Ivoire
1950	Botswana	1978	Mauritius, Liberia, Ghana
1951	Seychelles	1984	Zimbabwe
1955	Kenya	1992	Namibia
1959	Cameroon	1996	Mozambique
1964	Uganda	1997	South Africa
1967	Zambia		

Southeast Asia and the Pacific

1948	Sabah	1982	Philippines
1949	Malaya	1983	Vanuatu
1961	Fiji	1984	Sri Lanka
1967	Sarawak	1996	Vietnam
1970	Solomon Islands		
1976	Thailand, Indonesia, Papua New Guinea		

Malaya, Sabah and Sarawak are shown separately above as they were separate colonies while under British rule. However, taking Malaysia as one country now, there are 20 countries represented in the Africa survey and 12 in the Asia survey.

Agribusiness is defined for the purposes of this study to include specialised agro-inputs (e.g. seed companies), farming (estates, plantations, smallholders, outgrowers), fishing and aquaculture, forestry (natural and plantation), and primary processing linked to domestic raw material production. General manufacturing, such as processed-food products, rubber goods and furniture, is excluded.

The main products and activities that were covered by the CDC supported projects were:

Abattoirs	Horticulture: cut flowers, fresh vegetables, grapes, tree fruits
Aquaculture: prawns, tilapia	Livestock: beef, dairy, poultry
Arable crops: maize, wheat, soya, rice, groundnuts, oil seeds	Macadamia
Bananas	Mango
Cashew	Palm oil
Citrus	Pineapple
Cocoa	Pyrethrum extract (an insecticide)
Coconut/oleo-chemicals	Rattan
Coffee	Rubber
Cotton	Seeds
Fishing	Sisal
Flour (wheat)	Sugar
Forestry: softwoods, hardwoods, pulp and paper, eucalyptus, gmelina, timber, wood chips	Tea
	Tomato paste
	Wattle extract (for leather tanning)

The investments are those made by CDC itself (or by wholly-owned, locally incorporated subsidiaries which were sometimes required under local legislation). CDC also established and managed many national and regional development finance companies and venture capital funds, some of which made agribusiness investments, which are not included in the present study.

The information provided on the cost of CDC investments is indicative only. The information available from CDC annual reports is a mixture of initial approvals, contractual commitments and actual disbursements. Where different figures were available, the one selected is intended to best reflect the scope of what was planned (even if not fully implemented). It is important to note that CDC “investment” is not the same as “total capital costs.” Many projects had co-financiers or co-investors, and capital costs may be met in part out of self-generated funds, especially in the case of the older projects.

For each agribusiness investment the following information was collected, where available.

1. Main products
2. Activities: input supply, estate/plantation, outgrower and settler services, processing, marketing, harvesting (i.e. fishing/logging)
3. Scheme type: estate farming (and processor), outgrower supply (and processor), Nucleus Estate and Smallholders (NES), independent processor, input supply, financier
4. Scale: small, medium, large, mega, as judged in relation to the norms for that industry
5. Intensity: intensive (labour, machinery, agricultural inputs) or extensive use of land
6. Water supply: irrigation or rainfed
7. Market: export, local or both
8. New or existing: start-up or minimal existing assets, rehabilitation of a failing business, expansion of an existing, successful enterprise
9. Pioneer: promoting a technology, crop or system new to the country or region
10. Sector: CDC, private, listed company, parastatal, government, or joint venture (JV)
11. Investment type: equity, loan or both
12. CDC management: whether or not CDC managed the venture for a significant period
13. CDC investment (£m) – historic amount in Sterling
14. CDC investment (2011US\$m) – amount adjusted for UK inflation and then converted to US\$ at £1 = US\$1.65
15. Technical Performance: physical productivity
16. Development Impact: sustainable jobs and incomes
17. Project Financial Viability: solvency, eventual financial self-sufficiency
18. Cause of Financial Failure: flawed concept, ineffective management or exogenous shocks beyond management control
19. Equity Returns – profitability for shareholders
20. CDC Investment Performance – whether CDC’s objectives met
21. Success and Failure Factors: whether the natural resources, chosen technology, market opportunity, management, government actions or civil/military strife had a critical impact on success or failure.

Finally, the data base includes a brief description of each project and of its current status, where known. A fuller definition of each of the above classifications is provided in Appendix 2: Data Classifications. A summary listing of all the projects included in the data base is in Appendix 3.

5. Direct Characteristics and Performance of the CDC Agribusiness Portfolio

179 Investments/projects¹³ are included in the survey, of which 68 percent are in Africa and 32 percent in Asia.

Table 1. Regional Focus

AFRICA		ASIA		COMBINED	
No.	%	No.	%	No.	%
122	68	57	32	179	100

The most important countries in terms of number of projects are shown below.

Table 2. Country Focus

AFRICA		ASIA	
Kenya	15	Malaysia	17
Malawi	13	Indonesia	9
Zambia	13	Thailand	8
Tanzania	12	Fiji	6
Swaziland	11	Papua New Guinea	6
Nigeria	10		
Cote d'Ivoire	9		
Zimbabwe	8		
Total	91	Total	46

Together, these 13 countries account for 77 percent of the projects in the survey, with the remaining 17 countries accounting for 23 percent.

The principal crops and products are shown below: (duplication is included, where a project has more than one principal crop).

¹³ There is an arbitrary element in the number; some projects split (e.g. BAL and Mostyn Estates), some projects merged (e.g. Mpongwe, Munkumpu and Mpongwe Milling), some integrated projects had components within separate legal entities, e.g. AgroLines and Advance Agro, some companies developed diverse activities through a series of projects but all within one legal entity (e.g. Tanwat). The guiding principle has been to record projects separately if they appeared as such at any time in CDC's accounts from 1948-2000.

Table 3. Enterprise Focus by Region

AFRICA		ASIA	
Sugar	18	Oil palm	22
Tea	16	Cocoa	14
cattle/meat	12	Rubber	9
Arable	10	Forestry & wood products	6
Rubber	10	Sugar	5
Forestry & wood products	8		
Horticulture	7		
Fish	7		
Tobacco	7		

CDC's investments in Asia are clearly dominated by three major plantation crops: oil palm, cocoa, and rubber. In Africa the investments are more widely spread, although sugar and tea are prominent among them

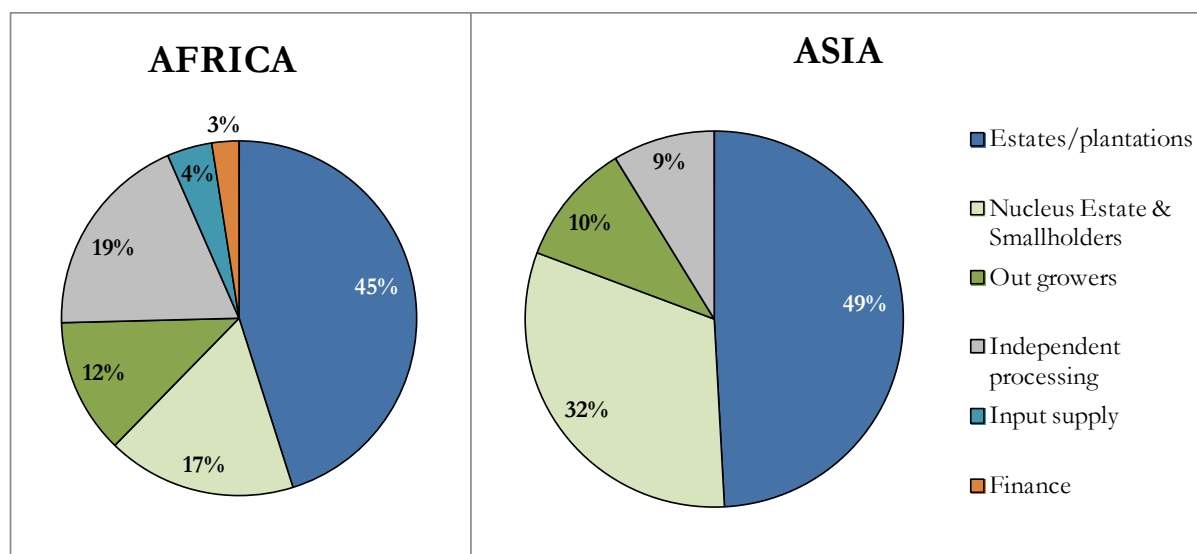
The split by scheme type is as follows.

Table 4. Investment Type by Region

	AFRICA		ASIA		COMBINED	
	No.	%	No.	%	No.	%
Estates/plantations	55	45	28	49	83	46
Nucleus Estate & Smallholders	21	17	18	31	39	22
Outgrowers	15	12	6	11	21	12
Independent processing	23	19	5	9	28	15
Input supply	5	4			5	3
Finance	3	3			3	2
Total	122	100	57	100	179	100
Projects with some processing	106	87	50	88	156	87

Nearly half of the projects were based on estate production only, (with or without processing) and in 34 percent explicitly involved serviced/contracted outgrowers and/or settlers, with 22 percent broadly following the nucleus estate and outgrower/settler model.

Graphic 2 Comparison between the Investment Portfolio mix between Asia and Africa



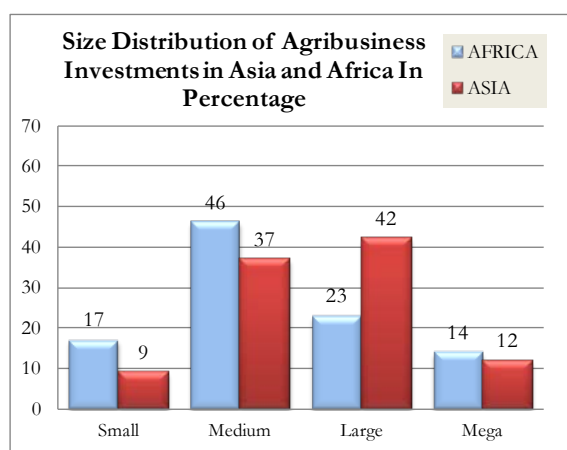
A large majority of projects explicitly involve some form of industrial processing, i.e. 156 out of 179. Of the 156, only 28 did not have formal links to outgrower or estate production.

Table 5 The Sizes, judged relative to industry norms.

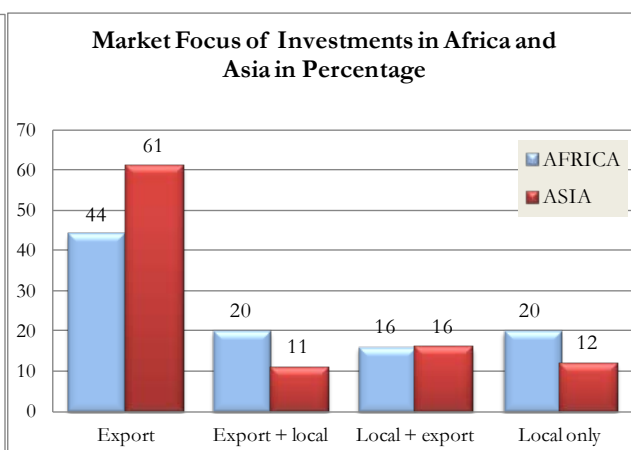
	AFRICA		ASIA		COMBINED	
	No.	%	No.	%	No.	%
Small	21	17	5	9	26	15
Medium	56	46	21	37	77	43
Large	28	23	24	42	52	29
Mega	17	14	7	12	24	13
Total	122	100	57	100	179	100

On balance therefore, CDC's agribusiness investments were orientated towards larger ventures in Asia than in Africa. This may reflect the smaller economies of many Sub-Saharan African countries, which lead to relatively small food projects catering to domestic markets. It may also reflect the prevalence of large, "industrial" plantations in the Asian agribusiness sector.

Graphic 3 Investment Size



Graphic 4 Market Focus



86 percent of relevant projects in Africa are considered "intensive" in the direct or indirect use of land, while for Asia the figure is a similar 80 percent, giving an average of 84 percent across the portfolio. Extensive land-use is defined as ranching, forestry, and arable cropping in low rainfall areas.

In Africa, 37 percent of relevant projects benefitted from total or partial irrigation of farm land, whereas there was only one conventionally irrigated project amongst the Asian investments (and one benefitting from the irrigation of paddy fields to grow eucalyptus on the adjacent bunds). This reflects both the overall drier climate of much of Africa and CDC's focus on tropical tree crops in Asia.

Table 6. The market orientation of projects - local market or exports

	AFRICA		ASIA		COMBINED	
	No.	%	No.	%	No.	%
Export	54	44	35	61	89	50
Export + local	25	20	6	11	31	17
Local + export	19	16	9	16	28	16
Local only	24	20	7	12	31	17
Total	122	100	57	100	179	100

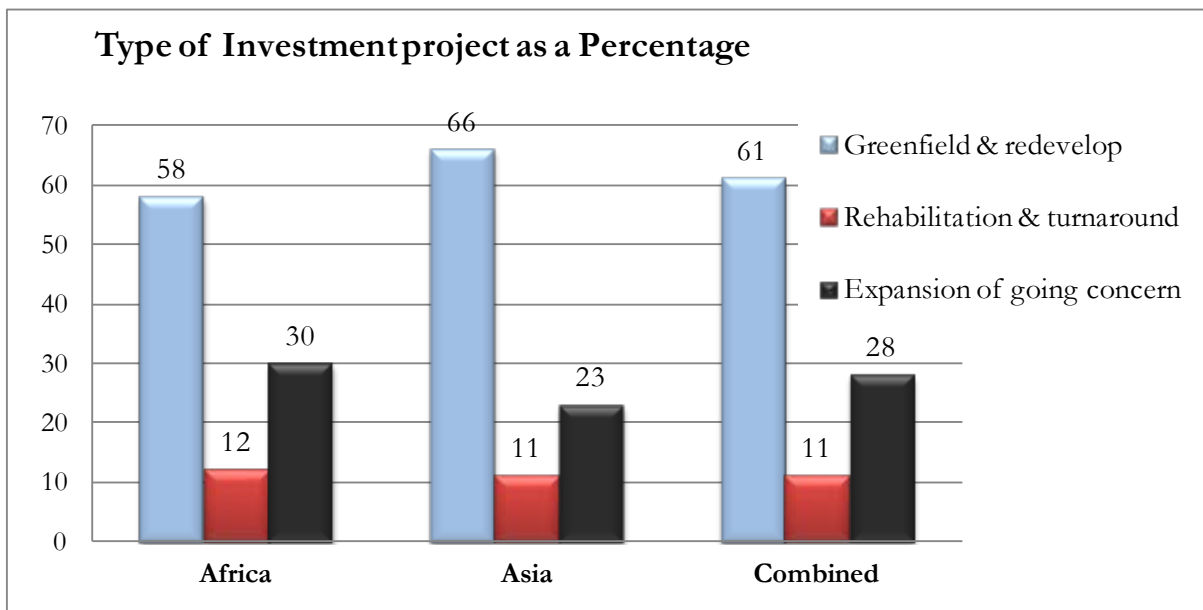
CDC's agribusiness investments have had a clear orientation towards exports. This is not surprising for foreign investors, especially during periods of exchange controls. Nevertheless, CDC made a substantial effort to invest in local markets, especially in Africa where one-third of investments were wholly or predominantly designed to supply local markets.

Table 7. Investment Timing

	AFRICA		ASIA		COMBINED	
	No.	%	No.	%	No.	%
Greenfield and redevelop	71	58	38	66	109	61
Rehabilitation and turnaround	14	12	6	11	20	11
Expansion of going concern	37	30	13	23	50	28
Total	122	100	57	100	179	100

There is little difference between the two regions in terms of investing in new (green-field or re-development) ventures or existing ventures, whether rehabilitations of failing businesses or expansions of going concerns. For example, 58 percent of investments in Africa and 66 percent in Asia were in new projects. Both in Africa and Asia around 36 percent of projects are classified as “pioneering.”

Graphic 5. Investment Type



CDC has invested on its own or with private and public sector partners. It has also made sovereign loans. CDC always managed where it had a majority shareholding, and it also provided management services to some joint ventures and government schemes where it did not have a controlling stake. The breakdown is shown below, and is based primarily on how projects started:

Table 8. CDC Involvement in the Investment

	AFRICA		ASIA		COMBINED	
	No.	%	No.	%	No.	%
CDC alone	26	21	4	7	30	17
CDC-led JV	11	9	13	23	24	13
Private	18	15	4	7	22	12
Private-led JV	24	20	19	33	43	24
Plc	-		2	4	2	1
Parastatal or government	27	22	8	14	35	20
Parastatal-led JV	16	13	7	12	23	13
Total	122	100	57	100	179	100
CDC management	61	50	22	39	83	46

CDC was therefore the main shareholder in 30 percent of the projects in which it invested. Two-thirds of projects were in the private sector (defined to include CDC itself) and one-third in the public sector. There was a slightly higher bias towards public sector investment in Africa (35 percent versus 26 percent in Asia). CDC managed half of the projects it supported in Africa and 39 percent of those in Asia.

CDC investment usually took the form of equity in, and/or loans directly to, the project or business entity, but it also made loans to governments, or with government guarantees, for the financing of public sector projects or even for the financing of public sector participation in private-led joint ventures. The spread of investment types is shown below.

Table 9. Equity and Loans

	AFRICA		ASIA		COMBINED	
	No.	%	No.	%	No.	%
Equity only/direct project ¹⁴	21	17	13	23	34	19
Equity + loans	51	42	31	54	82	45
Loans only (direct to project)	24	20	8	14	32	18
Loans only (to government)	26	21	6	10	32	18
Total	122	100	57 ¹⁵	100	179	100

A little over one-third of CDC's investments were in the form of loans only, half of which was sovereign lending. CDC took an equity stake in 59 percent of the African projects and in 77 percent of the Asian

¹⁴ In some cases, CDC did not form a separate legal entity, but financed unincorporated projects directly

¹⁵ Actual total is 58, because one project incorporated both CDC equity and a loan to government to finance their equity stake

ones. In only 19 percent of cases was CDC purely an equity investor, thus creating the scope for a divergence between project performance and CDC's financial outcome.

Table 10. The cost of CDC's agribusiness investments in Africa and Asia:

	AFRICA		ASIA		COMBINED	
		%		%		%
Historic cost, £m	535	58	391	42	926	100
2011 equivalent, £m	2,349	66	1,226	34	3,576	100
2011 equivalent, US\$m @1.65	3,876		2,024		5,900	
average investment, 2011 £m	19.3		21.5		20.0	
average investment, 2011 US\$m	31.8		35.5		33.0	

CDC committed/invested a total of £926 million in agribusiness in the two regions¹⁶ over a period of 50 years (excluding indirect investments via venture capital funds etc), of which 58 percent was in Africa. However UK inflation has averaged 5.5 percent per year since 1948, rendering comparisons based on historical costs meaningless. Adjusting for inflation, using the British Consumer Price Index, the July 2011 equivalent of CDC's investments is £3.58 billion, (US\$5.9 billion) of which 66 percent was in Africa. The mean investment size in equivalent 2011 values was £20.0 million (US\$33.0 million), with investments in Asia being slightly larger on average.

Table 11. Investments which exceeded US\$100 million in 2011 values.

AFRICA		ASIA	
	US\$m		US\$m
1949 Usutu: pulp	363	1967 SOP: oil palm	179
1950 SIS: sugar/citrus/cattle	246	1948 BAL: oil palm/rubber etc	142
1957 Mhlume: sugar	210	1970 SIPL: oil palm/cocoa	130
1957 Camdev: rubber/oil palm etc	168	1976 HOPPL: oil palm/cocoa etc	104
1987 Sable: arable/coffee etc	127	1976 ORRAF: smallholder rubber	101
1949 Tanwat: wattle/tea etc	104		
1960 KTDA: outgrower tea	100		

¹⁶ CDC also had agribusiness investments in Central and South America and the Caribbean

The classifications used for Technical Performance, Development Impact, Financial Viability and Equity Returns are summarised below, and set out in more detail in Annex 2.

Technical Performance

- Fail – had to be abandoned because resource or technology or management unsuitable
- Moderate Fail – productivity achieved just sufficient for survival, but well below target
- Moderate Success – reasonable productivity achieved, but below planned levels
- Success – main productivity targets achieved and broadly a competitive performance

Direct Development Impact

Narrowly defined as the direct impact on jobs and livelihoods and the achievement of any other explicit economic goals such as alleviating foreign exchange shortages or contributing to food production

- Fail – no sustainable incomes/jobs created
- Moderate Fail – some worthwhile employment and income creation continues (either as a business or as viable smallholder production) but far less than planned
- Moderate Success – substantial, on-going development benefits, but less than planned
- Success – substantial commercial activity continues, either as a business and/or as substantial smallholder production, equalling or exceeding expectations

Project Financial Viability

The establishment of a solvent, “going concern”, i.e. financial sustainability. Broadly classified as:

- Fail – Business collapsed and ceased trading
- Moderate Fail – A business survived as a going concern, but needed subsidisation, e.g. via refinancing by shareholders or via negotiated debt write-off or via a sale as a going concern by a liquidator/receiver
- Moderate Success – Self-sustaining business established in line with expectations, but no significant profits
- Success – Positive returns on all capital employed

Equity Returns

Considered from the perspective of shareholders, where equity was involved:

- Fail – Loss of more than 25% of equity value
- Moderate Fail – loss of equity value, but less than 25%
- Moderate Success – Some return on equity capital, but less than 12% IRR
- Success – Annualised return of over 12% before tax, allowing for dividends and equity sale or valuation

The schedule below analyses the performance of the projects/investments for these four different criteria:

Table 12. Performance Analysis

	AFRICA		ASIA		COMBINED	
	No.	%	No.	%	No.	%
Technical performance						
• Fail	19	16	4	7	23	13
• Moderate fail	12	10	7	12	19	11
• Moderate success	29	24	15	27	44	25
• Success	61	50	30	54	91	51
Total	121	100	56	100	177	100
Development Impact						
• Fail	26	21	6	11	32	18
• Moderate fail	13	11	7	12	20	11
• Moderate success	12	10	4	7	16	9
• Success	70	58	39	70	109	62
Total	121	100	56	100	177	100
Project Financial Viability						
• Fail	37	31	9	16	46	26
• Moderate fail	25	21	8	14	33	19
• Moderate success	28	24	6	11	34	20
• Success	29	24	33	59	62	35
Total	119	100	56	100	175	100
Equity Returns						
• Fail	53	63	23	49	76	58
• Moderate fail	9	11	3	7	12	9
• Moderate success	11	13	11	23	22	17
• Success	11	13	10	21	21	16
Total	84	100	47	100	131	100
CDC Investment Performance						
• Fail	37	31	15	27	52	29
• Moderate fail	23	19	5	9	28	16
• Moderate success	14	12	10	18	24	14
• Success	46	38	26	46	72	41
Total	120	100	56	100	176	100

45 percent of the projects were rated as successful or moderately successful in terms of CDC's own investment performance, while 29 percent were failures. The development impact success rate is higher - 71 percent were rated as successful or moderately successful. The difference between success rates in terms of investment performance and development impacts implies a number of cases in which worthwhile assets were created even if CDC saw little financial benefit. While this may satisfy the criteria used by a development agency, it provides little if any incentive for a private investor.

For those projects in which equity investment (by CDC or others) was involved, only 16 percent were rated a success – based on estimated or actual compound return on equity of at least 12 percent per annum. A further 17 percent saw positive returns, even if modest, so that in one-third of cases shareholders made some return on their investment while in two-thirds they incurred a partial or total loss.

Investments in Asia fared better on average than those in Africa. Positive equity returns (those classified as “successful” and “moderately successful”) were achieved in 44 percent of investments in Asia compared to 26 percent in Africa. Judging by its projects over a 50 year period, CDC found investing in agribusiness to be risky everywhere.

Unfortunately it is not possible, with the available data, to calculate the profitability of CDC's total or regional agribusiness portfolios or to compare the financial performance of the agribusiness portfolio with CDC's other sectoral investment portfolios.

CDC itself, after early losses, reported a profit in its accounts every year from 1955 to 1997¹⁷. Given that some of CDC's “star” agribusiness equity investments yielded large capital gains (e.g. the SOP plantations in Sarawak were sold for the equivalent of US\$115m in 1995; the BAL plantations in Sabah were sold in 1996 for US\$165m, the Cavally rubber project in Ivory Coast was sold for US\$40m in 2007) as well as substantial dividends it is probable that the agribusiness portfolio yielded a positive return overall in monetary terms although not necessarily in real terms (i.e. after adjusting for inflation).

6. Broader Developmental, Environmental and Social Aspects

While CDC always had a broad goal of supporting economic development in host countries by means of commercially sound projects, it did not initially seek to demonstrate this in a systematic way. As a consequence it is not possible to analyse CDC's agribusiness portfolio in terms of its broader developmental, environmental and social impacts through its Annual Reports, although there are ad hoc references to the direct and indirect benefits that CDC investments were having on local economies. This section will therefore deal with CDC's broader impact through examples, rather than an overall portfolio analysis and assessment.¹⁸

¹⁷ The economic crisis in Asia in 1998 led CDC to make heavy provisions against its loans to projects in Pakistan and Indonesia and to write-down the value of its equity investments in line with collapsing stock-markets, creating an accounting loss of £28m.

¹⁸ It will not consider the potential adverse economic and social consequences that apply to almost all forms of economic progress, e.g. rising disposable incomes contributing to the spread of AIDS and alcohol abuse, which are equally a feature of projects promoted by CDC

Evolving Policies and Practices

For many years CDC believed its own profitability and a sound balance sheet, given the location and nature of its projects (e.g. a focus on natural resources and a focus on poorer developing countries) was sufficient demonstration of its effectiveness in supporting worthwhile economic development.

By the early 1980's it had accepted that, in principle, it would be possible for a project to be financially viable but economically unsound if it benefitted from excessive subsidies or tariff protection, and CDC began to calculate forecast economic rates of return for new investments, as well as financial rates of return.

In 1986, under pressure from the British Government it established an Evaluation Department to undertake retrospective reviews of the performance of projects – including some notion of their “development value”.

CDC was also having to adjust to a more democratic, transparent world with host Governments moving from one-party states to multi-party democracies and the rise of ever more effective NGO's challenging the status quo.

During the 1990's CDC developed manuals and guidelines for both the initial appraisal and subsequent monitoring and reporting of the ethical, environmental, health and safety and social aspects of projects and sought to avoid any substantial negative impacts – both for their own sake and to avoid adverse publicity. Formal policies were adopted defining “best practice” standards to be adhered to by projects controlled by CDC and to be recommended to other project sponsors. In 1996 a Development Committee of CDC Board members was created to review development performance and oversee the production of a regular Development Report.

Potential “No go” Areas

In the 1940's and 1950's, consistent with the ethos of the times, CDC readily promoted and supported the exploitation of natural resources without too much concern for sustainability or ecological consequences, e.g. commercial fishing on Lake Malawi, around the Seychelles and in the Western Atlantic and logging of the natural forest in Nigeria. Most of these ventures failed because not only had CDC not assessed the environmental risks it had not adequately researched the commercial viability of the resource either.

CDC was also ready to support sectors which carried a substantial pollution risk such as pulp and paper in Swaziland, prawn farming in Thailand and horticulture in Kenya and Zambia, and to participate in (but not necessarily lead) the gradual tightening of acceptable effluent and agro-chemical management standards.

From the beginning, CDC supported tobacco growing projects, especially in Malawi where it developed a large-scale, successful smallholder settlement scheme – the Kasungu Flue Cured Tobacco Authority. Even after the health risks had been clearly established CDC's position was that poor African farmers should not be denied support to compete for a place in world markets where they faced subsidised competition from countries such as the USA or Italy. Nevertheless in the early 1990's CDC was directed by the British Government, on ethical grounds, not to make any new investments in the sector and to withdraw from existing tobacco projects at the earliest practical opportunity.

Acquisition of Land

Most of CDC's large land acquisitions were not controversial at the time, either because they involved the purchase of existing, but moribund estates (e.g. BAL plantations) or the purchase of private land used for relatively low-value ranching, for conversion to more intense utilisation (e.g. the Swaziland Irrigation Scheme, Kaleya smallholder sugar in Zambia) or because the land was largely unsettled (Mpongwe in Zambia).

Sacrificing Development to Avoid Public Controversy

One of the relatively few occasions when the land required for an estate was already owned by smallholders was the pioneering National Development Corporation (NDC)/Guthrie oil palm plantation in remote Agusan Del Sur Province of Mindanao in the Philippines, which began in 1981. It was to be only the second oil palm plantation in the Philippines and at 8,000 ha by far the largest, aiming to stem a rising tide of palm oil imports.

CDC's participation as a lender attracted high profile criticism in the UK – demonstrations outside its London Head Office, a TV documentary, questions in Parliament.

Under the Comprehensive Agrarian Reform Law it was not possible for a foreign JV to own large blocks of land. The project therefore negotiated to lease underutilised land from a large number of smallholders, who had been allocated land under the reforms but generally lacked the capital and training to use it. There were allegations that a local militia had been used by the company to intimidate smallholders into signing the leases, and this cause was taken up by the Roman Catholic Church, and became part of a wider campaign against alleged abuses under the dictatorship of President Marcos.

As a result of the bad publicity, CDC abandoned a similar oil palm project in the Province at Loreto that it had been developing jointly with NDC and for which it had completed feasibility studies and had begun negotiations with the smallholders to be affected, and which would have included a major outgrower scheme.

CDC undertook an evaluation of the NDC/Guthrie project in 1987, including an interview with the priest who had been central to the allegations of coercion. He acknowledged that, in spite of his initial concerns, Guthrie had proved to be responsible project managers and the combination of land rental income and employment opportunities had delivered a major improvement in living standards in a remote and poor area.

In situations where the continued ownership of large land areas by a foreign entity did become a political issue, CDC negotiated a sale to local interests (e.g. listing of SOP on the Kuala Lumpur stock market) or the conversion of free-hold title into a long-lease from the state (e.g. Usutu Pulp in Swaziland).

Exploitation of Ecologically Sensitive Areas

Several of the projects supported by CDC are in areas that would today be considered ecologically sensitive – e.g. oil palm, rubber and cocoa in tropical rain-forest; prawn farming in mangrove swamps. As these habitats have become more scarce and their economic value better understood and as pro-conservation organisations have become better organised, so pressure mounted on CDC either to avoid sensitive sights completely or to conduct full Environmental Impact Assessments and to develop integrated utilisation, conservation and preservation plans from the outset.

Kilombero Valley Teak Company, Tanzania

CDC obtained a lease of 28,000 ha in the Kilombero Valley in 1992 to develop a teak plantation at an expected cost of US\$25m in 2011 values.

This was to be the first large-scale private teak plantation in Africa and a vote of confidence in Tanzania's stability, as the first significant revenues from the plantation would not be achieved until 2009, with the commissioning of a saw-mill to process the first commercial thinnings.

In recognition of the growing sensitivities around this kind of development, there was extensive consultation with local villagers as well as with the Government and environmental groups.

The final plan allowed for just one-third of the site to be planted to teak in a mosaic pattern amongst the indigenous forest which would be preserved and protected and with provision for wild life corridors (the site is close to the Selous Game Reserve). It was also agreed to support a parallel outgrower teak planting project.

Implementation and operations were formally monitored by the University of Dar es Salaam and the Society for Environmental Exploration and the Forest Stewardship Council.

One significant drawback identified during monitoring was that the improvement of road access needed for the project had facilitated increased general access to the area.

Employment Conditions

In agribusiness projects promoted by CDC employment conditions (wages, housing, medical facilities etc) were generally higher than local norms. There would inevitably be regular, difficult negotiations with employees' representatives and periodic strikes, as with most commercial ventures, but there was rarely any political controversy, except when the UK press occasionally compared conditions with standards of living in the UK.

The weakness in CDC's approach is that it did not normally look beyond the project's boundaries. As a result in some cases, such as the Mpongwe arable project in Zambia, "shanty towns" developed close to projects consisting of those seeking casual work or waiting for a chance to apply for one of the privileged permanent jobs on the project. Unless regulated by the local authorities, such informal settlements could be unhealthy and dangerous both for informal settlers and the nearby project employees, e.g. outbreaks of cholera and malaria. During the late 1990's the fashion in business for contracting out non-core activities, and the adoption internally of demanding housing and social welfare guidelines for employees, led CDC to reduce permanent employee numbers where feasible and make greater use of sub-contracted and casual labour.

Smallholders and Outgrowers: Spreading the benefits or evading responsibilities?

It is conventional to interpret smallholder and outgrower schemes as a way of spreading the benefits from a core estate and/or agro-processing operation to the local people.

When the state-owned Zambia Sugar Company (ZSC) expanded its factory capacity in the late 1970's it was politically difficult to acquire more land for estate sugarcane planting. Instead, it worked with CDC and the Government to establish a smallholder settlement scheme – the Kaleya Smallholder Company (KSC).

In 1980 the Government compulsorily acquired a nearby private ranch (and in accordance with Zambian law, paid compensation only for the improvements to the land, not for the land itself) and CDC and the African Development Bank financed the development of 1800ha of irrigated cane on which over 140 families were settled, including, unusually for the times, female-headed households.

The scheme was a technical success, with average cane yields exceed those of the ZSC estates, and the smallholders earned relatively high incomes. As a result, some settlers made use of informal, hired labour to do much of the work in the fields. Rates of pay for these informal workers were low and they had no access to any of the benefits and protection provided for under national Labour Laws or under ZSC or KSC company policies. Some lived in informal settlements on the edge of the scheme.

Had the extra land been cultivated as an estate, those regularly working the land would have been entitled to company housing, medical benefits, social security contributions and the protection of labour officers and trade unions. Indeed some members of the Government were reported to have opposed the smallholder scheme from the beginning, arguing that it would be better to provide jobs for state-sector employees than to create a privileged “kulak” class of self-employed settlers.

Social Engineering and Social Impact

Some projects supported by CDC had an explicit “social engineering” component. The massive NES schemes in Indonesia, supported by both CDC and the World Bank, were part of the country’s transmigrasi programme of resettling farmers from overpopulated Java to the outer islands such as Sumatera and Kalimantan. While a plausible economic case could be made for the programme, it was also a means of securing increased political control of the outer islands by the central government and has created significant ethnic and cultural tensions.

In the absence of any base-line surveys and understanding of social conditions, including gender relationships, economic initiatives can have unintended social consequences. Traditionally (but not universally) in much of Africa subsistence food crops are primarily grown by women, as it is considered to be their responsibility to feed the family, whereas cash crops – even when other family members contribute to the work - serve to provide the male household head with a cash income. It has been claimed therefore that the promotion of such outgrower crops as tea (KTDA) and sugarcane (Mumias) in Kenya by CDC and other development agencies lead to increasing malnutrition as land is diverted from food crops to cash crops but little of the extra cash earned is used to help feed the family.

Economic Externalities

Finally, CDC generally did not always take into consideration major economic externalities of its projects. Thus in Zambia, the promotion of irrigation at Mpongwe, Zambia Sugar, Kaleya Smallholders and Nanga Farms all reduced the flow of water through the Kafue Gorge hydro electric station in the country and the Cabora Bassa hydro station in downstream Mozambique, reducing the net economic benefit from these important food production projects.

In the 1960’s and 1970’s India and Sri Lanka objected to World Bank and CDC support for expanding tea production in East Africa, such as the KTDA, arguing that this undermined their attempts to stabilise world tea prices through an International Tea Agreement and export taxes on their own producers.

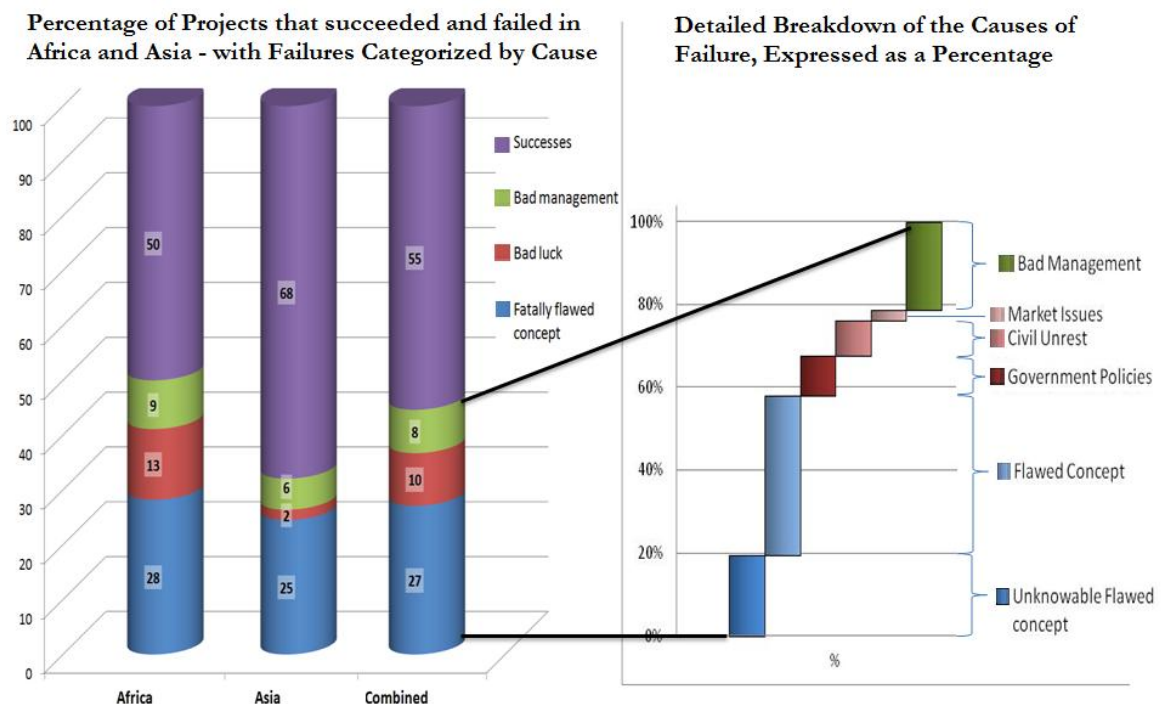
7. Explaining Financial Failure

Among those projects classified as financial “failures” or “moderate failures” a summary assessment was used to determine whether these results were primarily the result of bad luck (exogenous factors), bad management, or whether the project was “fatally flawed” in its concept (for instance by ill-conceived financial plan, mistaken assumptions about costs and revenues, or poor location). Projects flawed in concept were generally never going to work, however effective the implementation management team.

Table 13. Projects classified as financial failures or moderate financial failures

	AFRICA		ASIA		COMBINED	
	No.	%	No.	%	No.	%
Fatally flawed concept	35	56	13	76	48	61
Bad luck	16	26	1	6	17	21
Bad management	11	18	3	18	14	18
Total	62	100	17	100	79	100
% of all	50%		32%		45%	

Graphic 6. Percentage of Projects that Succeeded and Failed with Reasons for Failure



While there is inevitably a subjective element in this classification, it does suggest that in only a small minority of cases can financial failure be attributed to the performance of the management teams responsible for implementing and operating projects. This is not surprising, given that weak managers can be changed and that operational problems can be sorted out.

Bad luck was a significant factor in Africa in particular, where civil strife and nationalization took place in a number of countries. Of the 17 cases of “bad luck,” eight were the result of adverse government economic policies, seven were the result of civil war, and two were due to the collapse of export markets.

By far the most important cause of failure was some aspect of the project concept from the start. This means that the planners of the projects—be they CDC managers, government agencies or private sponsors—made major errors of judgement regarding technical, economic, or financial matters.

The percentage of projects which failed as the result of a flawed concept or because of weak management was broadly consistent across both regions. The main reason for the higher failure rate in Africa appears to have been issues characterised as bad luck, principally adverse government policies and civil unrest.

Of the 60 percent of failed projects that had a flawed concept, about two thirds could have been detected at the approval stage and so could have been controlled by the investor. In some cases CDC investment analysts and technical specialists expressed doubts internally but there was “political” pressure to support projects which were a high priority for either the British or the host government or which were seen as strategic for CDC. Host country government decisions about agribusiness investment projects inevitably take into account more factors than simple internal rate of return calculations. During the 1970’s for instance, Zambia had a policy of promoting a state farm and ranch in every province irrespective of agronomic and logistical suitability, on the ground of fairness and national cohesion.

8. Explaining Development Failure

Among the projects in Asia there were six development failures. In three cases the basic natural resources (soils, climate) proved unsuitable for commercial viability, and in the other three the technology and the management were not adequate.

There were also seven projects in Asia classified as moderate failures in terms of development impact. Four of these outcomes were attributable to unsuitable natural resources combined with their inability to compete in highly competitive markets. Two were attributable to inadequate management; and one in Papua New Guinea was the result of civil unrest, which led to large planted areas being abandoned.

By contrast, in Africa there were 26 development impact failures. However 10 of these were projects promoted by CDC between 1948 and 1951. These 10 projects reflected CDC’s own naivety at start-up, before it gained experience, and when its decision makers were clearly over-optimistic about the prospects for success in almost any setting. In 6 of these 10 early failures the site chosen was unsuitable for the intended venture. In the other four, CDC was simply out of its depth in terms of management experience and technical know-how.

Of the 16 development failures that date from 1967 onwards, inadequate management and technology was a major factor in 13 of them. Only one was located on an unsuitable site. Another was affected by low export prices. Two failed as the result of government-related factors. One of these was the result of the revolution in Ethiopia. The other resulted from the withdrawal of export taxes on raw cashew nuts in Mozambique, which led to the collapse of the domestic processing industry.

An additional 13 projects in Africa were classified as moderate development failures. One of these dates to 1950 and again reflects CDC’s over-ambition at the time. Five were badly affected by “government” - three as the result of the military coups in Uganda and Liberia; and two the result of mismanaged state-owned enterprises in Tanzania and Nigeria. Poor natural resources were a major factor in three African

projects. Weak management also played a major role in three projects, and four were fundamentally not competitive in the markets they aimed to supply.

Overall it is clear that the majority of failure must be attributed to human error. These may be the result of inadequate or misguided planning, for instance locating projects in sub-optimal agro-climatic zones, and/or ineffective management during the implementation of the project.

9. Equity Success Stories

10 investments in Asia were classified as equity successes, meaning that they generated financial returns to shareholders in excess of about 12 percent per annum. All 10 were oil palm projects. Southeast Asia and the Pacific enjoyed the good fortune to participate in the post-Second World War palm oil boom. A parallel can be drawn between the transfer of oil palm from West Africa to Southeast Asia during the twentieth century, and the earlier transfer of rubber from South America to Southeast Asia during the nineteenth century. Both tree crops came to flourish in their new region. Palm oil is cheaper to produce than any other vegetable oil but requires substantial, long-term investment. It takes a long time to develop new production capacity (compared to annual crops). Palm oil producers have enjoyed good profits as their product has gradually come to account for an ever-increasing share of the global fats and oils market where, in broad terms, prices were dictated by the cost of production of more expensive annual oilseed crops.

11 investments in Africa were classified as equity successes.

- 4 – sugar
- 4 – agro-processing
- 1 – wood pulp
- 1 – rubber
- 1 – arable

Like oil palm and rubber in Southeast Asia, sugarcane in Africa is a non-native plant. Sucrose yields respond well to long dry seasons which provide many hours of sunshine and cool night temperatures – characteristic of upland locations in East, Central and Southern Africa – provided there is irrigation. Until the early 1960s, when newly independent countries such as Zambia and Tanzania sought to promote domestic sugar production rather than relying on imports, it was not widely grown on a commercial basis outside of the Republic of South Africa. Sugar benefitted initially from higher prices as an import substitution crop. In addition, former colonies lobbied for and received a share of the UK and then the EU preferential import quotas for sugar. Prices were set at levels that kept high cost producers in the Caribbean and the EU in business, and were very attractive for the much more efficient, modern African producers.

The four agro-processing projects benefitted from a good, early supply of raw materials and achieved high capacity working quickly. This early profitability helped to yield high compound rates of return on investment.

The Usutu wood pulp project in Swaziland is simply a “world class” venture: good growing conditions, economies of scale from a large factory, a short rail link to the local seaport, and access to world markets. CDC was able to sell its shareholding as a strategic acquisition by a global pulp and paper company.

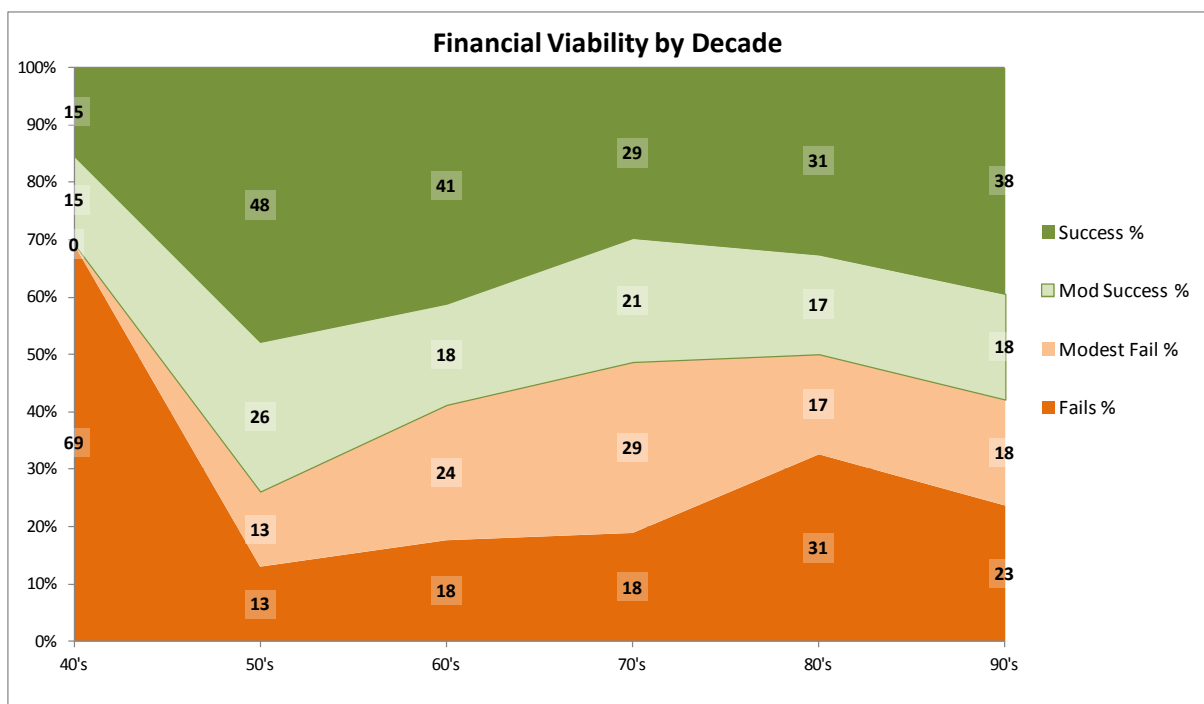
The Cavally rubber project in Cote d’Ivoire combined a nucleus estate and outgrowers with a processing factory. The agro-climatic conditions are excellent and CDC was able to sell its controlling stake during the recent rubber commodity price boom.

The Munkumpu arable crops project in Zambia involved the rehabilitation of an irrigated parastatal wheat and soya scheme. When acquired in a privatisation process, CDC was able to achieve a very quick turn-around to full capacity and high yielding operations. (CDC was already managing the adjacent Mpongwe project). CDC's returns therefore benefitted from the high sunk-cost of the development incurred by the parastatal which CDC acquired at a substantial discount to replacement cost.

Unsurprisingly, all of the “successful” equity investments benefitted from good market opportunities and from excellent growing conditions.

10. Changing Performance over Time

Graphic 7. Financial Viability over Time



Management attitude and changing strategy had a large impact on the success rate of investments. At its inception in the late 1940's the CDC's management did not have well developed internal systems for assessing potential investment projects and a “can-do” Executive Chairman inspired a more general tendency toward over-confidence. This changed in the 1950s when a new senior management team brought in much more rigorous project assessments and took a more conservative attitude to investments that focused more on commercial success. The overall performance of the equity portfolio increased markedly during this period. From the mid 1960's the remit of the CDC was shifted to pursuing a stronger development agenda.¹⁹ The number of investments increased significantly, more than doubling between 1970 and 2000 (compared to the period from 1947 to the late 1960s). From the mid-1980's onwards, CDC increasingly focused on private sector projects.²⁰ Investments more frequently backed

¹⁹ e.g. in 1965 the British Government offered CDC loans with an interest free grace period of 7 years for investing in agriculture; in 1975 CDC and the British Government agreed that CDC should investment predominantly in poor countries and in the Renewable Natural Resources sector

²⁰ In 1985 the British Government explicitly requested CDC to work more with private sector partners and in 1993 set a formal target that at least 80% of new investment should be in private sector projects

indigenous entrepreneurs which contributed to a lower average size of investment. Overall, the financial viability investment success rate diminished somewhat during the 1970s and 1980s.

11. Sub-Saharan Africa versus Southeast Asia and the Pacific

CDC's experience investing in agribusiness has been comparatively similar in Sub-Saharan Africa and Southeast Asia and the Pacific since 1948, which is perhaps surprising given the disparity of development progress in the two regions over the same period. This similarity becomes even more striking when the CDCs' 10 project failures in Africa between 1948 and 1951 are omitted.

In part this similarity is because, as an investor rather than an aid agency, CDC only operates where it believes it has a reasonable chance of success, and will suspend operations if the economic and political environment becomes too inhospitable. Liberia, Ghana, Nigeria, Ethiopia and Uganda for example would have all figured more prominently in CDC's project portfolio had they not gone through periods of military coups and economic war on foreign investors.

Both regions had their "boom" crops – oil palm and cocoa in Southeast Asia, sugar and tea in East, Central and Southern Africa. Both regions have also had their share of difficulties. CDC managers were murdered by communist insurgents in Malaya in the 1950's and by violent strikers in Papua New Guinea in the 1980's. CDC investments in Sabah and Sarawak were threatened by Indonesia's *confrontasi* policy of the 1960's which led to an outflow of essential Indonesian migrant workers. Opportunities in Fiji were curtailed by military coups. Estates in Papua New Guinea and the Solomon Islands were over-run by separatist insurgents and had to be abandoned.

Although African projects were overall less successful than Asian ones, the most significant difference was between generating sensible equity returns. Only 26 percent were classified as "success" or "moderate success" in Africa compared with 44 percent in Asia. Yet 48 percent of African investments ultimately achieved long-term financial viability and 70 percent delivered long term economic benefits. Many of these long term benefits reflect enterprises which CDC developed and which achieved positive cash flows. They nevertheless went on to be sold to new owners at a discount to CDC's capital cost either because earnings were low or the price/earnings ratio was low owing to perceived high country and/or sector risks. Examples include eucalyptus plantations in Swaziland (Shiselweni), tea estates in Tanzania (Euteco and Tanwat), rubber estates in Nigeria (Illushin), mixed tobacco/arable/coffee estates in Malawi (Sable/Kawalazi farming group). There were also examples of private sector projects in which CDC's loans were repaid by parent companies to avoid insolvency of a subsidiary. Although these projects had achieved positive cash flows, the cash flows were not sufficient to service the debt, e.g. sugar in Uganda (SCOUL) and rubber in Malawi (Vizara).

To have a chance of success, CDC's experience in both regions demonstrated the advantages of a diversified portfolio (by country, product and market) and a long-term perspective – holding on during the bad-times, only quitting in extremis.

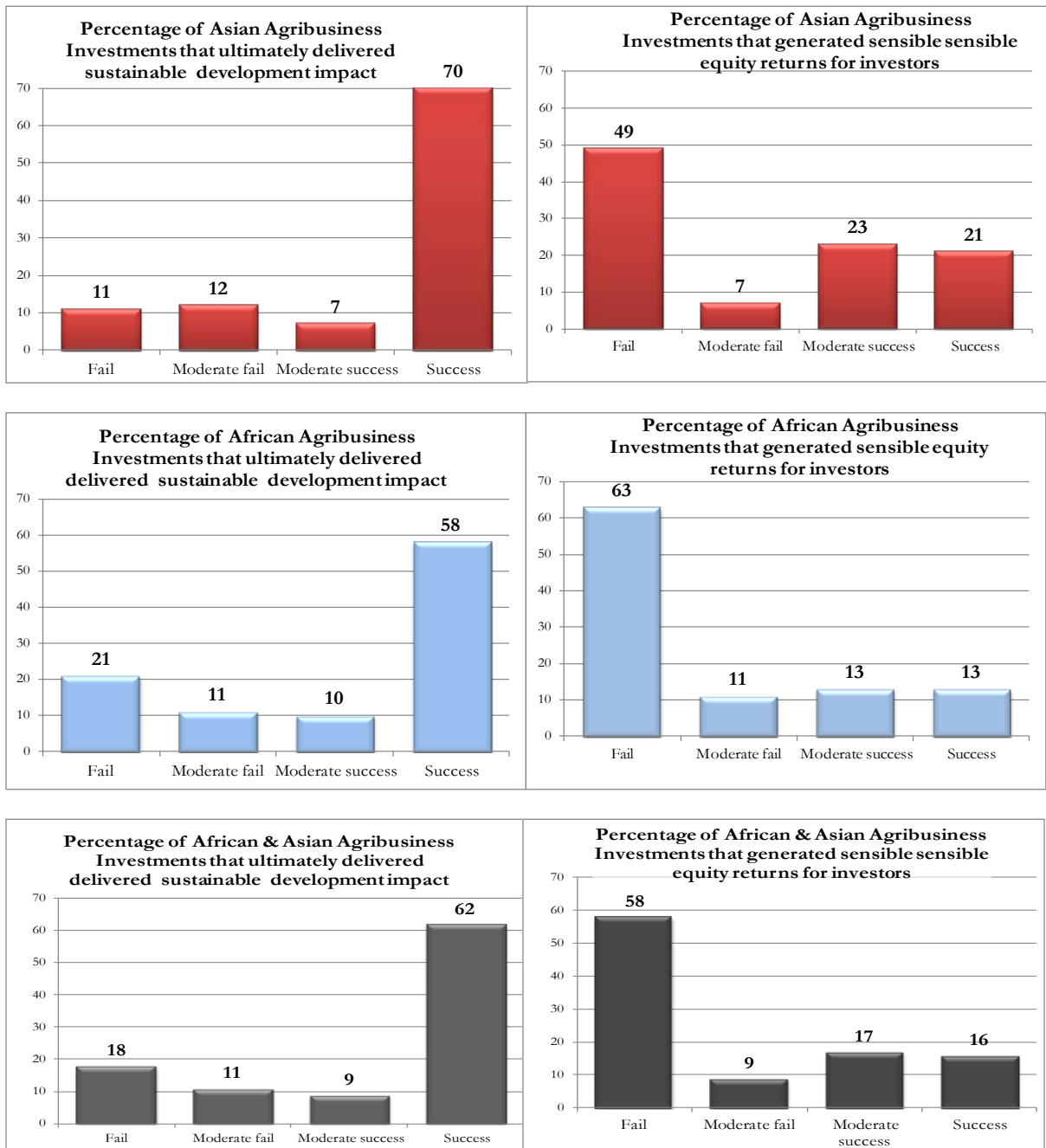
12. Estate versus Outgrowers

A crude analysis has been undertaken of success and failure rates for different types of scheme, i.e. estate, NES, outgrowers and independent processors.

Table 14 Percentage of projects classified as success or moderate success

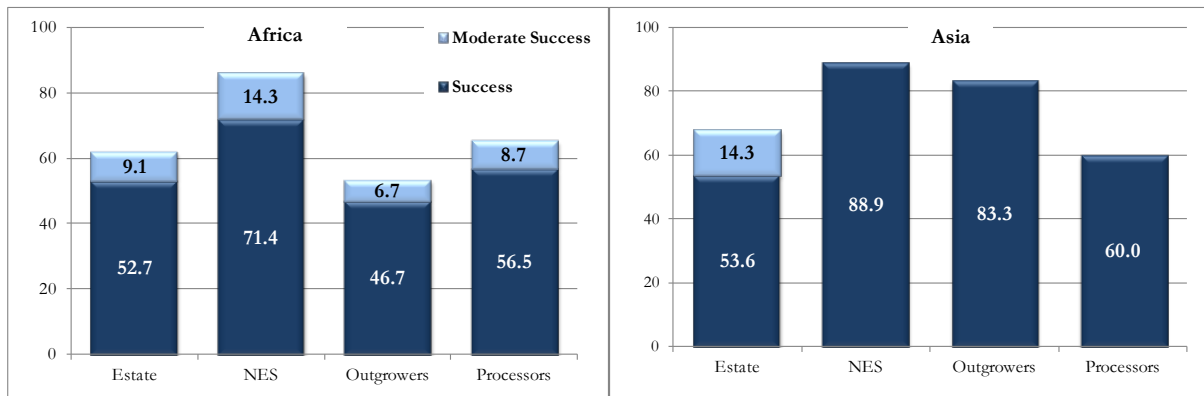
	AFRICA		ASIA		COMBINED	
	Dev	Fin	Dev	Fin	Dev	Fin
Estate	63	42	69	55	65	47
NES	86	66	88	88	87	76
Outgrowers	53	33	83	83	62	48
Processor	65	52	75	75	67	56

Graphic 8. Sustainable Development Impact and Equity Returns

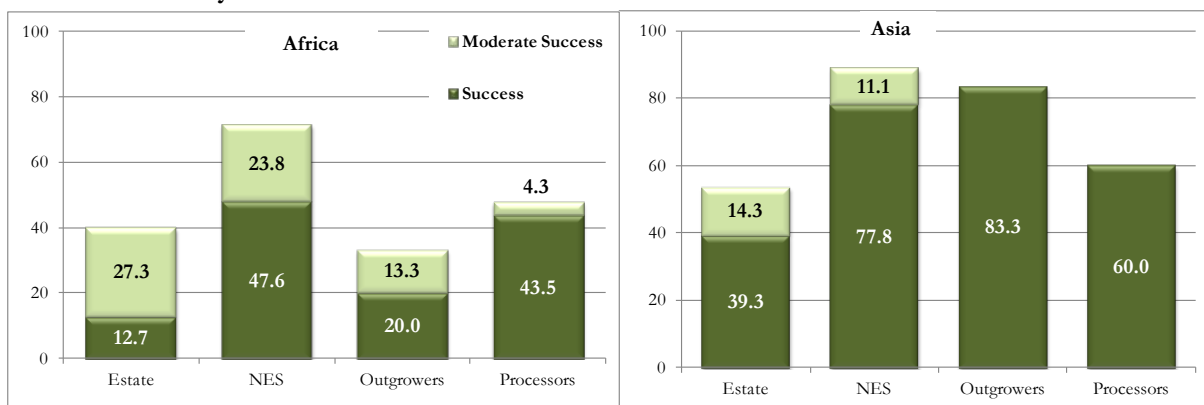


Graphic 9. Financial & Development Performance of Estate Farming, Nucleus Farms, Outgrower Schemes & Independent Processing Operations: Percentage Classified as Successful or Moderately Successful:

Development Impact:



Financial Viability:



Nucleus estates with smallholders/outgrowers (NES) provided the most successful business model, but only for a limited range of industrial crops (oil palm, sugar, tea, rubber), followed by processing. Pure outgrower schemes were broadly about as successful as estate farming operations. Outgrower schemes worked particularly well in Asia.

No attempt has been made to identify correlations with other possible explanatory factors. For instance, are NES schemes more successful because they are, on average, larger? Or are they successful because they are more likely to involve crops with good markets, such as palm oil and sugar? It would probably be wrong to infer that NES are intrinsically less risky than large scale farming operations. During the 1960s and 1970s, a number of countries were keen to see CDC invest in inclusive business models which incorporated outgrowers. Both because of CDC experience and the need not to expose smallholders to the high risks of untested enterprises, these NES were mostly built upon existing successful estate farming operations. To some extent these projects were therefore self-selecting. Nevertheless CDC managers found that NES projects outperformed expectations.

13. Settlers, Smallholders, and Outgrowers

CDC has been involved with many commercially and developmentally successful projects involving settlers relocated to new land and smallholders farming their own existing land; both of whom may be organised as outgrowers supplying a central processing unit (with or without its own nucleus estate).

Where these schemes have been based on financially attractive crops such as oil palm, cocoa, sugar, and tea, they have generally done well, because the outgrowers have a strong incentive to participate and cooperate. Many such schemes such as KTDA and HOPPL and the NES schemes in Indonesia were co-financed with the World Bank. In addition the operators of the “nucleus” normally have high fixed costs and high gross margins on factory processing, and therefore have strong incentives to support outgrowers so that the capacity of the factories is highly utilized.

Some crops such as rubber, cotton, oil seeds, and coffee have been somewhat less attractive financially for much of the 50 years covered. Schemes involving the production of these crops have not done very well, particularly where operations were based in sub-optimal growing conditions.

There are well established reasons why some crops are better-suited than others to the NES and processor/contracted outgrower models. Those which are better-suited tend to require industrial processing of a bulky raw material relatively soon after harvesting, including sugar cane, green-leaf tea and oil palm fresh fruit bunches. Other crops such as cotton, coffee, cashew, and cereals, the raw material of which can be more easily stored, have a variety of low-tech processing options, and afford producers opportunities for “side-selling.” These tend to be less well-suited for NES and outgrower models. Some crops moreover favour smallholders, for instance those which are labour intensive (and can utilise low cost family labour and informally hired labour) and which offer few economies of scale. Crops which involve capital intensive technologies tend to favour large-scale operations.

A full analysis of the advantages and disadvantages of different types of outgrower schemes is beyond the scope of this study. Below is a list of the main failures and moderate failures in terms of project financial viability in which CDC participated and a summary of why they failed.

Table 15. Causes of Project Failure

Country	Project	Type	Crop	Failure factors
Zambia	ZCCL	factory, estate, smallholders	cashew	wrong technology; inexperienced management
	Changanda/Family Farms/Mukonchi	estate, settlers	tobacco	low margins (high labour costs, low prices), high overheads
Nigeria	Niger Agric Proj	settlers	mixed arable	low yields, low margins
Kenya	Oil Crop Development	outgrowers	oil seeds	low prices/margins; side-selling
Liberia	LRDC	factory, outgrowers	rubber	coups and civil war
Uganda	UTGC	factory, outgrowers	tea	coups and civil war
Mozambique	Agrimo	factory, outgrowers	cotton	overly-optimistic planning; rehab costs higher than planned

Malawi	SCA	factory, outgrowers	coffee	small areas suitable for coffee, low production, high overheads
Tanzania	Kilombero	factory, estate, settlers	sugar	collapse following nationalisation and economic mismanagement
Philippines	Bukidnon	factory, outgrowers	tomato paste	overly-optimistic planning, inexperienced farmers & management; prices paid provided no incentive, side-selling
Vanuatu	Tana Coffee	factory, estate, outgrowers	coffee	agro-climate unsuitable for good yields, small scale

14. Size and Success

Overall, the analysis suggests that larger projects (large relative to the norms for that sector) supported by CDC were more successful, especially in financial terms, than smaller ones. There were in particular a large number of financial failures of small projects in Africa, where 18 of 20 of such investments were rated as financial failures or as moderate financial failures.

Table 16. Percentage of projects classified as success or modest success:

	AFRICA		ASIA		COMBINED	
	Dev	Fin	Dev	Fin	Dev	Fin
Small	43	10	60	60	46	20
Medium	77	48	60	40	72	45
Large	61	57	88	88	73	71
Mega	82	76	100	100	88	83

Many sectors exhibit some economies of scale. Relatively smaller projects in these sectors are less likely to be competitive unless sheltered from competition. In addition larger projects can generally afford more and better quality management, and will attract more head-office attention when things start to go wrong.

It is moreover likely that CDC was more willing to take higher risks with smaller projects because they had less potential to adversely impact CDC's balance sheet. An assessment was therefore made of the rate of financial success compared with the size of CDC's investment measured in US dollars at July 2011 price levels.

Table 17. Projects rated as financial success or moderate financial success, by size of CDC investment ²¹

	AFRICA		ASIA		COMBINED	
	No.	% fin success	No.	%fin success	No.	%fin success
<\$5m	30	39	8	43	38	40
>\$5m <\$15m	28	46	13	69	41	54
>\$15m <\$30m	25	33	12	75	37	47
>\$15m <\$50m	17	47	11	55	28	50
>\$50m <\$100m	15	73	8	88	23	78
>\$100m	7	86	5	100	12	92
Total	122		57		179	

In fact the rate of financial success in the CDC portfolio appears unrelated to the size of investment, except for the very large ones – over US\$50 million, where success rates are clearly higher, perhaps in some cases because CDC was rewarding early success with further finance for expansion.

15. Start-up versus Expansion

Table 18. Percentage of projects classified as success or moderate success:

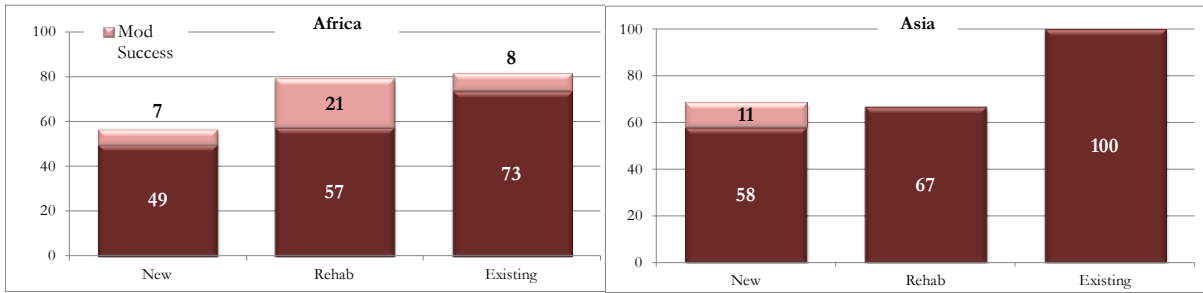
	AFRICA		ASIA		COMBINED	
	Dev	Fin	Dev	Fin	Dev	Fin
Greenfield and redevelop	56	45	70	62	61	51
Rehabilitation and turnaround	79	29	67	67	75	40
Expansion of going concern	86	61	100	92	92	69

As expected, building upon success by expanding existing businesses was more likely to deliver higher developmental (92%) and financial (69%) success rates than starting from scratch or converting moribund existing assets to a different use (61% and 51% respectively).

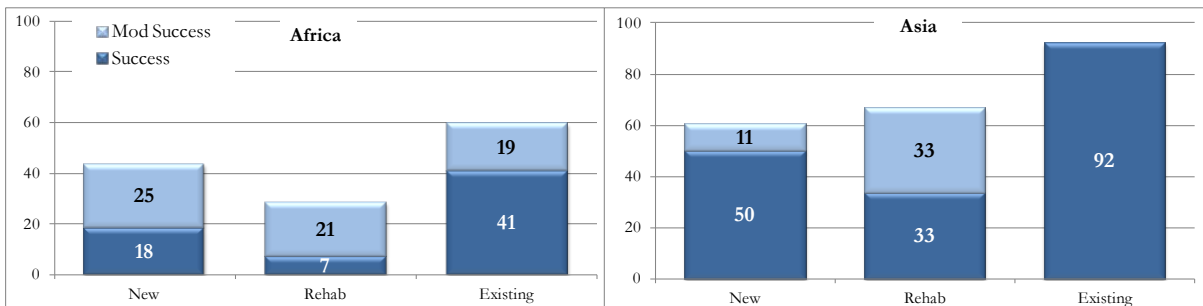
Rehabilitations and turnarounds achieved a reasonable rate of development performance but the financial results appear poor.

²¹ Percentages shown are for the projects for which the financial outcome was known

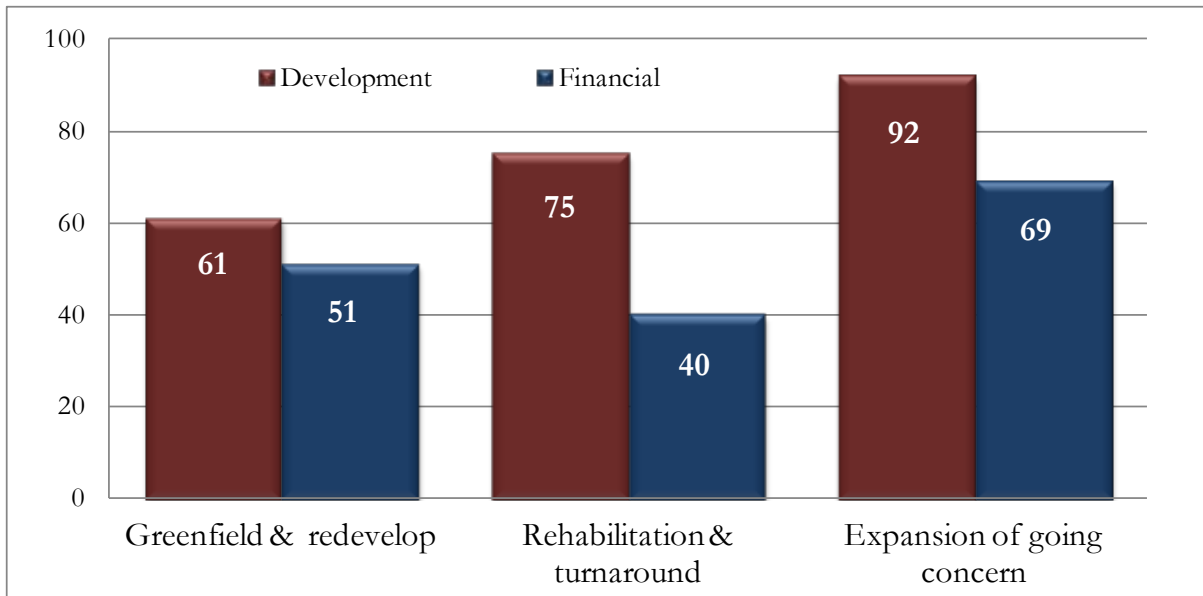
Graphic 10. Development Impact: Percentage Classified as Success or Moderate Success



Financial Viability: Percentage Classified as Success or Moderate Success



Graphic 11. Percentage of All Projects Classified as Success or Moderate Success



The especially low financial success rate of rehabilitation projects in Africa is perhaps surprising. In broad terms, attempts to turn around private sector businesses that were struggling were likely to fail because fundamental weaknesses persisted. Attempts to rehabilitate badly run-down state enterprises through privatisation often proved to be more expensive and to take longer than had been budgeted for. This led to poor financial results even though there were usually clear development benefits.

16. Pioneering – First mover advantage or paying the price?

Table 19. Percentage of projects classified as success or moderate success

	AFRICA		ASIA		COMBINED	
	Dev	Fin	Dev	Fin	Dev	Fin
Pioneering	57	42	86	67	66	50
Follower	74	51	71	71	73	58

A simple analysis has been made of the financial and developmental success rates for projects defined as pioneering. Not surprisingly, pioneers appear to have had a slightly higher risk of failure, although these findings should not be taken to imply that pioneering should be avoided. Two-thirds were classified as successful or moderately successful in terms of direct development impact.

No account is taken of the likelihood that successful pioneers may both attract further investment and encourage others to follow their example – a role they played in the spectacular success and growth of KTDA, which also served as the model for outgrower tea projects in Uganda, Tanzania and Malawi. The emergence of the oil palm sector in Southeast Asia, to some degree, built upon CDC's pioneering work in introducing large-scale production to the region. In terms of public goods, strong arguments can be made for supporting first movers and pioneers. Conversely, supporting the expansion of a new farming sector before the technology, production systems, and markets have been properly tested risks wasting resources.

17. Debt v Equity

Equity investors are sometimes thought to be more committed to ensuring the commercial success of projects, whereas lenders are more inclined to rely on their security (mortgages, guarantees). A comparison has therefore been made of project financial performance where CDC had an equity stake (usually in addition to loans) and where it was only a lender. The following table suggests little difference in the case of CDC. If anything, it is the projects where CDC provided only loans that performed slightly better – perhaps because loan-only investments were more likely to be to existing businesses whereas equity would usually be required for start-ups.

Table 20. Percentage of projects classified as financial success or moderate financial success

	AFRICA	ASIA	COMBINED
With CDC equity participation	46	62	52
With loan only	50	92	60

18. CDC Management – making a difference?

CDC managed 46 percent of the projects in which it invested, a technical input that was seen as an important part of its total contribution to project performance. A comparison between the financial performance of managed and non-managed projects reveals that overall, projects were more likely to succeed financially if they were not managed by CDC (see table below). One possible explanation for this is that CDC was prepared to take higher risks (especially in its initial pioneering years) when it was providing project management itself, but was more cautious when backing others. Moreover when CDC

was managing a project directly it was more likely to be a start-up or rehabilitation, which is inherently more risky. Of the projects managed by CDC, 84 percent were start-ups or rehabilitations, whereas for non-managed projects the figure was 61 percent.

Table 21. Percentage of projects classified as financial success or moderate financial success:

	AFRICA	ASIA	COMBINED
With CDC management	40	64	46
Without CDC management	56	74	62

19. Conclusions – Critical Success Factors and Key Risks

This review of 179 agribusinesses in Sub-Saharan Africa and in Southeast Asia and the Pacific illustrates much of the complexity and many of the risks that were involved in agricultural and agro-processing investment in developing countries over the course of a half century. Appendix 1 presents an informal checklist of some critical commercial success and failure factors which vary depending upon the type of agribusiness ventures and/or investments.²²

A number of projects that eventually turned out to be successful investments, or at least financially self-sustaining, were problematic and generated losses during the early stages of their development.

From “Dog” to “Star”

IYSIS: Large-scale irrigated agriculture in Swaziland envisaged as a rice scheme, but poor technical performance (water-logging, weeds, pests). Finally profitable once converted to sugarcane

Mpongwe: Irrigated wheat and rainfed soya and maize in Zambia. Heavy initial financial losses until expansion and merger with adjacent Munkumpu scheme achieved economies of scale combined with government liberalisation of food crop markets

BAL Plantations: Loss making Abaca fibre plantations in Sabah facing declining world market, saved by CDC investment to convert to oil palm and cocoa

Cavally: Rubber plantation in Ivory Coast. CDC invested heavily in expansion and new factory, but production came on stream at a time of low world market prices followed by civil war. CDC persevered despite financial losses and risks until successful sale during subsequent commodity price boom.

Disappointing performance during the early stages of a number of projects led to uncertainty on the part of CDC over whether it should cut its losses and get out or persevere and see the investment through. In

²² Examples include. *Primary production* (e.g. rubber) : good growing conditions and low transport costs to market; *Primary processing* (e.g. flour): latest technology, economies of scale, logistics; *Consumer goods* (e.g. pre-packed fruit and vegetables): product quality, reliability of supply chains, managerial flair and innovation

each case a review was undertaken that concluded that the fundamentals such as soils, water, and climate were good and that CDC should patiently commit additional resources. In these projects, CDC became a *de facto* provider of “patient capital,” either as equity or as loans which were flexibly rescheduled or converted to equity.

However this role of patient capital provider was limited because CDC had to protect its own solvency at the total balance sheet level, matching cash flow from its diverse portfolio of investments with its own debt servicing obligations to the UK Treasury. Weak investments therefore needed to be terminated as early and humanely as possible to avoid continuing losses when there was no prospect of a turnaround.

Cutting the Losses

Gambia Poultry. A huge, integrated, over-ambitious project to supply the UK with eggs. No precedent existed for the project in Gambia. A large and expensive but inexperienced expatriate workforce of 70, unsuitable soils, low yields of feed crops, poultry diseases, market resistance to imported eggs. Closed down after 3 years

Nigeria Agriculture Scheme. An attempt to replicate the Sudanese Gezira arable, irrigated settlement scheme on 15,000 ha of land in Nigeria. No prior crop research and early yields were low. Little chance that levies on smallholder profits could pay for substantial overheads. Scheme was given to Nigerian government who converted it into a research station.

Cape Rodney Estates. A planned 2,250 ha cocoa estate, in joint venture with PNG government, but early plantings produced poor results and a review team advised that the area was unsuitable for commercial cocoa production. CDC withdrew from the joint venture.

Tana Coffee. CDC’s objective was to support economic development in newly independent Vanuatu by promoting a nucleus coffee estate and outgrower scheme on Tana island. The local climate however, which was subject to periodic cyclones, was unsuitable. There was no tradition of regular, waged employment on the island and labour productivity was low. CDC wrote-off its investment of £1.3m and “gave” project to the government

Country risk, in the form of war, unrest, and nationalisation wrecked a number of good schemes, including outgrower tea in Uganda (repeated civil wars, economic collapse), sugar in Tanzania (nationalisation), cocoa estates in Papua New Guinea, and oil palm estates in the Solomons (both due to separatist insurrections).

Other projects have survived periods of great economic and/or political risk and stress to produce good financial or at least developmental benefits.

Surviving the bad times

Kulai Oil Palm Estate in Malaya: assassination of CDC managers in 1954 and harassment of workforce by communist insurgents. Survived to provide seedlings, training and initial crop processing for the FELDA settlement scheme

Tanwat: survival of Tanzanian export-oriented wattle extract venture begun in 1950, despite massive overvaluation of currency and shortage of inputs, via diversification into food crops, dairying, forestry plantations, and sawmilling in the 1970's and 1980's. CDC subsequently developed an irrigated tea estate and factory and a dendro-thermal power in the 1990's as the economy liberalised

Lake Harvest: survival since 1996 of a fish farming venture on Lake Kariba, Zimbabwe, in spite of currency collapse and harassment of foreign investors during the last 15 years; now diversified into crocodile farming and poultry and has 400 employees

The recommended approach is to ensure that the fundamentals are sound by assessing the critical success factors for the specific type of agribusiness venture being proposed. Once this is determined, much relies on “good luck” in commodity prices being attractive when production comes on stream; that the weather patterns are normal; and that the venture is supported rather than harassed by local and national authorities.

The role of management is critical, but limited. Bad management can ruin any project and all successful projects have at least adequate management. Good management is a necessary but not sufficient condition for success. It can overcome the inevitable shocks and setbacks that arise during the course of a project's development and ongoing operations. But even excellent management cannot compensate for a project that is “fatally flawed” at its planning stage leading to unsound fundamentals. For instance, while growing conditions for a pioneering export-oriented rose production enterprise were judged favourable at the Heleena Farms project in Nigeria, neither the sponsor nor the expatriate manager had any experience in rose production. Poor production and distribution performance led the sponsor to abandon the rose venture.

CDC management successfully developed the Kasungu tobacco project in Malawi, but were unable to replicate that success in neighbouring Zambia where growing conditions were broadly the same but the fundamental economic conditions were quite different. (The dominant influence of the Zambian copper mines led to high wages and an overvalued exchange rate, which punished labour intensive tobacco production for export, whereas in Malawi tobacco was the dominant export crop and the government deliberately maintained wage and foreign exchange rates at levels that supported the tobacco industry.)

Many of CDC's agribusiness investments were pioneering. Some of these represented the first such enterprises in a particular country, for instance tilapia in Lake Kariba, Zimbabwe; sugarcane in Swaziland and Papua New Guinea; and oil palm in Sabah, Sarawak and the Solomon Islands. Others were pioneering in introducing a new production model, for instance organised smallholder tea production in Kenya and Malawi.

Some of these initiatives, in which CDC served as promoter or financier, helped to pioneer innovations that subsequently grew organically through a series of expansions into very large undertakings. These included:

- the Federal Land Development Authority in Malaya, which involved the settlement of landless farmers to become rubber and oil palm outgrowers. Begun in 1957, over the ensuing 40 years, some 120,000 families were settled in over 300 new communities;
- the Kenya Tea Development Authority (KTDA), which involved the promotion of smallholder tea growing to supply dedicated factories. It began in 1960 with 940 hectares under smallholder tea cultivation. By 1984, some 145,000 participating smallholders were cultivating tea on 58,000 hectares;
- Zambia Sugar, the first sugar estate in Zambia, began in 1967 with an initial field and factory capacity for 35,000 tonnes of sugar, by 2011 was producing 385,000 tonnes.

A number of successful pioneering projects wielded demonstration effects through which their practical examples came to serve as models for projects elsewhere:

- the KTDA for instance would provide a model for outgrower tea projects in Uganda, Tanzania and Malawi;
- the commercial oil palm and cocoa production that CDC pioneered in Malaya and Sabah (despite early teething problems in the latter) encouraged other investors to develop new plantations and to convert existing rubber estates to these more profitable crops. Thus by 1996, forty years after CDC introduced the crop for the first time, there were 400,000ha of smallholder and estate oil palms in Sabah, accounting for 7% of world palm oil production;
- CDC was one of the earliest promoters of export oriented horticulture in Kenya on the Osarian and Kuraiha Estates and while CDC itself failed to achieve profitability, the farming assets that were established became the nucleus for the floricultural industries which later thrived in Kenya.

Any overall assessment of whether CDC's agribusiness investment portfolio has performed "well" or "badly", and whether it sends out positive or negative signals to prospective private investors, development agencies and host governments and communities would depend on the criteria used, would in part be subjective and political and would need to take into account the broader developmental, environmental and social impacts – which, though difficult to assess systematically, were not universally beneficial.

Given the risks it was designed to take and its developmental objectives, it would be surprising if CDC consistently achieved levels of financial performance that would be expected from a private investor.

It would be an illusion however to assume that private investment is always profitable. Commercial investment in general is inherently risky – a fact that is by no means exclusive to investment in agribusiness or in developing countries. John Maynard Keynes noted the significance of what he called "animal spirits" in overcoming the objectively high risks of failure when making investment decisions now in anticipation of future profits:

Within any investment portfolio it is normal for a few "star" performers to carry many "also-rans" and a few outright "dogs." Professional fund managers (who need to regularly attract new funds to manage) are more likely to publicise their stellar historical successes and their ex-ante rate of return expectations from future investments than their actual, historical, realised average results. The prominence that is assigned to these few highly successful outcomes leads to a tendency toward exaggerated expectations regarding prospective financial returns – expectations which are in reality based on non-representative outliers.

Moreover, the high rates of return obtained on some venture capital and private equity "deals" are achieved by trading assets over a relatively short time period of time, "buying low" and "selling high."

Virtually all of CDC's equity investments on the other hand consisted of longer term commitments, and the rates of return on equity invested depended on the development of the underlying businesses.²³

The view of the authors is that commercial investors, development agencies and host governments and communities alike should draw some confidence from the findings that:

- over 80 percent of all agribusiness ventures supported by CDC in Africa and Southeast Asia and the Pacific over a 50-year period yielded some sustained, direct development benefits;
- that estate/plantation farming projects and smallholder/outgrower projects had similar success rates while combined nucleus estate and smallholder schemes did best of all;
- that only one quarter of projects failed completely in financial terms;
- and that one in six equity investments were "stars".

Moreover, a small number of agribusiness investments, such as FELDA, KTDA and BAL, ultimately had a transformational effect greatly magnifying the impact of CDC's original investment, bringing mostly positive economic and development impact across regions and over decades.

²³ Crudely, equity values are based on earnings multiplied by the price/earnings (P/E) ratio. CDC's focus was on improving the earnings of projects whereas private equity investors often have a focus on improving the P/E ratio

Appendix 1: A Checklist of Some Critical Commercial Success and Failure Factors for Agribusiness Investments

Aspect of the Venture	Possible critical success or failure factors
Sector Characteristics: All sectors	<ul style="list-style-type: none"> • political/economic stability • rising or declining demand for the product • market value of existing assets generally at a discount or premium to replacement cost • dependence on heavy protection from imports • dependence on export privileges • profits restricted by government market interference • Competition on level playing field (e.g. fiscal advantages, no unfair business practices) • profits capped by dependence on dominant suppliers or customers (competitive forces)
Sector Characteristics: Inputs and services	<ul style="list-style-type: none"> • technological edge/infrastructure to create barriers to entry • large market share, to be competitive with rivals
Sector Characteristics: Primary production	<ul style="list-style-type: none"> • good growing conditions – high productivity • economies of scale – low cost production • low transport cost (for bulky inputs and to market) • survivability during low-point in world market price cycles • if labour intensive: scope for smallholder production • if capital intensive: scope for estate/consolidated outgrowers • “natural” protections (e.g. geographical location limiting competition)
Sector Characteristics: Primary processing	<ul style="list-style-type: none"> • economies of scale in processing and procurement/distribution • any scale or technology barriers to entry • status of existing capacity utilisation within the country • globally competitive product (esp. if production is of a secondary ingredient for food or other manufacturing) • reliability of suppliers • diversified customers
Sector Characteristics: Manufacturing, packaging, marketing	<ul style="list-style-type: none"> • own brands or reliance on franchising • economies of scale in processing, procurement and distribution • viable market share within target segment • consistent product quality • good customer service via reliable supply chains • innovative management developing new, higher margin product lines

Financial strength of investee company	<ul style="list-style-type: none"> • strong balance sheet or heavy gearing with third party debt • fully financed development plan or heavy reliance on forecast self-generated funds to finance development
Type of business transaction	<ul style="list-style-type: none"> • capital intensive start-up or lower risk, modular development • diversification into unrelated products and markets • complex rehabilitation / privatisation • highly competitive acquisition (high purchase price incorporating future development potential) • relatively simple rehabilitation /privatisation • expansion of going concern
Scale	<ul style="list-style-type: none"> • able to afford top quality management • potential to grow into bigger business
Organisation and management	<ul style="list-style-type: none"> • existing management continues • experienced, new management from within country • experienced new management from outside country • inexperienced management • corporate management • entrepreneurial manager • smallholder/outgrower participation • sponsor objectives
Scope for eventual sale of equity stake	<ul style="list-style-type: none"> • scope for listing on local/regional stock market • will attract competing buyers, including global strategic players and/or competing local/regional buyers • MBO only plausible buyer • JV partner only plausible buyer • supplier/customer de facto veto

Appendix 2: Data Classification

Background

CDC's agribusiness investments were classified according to a range of criteria, which are defined in this note.

Project Description

Projects have been defined by their principal crops, products or activity.

All of the investments that CDC would have considered as "Natural Resources" have been included, including fisheries and forestry.

Stand-alone processing projects are included only when there is a strong linkage to domestic raw material supply.

By the 1990's CDC was shifting away from financing projects to creating and investing in businesses, hence the "dawn raid" on the Thai stock market in 1993 to acquire a controlling stake in United Palm Oil Industry (Public) Ltd, with a view to a merger with CDC's existing oil palm interests in the country to build "critical mass" and create an "exit route" rather than for any specific capital development project.

Project Activities

The activities of projects/businesses are classified as follows:

- Est – estate farming
- Out – services to outgrowers, farming their own land
- Set – services to outgrowers, who are settlers on project land
- Proc – substantial processing facilities
- Mkt – independent marketing function (e.g. not through a separate marketing board)
- Hvst – harvesting, e.g. fishing, logging of natural forest
- Inp – specialist input supply business
- Diversified – investment funds or lines of credit specialising in agribusiness

Integrated Activities

Some components (e.g. a nucleus estate or an outgrower scheme) may be financed separately, i.e. not part of a single project. They are noted if they are a central component of an integrated scheme, even if not financed by CDC.

Scheme Type

An overall, summary classification of the projects has been made using the following categories:

- Estate: estate/plantation farming and directly related processing, with zero or minimal supplies from outgrowers/smallholders
- Outgrowers: outgrower/smallholder farming and directly related processing
- NES: Nucleus estate and outgrowers/smallholders and directly related processing
- Processing; Independent processing operation, obtaining raw material from the open market, rather than any integrated estate/outgrower activities
- Input: supply of seeds and/or other inputs and services

- Finance: specialist investment funds / lines of credit

Scale

It is difficult to compare scale for diverse sectors (i.e. a large flower project would be 40 hectares under glass, whereas a large sugar estate would be over 10,000 ha). We have therefore attempted to categorise into Small, Medium, Large and Mega relative to the norms of the specific sector and region. e.g. Sulmac is a large horticulture enterprise by the standards of the horticulture industry.

The scale shown is the ambition of the promoters, even where this was greater than the actual achievement, e.g. Family Farms in Zambia had the ambition to settle 6,000 tobacco smallholders and so is classified as large, even though the project failed.

Intensity

Intensity is not the same as scale. Irrigated sugar-estates can be huge and are also a very capital and resource intensive use of the land.

Broadly speaking all plantations and all irrigated and/or highly labour intensive farming have been classified as “intensive”, whereas ranching, forestry and low-input, rainfed cropping are classified as “extensive”.

Water

Irrigation is identified where known, as perhaps this is an important contributor to success or failure.

Market

Orientation towards exports or local markets may be an important success factor. Where there are significant sales to both markets, the main market is shown first.

New/Existing

Projects are classified as “new” if they are fully “green-field” developments or if they are substantially new, i.e. developing a commercial project out of a pilot scheme (Mpongwe, Oil Crop Development) or developing a completely moribund asset (Lobatsi Abattoir) or converting a low value land-use into an intensive agribusiness (e.g. Swaziland Irrigation Scheme, Nanga Farms and Kaleya Smallholders were all used for ranching, prior to acquisition and conversion to irrigated agribusiness). Projects are also classified as “new” if CDC funding was committed prior to project commissioning/completion, even if work on the project had already started (e.g. Advance Agro)

Projects are classified as “rehab” if there is an existing business which has failed or is underperforming and the objective is to turn it around, improve the capacity utilisation and productivity of mainly existing assets and to achieve profitability, e.g. Munkumpu, Rwenzori Highlands Tea. There may also be a component to expand production capacity.

Projects are classified as “existing” if there is a viable going concern, and the objective is to build on success via expansion and/or diversification.

Pioneer

Projects have been considered pioneering if some major aspect was new to the country or region at the time of CDC's initial investment, e.g.

- Technology – Primo Fina Oleochemicals
- Crop – BAL pioneered oil palm in Sabah; Zambia Sugar pioneered sugar growing in Zambia
- Organisation – KTDA pioneered large-scale organised, independent, smallholder tea production in Kenya, VIF pioneered smallholder sugar production in Swaziland

Some businesses were originally pioneering (e.g. Triangle sugar in Zimbabwe) but were well established prior to CDC's investment, and so the risks of pioneering had already been overcome.

Sector

In the 1980's CDC began to focus on private sector investment, but before that it supported many unincorporated government schemes via loans direct to the government as well as investing in parastatal enterprises. This obviously has a bearing on the concept of financial success and how to interpret outcomes. We have used the following categories:

- CDC – majority owned/controlled by CDC
- Pvte – majority owned by private investors (other than CDC)
- Para – parastatal enterprise (incorporated) or a govt shareholding in a limited company
- Govt – unincorporated government scheme
- JV - Joint venture between any of the above, with first named partner having control
- Plc – a company already listed on a stock market at the time of CDC's investment
- TA – technical assistance, i.e. management services provided by CDC even where it was not the controlling investor.

With some projects, control changed over time. They are categorised by the phase we considered most important.

CDC Investment Type

CDC invests mainly via equity stakes and/or loans direct to the project entity. However, for some parastatal and governmental projects CDC made a loan to the host government which the government then utilised to support the project in its own way (on-lending or even direct government funding). This creates a potential separation of CDC investment performance and project commercial performance. We have noted therefore when loans were made to the govt, rather than direct to a project entity.

CDC managed

Whether or not, at any time, CDC had management responsibility, either as majority shareholder, a "corporate" management agreement or via secondment of the chief executive.

CDC Investment Amount (£m)

This is normally the investment amount approved by CDC's board or committed via subsequent investment agreements or actually disbursed. It is only indicative as:

- some commitments were not fully drawn down by the project
- some CDC projects were not incorporated for many years, and were financed directly from CDC's bank account
- some developments were financed out of project cash flows/retained earnings therefore no specific CDC Board approval exists

- in at least one case (IYSIS) the opposite was true – loans were made to facilitate dividend payments rather than capital expenditure.

The aim is to indicate how significant the project was for CDC. Where the approved/committed amount is totally misleading, then the amount actually invested is shown instead.

As many projects were co-financed, the overall project cost is often greater than the CDC investment. However, total project cost information is not available on a consistent basis, and as noted above once CDC started to make strategic acquisitions of existing businesses, the concept of “project cost” becomes less meaningful.

CDC Investment Amount (2011, US\$)

This is the CDC investment adjusted for UK inflation (Consumer Price Index) to July 2011 and converted to US\$ at an exchange rate of £1 = US\$1.65.

The CPI was 31.2 in July 1948 and 935.9 in July 2011, i.e. an increase of thirty fold.

For the purpose of this calculation a guesstimate was made of the phasing of CDC investments, where it is known that disbursement took place over several years (e.g. forestry projects).

Technical Performance

Broadly classified as:

- Fail – had to be abandoned because resource or technology or management unsuitable
- Moderate Fail – productivity achieved just sufficient for survival, but well below target
- Moderate Success – reasonable productivity achieved, but below planned levels
- Success – main productivity targets achieved and broadly a competitive performance

Direct Development Impact

A narrow definition of development impact has been adopted – creation of jobs and livelihoods and specific economic objectives that were an explicit part of the project rationale, e.g. earning or saving foreign exchange, contributing to national food production - as less direct impacts cannot normally be inferred from in CDC’s annual reports.

The broad classification is:

- Fail – no sustainable incomes/jobs created
- Moderate Fail– some worthwhile employment and income creation continues (either as a business or as viable smallholder production) but far less than planned
- Moderate Success – substantial, on-going development benefits, but less than planned
- Success – substantial commercial activity continues, either as a business and/or as substantial smallholder production, equalling or exceeding expectations

This classification takes no account of wider economic and developmental impacts, such as:

- the financial cost to the country (e.g. in debt service obligations) of the development impact achieved
- the “opportunity” cost (i.e. could and would the investment and resources utilised have had greater development impact if used elsewhere?)

- the indirect (backward linkages) and induced (forward linkages) effects on the economy
- external costs (e.g. government provision of infrastructure or services, impact on the environment) and benefits (any welfare services to employees, their families and communities provided by the project)

Project Financial Viability

This relates to the establishment of a solvent, “going concern”, i.e. financial sustainability. Broadly classified as:

- Fail – Business collapsed and ceased trading
- Moderate Fail – A business survived as a going concern, but needed substantial subsidisation, e.g. via refinancing by shareholders or via negotiated debt write-off or via a sale as a going concern by a liquidator/receiver
- Moderate Success – Self-sustaining business established in line with expectations, but no significant profits
- Success – Positive returns on all capital employed

Cause of Financial Failure

Projects that were failures or moderate failures in financial terms are categorised as follows:

Concept: the project as planned was “fatally flawed” and there was nothing that operational management could do to retrieve the situation, e.g. wrong choice of site; grossly over-optimistic yield or price assumptions.

Exogenous: Some unforeseen event or factor seriously harmed the project, e.g. civil war (Liberia) or economic war (Nigeria), nationalisation (Tanzania), collapse of market (Tung oil).

Management: Owners and/or managers lacked the experience or competence or integrity necessary to achieve project objectives. Where projects are nationalised and governments impose unsuitable management this is classified as “exogenous”.

Equity Returns

Considered from the perspective of actual or potential private sector investors, where equity was involved:

- Fail – Loss of more than 25% of equity value
- Moderate Fail – loss of equity value, but less than 25%
- Moderate Success – Some return on equity capital, but less than 12% IRR
- Success – Annualised return of over 12%, allowing for dividends and equity sale or valuation

Note that no allowance is made for “gearing/leverage” when considering target equity returns.

Note also that the price at which equity is finally sold has a major bearing on equity returns and may not be directly determined by project profitability, e.g. when shares are listed on a stock market, such as Ariston in Zimbabwe or Advance Agro in Thailand, the quoted share price will be affected by country issues as well as underlying project performance.

CDC Investment Performance

This is not necessarily the same as project performance since CDC did not always invest directly in the project entity. Sometimes CDC benefited from loan guarantees and sponsor support even when projects struggled. Conversely some parastatal enterprises performed well (e.g. Hevecam), but CDC's loan was via Government which defaulted on its international obligations.

The broad classification is:

- Fail – loss of over c.50% of capital invested (equity and/or loans)
- Moderate Fail – loss of 50-100% of capital invested
- Moderate Success – no loss of capital but no significant income
- Success – Compound return on equity investment of over about 5%; loans repaid with full interest.

A further complication is that, in preparation for the planned privatisation of CDC around 2000 (subsequently abandoned), most sovereign debts on CDC's balance sheet were transferred to the British Government. We have taken a view on whether CDC's outstanding sovereign loans were in the process of being serviced, or were already many years in arrears and unlikely ever to be repaid.

Outcome

This is normally the status at the time CDC's investment came to an end.

However, from 1998 onwards, CDC stopped providing project-specific financial data in its Annual Report and Accounts, and so for some investments there is an element of conjecture.

Success and Failure Factors

This analysis in the Data Base aims to encapsulate any noteworthy factor(s) that made a major contribution to success or failure summarised as:

- Res – natural resources: were they of “world class” quality (e.g. Mpongwe soils) or totally unsuitable for the venture (Ndolela arable project)?
- Tech – the choice of technology/project planning (which can be appropriate and thorough, or misconceived and inadequate)/project scale
- Mkt – was the project crippled or boosted by prices on commodity markets that the project was too small to influence? Did the project benefit from preferential markets, e.g. sugar quotas?
- Mgmt – management, to include the role of the sponsor as well as management on the ground. Was the project fatally flawed, whatever the management did, or was dismal or exceptional management performance a decisive factor?
- Govt - did government economic policies and actions (confiscations, punitive taxes, price controls) undo the best efforts of investors and managers? Or on the contrary did govt go out of its way to support the project and facilitate success?
- War – invasions, civil war, independence movements, terrorism, aggressive sanctions which severely disrupted economic activities or destroyed them completely.

In many cases both important success and failure factors were at work at different times during a projects life, e.g. Solomon Islands Plantations (SIPL) operated very successfully with effective government support for 30 years until Guadalcanal was over-run by secessionist rebels. Similarly swings in world prices can make “markets” both a failure and a success factor (e.g. CDC tried to sell Cavally in 2002 but

could not find a buyer because of low rubber prices and operating losses; whereas high world market prices in the late 2000's generated large cash flow surpluses and an attractive exit for CDC, in spite of the civil strife in Ivory Coast).

Subsequently the Data Base provides for each project, there is a brief summary of key parameters and events, where known, in the life of the project, including updates on performance post CDC involvement.

Appendix 3: Projects Included in the Study

S E Asia and the Pacific

2000	Asiatic Persada	Indonesia	oil palm
1999	PT Agro Indomas	Indonesia	oil palm
1997	Keels Plant. Mgt Serv	Sri Lanka	tea,rubber
1996	PT Harapan	Indonesia	oil palm
1996	Soucrerie Bourbon Tay Ninh	Vietnam	sugar
1993	United Palm Oil Industry	Thailand	oil palm
1993	Advance Agro Ltd	Thailand	forestry: pulp & paper
1993	Primo Fina Oleochemicals	Philippines	coconut pdcts
1993	Bukidnon Resources	Philippines	tomato paste
1992	Kulim Plantations	Malaya	oil palm,rubber,fruit
1991	Soon Hua Seng	Thailand	forestry: pulp & paper
1990	Keresa Plantations	Sarawak	Rattan
1990	Mongkolwat	Thailand	aquaculture:prawns
1989	Mah Boonkrong Sirichai	Thailand	cashew
1989	PT Tasik Raya	Indonesia	oil palm
1988	New Guinea Plantations	PNG	cocoa,oil palm
1988	Kolombangara	Solomons	forestry: gmelina
1987	Phansrivivat	Thailand	oil palm
1987	Desa Tea	Malaya	tea
1987	South Santo Cattle	Vanuatu	cattle: ranch
1987	Poliamba	PNG	oil palm,cocoa
1986	Fiji Forest Industries	Fiji	forestry: timber
1985	Smallholder Rubber II	Indonesia	rubber
1985	Milne Bay Estates	PNG	oil palm,cocoa
1985	Tropik Wood Indus.	Fiji	forestry: timber, wood chips
1985	Tana Coffee	Vanuatu	coffee
1984	World Aquaculture Ltd	Thailand	aquaculture: prawns
1984	Pelwatte Sugar	Sri Lanka	sugar
1984	Ladang Baturong	Sabah	oil palm
1983	Metenesel	Vanuatu	cocoa
1983	NES Project VII	Indonesia	rubber,oil palm
1982	NDC/Guthrie	Philippines	oil palm
1982	NES Project VI	Indonesia	rubber,coconut
1982	Cape Rodney Estates	PNG	cocoa
1980	Ramu Sugar	PNG	sugar,beef,oil palm
1980	Palong Cocoa	Malaya	oil palm,cocoa
1979	Fiji Citrus Products	Fiji	citrus
1978	Coklat Ransiki	Indonesia	cocoa
1978	Fiji Sugar Corp	Fiji	sugar
1976	Higaturu (HOPPL)	PNG	oil palm,cocoa
1976	Gula Pedang Terap	Malaya	sugar
1976	Tatar Anyar	Indonesia	tea,rubber
1976	ORRAF	Thailand	rubber

1975	Fiji Pine Commission	Fiji	forestry: pines
1974	Darabif	Malaya	cattle: ranch
1970	Solomon Islands Plantations (SIPL)	Solomons	oil palm,cocoa
1970	Chocolate Products	Malaysia	Cocoa proc
1967	Sarawak Oil Palms (SOP)	Sarawak	oil palm
1961	Fiji Lumber Co	Fiji	Timber
1957	Mostyn Estate Ltd	Sabah	oil palm
1957	Johor Palm Processing	Malaya	oil palm
1956	Federal Land Dev Auth (FELDA)	Malaya	oil palm,rubber
1955	United Cocoa Dev Co	Malaya	cocoa
1950	Kulai Estate	Malaysia	oil palm
1950	Marudu Rice Farm	Sabah	rice,groundnuts
1949	Malayan Cocoa Ltd	Malaya	cocoa
1948	Borneo Abaca Ltd (BAL)	Sabah	oil palm,rubber,cocoa

Sub-Saharan Africa

1998	Ariston	Zimbabwe	divers - agribus holdCo
1998	Sulmac	Kenya	horticulture: carnations,roses,veg
1997	AGRIMO	Mozambique	cotton
1997	NewFarmers	SA	divers - invest fund
1996	Cavally	Cote d'Ivoire	Rubber
1996	Lake Harvest	Zimbabwe	fish: aquaculture – tilapia
1996	York Farms	Zambia	horticulture : roses,veg
1996	Cadilu	Namibia	fish: processing
1996	MOCITA	Mozambique	Cashew
1995	AgricTrust	Zimbabwe	divers - line of credit
1995	Mpongwe Milling	Zambia	flour – wheat
1995	Munkumpu Farm	Zambia	arable: wheat, soya, maize
1993	Rwenzori Highlands Tea	Uganda	tea
1993	Heleena Farm	Nigeria	horticulture - roses
1993	Triangle Ltd	Zimbabwe	sugar
1993	Hippo Valley	Zimbabwe	sugar
1993	Cadbury Nigeria	Nigeria	cocoa: processing
1992	Kilombero Valley Teak	Tanzania	forestry: teak
1992	Karimjee Agriculture	Tanzania	tea,sisal
1992	FRI Ltd	Ghana	pineapple,mango
1992	Aussenkehr Farms	Namibia	horticulture: table grapes
1991	Eglin Plantations	Cote d'Ivoire	pineapples,bananas
1991	Astek Food Processing	Ghana	fruit juice
1991	Divine Sea Foods	Ghana	fish: processing
1991	Sebovia	Cote d'Ivoire	cattle: ranch,abattoir
1990	Makumbaya Farms	Gambia	horticulture: chrysanths
1990	Plantations Dam	Cote d'Ivoire	pineapples
1989	Chrismill Farms	Tanzania	pineapples

1989	South Nyanza Sugar Co	Kenya	sugar
1989	Nanga Farms	Zambia	sugar,wheat,soya,coffee,
1989	Masstock Zambia Ltd	Zambia	Cotton,wheat,marigolds
1988	Swazi Meat Indus	Swaziland	cattle: ranch,abattoir
1988	Zambia Cashew Co	Zambia	cashew
1987	Sable/Impala Farming	Malawi	tobacco,arable,coffee,dairy
1987	Serebou Seeds	Cote d'Ivoire	seed
1987	Cold Storage Comm.	Zimbabwe	abattoirs,meat processing
1987	East Usumbara Tea	Tanzania	tea
1986	Southdown Hldgs	Zimbabwe	tea
1985	Ndolela Farm	Tanzania	arable: maize
1985	Oil Crop Dev Co	Kenya	arable:oilseeds
1984	Kulalu Ranch/AgDevLtd	Kenya	cattle
1984	Kawalazi/Kavuzi Estates	Malawi	tea, macadamia
1984	Mpongwe Dev Co	Zambia	arable - wheat,maize,soya + coffee
1984	Rusitu Valley Dev Co	Zimbabwe	dairy, coffee, tobacco
1983	Sugar Corp of Uganda	Uganda	sugar
1983	Rubber Corp of Liberia	Liberia	rubber
1983	Tamteco	Uganda	tea
1980	Ngwaketse Pilot Ranch	Botswana	cattle
1980	Vizara Rubber/Mandala	Malawi	rubber
1980	Kaleya Smallholders	Zambia	sugar
1980	Hevecam	Cameroun	rubber
1980	Decoris Oil Palm Co	Liberia	oil palm
1979	Southern Paper Mills	Tanzania	forestry: pulp,paper
1979	Smallholder Coffee	Kenya	coffee
1979	SODEFOR	Cote d'Ivoire	forestry: teak
1978	Rubber Outgrowers	Cote d'Ivoire	rubber
1978	Standard Tobacco Packers	Malawi	tobacco
1978	Smallholder Sugar Auth	Malawi	sugar
1978	Smallholder Coffee Auth	Malawi	coffee
1978	National Seed Co	Malawi	seeds
1978	TWIFO Oil Palm	Ghana	oil palm
1977	ZAFFICO	Zambia	forestry: pines,timber,poles
1978	Liberia Rubber Dev Co	Liberia	rubber
1978	Irrigation Authority	Mauritius	sugar
1978	Royal Swazi Sugar	Swaziland	sugar
1977	Dwangwa Sugar	Malawi	sugar
1977	Changanda Farm	Zambia	tobacco
1977	Palmindustrie	Cote d'Ivoire	oil palm
1973	Family Farming	Zambia	tobacco
1974	SAPH	Cote d'Ivoire	rubber
1973	Gumaro Tea	Ethiopia	tea
1970	Tanzania Seed Co	Tanzania	seeds (mostly maize)
1973	Mumias Sugar	Kenya	sugar
1972	Kuraiha Estate	Kenya	horticulture,coffee

1971	MAMC	Swaziland	na
1971	Oserian Estate Ltd	Kenya	horticulture
1970	South Chad Irrig Proj	Nigeria	cotton
1970	Savannah Sugar	Nigeria	sugar
1970	Oke-Afa Farms	Nigeria	poultry
1969	Libby's Swaziland Ltd	Swaziland	pineapples,citrus
1967	Zambia Sugar Co	Zambia	sugar
1967	Shiselweni Forestry	Swaziland	forestry: eucalyptus oil,timber
1967	Smallholder Tea Auth	Malawi	tea
1967	Mukonchi Tobacco	Zambia	tobacco
1965	Uganda Tea Grower Corp	Uganda	tea
1964	AEL: Buganda/Mwenge	Uganda	tea
1963	Pyrethrum Processing Co	Kenya	pyrethrum extract
1963	E Nigeria/Cross River Estates	Nigeria	rubber
1962	S'holder Tea Factories	Kenya	tea
1962	Vuvulane Irrig Farms	Swaziland	sugar
1961	Tanganyika Extract Co	Tanzania	pyrethrum extract
1961	Land Dev & Settle Board	Kenya	diversified
1960	Kilombero Sugar	Tanzania	sugar
1960	Spec Crop Dev Auth/KTDA	Kenya	tea
1959	Camaroun Dev Corp	Cameroun	rubber,oilpalm,bananas,tea
1959	Maramba Estate	Tanzania	cocoa,coffee
1959	Nyambeni Tea Co	Kenya	tea
1958	Bird & Co	Tanzania	tea,sisal
1957	Ilushin Estates	Nigeria	rubber
1957	Unga Ltd	Kenya	flour: wheat
1957	Mhlume Sugar	Swaziland	sugar
1955	Swaziland Cannery Ltd	Swaziland	pineapples
1955	Meat Commission	Kenya	abattoir,meat processing
1952	Umbombo Irrig Scheme	Swaziland	sugar
1951	Seychelles Fisheries	Seychelles	fisheries
1950	Swazi Irrigation Scheme	Swaziland	sugar,citrus,cattle (rice)
1950	Kasungu Tobacco	Malawi	tobacco
1950	Omo Sawmills	Nigeria	timber
1950	Bechuanaland Ranch	Botswana	cattle,arable
1950	Molopo Ranch	Botswana	cattle
1950	Lobatsi Abattoir/BMC	Botswana	abattoir
1949	Gambia River Farm	Gambia	arable
1949	Tanganyika Wattle Co (Tanwat)	Tanzania	wattle, arable,dairy,timber,tea
1949	Rice Farm	Gambia	rice
1949	Atlantic Fisheries	Gambia	fish: shark, tuna
1949	West Africa Fisheries	Nigeria	fish: trawling,processing
1949	Niger Agric Project	Nigeria	arable, groundnuts
1949	Usutu Forestry/Pulp	Swaziland	forestry: pulp
1948	Nyasaland Fisheries	Malawi	fish: lake fishing
1948	Limpasa Dambo Farm	Malawi	arable

1948	Tung Oil Plantations	Malawi	forestry:tung oil
1948	Poultry/Farming Project	Gambia	poultry, arable



THE WORLD BANK

