

A STUDY OF TWO SRI LANKAN RURAL DEVELOPMENT PROJECTS
MANAGED BY THE CEYLON TOBACCO COMPANY, LTD.

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The views and interpretations expressed in this report are those of the authors and should not be attributed to the Agency for International Development.

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SUMMARY

Sri Lanka's dry zone was the seat of ancient irrigation systems that reverted to jungle centuries ago. As the modern country's population grew along with the need for food imports, post-independence governments revived irrigation through an ambitious development program centered on the Mahaweli Ganga, Sri Lanka's largest river. The Mahaweli program's complex hydroelectric, resettlement, agricultural development, and irrigation activities dominate the country's development plans. If this dry zone program succeeds, Sri Lanka will be able to feed itself for many decades.

This study examines two different dry zone rural development projects that involved the Ceylon Tobacco Company, Ltd. (CTC), a private firm owned principally by the British-American Tobacco (BAT) group and the Mahaweli Authority of Sri Lanka (MASL).

Both schemes are irrigated resettlements. In each, the settlers depended heavily on CTC during the period studied and now look to MASL for their support. Both settlements today are part of the MASL development program. Farmers in the projects look back to the CTC days as a time of excellent agricultural advice and input delivery. In other ways, however, the projects differed widely.

At Mahiyangana, CTC as sole donor, manager, and protector guided the destinies of 59 colonist families farming 177 acres in a project that lasted from 1966 to 1980 and cost about \$1.4 million. Motivated by a desire for good public relations and the wish to contribute to national development, the company tried to establish a self-reliant model settlement. Its generous endowments transformed the colonists' lives while creating strong physical and psychological dependency; its close, effective management left little room or encouragement for the colony to develop its own institutions. The result was an enormous economic and social impact on a small number of

people but not a model settlement.

In the Mahaweli System H, Block 9 (H-9), CTC in 1979 took over management of agricultural inputs, extension services, and marketing through an informal understanding with MASL. MASL wished to experiment with private sector management; CTC was willing but wanted at least to meet its costs, which the marketing margin was supposed to cover. At full size the project served 2,122 families working, in maha (Northeast monsoon season), as much as 7,507 acres. MASL retained responsibility for water management and nonagricultural functions, leading to misunderstandings and some competition between the organizations. CTC found itself losing money and negotiated a fee from MASL but still did not break even. The farmers enjoyed services and support common to large-scale settlement schemes in Sri Lanka. CTC's work in agricultural is recognized as having been unusually effective. In 1983, MASL decided to take over all H-9 functions. CTC, discontent with its high operating costs, willingly withdrew. Since then, CTC has continued its marketing operations in H-9, alongside those of other concerns.

The Mahiyangana Colonization Scheme (MCS) concentrated high-intensity physical inputs and supervision on the small number of participating settlers over a considerable period. No ambiguity existed as to source of authority or funds: CTC was all powerful at all times. In H-9, more than 35 times as many families were affected less intensively: MASL leveled the land and built the irrigation structures, then CTC acted for 4 years as MASL's agent for agricultural development (becoming an inadvertent donor), and finally MASL assumed all responsibility for the scheme. Management was at once more distant, less personal, and distinctly divided. The impact of CTC alone or of both organizations on the typical H-9 settler family during 1979-1983 never rivaled CTC's impact on the MCS colonist. In fact, it is likely that the effect of CTC in H-9, although advantageous in the short run, will prove slight in the long run.

Neither project achieved the AID-style purpose that we attributed to it in our after-the-fact construction of logical frameworks (see Appendix D). MCS, with its strong psychological, physical, and financial dependency that MASL can meet only in part, is not a development model that others can afford to follow. Nor did H-9 yield a private sector management model for MASL; it was not, in fact, a good test of the private sector's management capacity. From CTC's standpoint, H-9 was a partial public relations success that demonstrated its capacity to manage certain development functions. However, H-9 cost CTC money it did not wish to spend and inadvertently drew the company into an awkward relationship with MASL that only termination could settle.

The CTC experience at MCS and H-9 offers some solid lessons. They may not be new or profound but that donors keep relearning them suggests that fresh attention is warranted.

1. Projects should be planned and documented in advance. The MCS plan existed in a few people's heads but not on paper.

It made heroic assumptions that should have been scrutinized but evidently were not. CTC had some good planning documents for H-9, but they rested on the quicksand of an informal understanding with MASL about division of responsibility. Both agents and their principals deserve better than that. At its best, giving a private entity partial responsibility within a government system is difficult for all parties, including the intended beneficiaries.

2. Great endowment breeds great dependency. We are less confident of the converse, but it seems clear that CTC's lavish support of MCS is not the way to guide a settlement toward self-reliance. The following principles might lead to more realistic expectations:

- Set specific limits to support, in advance, and make them well known.
- Require settlers to contribute labor and -- once harvests are being marketed -- money.
- Be sparing in cost and direct staff attention.
- Avoid unusual or expensive support, especially that which individuals or rural communities could never hope to provide for themselves.
- Encourage, but do not direct or dominate, farmer organizations like the Young Farmers' Clubs (YFC) and water user associations.
- Try to move toward placing agricultural inputs and services in private hands, encouraging a business relationship with farmers.

3. Donors and agents do best what they know well. A firm like CTC that knows one commercial crop is likely to do well in developing another. It should not be expected, however, to manage community development.

GLOSSARY AND ABBREVIATIONS

Anyonyadra Samithya - Mutual aid society

aryurvedic - Traditional

BAT - British-American Tobacco Group

bethma - System whereby two families split one family's acreage

capsicum - Tropical herbs and shrubs cultivated for their fleshy-walled berries

chena	- Shifting slash-and-burn cultivation
CTC	- Ceylon Tobacco Company, Ltd.
dry zone	- The three-quarters of Sri Lanka (all but the southwest quadrant) that needs irrigation to ensure two crops annually
FDS	- Farmer Development Societies
Goviraja	- Outstanding Farmer Competitions
gram	- Leguminous plants grown especially for their seed
H-9	- The block in MASL's System H where CTC worked
maha	- Northeast monsoon season (October-January/February)
MASL	- Mahaweli Authority of Sri Lanka ¹
Maranadara Samithya	- Death societies
MCS	- Mahiyangana Colonization Scheme
MP	- Member of Parliament
MPCS	- Navaajeewana ("New Life") Multi-Purpose Cooperative Society
pandol	- Decorative display used for a funeral
puranagama or purana village	- Those that predate modern settlement schemes
RM	- Resident Manager
RPM	- Resident Project Manager
shramadana	- "Gift of labor" (cooperative community work project)
SLFP	- Sri Lanka Freedom Party
tank	- Irrigation reservoir
yala	- Southwest monsoon season (April/May-August/September)
YFC	- Young Farmers' Club

{1} Mahaweli is a multibillion dollar irrigation, agricultural development, resettlement, and hydroelectric program that originated in the early 1960s. Since 1977, the Government of Sri Lanka has obtained massive donor support to allow a sharp acceleration of the program's pace: all major features are now scheduled to be in place by 1986. Mahaweli has operated under several names and structures. The current one, used throughout this evaluation, is the Mahaweli Authority of Sri Lanka (MASL).

MAP

1. INTRODUCTION

Sri Lanka in the mid-1960s had not yet experienced the economic difficulties that came to dominate the 1970s. Although per capita product was small and annual growth rates low, a solid structure of social services existed and impressive gains in conventional quality of life indicators were occurring. Today's infant mortality (32/1,000), life expectancy (69 years), adult literacy (87 percent), and population increase (1.8 percent) rates are well known to observers of modern economic development.

Government power had shifted several times from one political party to another since independence in 1948. Although policy changes accompanied those political changes, the basic national trend stressed equitable social and economic benefits for the ordinary citizen and gave less attention to economic incentives or stimulating economic growth. Public sector participation in the economy was increasing, but several large companies (since nationalized or no longer in Sri Lanka) still operated.

2. MAHIYANGANA COLONIZATION SCHEME

When the United National Party took power after the 1965 elections, it faced low national production and productivity and importation of large quantities of rice, its staple food. As one effort to stimulate agricultural production and involve the private sector in a "National Food Production Drive," the Government gave 12 private firms long-term special leases on undeveloped tracts of land in the dry zone along the right bank of the Mahaweli Ganga near Mahiyangana in central Sri Lanka. Among the firms were Carson Cumberbatch and Company; Moosajeys, Ltd.; Whittal Boustead, Ltd.; and the Ceylon Tobacco Company (CTC), Ltd. The other lessees undertook commercial agricultural production of one type or another on their lands, but CTC used its 1,000 acres to establish a new agricultural settlement called the Mahiyangana Colonization Scheme (MCS).

CTC is an 80-percent-owned member of the British-American Tobacco group headquartered in London. (The remaining shares, privately held in Sri Lanka and abroad, are traded on the Colombo stock exchange.) It enjoys overwhelming dominance of tobacco production and tobacco product manufacture in Sri Lanka. Rather than owning tobacco producing lands itself, the company provides tobacco smallholders with inputs and technical advice in exchange for buying their production at a guaranteed price. CTC's local reputation is that of a well-managed, progressive firm with a fair and effective symbiotic relationship with the tobacco producers.

CTC's leased land, Lot No. 12, was covered with thick jungle occasionally disturbed by chena (shifting slash-and-burn cultivation). Starting in 1966, the company cleared and developed some 527 acres, a little more than half of the tract. The developed portion lies in rough rectangular form stretching east from the Mahaweli Ganga. The river frontage is approximately 1,000 meters, and the northern and southern boundaries are about 2,500 meters long.

In describing its motives and intentions at MCS, CTC consistently stresses themes of social responsibility, charity, and participation in national economic development. We found no reason to doubt the sincerity of the company's statements on these points. Its ultimate goal, evidently, was to advance its own public relations and political position, a fact that CTC's officials freely acknowledge, yet the purpose of the project -- in AID terms -- is quite properly described as economic development (see Appendix D).

2.1 Project Description

2.1.1 Logical Framework

Drawing on our hypothetical logical framework, we state CTC's goal in MCS as follows: to reap broad public relations and political benefits for the company by offering a public demonstration of its corporate sense of social responsibility and willingness to make a direct contribution to national economic development.

We express its purpose as follows: to create a self-reliant, socially cohesive rural development settlement on 1,000 acres near Mahiyangana.

Establishing the project's intended outputs is more difficult because CTC did not have a detailed implementation plan, nor did it state in advance the outputs it hoped to realize or the length of time it intended to finance MCS. In the hypothetical logical framework, we have elected to show those outputs actually achieved as a step toward assessing the extent to which the purpose was accomplished.

Our effort to reconstruct CTC's implicit assumptions, especially for output-to-purpose and input-to-output linkages, is a key factor underlying the findings and analysis section that follows. A full appreciation of these assumptions is necessary to understand the effect of an operating policy that began by giving the settlers all essentials of life plus several nonessentials. A later series of ad hoc decisions changed the economic basis for many of these inputs or, in a few cases, withdrew them.

We consider these to have been CTC's principal implicit assumptions:

- That heavy early doses of free CTC inputs (commodities, services, supervision) would establish a setting that encouraged settler self-reliance and eventual self-sufficiency
- That CTC's support was to be limited (although expected cost and intended life of project were not clearly established)
- That the cost of achieving the desired end-of-project status would not exceed CTC's willingness to pay
- That any political difficulties MCS might encounter could be neutralized with the good will and political benefit anticipated from the project

2.1.2 Summary Project History

The physical work at MCS began in the second half of 1966 with the arrival of the first CTC staff. Jungle clearing and constructing their own offices and housing constituted the main early tasks (see Appendix C). The company's files from that period and interviews with those who served at Mahiyangana give the clear impression of a pioneering venture in which a frontier spirit of challenge and excitement prevailed among the professional staff. For instance, the Resident Manager at the start wrote delightful progress notes to the supervisory CTC office, exuberantly recounting daily successes and setbacks. The arrival of eight CTC trainees in February 1967, raising the staff total to 13, no doubt contributed to this ambiance. The trainees appear to have been enthusiastic young men eager to make their mark with the company.

CTC implemented the land clearing and building construction as well as reservoir and paddy field construction and paddy field leveling, with a combination of casual labor and contract services, both functioning under the supervision of its resident staff. The day labor, which came mainly from other parts of Sri Lanka, lived in Mahiyangana and was transported from and to the project site by CTC. At the peak of this effort, 200-300 workers held such employment.

By 1969, the land had been leveled, the roads laid, and CTC had begun house construction, using timber felled in the land clearing. The brick and cement houses were tile roofed and supplied with electricity from generators and pipe-borne water. For the paddy fields, at first worked communally by the laborers, CTC provided gravity irrigation from a tank (reservoir) to supply what later became 15 two-acre allotments. Fields destined to become the remaining 44 allotments received lift irrigation from the river, using two diesel pumps. Lined channels provided an independent supply of water to each field.

In 1969, CTC officials made a careful selection of settlers from among the laborers, emphasizing personal conduct, family background, the wives' commitment to work and resettlement, and occupation or special skills. All settlers were ethnic Sinhalese and about 80 percent were Buddhists. Initially 59 colonist families each received a house and 1 acre of highland. In 1970, each colonist household also received an individual 2-acre allotment of paddy land.

To help make the colonization scheme a self-sufficient community, CTC established several institutions to provide necessary services. At first, CTC wives and an educated female settler ran a day-care center for small children of mothers working on the communal lands. A school, built and furnished by CTC, was handed over to the Government in 1971, at which time day-care facilities ceased. The company also provided a building and initial stock of drugs and supplies for a dispensary and arranged for a Government medical officer to visit twice weekly. Throughout their involvement in the project, company officials provided emergency transport to the Mahiyangana hospital 8 miles away. CTC also established a community center, which housed a library and facilities for indoor and outdoor games and meetings.

In 1969 or 1970, CTC allocated a building for the Navaajeewana (New Life) Multi-Purpose Cooperative Society (MPCS), which was linked to a national cooperative network. The co-op arranged agricultural loans through the People's Bank; purchased paddy; provided agricultural inputs, textiles, and food; and housed a bakery and tea shop. Until the MPCS and the community center were fully operative, CTC transported settlers to Mahiyangana to buy vegetables and see films.

The physical work largely accomplished, CTC reduced its staff from a maximum of about 25 in 1969 to a minimum in 1973 of one field instructor, who became the officer-in-charge, and one person to operate the irrigation system. From 1973, CTC staff were spending about 75 percent of their time dealing with an adjacent 50-acre experimental farm leased that year from the Department of Agriculture for soybean seed production.

In 1975, electricity was withdrawn because of high fuel costs. Running water was also withdrawn in 1975 because settlers used the domestic water supply to irrigate their home gardens. The company assisted them in digging wells.

The MCS was officially turned over to the Mahaweli Authority of Sri Lanka (MASL) on August 1, 1980, when it became part of System C, Zone 2. The dispensary and community center buildings were appropriated for other purposes. MASL did not operate the lift-irrigation system, and the settlers were unable to bear the cost. Consequently, the majority of settlers were without irrigation water until 1983, when MASL's gravity-fed system was ready. The MPCS went bankrupt about 1981 and is now managed directly from the Mahiyangana Cooperative.

2.2 Project Impact: Findings and Analysis

Because CTC's project goal was outside the economic development domain, an analysis of the extent to which the company achieved that goal is beyond the scope of this impact evaluation. Suffice it to note that the MCS did generate favorable publicity. CTC officials today look back on the project as a public relations and political success. We leave to others any judgment of MCS's role in the company's success at avoiding nationalization, especially during the 1970-1977 Sri Lanka Freedom Party (SLFP) Government, an outcome that may also have been influenced by many other factors.

Although the MCS had a startling impact on the lives of the 59 colonists settled there, it is our definite finding that the project purpose was not achieved. Instead of developing into a self-reliant community eventually able to wean itself from outside support and become self-sustaining, the standard MCS pattern was that each settler depended heavily and individually on CTC. In 1980, they transferred that dependency to MASL.

In short, we found little evidence that the colonists developed elements of a self-reinforcing community with its own leadership and institutions, as opposed to a collection of individuals who happened to be settled near one another, despite 11 years (1969-1980) under CTC and 4 subsequent years under MASL. Some interfamily work groups (through intermarriage) and a general feeling of belonging to the landed gentry are the extent of any sense of community.

CTC did make certain paternalistic attempts to build settler institutions and leadership. We also detected some instances of colonist-generated community activity (see Appendix B). But the long-run result of all this has been nil. If any settler leadership or institutions, however generated, existed at any point in the past, they did not survive.

This means that no model emerged for others to follow. What remains from the experience are lessons to be learned.

The agricultural results that CTC achieved suggest that the company had a sound, implicit strategy for producing significant agricultural outputs and their consequent benefits. By organizing

inputs and providing high-quality technical assistance, CTC stimulated high yields, impressive income, and a generally good standard of living among the MCS colonists. What did not occur in the project was the crucial evolution from a collection of worthy outputs to the larger result -- the self-reliant settlement -- that would constitute purpose achievement.

The same is true of a great many other development projects. Why is Mahiyangana among them? One explanation is that although integrated rural development is complex, integrated rural development with resettlement is even more so. CTC's experience was with agricultural production, not rural development or resettlement. It did not have an evident strategy for achieving the self-reliant settlement that we considered to have been its project purpose. Although the CTC approach to agricultural outputs worked well, the ultimate purpose the company wanted was more a hope or vision than a concrete objective. The main attention went to project outputs rather than to planning and implementation actions that would lead to the end-of-project status suggested by the purpose.

We are not rash enough to predict that MCS's purpose would have been achieved had these serious shortcomings not existed. Many an exquisitely planned, exhaustively studied rural development project has also failed to accomplish its purpose.

2.2.1 Impact

The major physical impact made by MCS was the transformation of jungle into productive agricultural land. In the process, a small group of people acquired three assets of lifelong value: their housing, their land, and their knowledge of agriculture. Before MCS started, these people were mainly landless laborers; without the settlement, they might well be in the same condition today. Whatever subsequent vicissitudes life may have brought them, their gratitude for what they acquired from CTC is obvious.

CTC, then, transformed not only jungle but also human lives. Although it did not, in our judgment, transform them as much as it had once hoped to -- the self-reliant community did not emerge -- the beneficiaries did change radically. The project's impact on them was enormous and permanent. A benevolent, if paternalistic, institution intervened decisively in 59 families' lives by settling them on newly cleared land and spoonfeeding them with all necessary (plus some extravagant) support. CTC planned, organized, and orchestrated the settlers' activities in a way they had probably not experienced since childhood.

But a well-intentioned effort to endow them with everything they would need to achieve independence became the cause of an extraordinary degree of dependency. That dependency, the principal unintentional impact of the project, was fundamentally economical and psychological, although it also had social and institutional manifestations.

By its rapid phase-down of support in the early 1970s, CTC tried to lessen this unintended dependency. MASL, with its far larger, more remote, and less personal structure has also had an effect since the 1980 takeover. But the change appears to be limited to the physical fact that the settlers receive fewer goods and services than they once did. We were unable to detect basic changes of attitude or expectation among the farmers or development of settler-generated institutions that might seek to compensate for much lighter support. The psychological dependency has not changed, even though its physical fruits are now much less abundant.

2.2.2 Explanation of Impact

Our explanation of the main factors causing the economic, social, and institutional impact we found turns on two principal points. The first is the total change produced by CTC in the 59 farmers' style of life. Laborers who had come to Mahiyangana seeking a daily wage had applied for land, were carefully selected, and then had their destinies controlled by an organization that guided their every step toward a presumed future self-reliance. Second, CTC provided a degree of physical support and individual attention to problems that is possible only in a small model or pilot settlement (it is inconceivable in the Mahaweli program, for example, or any of its component systems). With the small number of farmers involved and the large staff and financial resources CTC provided, major impact was almost inevitable.

2.2.3 Sustainability

We have already noted the permanent economic character of the settlers' direct physical and skill endowments from MCS. These acquisitions, by their nature, have a sustained effect that should continue indefinitely.

Sustaining dependency, of course, is an entirely different matter. The real question becomes whether the MCS settlers' dependency can be undone. That dependency is alive and well more than a decade after CTC tried to stimulate independence by cutting back support. The irony is that CTC, in first trying to establish the colonists' independence through heavy support, created the massive weight of dependency that it later sought to lessen by the opposite tactic of decreasing services and supplies. Both approaches failed to produce the desired result.

Scaling back entrenched dependency may well be very difficult, but guarding against it from the start is feasible. In the conclusions, we offer suggestions for how CTC might at least have limited dependency among the MCS colonists.

2.3 Conclusions

CTC gave to its settlers enormous endowments that they likely would never have obtained otherwise. But the approach was strictly top down. The settlers neither participated in planning nor were they consulted along the way. Although MCS was intended to become a self-reliant settlement, it did not operate with the grassroots participation and investment that standard rural development doctrine considers essential for helping people feel that they have a say about their own destinies. It is not surprising that heavy dependency, as much psychological as material, was the result. (The details and ramifications of this problem are discussed in depth in the MCS section of Appendix B.)

In addition, the settlers were never told of any limits to CTC's support. This may have been due to CTC's own lack of a clear plan specifying limits to the nature or duration of its commitments. Such limits only began to emerge ad hoc, as the company became concerned about costs. The same lack of foresight led to lavish support in money and staff time, neither of which could have done much for community self-reliance, especially when settlers did not have to contribute labor or, until later, cash.

Another factor may have been the unusual nature of some of CTC's early services: household electricity and water supply; weekly transport to Mahiyangana for movies and other purposes; and the provision of meals, day-care, vitamins, and laundry services for school children. Because it is improbable that even a self-sufficient settlement could have maintained this kind of support for its members, the nature of some of the services enjoyed from the start could have inhibited later development of some independence.

As the farmers earned money from harvests, CTC might have tried to shift input supply to commercial sources other than itself. That would not have been easy, but any success could have helped to reverse the intense relationship with the company -- to all parties' advantage.

Would it be feasible today for a private firm, or any organization, to undertake an MCS-like project? Clearly not. We divided our reasons for this conclusion into two parts: those reasons that are unique to MCS or the prevailing situation (i.e., they would not or could not be repeated) and those that ought not, given the Mahiyangana experience, be tried again.

The first category includes the following reasons:

- MCS was unique because a private firm chose the settlers, installed them on allocated plots of land, and controlled irrigation. No one was able to cite for us, from the long history of settlements in Sri Lanka, another case in which the Government did not carry out those functions. No one considers that such a

happening would recur.

- Of the 59 MCS farmers, 44 depended for irrigation on water lifted from the Mahaweli Ganga and distributed through field channels by pumps. At pre-oil-shock diesel prices, CTC found this method feasible. Today it would not be; in fact, the first big price hike of 1972 was a major influence on the company's belated conclusion that some limits in project cost and time needed to be established. Meanwhile, maintenance and other operational costs had spiraled. At the time of the handover in 1980, a few months after the second huge fuel price increase, MASL discontinued lift irrigation.

Examples of the second category of reasons include the following:

- The cost¹ per settler, in money and staff attention, was much higher than development organizations could replicate. Expending as much money and time as CTC did is not unusual, but lavishing it all on 59 families is extraordinary and unlikely to be acceptable to rural development planners of the 1980s and beyond.
- Related to cost and to dependency versus self-reliance is the issue of the type and terms of support. CTC constructed expensive and well-meant, if unsuitable, housing and simply handed it over to the colonists. It furnished luxuries like electricity, trips to town, and laundering of school children's clothes. Only a most remarkable donor today would wish to assume such burdens with all their attendant complications.

2.4 The Future

It is certain that the ex-MCS settlers today will continue to take whatever they can get from MASL while expecting much more. What alternative might be suggested? With enough time and sufficient incentives, the private sector could probably assume virtually every agricultural service and input function in System C. If the Government of Sri Lanka wished to move in that direction, this would place the farmers in a direct business relationship with, ideally, many different, competing suppliers and buyers.

Normal government functions like education, health services, and road maintenance could remain the responsibility of regular line ministries under such a scenario, leaving MASL primarily to control irrigation water and maintain the systems that impound and deliver it.

All of this remains speculation. Were it eventually to occur, we assume that the agricultural side would correspond to

the original CTC vision and would constitute at least a sharp lessening of dependency. Services received from line ministries, provided they are generally similar to those available outside the MASL systems, should not encourage a settler to be more dependent than anyone else.

Water control and its system maintenance remain a special case. With all the complexity that this subject involves, not to mention traditional Sri Lankan practice, we see no reason to consider Government withdrawal either desirable or possible. That means accepting a certain minimum of dependency even under the best of all outcomes. As a corollary, the original CTC hopes for self-sufficiency -- at least for water management -- must be deemed unrealistic.

{1} CTC spent about Rs. 9.7 million or, converted at the prevailing exchange rates over the life of the project, about \$1.4 million. Income from MCS amounted to about Rs. 2 million, leaving a net cost of Rs. 7.7 million. See Appendix A for details.

3. MAHAWELI SYSTEM H, BLOCK 9

3.1 Project Setting

After the 1977 elections, the new United National Party Government resolved to accelerate implementation of Sri Lanka's vast Mahaweli irrigation and rural development program. Western donors responded with large amounts of financing intended to compress a 30-year construction and development plan into 6 years. The current estimated date for having all structures in place and operating is 1986.

Mahaweli's System H with its many blocks lies in the dry zone south of the former royal capital, Anuradhapura, in central Sri Lanka. Incorporated into System H are certain earlier settlement schemes, namely H-6 and H-8. By contrast, H-9 is a "new" block, new in that land development took place in 1977-1978 and the settlers were installed in 1978-1979 on allocations of 2 1/2 acres of irrigable land and 1/2 acre of highland. An estimated 70-75 percent of these people are not new to H-9. They were there earlier under a variety of traditional arrangements, with Government land use permits, or as squatters. Some of them, under Mahaweli, lost the use of much of the land they had been farming before; many others gained from Mahaweli's allocations. There remains a considerable distinction between the old, settled (purana) villages and those inhabited by arrivals from outside System H.

The CTC functioned in H-9 from yala (Southwest monsoon season) 1979 through yala 1983 as a management agent for MASL. The arrangement, conceived informally between top officials of

the two organizations, got underway quickly, perhaps because it was not preceded by negotiation of a detailed written agreement or contract. Indeed, no such formal agreement was ever drawn up, to our knowledge, leaving ample room for many subsequent disagreements and misunderstandings. CTC believed it had responsibility for agriculture extension and input delivery, the credit system, and agricultural marketing. Unlike the others, marketing was not an exclusive CTC function, because private traders already operated in H-9. Nevertheless, CTC began marketing, agreeing to buy whatever the farmers offered to them for sale, and then earned revenue on the resale.

MASL appears to have been seeking a private sector management model for some or all aspects of Mahaweli development. To that end, the CTC deal served as an experiment in using a private firm to manage public development -- or a part of it.

Although CTC seems to have entered this venture willingly, there is ample evidence of their caution, based mainly on the MCS experience. The company from the start wished to earn something from its H-9 involvement or at worst not to lose money. The implicit MCS lessons appeared to be the following: (1) stay out of colonization -- it is a Government matter; (2) concentrate on CTC's own strength, namely production and marketing; (3) avoid capital costs; and (4) seek revenue opportunities to offset all operating expenses. This time CTC desired to demonstrate its management capacity as a development partner with the Government and to enjoy public relations and political benefit from the venture, but it did not want to incur any net costs in the process.

The policy climate of the late 1970s turned on economic liberalization, as the Government sought to stimulate a long-stagnant economy by encouraging private-sector commerce. In such an atmosphere, and being clear on its own principles, CTC agreed to proceed on nothing more than a general oral understanding.

3.2 Project Description

As with MCS, we constructed a logical framework for H-9 (see Appendix D) in the 1979-1983 period, which represents our best judgment of the intentions lying behind MASL's and CTC's actions.

3.2.1 Logical Framework

We considered that the two organizations shared the following goal: to test whether an enduring relationship can be established among a public development authority, a private firm charged with certain management responsibilities, and the

affected farmers. That relationship should advance Government development objectives and simultaneously offer a reasonable financial return to the company and the farmers.

The purpose, though, diverged somewhat:

MASL	CTC
To develop an innovative management model in which a private company successfully fully assumes responsibility for as many aspects of an integrated rural development settlement scheme as possible	To demonstrate its development management capacity in H-9 while (a) realizing a net financial return and (b) generating favorable public relations and political mileage for the company as a partner in national development

As with MCS, our statement of outputs essentially amounts to those actually achieved.

Along with the operating principles listed earlier, we believe that CTC was working from several implicit assumptions in H-9:

- That its marketing functions, along with any agro-industrial activities it could develop, would eventually produce enough revenue to offset all expenses and preferably to yield a profit
- That MASL would construct, maintain, staff, and finance all aspects of H-9 development apart from agricultural extension, inputs, credit, and marketing
- That CTC and MASL could develop a mutually satisfactory working relationship on key MASL-controlled activities that directly affect agricultural production -- principally irrigation water management

3.2.2 Summary Project History

At project inception in yala 1979, CTC provided agricultural inputs including tractors and seeds, supervised and trained farmers in cultivation methods, arranged bank credit, and purchased crops at guaranteed prices. CTC installed a project management staff for which no reimbursement from MASL was requested. MASL retained responsibility for community development, water management, and extension staff. It also selected farmers and settled them while paying for irrigation construction, buildings, and fencing.

Within months, CTC discovered that its costs were outrunning its marketing revenues. The company's 1980/1981 budget projected expenditures of Rs. 970,625/- versus income of Rs. 237,388/-, leaving a deficit of Rs. 733,237/-. Subsequently, CTC negotiated an annual Rs. 700,000/- management fee from MASL.

The divided loyalties created by the informal management arrangement soon became a subject of discussion between CTC and MASL. CTC indicated willingness to assume responsibility for community services, water management, and irrigation system and road maintenance. CTC's records at one point even show August 1981 as the date fixed for takeover of water management. The company was also prepared to accept some association with the health volunteer program and supervision of the construction of wells and latrines. Although in the end MASL did not relinquish formal responsibility for community development and water management, part of the management fee paid to CTC for the quarter commencing April 1, 1981 was to cover direct expenses of staff salaries and traveling connected with water management and community development.

Although CTC never had formal water responsibility, the company did intervene with MASL authorities on behalf of farmers to ensure the timely supply of irrigation water. CTC's Resident Project Manager from 1980 to 1983, Mr. N. Wijewarnasuriya, held the basic view that farmers' problems were also CTC's problems and must be solved. He believed that CTC should assist MASL in the field with water management and urged greater CTC involvement in community development. In January 1981, CTC hired a community development officer, and the corporate plan for 1982 included community development as one of the key areas.

While liaison continued between CTC and MASL on their programs in H-9, the company undertook its own community development efforts that were natural outgrowths of work in agricultural extension and crop diversification. The most successful were the Young Farmers' Clubs (YFC) and a Home Garden Competition, both started by mid-1982. By mid-1983, there were 12 YFCs, which cultivated demonstration plots; offered training programs and educational tours (e.g., to the Victoria Dam); organized shramadana-s ("gifts of labor") to accomplish agricultural work and community projects; established libraries; undertook charitable and religious functions; and participated in interdistrict youth exchanges.

The Home Garden Competition attracted 600 competitors from the more than 2,000 households in H-9. In preparation, CTC instructed the farmers in cultivation practices and sold seeds and seedlings. The YFCs organized entertainment for the prize distribution in May 1983, an event that attracted 3,000 spectators and resulted in three radio broadcasts.

In March 1983, CTC founded four Farmer Development Societies as a pilot project to strengthen farmer participation in the hamlets and turnout groups. Each group included separate subcommittees on agriculture, health, culture, and religion. These groups carried out only a few activities before MASL assumed all of CTC's extension, credit, and community development activities in August 1983. With CTC's operations subsequently limited to marketing, the Young Farmers' Clubs and Farmer Development Societies have ceased to function.

3.2.3 Termination of CTC's Services

In 1982-1983 other factors developed that influenced the decision to end CTC's services, even though they had little or nothing to do with CTC's performance or the farmers' assessment of it. Land hunger is acute in H-9. Especially among certain purana villagers, dissatisfaction persists over the number of land allocations per family. Some of these people controlled the use of more land under pre-MASL arrangements than they do now. Others have family circumstances (several adult children) that make getting more MASL allocations imperative.

CTC operated a seed and papaya farm along with its local headquarters on a 100-acre tract assigned by MASL. Villagers who wanted land saw this tract as offering some relief if MASL could be persuaded to reallocate it to their relatives. However, a local political leader also wanted those 100 acres as a site for settling new arrivals from outside System H. Political pressure grew and was stimulated by petitions asking MASL to remove CTC from H-9, essentially on grounds that it exploited the farmers as colonial trading companies had.

No farmer we talked to, including those whose names appeared on a petition, raised economic exploitation complaints. Several made plain their families' land hunger. Some farmers who said they had signed petitions claimed ignorance of the exact contents but felt that signing might be helpful in obtaining more land. Our assessment of the format, style, and substance of the petitions we saw is that they probably did not originate from the grassroots.

The one agreed-on reason for the mutual parting of MASL and CTC is money. Neither party was happy with the Rs. 700,000/-management fee: MASL because it was too much and CTC because it was too little. Many other factors were also involved, and we sense that some of them may have been much more important. But there is no doubt that both sides were ready and willing to end the arrangement in 1983.

3.3 Project Impact: Findings and Analysis

H-9 is a far more complex proposition than MCS was. The sheer magnitudes are entirely different: 2,122 families on a maximum of 4,601 acres (during yala) and 7,507 acres (during maha) compared with 59 families cultivating 177 acres. The simultaneous presence of two organizations in H-9, each responsible for certain functions, would be difficult enough to assess under the best of circumstances. When in fact the duties of the private firm and the public authority were never specifically delineated -- leading to a welter of interpretations about who was supposed

to do what and even who was doing what -- retrospective analysis becomes most complex.

Nonetheless, it is generally clear that the H-9 project did not realize the goal we have ascribed to it on behalf of MASL and CTC. And neither MASL's purpose nor CTC's, as we have described them, was achieved. Impact there was, to be sure. But we remain skeptical that the 1979-1983 experience caused long-run impact. If it did, that impact certainly cannot be measured only a year after the fact.

Because the goal was "to test whether ...," one might argue that a negative outcome realizes as much as a positive one. We could agree, if circumstances had offered a full and fair test of the proposition. They really did not, in the absence of a specific written agreement on functions between MASL and CTC. We call that a failure to lay normal groundwork for a real test rather than a goal realized in the negative.

MASL did not achieve its implicit purpose of developing an innovative private sector management model. No such model emerged; if anything, the outcome suggests the extreme difficulty of trying to accomplish such a purpose. In the end, the Government abandoned the attempt far short of what we believe it originally sought.

CTC had some, although certainly only partial, success with its ascribed purpose. It did demonstrate a capacity to manage those development functions it believed were expected of it. But it lost money in so doing, even after MASL agreed to pay a management fee. Some public relations and political benefit probably accrued to CTC from its participation, although this surely was offset at least in part by serious misunderstanding of its H-9 role and by the confusing circumstances associated with the termination of its management functions in 1983.

3.3.1 Impact

The CTC period had two principal impacts on the immediate beneficiaries of the project, the H-9 settlers. First, it offered a high-quality, well-organized, responsive agricultural extension system that achieved measurably better paddy yields than in other H blocks or island-wide. Second, it stimulated high-value crop cultivation in yala, especially of chilies. Both impacts raised farmers' income over this 4-year span.

An unintended benefit is that water management, according to the settlers, was better in the CTC period than it is now, even though CTC had no responsibility for it. The reason, we were told, is that CTC's field officers regularly intervened with MASL authorities on behalf of the farmers when water problems arose. Without such an intermediary today, said the farmers, water management is noticeably less efficient.

Unlike our MCS findings, it seems doubtful that the 4-year CTC presence will have long-term social or economic impact in H-9. From the start, the structure was MASL's. CTC's work concerned a very important but by no means the only set of activities affecting the beneficiaries. Judging long-range social and economic impact just a year later is presumptuous anyway, but our guess is that in the longer history of the Mahaweli program CTC's relatively brief management of H-9 will not bulk large. A corollary conclusion is that the short-run impact mentioned is certainly not self-sustaining at this stage. For it to be maintained at all, MASL will have to step up its extension quality and intensity considerably.

The policy and institutional impact of the CTC experience in H-9 occurred within the MASL itself. Not only did MASL reach the decision to end CTC's management functions, it now appears to have moved past the stage of wishing to seek any private sector involvement in development management. Regardless of how well or poorly the H-9 CTC experience served as a test of private sector management, we gained the distinct impression from Mahaweli officials that this type of collaboration with private companies is just not feasible anymore. MASL now seems to regard traditional development functions as proper only for Government management. H-9 today is being run by MASL like any other Mahaweli block, and there is no present likelihood of that changing.

Our basic finding is that the impact of CTC's H-9 experience is probably only short run and is likely limited to rather specific yield and income results that will have little or no sustained effect. The effect on the Government's policy and institutional approaches is probably also a fairly limited and specific one. From the broad MASL viewpoint, Block H-9 is not a large, important, or high priority concern. Many other factors could have influenced the MASL conclusion that interest in private sector management of development should become a thing of the past.

3.3.2 Explanation of Impact

1. CTC had a positive economic impact on the settlers because it provided good agricultural services. Its water management interventions with MASL were successful. From these impacts flowed the income benefits to the farmers, however short-run they may turn out to be. Despite other problems, agricultural production under CTC did work well.

2. The lack of a detailed, written agreement of CTC's functions in H-9 prevented the experience from becoming a full test of private sector development management. It probably helps explain the highly ambiguous reaction toward CTC that we found throughout the MASL bureaucracy. Having no agreement also hampered CTC's effectiveness and doubtless contributed to MASL's current view that private sector management is not desirable.

Thus, in the policy and institutional sense, CTC's H-9 stewardship did not meet MASL's or CTC's expectations and had an unintended impact in other undesirable ways.

3.4 Conclusions

1. CTC succeeded in showing that it is possible for a private firm skilled in commercial agriculture to transfer those skills to the agricultural extension, credit, and marketing needs of H-9. Two conclusions within this finding are that (a) farmers do respond to good technical assistance and strong encouragement by investing in higher risk, more profitable crops, and (b) once CTC's functions were assumed by MASL, farmers clearly became dissatisfied with the quality and quantity of the extension services they received.

2. Given CTC's relatively brief tenure in H-9 and the short time since its departure, it is impossible to assess whether there has been or will be any long-term impact on H-9's agriculture. As far as we can tell, CTC's organizational and institutional activities (e.g., Young Farmers' Clubs) had no lasting effect.

3. Water management in H-9 is less effective today than it was during the CTC period, although CTC was never responsible for it. The reason is CTC's paternalistic intervention with MASL on behalf of the farmers when water problems occurred. It also appears that CTC counseled the farmers on such matters as cleaning the water channels near their fields.

4. The lack of a detailed written agreement between MASL and CTC that spelled out the latter's duties and reimbursements clearly meant that division of responsibilities was not well delineated between the two organizations. The lines of authority were also unclear. Dual responsibility is difficult under the best of circumstances, and these circumstances were far from the best.

5. Relative to other nearby System H blocks, MASL neglected the nonagricultural aspects of development in H-9 during CTC's tenure there. This contributed to greater misunderstanding of CTC's effectiveness and MASL's motives. Had MASL done as much in H-9 for community development and social services as it did elsewhere, CTC might not have attempted anything in those fields and a de facto delineation between the two organizations would have become more evident.

4. LESSONS LEARNED

Rather than being startling or extraordinary, the main lessons of these projects merely reinforce what common sense and

development experience have already taught. Because donors persist in relearning these lessons, they are well worth pondering once again.

1. Projects should be planned and documented in advance. For Mahiyangana, a few people at the top of CTC had a vision of what they wanted. But the vision was not shared with CTC's operational staff or the settlers, nor was it committed to paper to our knowledge. This vision of MCS was based on many implicit assumptions. Reducing it to writing could have stimulated much closer scrutiny of those assumptions. Lacking the participation of lower CTC staff or the settlers, an essential element was missing that might have improved chances for achieving a self-reliant community.

2. Great endowment breeds great dependency. This lesson is drawn particularly from MCS. It appears clear that CTC's lavish support of the MCS colonists and its paternalistic, top-down management were not the right approaches for guiding the settlement to self-reliance. It may not follow that light support will breed slight dependency, but it does seem clear that some judicious combination of limiting support to the real essentials, requiring settler contributions, and drawing the farmers into participation and self-management is the only hope for promoting self-reliance. Principles like the following might lead to more realistic expectations among the settlers:

- Set specific limits to support, in advance, and make them well known.
- Require settlers to contribute labor and -- once harvests are being marketed -- money.
- Be sparing in cost and direct staff attention.
- Avoid unusual or expensive support, especially that which individuals or rural communities could never hope to provide for themselves.
- Encourage but do not direct or dominate farmer organizations like YFCs and water user associations.
- Try to move toward placing agricultural inputs and services in private hands, encouraging a business relationship with farmers.

3. Donors and agents do best what they know well. CTC did well at Mahiyangana when it was extending agricultural services similar to those it makes available to tobacco small-holders in its normal commercial operations. This means managing the flow of inputs and credit, offering technical advice in the farmers' fields, and marketing their produce. CTC does this successfully for tobacco; at MCS it did the same successfully for paddy and high-value food crops.

As for the rest of the scheme, CTC entered a domain in

which it had no experience and the results proved far less satisfactory. These ran the gamut from activities like water management, for which the outcome was reasonably adequate until oil prices leaped, to nondisabling mistakes like inappropriate housing, to unsustainable services like domestic electricity and water or the benevolent personal touch for shopping excursions and child day care. Here is where the project bogged down, as CTC, the agricultural commercial success, demonstrated itself to be less than adept at settlement and social services management.

The conclusion is similar for H-9 though less clear because responsibility for social services was not spelled out plainly. Moreover, CTC appears to have learned from its social management experience at MCS.

APPENDIX A

ECONOMIC AND AGRICULTURAL ANALYSIS

1. THE MAHIYANGANA COLONIZATION SCHEME

1.1 Project Area Description

Average annual rainfall (see Table A-1) at Mahiyangana, in Sri Lanka's dry zone, is 2,292 mm (1960-1977 average), occurring during two distinct seasons: the maha rainfall (October-January) comes from the northeast monsoons and accounts for 60 percent of total precipitation; the yala season (April-August) gets rain from the southwest monsoons. Even with 1,375 mm of rainfall during maha, its unpredictability warrants irrigation, whereas only limited cultivation of paddyland is possible without irrigation during yala.

Table A-1. Mahiyangana Colonization Scheme
Rainfall, 1960-1977
(inches)

Year	Amount	Year	Amount
1960	110.69	1969	101.11
1961	106.01	1970	92.37
1962	93.23	1971	105.73
1963	106.77	1972	78.62
1964	86.74	1973	85.31
1965	102.35	1974	65.55
1966	91.05	1975	67.05
1967	84.25	1976	92.54
1968	64.97	1977	89.79

Average (1960-1977) 90.23 inches
(2,292 mm)

Source: MCS records.

There are two main types of soils in the region: poorly drained low-humic gleys, suitable for paddy cultivation, and reddish brown-earths, which are better drained highland soils more suitable for pulses, cereals, and vegetables.

1.2 Project Agricultural Components

The Ceylon Tobacco Company (CTC) undertook a comprehensive program of integrated rural development. Its agricultural components are described in the following sections.

1.2.1 Irrigation Works

An engineering feasibility study conducted by the firm of Research Engineering International concluded that the most economical technical solution to providing irrigation for paddyland was to divide the area into gravity-fed and lift-irrigated areas. A reservoir with catchment area provided water to irrigate 30 acres. Two 8-inch Sigmond pulsometer diesel pumps lifted water directly from the Mahaweli and diverted it along main channels, irrigating another 88 acres of paddyland. A third pump and distribution channels to irrigate 50 acres were installed in 1973 on adjoining land leased from the Department of Agriculture for a CTC research and seed production farm.

1.2.2 Introduction of Cropping Systems

In the project's first settlement year (1969), settlers were given 1 acre of highland but cultivated paddyland communally. In 1970, this communal area was divided among the 59 colonists, each receiving a 2-acre plot, which brought the total belonging to each family to 3 acres.

Colonists followed a paddy-to-paddy rotation on the irrigated low-humic gleys soils. Depending on the availability of water, they also included chilies and soybeans on the drier portions of their paddyland during yala. The highland allotment was devoted to a variety of vegetables, pulses, and tree crops. CTC gave each colonist coconut, citrus, and mango tree seedlings; banana suckers; and a variety of other trees such as breadfruit and jak, now full-grown and producing well.

Although paddy cultivation is largely the male head of household's responsibility, with women contributing labor at transplanting, weeding, and harvesting times, the upland

gardens are primarily tended by women. In addition to the tree crops, chilies, plantains, soybeans, green and black gram, and tomatoes are grown on the uplands during maha and yala for family consumption and sale.

1.2.3 Input Delivery, Credit, and Marketing

CTC introduced a credit scheme at planting times to finance high-quality seed (mostly from the CTC farm), fertilizers, and herbicides. Credit in cash was also given for labor, calculated on standard piece-work rates. Although these inputs were supplied through an "independent" farmer cooperative, CTC remained in control through their local manager, who served as cooperative president until 1975.

Loan recovery was consistently over 90 percent; because CTC was the buying agent for the official Paddy Marketing Board, it simply deducted the cost of inputs plus other credit from the farmers' proceeds at harvest time.

1.2.4 Extension

The extension model used successfully by CTC with tobacco growers was implemented, with similar positive results. Colonists received intensive classroom and individual training in the art of growing paddy. Bimonthly classes were held throughout the year, with additional sessions called prior to land preparation, fertilizer and herbicide application, harvesting, and post-harvest. After 1974, classes were discontinued, but individual field visits were conducted on an as-needed basis.

1.2.5 CTC Farm

In 1973, the Department of Agriculture asked CTC to grow certified soybean seeds on contract, leasing to the company a 50-acre tract bordering the original 1,000 acres, which played the role of research and seed production station for CTC. Acreage under soybean cultivation fluctuated between 18 and 35 acres, depending on the Government's requirements; other crops grown and marketed by CTC included paddy (mostly for seed), gingelly, sugarcane, sunflower, and tobacco (as certified seed). From the outset the farm was a lucrative operation, meeting an 80-percent profit and providing employment throughout the year to settlers.

Although the precise role intended for the CTC farm in technology development and transfer is unclear, experimental results reached the farmer quickly. CTC conducted a wide range of agronomic and varietal trials -- especially rice varieties obtained from the International Rice Research Institute -- on the farm and even considered growing pumpkins and stocking fish in the

reservoir. Once the research/seed production station was established, CTC broadened varietal trials to include not only rice but vegetables and legumes as well. Quality seeds produced by the farm were distributed to farmers.

1.3 Project Implementation

In brief, jungle clearing, land preparation, and layout of the irrigation channels were completed by December 1969. CTC did nothing hastily or sloppily; for example, the layer of topsoil was carefully removed and heaped to the side before land leveling was done, then replaced prior to planting, assuring high yields in the early years.

The 59 settlers, selected by application from a pool of over 200 laborers on the basis of strict criteria, moved into their finished Israeli-designed brick homes in 1969. At least three settler families owe their land to the woman's skill as an agricultural laborer.

Electricity and domestic water supply were installed at the outset, and minimal user fees were charged. Service was curtailed in 1973 because of increases in the cost of operating the diesel generators. (For at least the next 4 years, CTC staff also lived without electricity in their homes.) Domestic water supply was replaced by wells in 1975 when water abuses, such as use of faucet water to irrigate upland crops, led to pipe breakages, leaks, and other problems.

The 1969-1970 maha season was the first cultivation season; during the next maha season, paddy land was turned over to the colonists. By 1973, CTC believed that farmers knew how to farm and concentrated its efforts on the profit-making CTC farm. Certain incentives to motivate farmers, such as Outstanding Farmer competitions (Goviraja), continued.

By 1976, CTC considered the costs of running the colony to be exorbitant. User charges for irrigation facilities, first introduced around 1972, had jumped 133 percent by 1979, but receipts still accounted for only a fraction of the cost of diesel required to operate the pumps. CTC investigated the possibility of enlarging the tank to provide all colonists with gravity-fed irrigation. The completion of the engineering appraisal coincided with increased Government interest in seeking financing for its Accelerated Mahaweli Development Program, which would incorporate the Mahiyangana Colonization Scheme (MCS) into System C, so CTC did not pursue the matter.

1.4 Agricultural Benefits

The major project benefit was increased farmer incomes from sale of paddy surplus, employment opportunities on the CTC farm,

and other productive investments.

1.4.1 Paddy Yields

The relatively high yields of paddy (see Table A-2), all the more remarkable in that theoretically none of the selected colonists had been landowners or had much experience in farm management, can be attributed to three factors: (1) an extremely motivated, well-trained extension unit that supervised activities and insisted on discipline and careful farm management practices by its farmers; (2) an efficient input delivery system, supplying high-quality seed and other inputs on a timely basis, adequate credit, and assured marketing by CTC; (3) a research/seed production station serving as a fresh source of improved and successful varieties and agronomic practices.

Table A-2. Mahiyangana Colonization Scheme
Paddy Yields, 1969-1976

Year, Season	Total Yield{a} (bushels)	Average Yield (bushels/acre)	CTC Farm Average Yield (bushels/acre)
1969/70, maha	-	-	-
1970, yala	-	-	-
1970/71, maha	6,175	52	-
1971, yala	6,390	54	-
1971/72, maha	8,601	73	-
1972, yala	8,914	76	-
1972/73, maha	8,170	69	-
1973, yala	9,903	84	61
1973/74, maha	8,245	70	107
1974, yala	7,342	62	51
1974/75, maha	8,800	75	114
1975, yala	5,300	45	104
1975/76, maha	8,953	76	117
1976, yala	8,150	69	113

{a} On colonists' farms only (118 acres).

Source: MCS records.

1.4.2 Employment

The CTC farm was mentioned repeatedly by farmers interviewed as a major source of income lost once CTC terminated its involvement in Mahiyangana. Although exact numbers of casual

laborers employed are not available, project personnel estimate that 60 percent of MCS families had at least one person on the CTC payroll. In the early years, CTC hiring policy gave preferential treatment to colonists; however, they found that some colonists neglected their own fields. CTC then imposed a strict system whereby employment on the farm was contingent upon the applicant's having properly completed work on his or her own fields. According to the local manager, CTC employed an average of 40 laborers a day -- more during peak periods of transplanting, harvesting, and weeding. Excluding wage earners such as service unit personnel or caretakers, CTC paid at least Rs. 64,000/-yearly to the casual laborers who were MCS colonists.

Women colonists interviewed bemoaned the loss of income most frequently. In fact, the CTC farm did employ many more women than men because "women are better at weeding and transplanting than are men," according to the local manager.

1.4.3 Investments

As settler savings increased, so did settler investments. Signs of settler well-being include radios, motor bikes, home improvements, and even one portable television set. Productive investments include two small stores, poultry raising (highly risky because chickens are apparently a favorite food of the large Mahiyangana snake population), work oxen, and milk cows.

Some settlers, especially those with access to household or hired labor, have leased out or entered into sharecropping arrangements with less motivated colonists or have encroached on Government lands and are reaping the benefits of cultivating an extra acre of paddyland.

An unquantifiable but clearly important source of family -- especially women's -- income is the highland. Not only do highland allotments contribute to improved family nutrition, but sales of plantains, chilies, and soybeans can bring considerable sums. Their importance was highlighted during 1980-1983, the interim years between CTC withdrawal and full Mahaweli Authority of Sri Lanka (MASL) startup, when the majority of farmers lacked water to cultivate their paddyland during yala. Highlands are also important for widows and other women whose husbands are not primarily involved in farming. Women interviewed said that the income they earn from the sale of upland crops is used, in order of importance, for medications, clothes, and school supplies.

1.5 Project Costs

The CTC's total expenditure on the MCS during 1967-1980 was about Rs. 9.7 million. Total company income from MCS, including the CTC farm, for the same period was approximately Rs. 2 million, for a net life-of-project loss to the company of about

Rs. 7.7 million. Figures are exact until March 1978. For the last 2 years, the amounts are not verified by the CTC accountant (see Table A-3).

It is impossible to compare actual company expenditures with projected ones because no such planning documents were formulated. In early correspondence (1967), it appears that the company expected to spend approximately Rs. 3 million (1967-1971) in capital expenditure to establish the colony, offset in part by Rs. 602,000/- income. No longer range cash flow analysis appears to have been done by CTC.

Total startup expenses, including land clearing and preparation and construction of roads and irrigation facilities, largely completed by 1970, were Rs. 3,355,908/- (see Table A-4). Settler houses, equipped with electricity and running water, completion of irrigation facilities, and purchases of heavy farm machinery brought the total capital expenditure to Rs. 5,000,000/- by late 1971.

1.5.1 A Cost Comparison

By contrast, Table A-5 outlines the main categories of project costs for System H, Mahaweli Ganga Development II in another part of Sri Lanka. The total cost per family is US\$3,150. Even adding very large-scale headworks and other construction, the System H per family cost was less than half of MCS' startup expenses, using 1970 prices for the latter. Clearly MCS suffered from its small scale and difficult access to Colombo.

Until 1973, with the startup of the CTC's MCS farm, the company received only negligible income, mostly from rent charged to permanent laborers and from minimum charges for electricity and domestic water levied on the colonists. The user charge for irrigation was introduced in 1972.

Table A-3. Mahiyangana Colonization Scheme Costs, 1969-1980

Year	(1) Expenditure (Rs. 1000s)	(2) Exchange Rate	(3) Costs (US\$1000s)	Price Index	Costs in 1980 Prices (US\$1000s)	Costs in 1980 Prices (Rs. 1000s)
1969	3,279/00	5.95	551.09	4.60	2,535.01	15,083/40
1970	1,347/66	5.95	226.50	4.56	1,032.84	6,145/33
1971	552/48	5.95	92.85	4.32	401.11	2,386/71
1972	336/65	6.00	56.11	4.20	235.66	1,413/93
1973	847/20	6.50	130.34	3.50	456.19	2,965/20
1975	673/57	7.05	95.54	2.92	278.98	1,966/82
1976	188/45	6.45	29.22	2.70	78.89	508/82

1977	656/25	9.15	71.72	2.51	180.02	1,647/19
1978	604/92	15.61	38.75	1.85	71.69	1,119/08
1979	474/31	15.57	30.46	1.37	41.73	649/80
1980	757/84	16.30	46.49	1.00	46.49	757/84
Total	9,718/33		1,369.07		5,358.61	34,644/14
Cost Per Settler Family					90.82	587/19

Note: Budgets were not available for calendar year 1974.

Source: (1) Reconstructed from CTC balance sheets.
(2) (3) Audit of Mahaweli program, World Bank (IBRD), 1980.
Table A-4. Startup Costs per Settler Family,
Mahiyangana Colonization Scheme

Item	Cost in 1970 (Rs.)	Cost in (US\$)	Cost in 1980 US\$	Cost per Family (1980 US\$)
Land Clearing, Preparation	343,140	57,671	262,980	4,457
Roads	10,644	1,789	8,158	138
Timber Extraction	50,000	8,403	38,318	649
Irrigation Works	522,000	87,731	400,053	6,780
Transport	243,237	40,880	186,413	3,160
Agricultural Equipment	1,083,887	182,166	830,677	14,079
Salaries	500,000	84,034	383,195	6,495
Settlement Cottages	486,000	81,681	372,465	6,313
Water	80,000	13,445	61,309	1,039
Electricity	37,000	6,219	28,359	481
Subtotal	603,000	101,345	462,133	7,833
Total	3,355,908	564,019	2,571,927	43,591

{a} See Table A-3 for exchange rate and price calculations.

Source: CTC records.

Table A-5. Startup Costs per Family, System H

(in 1976 dollars)

Component	Cost per Family
Irrigation and Land Development	2,240
Production Support{a}	460
Social Infrastructure{b}	305
Settlement	125
Technical Assistance	20
Total	3,150

{a} Includes research, extension, farm equipment, storage, processing, and roads.

{b} Includes schools, medical facilities, wells, and community development facilities.

Source: Appraisal of Mahaweli Ganga Development Project II, World Bank (IBRD), 1976.

The CTC farm proved to be a profit-making enterprise from the outset. In 1974-1975, it netted Rs. 128,750/-; in 1975-1976, Rs. 191,200/-; and in 1979-1980, it made a Rs. 186,600/- profit. Certified soybeans grown under Department of Agriculture contract were an especially profitable crop, with a 100-percent profit margin.

The farm's positive ledger, however, was hardly sufficient to offset MCS expenditures. For example, in 1974-1975, MCS expenditures were Rs. 435,470/-; MCS income was Rs. 22,000/-, for a loss of Rs. 413,470/-. Total losses for CTC, including the farm, were Rs. 284,720/-.

The single most important cause of the project's increasing negative balance sheet was the soaring price of petroleum products. The original design of the lift-irrigation scheme had assumed a constant low price for petroleum, oil, and lubricants (POL). Instead, the cost of petroleum on the world market increased enormously. Because of the complicated system of Foreign Exchange Entitlement Certificates, CTC paid a premium of 65 percent over world prices for its oil imports. Table A-6 shows the rapid increase in the POL cost of operating the two pumps that irrigated the colonists' 118 acres.

From 1974/1975 to 1979/1980, the cost of POL to CTC rose by 515 percent. The big jump occurred during the 1977/1980 period when diesel fuel rose from Rs. 5/65- a gallon to Rs. 21/- a gallon.¹

By 1980, the aging pumps, generators, and other equipment

needed close attention and frequent repairs. Maintenance and repair costs also rose.

As stated earlier, CTC commissioned an engineering firm in 1976 to investigate the possibilities of enlarging the tank to provide all 118 acres with gravity-fed irrigation. The estimated cost was approximately Rs. 500,000/-, but events in Colombo regarding Mahaweli preempted any need to invest further in MCS.

1.5.2 Cost Recovery

During the 5 years when colonists were provided with running water and electricity, CTC charged a nominal fee of approximately Rs. 165/- a year. As the cost of providing these services increased, CTC did not believe it could pass on a larger percentage. When the colonists grumbled at having to pay any fee, as indicated in file correspondence, service was discontinued. When the water fell apart, CTC replaced them with 15 wells.

User charges for irrigation facilities were Rs. 150/- per season from 1972 to 1974, when differential rates were imposed according to lot placement. The 44 colonists on pump irrigation continued to pay Rs. 300/- per year, whereas gravity-fed user rates decreased Rs. 150/- per year. For the 1979-1980 seasons, charges reached Rs. 700/- per year for pump users. Table A-6 shows user charges as a percentage of POL cost.

1.5.3 Tax Benefit

Because project costs to the company far outweighed the financial benefits, one can wonder why CTC continued financing the scheme. One possible answer is that the tax writeoffs allowed the company for its heavy losses in capital expenditure lessened the financial impact, perhaps making its continued involvement more attractive. However, the answer for continued subsidy appears to be linked particularly to the company's original goal in undertaking the scheme, that is, public relations. This public relations effort cost CTC an outlay of Rs. 7 million in nominal rupees over 14 years.

Table A-6. Irrigation Costs:
Mahiyangana Colonization Scheme, 1974-1980
(in thousands of rupees)

Year	Main Petroleum, Oil, Lubri cants{a}	tenance and Repair{b}	Total Cost/ Cost	Acre	Cost	% Cost	Recovery	Recovered

1974-75	47	72	119	1.01	15{c}	13
1977-78	65{d}	60{e}	125	1.06	18{f}	14
1979-80	289{g}	56{h}	345	2.92	36{i}	10

{a} For two 8-inch diesel Sigmond pulsometer pumps, each serving 22 allotments.

{b} Repairs to channels, clearing spillway, service unit wages, and 25 percent of total maintenance and repair.

{c} 44 colonists x Rs. 300/year; 15 colonists x Rs. 150/year.

{d} Total 1,320 gallons/month at Rs. 5/65 /gallon for 7 months plus lubricants at 25 percent.

{e} Direct repair of machines, channel maintenance, service unit wages, and 50 percent of salaries.

{f} 44 colonists x Rs. 350/year; 15 colonists x Rs. 175/year.

{g} Total 1,380 gallons/month at Rs. 21/gallon for 8 months plus lubricants at 25 percent.

{h} Direct repair of machines, service unit wages only.

{i} 44 colonists x Rs. 700/year; 15 colonists x Rs. 350/year.

Source: Reconstructed from CTC records.

{1} These and the following figures are in nominal rupees.

1.6 Events Since the MASL Takeover

MCS was incorporated into System C of the Accelerated Mahaweli Development Program in 1980. Given the spiraling costs of providing lift irrigation to the colonists, CTC was eager to negotiate the turnover with Mahaweli. The only contentious issue was whether MASL would operate the pumps while constructing the feeder channel leading from the Minipe channel to the CTC tank and the enlarged distribution channels (these improvements were to provide gravity-fed irrigation water to the entire settlement). It was CTC's understanding that MASL would absorb the cost of doing this. With this in mind, CTC turned over the pumps, spare parts, and all of their infrastructure (buildings, stores, warehouses) to MASL in August 1980.

MASL offered to run the pumps if the settlers paid Rs. 500/- per season and assumed responsibility for all maintenance and repairs. The settlers refused. However, the 15 settlers

already fed directly from the CTC tank were not affected by the pumping question.

Settlers were informed of the change by CTC after the fact. Although the settlers interviewed conceded that they could not have afforded to bear a larger share of the operating costs under CTC or MASL management, they feel that CTC did not do all it could have done to ensure a continued water supply and hence blame CTC for the next 2 years' lack of water to undertake yala cultivation.

MASL treated MSC colonists very similarly to other System C colonists. From January 1982 to July 1983, colonists received free food from the World Food Program (see Table A-7 for quantities). Monthly rations totaled Rs. 202/80 per person.

Table A-7. Value of World Food Program Rations per Family, January 1982-July 1983

Type of Food	Food Ration per Day (kg)	Food Ration per Month (kg)	Value of Ration for a 5-Member Family per Month		
			Price per kg (Rs.)	per Person per Month (Rs.)	per Month (Rs.)
Wheat	.400	12.0	6/25	78/-	390/-
Cereals	.030	0.9	18/-	16/20	81/-
Dried Fish	.040	1.2	38/-	45/60	228/-
Butter, Oil	.030	0.9	20/-	18/-	90/-
Sugar	.020	0.6	12/50	7/50	37/50
Raisins	.025	0.75	50/-	37/50	187/50
Total	.545	16.35		202/80	1,014/-

Source: Facts About System C of the Mahaweli Accelerated Programme, MASL, n.d.

Settlers also received MASL construction materials or cash payments totaling approximately Rs. 2,500/- each for repairs to their houses, construction of wells and latrines, and land preparation.

MASL channel construction for gravity-fed irrigation water was complete enough to permit yala 1983 cultivation. However,

most farmers were wary and followed a cautious strategy of broadcast planting and not using high levels of inputs. In September 1984, at least two farmers still did not have access to water.

1.6.1 Changes

The most significant change for settlers is the flow of water. The water distribution system for the 44 previously lift-irrigated allotments is reversed: front-end users are now tail-enders. Moreover, because the system is still new, water in large or even limited quantities is not assured to all farmers. No user fee is charged by MASL, although consistent with Government policy, one is planned to begin in 1985.

1.6.2 Cultivation Practices

Farmers complained that the inefficiencies of the MASL system have led them to decrease the amount of land cultivated and to change their cultivation practices. Because water is not assured and inputs have not been delivered on time (although credit is easily available to those not in arrears), they are pursuing a less risky strategy of using lower levels of fertilizers and pesticides, are broadcasting rather than transplanting, and consequently are obtaining lower yields. Farmers also remarked that the price of inputs has risen relative to rice producer prices. Labor is more scarce and hence more expensive. Whereas during CTC days one could hire a laborer for breakfast, lunch, tea, and Rs. 5/- per day, now it costs lunch, tea, and Rs. 30/- per day.

1.6.3 Extension

Former MCS farmers have had only minimal contact with MASL extension officers. Most farmers interviewed have yet to meet the field officer responsible for their unit.

1.6.4 Marketing and Credit

Marketing and credit have not changed since 1978 when private marketing of paddy was legalized in Sri Lanka.

1.7. Major Issues

1.7.1 Income Distribution

The issue of income distribution is especially interesting in this case where all farmers share so many common characteristics: they theoretically conformed to a similar profile; they were settled at the same time on equal-size plots of land; and all had similar access to inputs, credit, and technology. The farmers interviewed were unanimous in citing the most important benefits they reaped from CTC: (1) whereas they were landless laborers, they are now landed gentry; (2) they are good farmers, having received excellent agricultural training; and (3) they own the fanciest houses in System C.

However, in the 15-year interlude since MCS settlement began, significant income disparities have developed in the colony. These disparities were exacerbated during the transition from CTC management to MASL. Several reasons account for the income disparities:

1. Physical endowments. Although all farmers received 2 acres of paddyland and 1 acre of highland, soil quality and water availability differed significantly. One farmer's house, for example, was built on land more suited for paddy cultivation. He receives extra income from planting his entire allotment of 2.9 acres in paddy. Moreover, this settler was a front-end user (closest to the tank) and never experienced water shortages. In contrast, two settlers (tail-end users) experienced frequent water problems; their highland soils did not drain properly and were more suitable for low-yielding upland rice than for paddy.

2. Management skills. Although selected for their knowledge and interest in agriculture as demonstrated by their performance as agricultural laborers, a few colonists could not make the transition from laborer to manager. At least three women laborers given land -- overworked with the responsibilities of childbearing and rearing -- left management decisions to their husbands. One husband interviewed told how his wife fell ill after receiving the land, and left him, a part-time bakery worker in Mahiyangana, to make farming decisions; he leased out the land.

CTC encouraged and supported good farmers. For example, two winners of the Outstanding Farmer competitions showed us newspaper clippings, yellowed with age and tattered from frequent foldings, documenting record yields of 302 bushels for their plots. Notwithstanding the rewards given by CTC for good farm management, some farmers were simply more talented and enthusiastic than others.

3. Access to labor. Labor-intensive practices, such as transplanting and weeding, differed among settlers. Farmers with large families hired little labor, purchased oxen, and pursued a family-based production system. Those with smaller families seemed to purchase oxen and hire more labor. Although no formal system of exchange labor was described, in fact various forms of extended family labor exchange have evolved with intermarriages over the years. Some farmers married sisters of fellow settlers. One married the daughter of his next-door neighbor. Other settlers were brothers. Almost everyone interviewed now

has a relative living in the scheme. Given the higher cost of labor, recourse to extended family labor may play an important factor in the choice of cultivation practices.

4. Women's cash contribution. Women appear to have primary responsibility for household "gardens" and for highland cultivation generally, especially during maha. The cropping intensity of these areas varied tremendously with the most intensively cultivated homesteads belonging to the most dynamic farm families.

Women also earned income from a variety of other sources, including working as agricultural laborers on the CTC farm, sharekeeping cattle, and in one case playing the role of village moneylender. The degree to which husbands and wives pool their income varies; clearly women's cash contribution to family nutrition is important.

5. Unusual circumstances. By her own admission, later substantiated by fellow colonists, the least well-off head of household in the colony is Sarah Fernando, widowed in 1974. She had three young children to care for at the time her husband died and no relatives in the colony. CTC gave her the laundry to run while she leased out her 2-acre plot. She also worked as casual labor on the CTC farm. Her laundry business has been replaced by sharekeeping cows for other villagers, doing piece work for MASL (ditch digging), and helping with the harvest while continuing to sharecrop her own land. To make matters worse, her farm is located on the fringe of the irrigation perimeter and is one of two still not receiving Mahaweli water.

The colony's other widow, whose husband died of a snake bite in June 1984, has suffered a less severe fate. Her husband's brother is also a settler and has entered into a sharecropping arrangement with her.

The victims in both cases were cared for, the first by CTC and the second by her own family, and hence the negative impact on the families' welfare has been minimized.

6. Encroachment. Encroachment on Government lands is not a new phenomenon. In a 1976 report, CTC described its land distribution as follows:

Colonists, highland 59 acres allotted
 20 acres encroached

Colonists, lowland 118 acres allotted
 36 acres encroached

From these figures it appears that settlers averaged nearly 4 acres each rather than the 3 acres allocated. Informants insist that more settlers are encroaching on even larger tracts of land now than before, although it proved impossible to confirm these assertions. Access to land, especially to low-lying fertile areas, can substantially increase a family's income.

7. Windfall from MASL. The 15 families served by tank irrigation have continued to receive water throughout the transition period. Yet they too received the World Food Program allowance for 18 months in addition to the other MASL handouts. These 15 settlers earned sizable income from the sale of most of their paddy during the maha 1981/1982, yala 1982 and maha 1982/1983 seasons. One farmer estimated that he sold 60 additional bushels during the yala 1982 period, earning approximately Rs. 3,750/-\$163).

1.7.2 Importance of Ensured Inputs

CTC's key strength in implementing the colonization scheme was its efficiency. The company provided high-quality seeds, fertilizer, credit, reasonably ensured water supply, and know-how. Farmers adopted farming practices, confident that these inputs would arrive in the right quantities at the right time.

Because MASL has yet to establish its input delivery system (although its water system is hailed by settlers as "permanent," and that is perceived as an improvement over CTC's), farmers have changed their cultivation practices, according to all interviewed, and yields have decreased accordingly. (No disaggregated figures for the former MCS population, now integrated into System C, exist.)

1.7.3 Importance of Off-Farm Employment Opportunities

Colonists viewed the CTC farm as a major employer. This source of income was especially important as insurance against insufficient water and as an additional source of income for women.

MASL is apparently not hiring as many people as did CTC, or perhaps the distance to Mahiyangana and to the new reaches of System C is too great; whatever the reasons, reduced employment opportunity is occurring, especially among women, and is contributing to a decline in living standards.

2. SYSTEM H, BLOCK 9

2.1 Project Area Description

MASL's System H, located in Anuradhapura District in the north-central part of the country, consisted in the mid-1970s of 37,000 settlers living in purana (presettlement) villages, 70,000 inhabitants settled between 1946 and 1964, and 33,000 recently settled farmers, for a total of 140,000 inhabitants.

Block 9 is in the southeast corner of System H. The only town in H-9 is Galkiriagama, an hour's drive from Galnewa, the site of the main office for the Resident Project Manager responsible for H-9 and four other System H blocks.

The area developed as H-9 consisted mostly of purana settlements of Tamil and Sinhalese traditional homesteads clustered around village tanks. The farmers cultivated paddy during maha and practiced slash-and-burn (chena) cultivation as extensively as family labor allowed on the surrounding highlands during yala. Resettlement began in March 1978 and was completed by December 1980. There are now a total of 2,122 families in the block, which is divided into five units, averaging 425 families each. Average family size for System H is 5.5 persons. Consistent with the resettlement policy throughout System H, families are given 3-acre allotments, of which 2.5 acres are irrigated and .5 acre is destined for the homestead.

The rainfall in System H is 56 inches per year, well below the 90 inches received in System C, and distributed very irregularly over the two seasons. Two-thirds of the precipitation falls during the October-January (maha) period, whereas barely 18 inches fall during the April-August (yala) cultivation period, making irrigation a necessity for year-round cultivation.

Total irrigable land area in H-9 is 6,000 acres, of which approximately 3,000 acres are suitable for paddy cultivation in yala; virtually all irrigated land is devoted to rice cultivation during maha. Approximately 60 percent of the soils are classified as reddish-brown earths -- moderately coarse, highly permeable soils suited to upland crops. Brown to grey-brown (low humic grey) soils, which are finer, poorly drained bottom lands with higher silt and clay content suited to paddy cultivation, account for most of the remainder.

MASL/CTC collaboration was the result of informal discussions between top-ranking officials of MASL and CTC. MASL and CTC generally considered the goal of the project to be to "ascertain whether an enduring relationship could be built up between a private sector organization and the farmers, which would give both a reasonable financial return for their effort." "Weaning the farmer away from paddy" -- consistent with MASL's diversification goals -- was the "necessary strategy" to be pursued to make the enterprise self-sustaining; CTC was adamant that its H-9 project should "not be allowed to degenerate on the lines of our MCS." {2}

Earlier internal company documents suggest that CTC's initial motivation for involvement in H-9 was different: "(1) it would improve our public image...to participate actively in a major development program of the Government; (2) there was potential for extending the acreage under tobacco." {3}

The parameters within which the joint venture experiment was to evolve were set by MASL and conformed to the Government's general objectives and plans for System H. MASL aimed to diversify

and intensify crop production in System H by encouraging nonpaddy production.

{2} September 12, 1979 CTC correspondence.

{3} May 23, 1979 Auditor's report.

2.2 Project Agricultural Components

CTC and MASL provide the same description of CTC's early role in H-9. According to CTC documents, "it was agreed that CTC would manage H-9 with the (MASL) providing extension, water management and community development staff."⁴ But it soon became clear that split management created divided loyalties and areas of conflict. CTC extension staff replaced MASL staff, and MASL paid a management fee primarily for extension services and to cover other costs that CTC's marketing margin was not offsetting.

CTC was never actually given formal authority to take over responsibility for water distribution, management of roads and canals, and community development. However, throughout the 1979-1983 period, CTC was solely responsible for the agricultural components described in the following sections.

2.2.1 Extension

The CTC model of intensive extension services used successfully with its tobacco outgrowers and with colonists in CTC's Mahiyangana attempt at non-tobacco agricultural development was tried in H-9. Ten experienced field officers, each responsible for an average of 200 farmers, were recruited from CTC's other field operations for duty in H-9. To develop a close working relationship between the farmers and the organization, field officers visited each farmer at least once weekly and more frequently at planting time. They were also responsible for (1) holding preseason sessions to discuss proposed cropping patterns and methods; (2) attending and sometimes calling turnout group meetings to discuss problems of water management; (3) determining with the farmer the needed amounts of inputs and providing the farmer with these inputs on time; (4) certifying that the amount of credit requested by the farmer was both appropriate and repayable to the Bank of Ceylon; and (5) convincing farmers to repay their loans by selling their crop to CTC.

Extension advice was not limited to paddy and vegetable cultivation but included technical assistance for highland allotment crops, livestock, and home gardens.

{4} August 1982 CTC report.

2.2.2 Input Delivery

CTC provided inputs to farmers in H-9, including planting materials, herbicides, equipment for plowing, and credit through the Bank of Ceylon. Much of CTC's planting material was grown on the CTC farm in Block 203 of H-9. Field officers delivered all inputs directly to the farmer's door for a handling fee.

The farmer credit program differed from the MASL approach in two ways: (1) CTC introduced the Bank of Ceylon to the area, and (2) CTC linked its credit scheme to marketing of produce to ensure credit recovery. Most MASL settlers were given inputs on credit, to be repaid in kind, and cash loans for labor.

2.2.3 Marketing

CTC provided the farmer with an ensured market for all produce. Because CTC did not have a marketing monopoly in H-9, it had to offer prices competitive with those of other private traders. For some highly perishable or not locally marketable crops, CTC was the buyer of last resort.

2.3 Project Implementation

2.3.1 Initial Implementation and Lessons Learned

CTC began activities with a pilot project during yala 1979 with 90 families cultivating vegetables on approximately 45 acres of irrigated land. The .5 acre per family was the maximum possible because most "families," having just acquired the land and not yet fully settled, consisted of one or two resident male workers.

Crops cultivated included beans (42 percent), tobacco (24 percent), capsicum (13 percent), and cabbage (11 percent); the remainder consisted mostly of soybeans and red onions. CTC provided certified seed grown in CTC's own nurseries. Water requirements and release schedules for the new cropping patterns were agreed to by MASL and CTC. The company purchased the crop at the farmer's field.

For services rendered, CTC charged farmers a handling fee as a percentage of turnover. Farmers strongly opposed the charge, arguing that CTC provided the same service as MASL did in other System H areas at no additional cost to farmers. To circumvent the charge, many farmers sold their produce to outside buyers, often at lower prices than those offered by CTC, to avoid both payment of the handling charge and repayment of their agricultural loans.

Although the first crop of cabbage and bush beans failed, CTC learned valuable management lessons from the experience:

- Farmers needed convincing proof that crops other than paddy could be grown during yala -- highlighting the importance of demonstration plots.
- Good yields depended on timely supply of inputs, especially of extension advice.
- Colonists would try to circumvent regular loan repayments by not selling their produce to CTC. Only close supervision can ensure high rates of loan recovery.
- Private sector management is more labor intensive -- and hence more costly -- than public sector management. The private sector must be able to recover its administrative expenses, or it will have no reason to continue. Because passing the cost on to the farmer through a handling charge was not acceptable to farmers, the only alternative in the short term would be for the Government to reimburse the the company for its services.{5}

{5} September 1979 "Lessons Learned," internal CTC memo.

2.3.2 Implementation Changes

CTC incorporated the lessons learned from the 1979 campaign into the planning and implementation of subsequent phases of the H-9 project. First, CTC negotiated a management fee with MASL.

Second, CTC actively explored the potential for agriculture-based industry that would increase the company's revenue, such as (1) a paddy processing mill, (2) a solvent extraction plant for soybeans, (3) processing of chilies, (4) dehydration of vegetables, (5) export of vegetables, and (6) papain production. Feasibility studies were done by Dutch, French, and American firms, and an aggressive campaign to find export markets was launched by CTC headquarters in Colombo.

Third, although CTC continued to charge a handling fee, it was decreased and added directly to the cost of inputs.

Fourth, CTC requested and was granted a 100-acre parcel by MASL for use as a research station/seed farm. The farm eventually provided certified seed for H-9 farmers; CTC sold the remainder to System H.

Fifth, CTC field officers severely disciplined the farmers and intensified their extension information efforts to ensure that farmers knew precisely how and when to plant the new yala crops. All farmers were visited at least once weekly and regular group meetings and preseasonal sessions were attended by

65 percent of farmers.{6}

Sixth, as a result of agronomic research findings that the soils in H-9 were mostly unsuitable for growing tobacco and MASL's strong displeasure at CTC's initial encouragement of tobacco,⁷ CTC largely abandoned tobacco cultivation and concentrated its resources on other crops.

Seventh, consistent with its long-term goal of making H-9 financially self-sustaining through agro-based processing, CTC encouraged soybean, vegetable, and chili production, while continuing to provide input supply, extension advice, credit, and marketing for paddy cultivation during maha.

CTC gradually incorporated all the new settlers of H-9 under its management: from 291 farm families cultivating 726 acres in maha 1979/1980 to 2,122 families growing crops on over 7,506 acres in maha 1982/1983 (see Table A-8).

CTC's efforts at diversification were frustrated by 2 consecutive years of water problems. The 1982 drought, which affected all of System H, allowed only rainfed crops to be cultivated. The following year, poor water management necessitated halving the amount of acreage. A system called bethma, whereby two families split one family's allotment, was in effect and explains the low acreage under cultivation (see production statistics, Tables A-9 and A-10).

Table A-8. Acreage Developed and Farmers Managed by CTC, System H, Block 9, 1979-1983

Year, Season	Acres	Farmers	Remarks
1979, yala	43	90	Pilot project (units 202, 204 only)
1979/1980, maha	726	291	Pilot project (units 201, 202, 204)
1980, yala	3,827	1,150	Units 201-205
1980/1981, maha	6,061	1,906	-
1981, yala	4,601	1,923	-
1981/1982, maha	6,175	2,002	-
1982, yala	706	2,098	No water, rainfed crops only
1982/1983, maha	7,506	2,122	-

1983, yala 3,318 2,122 Management of H-9
handed over to MASL,
August 1983

Source: CTC records: Notes on the handing over of management responsibility to MASL, July 14, 1983.

CTC's agricultural extension activities included organizing Young Farmer Clubs and assisting the Government in its tree planting campaign. Over 10,000 tree seedlings, half of them coconut trees but also including mango, orange, lime, guava, jak, cashew, teak, and eucalyptus, were distributed to farmers at a fraction of cost with instructions on care given by field officers. CTC held home garden competitions to encourage farmers to plant and care for their seedlings.

CTC never ceased exploring possible investment opportunities to offset its high management costs. CTC correspondence files provide interesting insights into the company's efforts at profit-making. The seed farm was the most successful income earner; papain extraction may now be the most lucrative.

Table A-9. Yala Cultivation
System H, Blocks 7 and 9, 1980, 1981, and 1983

Year	Crop	Acreage		% of Total Acreage{a}	
		H-7	H-9	H-7	H-9
1980	Paddy	410	2,050	33.17	73.35
	Chilies	530	660	42.88	23.61
	Cowpea	181	22	14.64	.79
	Pulses	42	16	3.40	.57
	Onions	15	3	1.21	.11
	Vegetables	58	44	4.69	1.57
	Subtotal	1,236	2,795	100.00	100.00
1981	Paddy	2,063	2,227	72.44	52.11
	Chilies	577	1,625	20.26	38.02
	Cowpea	139	70	4.88	1.64
	Pulses	52	167	1.83	3.91
	Onions	17	28	.60	.66
	Vegetables	0	157	.00	3.67
	Subtotal	2,848	4,274	100.00	100.00
1983	Paddy	1,987	1,726	90.07	65.88
	Chilies	51	697	2.31	26.60
	Cowpea	65	19	2.95	.73

Pulses	102	90	4.62	3.44
Onions	1	7	.05	.27
Vegetables	0	81	.00	3.09
Subtotal	2,206	2,620	100.00	100.00

{a} Totals may not equal 100 percent because of rounding.

Source: Production Statistics, System H MASL, Colombo.

To increase productivity, CTC initiated a tractor scheme, whereby farmers could rent tractors for certain field operations such as land preparation and harvesting. Realizing that tractors were not efficient on some terrain and were simply too expensive for certain farmers, CTC started an animal traction (draft power) program.

Table A-10. Average Paddy Yields per Acre (in bushels) for System H, Blocks 7 and 9, 1979/1980-1983

Year, Season	H-7	H-9	System H Average
1979/1980, maha	76.4	115.3	87.7
1980, yala	-	52.3	-
1980/1981, maha	85.4	106.0	93.3
1981, yala	56.9	56.7	52.2
1981/1982, maha	63.6	105.6	71.7
1982, yala	-	-	52.2
1982/1983, maha	118.9	110.1	104.2
1983, yala	82.4	89.4	81.1

Source: MASL Annual Report, System H, 1984.

{6} H-9 quarterly reports.

{7} Minutes of MASL-CTC meeting, September 16, 1980.

2.3.3 Problems in Implementation

The informal nature of CTC's early involvement in the development of H-9 and continuing fluidity of the arrangements created numerous problems for CTC and MASL. Although repeated attempts were made to articulate the precise delineation of responsibilities for administering H-9, no signed contract or agreements were drawn up. The jurisdictional problem persisted throughout the CTC-MASL collaboration. Although CTC and MASL objectives may have been congruent, water management procedures and Government subsidies in other areas of System H differed greatly from those in H-9. Eventually these two problems proved insurmountable and led to the end of CTC activity in H-9, except for its marketing operations.

Water Management. This is one of the most highly charged political issues in Sri Lanka today. MASL controls the entire water distribution from the reservoir to the field channels. Seasonal schedules are drawn up by system headquarters based on projected water supply and farmer needs; farmers are usually notified at least 1 month ahead of the date of first water release and subsequent water schedules. Because the systems practice central planning, variations in water requirements within blocks are not easily accommodated.

To accomplish the goal of diversification -- especially if the cropping pattern included export or highly perishable crops -- CTC insisted on an ensured water supply at specific times and in the proper quantities. (Vegetables and chilies have very different water requirements from paddy.) According to CTC, and corroborated by MASL officials, MASL was unable to accommodate the different water requirements insisted on by CTC.

Had MASL been efficient at providing water with regularity, CTC might have been able to adapt its vegetable-growing calendar accordingly. However, according to everyone interviewed, MASL was inefficient at water management, and hence farmers increasingly turned to CTC for help. CTC field officers eventually took over farmer turnout group meetings, and the CTC project manager intervened repeatedly on behalf of the farmers.

Both sides attempted to resolve the water management issue. In April 1982, CTC and MASL agreed and even worked out the details to give CTC water management responsibility from the distribution channels and onward and for repairing the channels and bund roads. CTC hired irrigation engineers for this, but for reasons that are unclear and inconsistent in this correspondence, this plan fell through in August 1982.

From the CTC perspective, water management was crucial to the diversification effort; if MASL could not ensure CTC farmers the necessary water, then CTC would reluctantly assume the responsibility. However, operation and maintenance costs of an irrigation system are very high. This was especially true for H-9 for which according to MASL officials, the initial land leveling had been poorly done and hence the water flow in the first years was uneven and inefficient. Hence, CTC insisted on

reimbursement by MASL of costs incurred.

From the MASL perspective, water management (i.e., local organization) is a political issue and responsibility for it belongs unquestionably with the Government. Construction and repair contracts are also political. Finally, because no other block enjoyed independent decision-making, MASL questioned why CTC operations in H-9 should be any different.

For all of the above reasons, CTC and MASL never achieved a compromise.

Subsidies. The second area of conflicting and irreconcilable procedures stemmed from a fundamental difference in development philosophy or ideology. CTC as a private company insisted on 100-percent cost recovery at a minimum and preferably a profit. Consistent with Sri Lankan Government policy of subsidizing agricultural production and resettlement in general, MASL wished to provide subsidized agricultural services to farmers.

CTC tried several means of recouping costs. First, as stated earlier, they investigated the long-term potential of agro-processing. Short-term solutions included charging a handling fee as a percentage of total turnover. When that encouraged farmers to sell their produce to outside private traders, CTC for one season imposed a slightly higher rate of interest on bank loans. When that led to a decrease in borrowing, CTC levied a handling fee on inputs to cover transport costs. For instance, a bag of fertilizer sold at MASL-managed block headquarters for Rs. 150/- a bag, whereas CTC sold the same bag at Rs. 158/- delivered to the farmer's door.

Farmers whose neighbors in adjoining blocks were subsidized and who themselves had grown accustomed to hefty Government resettlement subsidies (housing, education, land, and agricultural inputs) balked at the extra cost. The handling fee was the central issue in the 1982-1983 petitions against CTC management.

2.4. Project Costs

According to CTC project records, the H-9 experiment cost the company cash flow deficits of Rs. 33,000/- in 1981 and Rs. 34,000/- in 1982, despite financial assistance from MASL. The H-9 budget figures presented in Table A-11 are reconstructions of CTC balance sheets and CTC annual reports; this accounts for the inconsistency in categories of expenditures.

By far the most costly line item is staff salaries. The farmer discipline demanded by CTC required intensive staff-farmer interaction. This meant well-trained, well-paid staff and high transport costs to enable staff to visit farmers weekly.

The exact amount of MASL reimbursement of CTC costs seems to have been negotiated in a gentlemanly manner, that is, rather

unscientifically. No one from either CTC or MASL could explain why the sum was Rs. 700,000/-, not more or less. However, CTC seemed to believe that it was almost adequate; MASL officials considered the figure too high and unjustifiable.

Table A-11. Ceylon Tobacco Company's Budget
for System H, Block 9, 1981-1983
(in rupees)

Item	1981{a}	1982{b}	1983{c}
Income			
Marketing of Crops	155,838	551,000	285,630
Farm 203	81,550	18,000	13,958
Subtotal	237,388	569,000	299,588
Expenditure{d}			
Field Officers/Staff Salaries	519,000	935,875	374,266
Travel	227,850	49,610	
Building Maintenance	91,625	57,900	29,610
Administration	57,250	21,946	
Water Management	360,000		
Vehicle Fuel and Repair		25,000	36,191
Insurance		52,703	
Miscellaneous{e}			53,062
Subtotal	970,625	1,303,875	617,388
Loss	-733,237	-734,875	-317,800
Management Fee, MASL		700,000	700,000
			408,333
Net Balance After Financing	-33,237	-34,875	90,533

{a} Includes maha 1980/1981 and yala 1981.

{b} Includes maha 1981/1982, yala 1982 and maha 1982/1983.

{c} Includes only the first 7 months of 1983.

{d} The budgets for the 3 years are not disaggregated to the same extent.

{e} Includes depreciation, turnover tax.

Source: CTC records.

2.5 Economic Analysis

In August 1983, MASL incorporated H-9 into the five-block area under the jurisdiction of the Galnewa Resident Project Manager. H-9 now receives the same services provided by MASL to the other System H blocks.

To assess the cost effectiveness of MASL and CTC in providing agricultural services to H-9, three questions must be answered:

- Were the costs incurred by CTC in H-9 similar to the administrative and recurrent costs subsequently borne by MASL?
- How did the quality of services provided differ?
- Did the quality difference result in different agricultural impacts?

2.5.1 MASL Versus CTC Costs

CTC received a Rs. 700,000/- management fee from MASL. Although CTC budgets continued to show a shortfall of approximately Rs. 33,000/- in 1981 and 1982, CTC absorbed the loss while waiting for their marketing operations to become more lucrative.

Exactly what costs the management fee reimbursed is not clear. CTC extended its management responsibilities from extension, input delivery, credit, and marketing to include community development and, de facto, water management during the final year of the company's involvement.

To determine how much it cost MASL to manage H-9 subsequently, 1983 (the last year of CTC management) and 1984 MASL recurrent cost budgets are compared (see Table A-12). Adjoining block H-7 recurrent budget outlays are also presented for comparison. MASL recurrent expenditure on H-9 increased by Rs. 2.8 million from 1983 to 1984. This 64-percent increase -- four times CTC's management fee -- contrasts with H-7's 44-percent increase during the same period.

As shown in Table A-13, the major increase in MASL's H-9 expenditure is for maintenance and improvements in the irrigation system. MASL officials explain that neglect of the bunds, roads, and channels in earlier years necessitated major investments. One highly placed MASL official acknowledged that earlier civil works contracts had not been properly supervised or executed.

Table A-12. MASL's Recurrent Cost Budgets
for System H, Blocks 7 and 9, 1983 and 1984.
(in rupees)

1983

1984

Budget Items	H-7	H-9	H-7	H-9
Finance & Administration	2,831,000	2,478,000	2,706,000	2,339,000
Production, Marketing, & Credit	2,450,000	1,863,000	4,989,000	4,892,000
Community Services	70,000	66,000	-	-
Total	5,351,000	4,407,000	7,695,000	7,231,000
Change, 1983 to 1984			+44%	+64%

Source: Resident Project Manager's Office, MASL, Galnewa.

Table A-13. Selected MASL Expenditure Items for System H, Block 9, 1983 and 1984

Item	1983	1984	Difference
Irrigation System Maintenance	507,000	770,000	263,000
Road Maintenance	-	240,000	240,000
Building Maintenance	150,000	200,000	50,000
Fuel (irrigation)	75,000	148,000	73,000
Jeeps (fuel plus repair)	233,000	280,000	47,000
Improvements to Irrigation		748,000	1,967,000
		1,219,000	
Reforestation	47,000	455,000	408,000
Total	1,760,000	4,060,000	2,300,000

Source: Resident Project Manager's Office, MASL, Galnewa.

Because the categories of expenditure by MASL and CTC do not correspond exactly, it is difficult to draw specific conclusions. However, broad observations are possible: (1) MASL increased its H-9 expenditures by nearly two-thirds from 1983 to 1984, and (2) some of the expenditures were long overdue and compensated for a previous neglect by MASL of H-9 (e.g., roads, irrigation works).

2.5.2 Quality of Service

Extension. There was unanimous agreement by farmers interviewed that CTC extension services were consistently outstanding. "They [the field officers] came every week. If we had a bug problem, they would be here the same day. MASL agents don't even know our house numbers," complained several farmers.

Over half of the farmers interviewed have never been visited by MASL agents. The lack of contact between MASL agents and farmers is not surprising, given that MASL agents receive lower pay and are less experienced (although they are well trained) than their CTC counterparts. Most important, whereas CTC field officers were equipped with motorbikes, MASL agents have only bicycles to cover the rough and hilly terrain.

Inputs. CTC delivered inputs to the farmer's door and provided the farmer with consistently high-quality seed. Farmers now have to purchase the inputs at the Block Manager's office, in some cases over 1 hour's drive away. One woman farmer bemoaned the loss of CTC's door-to-door delivery service: "I'd happily pay the few extra rupees . . . to get good seeds delivered here on time."

When reminded that the handling charge passed on to the farmer to recover transport costs had been a cause celebre and the main point of contention in the petitions to MASL, farmers shrugged and said, "Now we realize that it was worth it." Many farmers reported that MASL seeds are "impure." "We buy a bag of M11 chilis -- the highest quality from MASL -- and we find that intermixed with the pure seed are inferior varieties, green chilis and sometimes not chilis at all. Yet we paid the highest price."

Many farmers pointed to the orchards and planned home gardens carefully planted around the compound as an example of CTC's follow-through on input delivery. "We paid for the trees but CTC delivered them to us and taught us where to plant and how to water!"

The credit system has not changed since the MASL takeover. However, there are two differences in the implementation of the system: whereas the CTC field officer visited the farmers to help them complete the application form, farmers now must apply in person at the bank. Further, without CTC's close supervision the credit recovery rate has slipped, for the first time, to below the System H average (see Table A-14).

Water Management. Although water management was never directly a CTC responsibility, the company nonetheless organized turnout meetings and intervened on the farmers' behalf to MASL authorities when water shortages occurred. Hence, almost every farmer interviewed believed that CTC in fact was responsible for water management. "During CTC days, we had no water problems" was a comment reiterated by almost all farmers. The farmers appear to feel that when CTC managed H-9, they had some leverage vis-a-vis MASL.

Marketing. CTC has continued its marketing operations in H-9. However, very strict quality controls on chili purchases disqualify a number of farmers from selling their crop to CTC. The company marketed approximately 10 percent of the 1984 chili production in H-9.

There has been a significant decrease in vegetable and

onion production in H-9 over the past 2 years, even though onions or an intercropping of vegetables and onions will yield a higher profit than chilies (see Table A-15). Farmers who have switched from vegetables and onions to chilies told the evaluation team that without the assured market provided by CTC and without their own means of transport, their fresh produce might rot before a private trader could buy it.

2.5.3 Agricultural Impacts

An important objective in the CTC-MASL collaboration was increasing agricultural production and farm incomes through crop intensification and diversification. The degree to which this objective could be attained is a function of ensured water, appropriate soils, ensured inputs (credit, seeds, fertilizers, and information), and ensured markets.

To assess CTC's performance in absolute terms and in comparison to other System H blocks, the evaluation team gathered qualitative information through interviews of a random sample of 25 farmers in different areas of H-9. Quantitative data showing cropping patterns and cultural practices for paddy yields were provided by MASL and by CTC's extensive project files. Although CTC's production data appear to be carefully collected and more accurate, MASL data were used when comparing the two blocks. The unit of comparison for H-9 was selected after extensive research. On the recommendation of MASL officials, we chose H-7, which borders H-9. Although H-7 is Table A-14.

Bank of Ceylon Agricultural Credit via CTC to System H Block 9 1979-1983

Year, Season	Farmers Using CTC Credit/ Total Farmers	Amount Granted (Rs.)	Amount Recovered (Rs.)	Recovery H-9 (%)	Recovery Other H Areas (%)
1979, yala	90/90	102,483	97,205	95	93.79
1979-1980, maha	291/291	500,613	472,122	94	88.28
1980, yala	264/1,180	349,642	333,137	95	84.73
1980-1981, maha	288/1,906	594,379	542,932	91	78.55
1981, yala	801/1,923	1,136,521	972,886	86	74.72
1981-1982, maha	643/2,002	1,702,602	1,106,691	65	44.3

1982, yala{a} - - - - -
 1982-1983, 1,099/2,122 2,790,771 1,577,970 57 71.75
 maha

 {a} No cultivation.

Source: CTC records.

Table A-15. Costs of Production
 System H, 1981

Crop	Production Costs/Acre	Gross Income	Net Income{a}
Paddy	2,735	6,000{b}	3,265
Chilies	6,015	12,000{c}	5,985
Soybeans	2,495	5,250{d}	2,755
Red Onions	13,300	28,000{e}	14,700
Big Onions	6,200	28,000{e}	21,800
Vegetables	5,570	10,500{f}	4,930
Manioc	3,700	10,000{g}	6,300

 {a} Net income assumes labor is family labor except for specific piece work paid by the farmer.

{b} 100 bushels per acre at Rs. 60/- a bushel.

{c} 1,200 pounds per acre at Rs. 10/- a pound.

{d} 1,500 pounds per acre at Rs. 3/50 a pound.

{e} 80 hundred weight per acre at Rs. 350/- a hundred weight.

{f} 6,000 pounds capsicum per 1/2 acre at Rs. 1/25 a pound and 7,500 pounds Brinjals per 1/2 acre at Rs. -/40 a pound.

{g} 10,000 kilograms at Rs. 1/- a kilogram.

Source: CTC calculations, 1981 annual report.

slightly larger (6,156 acres cultivated versus 5,694 acres

during 1983/1984 maha) and was settled 1 year earlier, soils in H-7 are very similar to those in H-9. Water availability is also similar, although H-7 is closer to the headworks and experiences fewer water shortages.

With the control unit, H-7, sharing similar water and soil conditions with H-9, it was assumed that differences in paddy yields during maha and diversification during yala would be a function of ensured inputs and markets.

Table A-9 (yala cultivation) and Table A-10 (paddy production) show the following:

1. H-9 diversified its yala production from a 73 percent/27 percent paddy/nonpaddy cropping system in 1980 to an almost even mix the following year. In contrast, H-7 went from a highly diversified cropping pattern in 1980 (33 percent paddy) to almost total concentration on rice in 1983.

Until 1983, CTC's agreement with MASL required it to purchase all production in H-9. In 1983, CTC withdrew from H-9 except for its marketing arrangement, which was concentrated primarily on chilies. This may account for the shift from a fairly diversified production system to a heavy concentration in chilies. CTC purchases chilies at prices 50 percent above official prices and usually 5-10 rupees above other private traders, except of course during the height of the harvest. However, it is now the responsibility of the individual farmer to find a buyer for his vegetables.

2. H-9 paddy yields during both maha and yala surpassed H-7 paddy yields. Although initial high yields must be attributed in part to the greater soil fertility of new land, this advantage disappears by the third cropping season. Only during maha 1982/1983 were H-7 yields significantly higher than H-9. In 1983 yala, H-9 again took the lead.

According to farmers interviewed, the decision to grow nonpaddy crops was based on (1) dependability of inputs, (2) confidence that CTC would provide assistance in emergencies (pest attacks, lack of water), (3) profitability, and (4) access to labor. It seemed from our discussions with farmers that most of them had access to soils (reddish-brown earths) suitable for nonpaddy cultivation. The two crucial factors, then, were labor availability and producer prices. Table A-15 (costs of production) illustrates the relative profitability of H-9 crops under average yields and at 1981 prices. Consistent with what farmers told us, by far the most profitable crop was onions, especially big (Bombay) onions. But onions are labor intensive, with labor accounting for over 50 percent of production costs. Although all farmers interviewed grow at least a few square meters of onions, the extent depends on the availability of family labor.

2.6. Implications

2.6.1 Farmers Respond to Incentives

CTC's success at diversification suggests that if farmers are provided with assured inputs, advice, and marketing, they will experiment with nontraditional crops. The emphasis on chili production at the expense of other food crops such as soybeans, vegetables, and onions illustrates the importance of the availability of high-quality seed and assured markets provided by CTC.

2.6.2 Private Sector Efficiency

MASL has increased its expenditures in H-9 in an amount roughly equal to earlier CTC (total) costs for providing agricultural services to the area. However, production data and interview reports show that CTC not only achieved the System H-wide goals of agricultural diversification and intensification, but that the quality and timeliness of services offered far surpassed MASL's present performance. The key to CTC's success was discipline; both field staff and farmers had to adhere to strict production schedules.

2.6.3 Water Management

Control of water resources was the single most contentious issue of the CTC-MASL collaboration. Without strict water control, CTC was unable to follow the appropriate agronomic practices for crops other than paddy. For MASL, water management is synonymous with local organization and is a political issue that falls squarely and solely under the jurisdiction of the Government. Given the fundamental differences in perspective, perhaps MASL and CTC embarked on a collision course for which there was no mutually acceptable solution.

2.6.4 Lessons From the Private Sector

For any investment, a private sector firm must recover its costs. Otherwise, it cannot justify continued losses on the company balance sheets. If the company expects that after a certain number of negative cash flow years the investment will yield substantial benefits, it may be willing to absorb the short-term costs.

However, lacking sure returns on investments, the private sector will be less willing to continue operating at a net loss regardless of the social value of the undertaking. Finally, the government cannot subsidize services for certain farmers and expect the private sector in other areas to recover its costs by passing them on to the farmer. The government must be

consistent in its subsidization program or risk alienating the unsubsidized groups. In this private sector experiment, CTC was placed in the uncomfortable position of charging farmers for services rendered while farmers in adjoining blocks paid nothing for similar, if less effective, services.

2.6.5 Future Diversification

Mahaweli officials continue to express interest at seeing private firms move into agro-industry or agricultural processing in System H. Their view is that a company might be able, for example, to strike a deal with a group of farmers to supply fresh fruit for local production of fruit juice to be marketed in Sri Lanka or abroad. Other types of local value-added processing might also be possible. For vegetables, a flexible water release schedule and sophisticated water management would be essential. To encourage farmers to diversify, MASL will have to be able to accommodate variations in water use.

MASL is clearly expecting private firms to put up their own capital for processing facilities: it is not willing to do that itself. But any such arrangement would be strictly one of processing and marketing, not involving any type of development management by the private sector. MASL now appears to regard traditional development functions as proper only for government management.

At the same time, the officials we talked to seem persuaded that the private sector is in fact more efficient at handling agricultural production and marketing than is the public sector. They understand that the discipline possible with CTC-like management offers the promise of greater productivity and more efficient operations than MASL can provide. It is presumably for that reason that Mahaweli continues to express an open interest in agro-industrial ventures between the farmers and private companies. Another factor, surely, is the clear need for additional employment opportunities for the second and third generations of farmers, because subdividing small allocations is not economically feasible.

APPENDIX B

LOCAL ORGANIZATIONS AND COMMUNITY DEVELOPMENT

The history of the Mahiyangana Colonization Scheme (MCS) and the Ceylon Tobacco Company's (CTC) management of it provide a case study of the effectiveness of certain institutional mechanisms for implementing an integrated rural development project. The following discussion provides (1) a brief history of settler selection and the settling-in period, (2) a description of CTC and settler-initiated institutions, and (3) conclusions

concerning the viability and long-term impact of social institutions established by this large private corporation. The subsequent section compares CTC's MCS experience with its community development activities in the Mahaweli Authority of Sri Lanka (MASL) H-9 area.

1. THE MAHIYANGANA COLONIZATION SCHEME

1.1 Settler Selection

MCS is the only colonization scheme in Sri Lanka planned and implemented solely by a private company. From late 1966 to 1969, laborers cleared jungle and leveled the land for cultivation. The eventual settlers were chosen from among the hired labor, although these people did not know they would become landed farmers until sometime after CTC began constructing houses. The workers came from many different home villages, with an estimated 50 percent from the Central Provinces, 10 percent from the southern parts of the island, and the remainder from the areas of Anuradhapura and Polonnaruwa. Because of the laborers' diverse backgrounds and CTC's goal of molding them into a community, settler selection was done carefully. The company screened prospective settlers on the basis of (1) personal conduct, (2) family background, and (3) occupation or special skills. Thus, CTC endeavored to eliminate alcoholics, gamblers, and criminals, as well as people with poor work habits. Each potential settler's wife was interviewed to ascertain her willingness and ability to work and resettle. As a result of this purposive selection process, the 59 settler families included a carpenter, a blacksmith, a barber, a laundry man, a baker, an Aryurvedic (traditional) physician for first aid, two teachers, and two tailors. Others had gained experience working for CTC as tractor and water pump operators, and some had prior agricultural experience as laborers or working on their, parents' lands. Though CTC intended to settle only landless people some of the settlers did own land elsewhere. All the settlers were Sinhalese; the community included about 80 percent Buddhist and 20 percent Christian families. About 15 percent of the community could read Sinhalese and some had studied to the 10th grade (0 level); consequently, there were 9 or 10 settlers who were capable of assuming some management responsibilities in the school, library, and cooperative society.

1.2 The Settling-In Period

Contrary to experience in other settlement schemes,^{1} the early years of MCS were the easiest and most hopeful for the new settlers because of CTC's direct and complete management. Most families settled in 1969, at which time they were allotted 1 acre of highland and a tile-roofed house constructed of brick and cement. Each house was equipped with piped water and electricity, both considered luxuries at that time. Designed by architects, the houses had one large room, a loft for sleeping,

a kitchen, a shower stall, and an indoor, flush toilet. This design was alien to the settlers' previous experience or expectations. Consequently, many people remodeled the inner space or used it in ways not intended by the architects. The most frequent changes included subdividing the big room into two or more small rooms and closing up the trellis-work doors and verandas to keep out rain. Some people slept on the ground floor and stored paddy in their lofts; some used the shower stalls for storage and bathed outdoors. When the domestic water supply was withdrawn in 1975, many people built outhouses to replace the indoor toilets.

When the first settlers came, the houses, fields, and irrigation system were ready, but the opening of the dispensary, school, community center, and cooperative store were still in the future. To prevent people from leaving the colony, the CTC staff endeavored to meet all the settlers' needs. Company vehicles transported settlers to Mahiyangana for shopping, consulting doctors, and, once a week, for films. Finding that the settlers spent all their money, CTC staff introduced savings accounts in 1969 and deducted money from salaries for deposit; this scheme does not seem to have lasted more than a year.

As a service to mothers laboring in the fields, the company provided day-care facilities run by wives of CTC staff, a U.S. Peace Corps Volunteer, and two settlers -- a man and a woman -- who had 10th grade educations. The day-care center had toys and provided milk and cod liver oil to the children, who were all under 5 years of age. While their mothers were working, the children received a bath and the settler-volunteers washed their clothes. These day-care arrangements ended within a year, when CTC handed over its school to the Department of Education. By that time about 52 families had settled. CTC had provided the building, furniture made in the colony, and some land for training the children in agricultural practices; after relinquishing control, the company had no further involvement in the operation of the school until 1980, when it allocated an acre of land for a new building.

About 1970, CTC opened a dispensary. The company built one cottage, costing Rs. 50,000/-, and donated an initial stock of drugs and supplies for Rs. 10,000/-. A doctor visited the colony twice a week. Medical services, including an anti-malaria campaign, were coordinated through the Superintendent of Health Services in Badulla. The Family Planning Association promulgated birth control methods. After its initial inputs, CTC did not manage the dispensary, although throughout its management of the colony the company continued to provide transportation for settlers to the Mahiyangana Hospital 8 miles away, where there are a maternity ward and facilities for minor surgery.

{1} Thayer Scudder, "The Accelerated Mahaweli Programme (AMP) and Dry Zone Development: Some Aspects of Settlement," Report Number 3 to AID and MASL (1981), p. 5.

1.3 CTC's Institutional Mechanisms for Community Development

The responsibility for community development and settlement fell to Nihal Perera, a young accountant who joined CTC in 1969 as an office manager at MCS and later became the Resident Project Manager. Perera's involvement in the colonization scheme, from 1969 to 1972, spans the period of CTC's most intensive efforts. Perera belonged to the Lions Club and was imbued with a volunteer spirit; he viewed as a challenge the transformation of jungle into productive farm land and the settling of landless laborers. In addition to his community development duties, Perera, as manager, was charged with setting up the accounting system and organizing the CTC office at MCS.

Describing the effort to create a community out of settlers from diverse locales, Perera characterizes his role as that of a guide and counselor rather than as a boss. Nevertheless, he emphasizes that as manager his first responsibility was to CTC. In discussions with Perera, it became clear that he regarded the Community Center and the Multi-Purpose Cooperative Society (MPCS) as the primary mechanisms for developing local leadership and engendering community spirit.

The Community Center was formed in the early days of MCS and housed a library of books and newspapers as well as indoor and outdoor games. The Center was the focus of New Year's day festivities and, one year, a competition for the New Year Princess. More regularly, the CTC manager invited settlers to meetings where experts spoke to them about such matters as family planning, the use of malaria tablets, boiling drinking water, subsidiary food crops, irrigation, banking, or any other topic of interest to the settlers. From Perera's perspective, the Community Center was a vital forum for a continual dialogue between the settlers and CTC staff. The manager encouraged settlers to speak and express their opinions; when a group task was being planned, settlers decided on the division of duties and contributed food when needed. Although Perera intended to nurture initiative through participation in community activities, discussions with settlers suggest that all the organizational initiative originated from CTC staff. One man commented that the farmers worked all day until 5:30 p.m., bathed, and then bought provisions; they were not interested in trying to organize community affairs. After Perera's time, settlers did not maintain the community center; when MASL took over management in 1980, the building which had housed the Community Center was converted to quarters for MASL personnel.

The Navajeevana (New Life) MPCS was established about 1970. CTC provided a building and an area for grain storage; the Co-op members borrowed an estimated Rs. 10,000/- from CTC to open the outlet and repaid the loan within 5 years. The key functions of the Co-op were to provide credit to members through the People's Bank and to purchase paddy at a set price as an agent of the Paddy Marketing Board. In addition, the Co-op store sold fertilizer, agro-chemicals, dry foodstuffs, and textiles and housed

a bakery and tea shop. In establishing a co-op, the objective was to provide settlers all they needed so they would not have to go outside the colony. In the early days, the Co-op even sold furniture made by MCS carpenters.

The MPCS is an outlet of a national network; goods are purchased in Colombo and sent to base towns, in this case, Mahiyangana. Although membership was voluntary, all MCS residents joined the Co-op. Members paid a one-time fee of Rs. 75/- for basic privileges or Rs. 150/- if they wanted to be able to get credit. At the inception, farmers borrowed an average of Rs. 1,300/- for each of the two agricultural seasons; by 1975-1976, the amount was about Rs. 2,750/-. Credit was given in kind as required: seed paddy, fertilizer, insecticides, and herbicides. During sowing and harvests, farmers received cash for hiring labor. After the harvest, farmers sold their paddy to the Co-op, receiving the cash value minus the loan and 4.5-percent interest. During the first 5 years of operation under CTC management, the Co-op prospered and was acknowledged to be the best in Badulla District. Capital exceeded Rs. 100,000/- and the rate of loan repayment was high; applicants for loans were denied credit if they had outstanding debts.

For the first 5 years, the president, secretary, and treasurer were CTC staff members; eight settlers chosen by a show of hands at the annual meeting of the general membership served on the Co-op committee. The President was the CTC Resident Manager, who had attended a training course offered by the Cooperative Department concerning purchasing, reporting, and bookkeeping. The settler who became Co-op manager in 1975 also attended this training course.

The general membership met once a year, but the Co-op committee met with the CTC officers and the manager once a month to discuss loans, bank communications, farmers' needs, and purchasing. The main function of the settlers' committee was stocktaking. Ostensibly, the decision-making process was consensual; a general discussion between officers and committee members preceded any decisions. Nevertheless, discussions with Nihal Perera and involved settlers make it clear that the committee acquiesced in the decisions of CTC officers, because the CTC staff had close rapport with the settlers, and the latter felt that CTC had their best interest at heart.

After Perera left MCS, the CTC Officer-in-Charge acted as ex-officio president of the Co-op. In 1975, the management was turned over entirely to the settlers. According to informants, the MPCS ran smoothly for about 2 years and then deteriorated because of corruption. The manager lent Co-op money to people in order to obligate them to him. The committee was too weak and the officers too corrupt to stop the embezzlement. In 1979, the manager absconded with a truck and Rs. 15,000/-, leaving his son as manager of the Co-op. It is symptomatic of the Co-op's weakness that members tolerated the son for 2 years, although admittedly he was from "the same bunch of coconuts" as his father.

Under CTC's management, the Co-op had been a model supplying all the settlers' needs and providing agricultural inputs on time. As the years went by, other shops grew up to compete with

the Co-op. When the Co-op began losing money from corruption, it had to purchase goods weekly rather than monthly, and the quality of its merchandise declined. By 1982, it could no longer supply farmers with agricultural inputs and they no longer needed to rely on one source. The Co-op was declared bankrupt in 1983 and is now managed from Mahiyangana; although one of the MCS residents is the nominal president of the Co-op, he has no actual responsibilities in its operation. Credit and inputs are now coordinated by MASL.

1.4 Organizational Initiatives by Settlers

Settlers' organizational initiatives have been sporadic and generally unsuccessful; they include (1) mutual benefit societies, (2) a temple society, and (3) attempts to negotiate with CTC. Several times, settlers formed death societies (Marandara Samithya) to provide aid to families at the time of a funeral; all these failed because members did not pay their dues. Recently, the current president of the Co-op founded an Anyonyadara Samithya (a mutual aid society), the purpose of which is to aid members' families, not only on the occasion of a death but in times of any genuine need, whether illness or the need to purchase fertilizer. According to plan, members are expected to contribute Rs. 100/- every 6 months after harvests; applicants for aid will receive cash grants and have to pay 10-percent annual interest on the loans. This society has existed for only 6 months; so far, 13 members have accumulated Rs. 3,000/- and have chosen officers, but nobody has yet applied for grants. The association is too new to predict whether it will succeed where more narrowly focused groups have failed.

In 1976, MCS residents organized to start a Buddhist temple and chose a priest. With the consent of CTC's Leaf Division Director in Kandy, an old generator room was allocated for the temple as well as 2 acres of irrigated land and 4 acres of highland. The colonists constructed an Audience Hall for which the company donated 16 benches and a table; the structure was dedicated by the Leaf Division Director in May 1976, at which time he promised Rs. 10,000/- for the construction of a shrine room. Thereafter, the colonists showed little interest in the project, and the priest complained to CTC staff that they did not give alms to support the temple. CTC staff met with colonists to stress their responsibility to care for the temple and the priest. MCS residents chose another priest to replace the first and with his help completed the temple in March 1978. The Leaf Division Director officiated at its opening and personally donated a brass lamp; although the Leaf Division Director laid the foundation stone for the shrine room, CTC never gave the money for its construction. Nine months later, the second priest departed suddenly, leaving the keys to the temple and the brass lamp in the care of a head priest in a Mahiyangana temple. CTC staff retrieved the keys and lamp and then sealed the temple until its management could be handed over to an established Buddhist organization.

The inability of MCS residents to sustain organizational initiatives is again reflected in their handling of conflicts, an examination of which also provides clues for an explanation of the leadership void. During the time of CTC's management, settlers went directly to the

operations managers or their underlings to resolve disputes among colonists. MCS residents accepted the managers' decisions and clearly respected the discipline maintained in the colony. Settlers felt that a relationship of mutual respect existed between themselves and the CTC staff. Direct intervention by CTC employees resulted in little conflict, but it also undermined the emergence of local leadership and contributed to the consequent inability of settlers to deal collectively with CTC when their interests diverged or to solve their own problems.

The first confrontation between CTC and the settlers seems to have occurred in 1970 after the Sri Lanka Freedom Party (SLFP) Government came to power. During the election campaign, the local SLFP candidate for parliament had raised expectations that, if elected, he would take land from the companies holding special leases and distribute it to the people working the land; he had advocated unionizing. In the CTC colony, a tractor operator instigated settlers to unionize; these settlers pressed CTC to provide them free tractors, allowances, and more services. By this time, CTC had already allocated individual 2-acre plots of paddy land to all MCS settlers and was the only company not forced to abandon its special lease project. Feeling that CTC was in a strong bargaining position, the Resident Manager persuaded the SLFP Member of Parliament (MP) to speak to the settlers; in his speech, the MP apparently distinguished CTC from the other companies, which had commercially exploited their leased lands, stressing that CTC was performing a service and did not owe the settlers anything. The result was the discrediting of the local union leader, his departure, and the termination of the movement.

In 1975, the company decided to cut off electricity because of the rising cost of diesel fuel that powered the five generators. In the same year, CTC terminated the domestic water supply, because settlers were using tap water to irrigate highland crops and thus emptying the water tank rapidly. One informant recalls the settlers approached the MP to intervene, but he was unsympathetic. Others relate that small delegations of settlers approached CTC officials locally or in Kandy. Although informants differ on the details of the incident, they all felt that negotiations were useless. CTC determined its policy, and the settlers were neither consulted nor could they bring any pressure to bear to alter the outcome. Some informants allege the company provided favors to the most vociferous settlers to end the agitation. Whether or not the accusations are true, MCS residents clearly felt powerless in their dealings with CTC.

CTC files reveal that by late 1978 several MCS residents had formed the Kotaliya Navajeevana Rural Development Society to negotiate with the company. It is noteworthy that colonists interviewed seemed unaware of its existence, and internal company memos assume the society did not have broad support among colonists. Even though CTC had drastically reduced its staff and direct involvement in the settlement by the end of 1972, minutes of a meeting held on December 1, 1978 indicate that colonists still looked to CTC officials to solve problems. At this meeting, five representatives from among the colonists raised several issues including the promised donation of Rs. 10,000/- for the MCS temple, malfunctioning pumps, damage to irrigation channels, the development of the remaining acreage under lease to CTC, use of irrigation water on the experimental farm, housing the school staff, provision of tractors, the management of the Co-op, indebtedness among farmers, transportation for medical

emergencies, and the necessity of regular meetings between colonists and CTC officials. Though the company agreed to regular semiannual meetings, the minutes indicate the colonists gained little from this first one. Company responses to the issues ranged from a declaration of no intention to develop the land further to promises to consider further the donation to the temple and housing for school staff. While assuming complete responsibility for the lift irrigation pumps, in other matters CTC stressed the colonists' responsibility for their own affairs, specifically for channel maintenance, using the Co-op to arrange for tractors, paying debts, and riding the bus to consult doctors. The company's responses reveal their desire to wean colonists from their dependent relationship and give a clear message not to take their grievances to Government officials or to the Managing Director of CTC.

The Rural Development Society does not seem to have improved MCS settlers' bargaining strength. The same pattern of ineffectual, one-sided negotiations characterized colonists' final confrontation with CTC over the company's decision to relinquish responsibility for the lift irrigation system to MASL in July 1980. MCS residents signed a petition agreeing to a higher water tax and sent delegations to the CTC office in Kandy and to their MP. As in previous cases, the settlers were powerless to change CTC's policy, and the MP did not reverse the decision. Originally, settlers had paid Rs. 150/- per planting season per allotment for irrigation; in maha 1979/1980, the price increased to Rs. 350/-, according to CTC files. Because of increases in fuel prices, MASL would not operate the irrigation pumps for less than Rs. 500/- per season and also wanted colonists to pay for maintenance and repair, which they could not afford. Consequently, the 44 allotments receiving lift irrigation were without water until 1983, when MASL provided gravity-fed irrigation. In the interim, people who had earned their income entirely from agriculture and had achieved yields well above the national average sought other sources of income and received World Food Program rations and other aid that MASL provided to all System C settlers. The point is that in the case of lift irrigation, CTC had made the settlers totally dependent on the company's continuing expenditure to maintain the system; even the existence of effective settler organizations would not have altered the outcome, because the colonists lacked the resources to maintain the pumps and had no leverage on CTC.

1.5 Conclusions: Impact and Lessons Learned

In retrospect all colonists interviewed agree that the lasting impacts of CTC's project for them have been their receiving a house, land, and agricultural knowledge from CTC's intensive and excellent agricultural extension services. However, although CTC's stated objective was to create a self sufficient community, the foregoing discussion has described the failure of CTC-initiated institutions and settler-founded institutions to produce self-sustaining settler organizations or leaders. When asked about leadership, settlers comment that they are neither united nor disunited; everyone at MCS attends the others' weddings and funerals but otherwise minds his or her own business. Some commented they all have the same things or

are not from the same home villages and therefore do not accept anyone's leadership. Since CTC's withdrawal, even shramadana-s, "gifts of labor" to accomplish an agreed-on task, have ceased.

Today, people recall the days of CTC management with fondness, cherishing memories of prosperity, discipline, and self-respect. Colonists liken the company to their parents, with the house and land being dowries their real parents could not provide. The MCS settlers did not want CTC to leave, and most were under the impression that CTC's management would continue for at least 25 years.

From CTC's perspective, the colonization scheme succeeded in settling landless people, producing high agricultural yields, and in generating favorable publicity.

In viewing MCS as an integrated rural development project rather than as a public relations investment, several factors emerge to explain the high degree of dependency and lack of leadership among settlers and to suggest ways in which CTC's approach might have been modified.

First, the planning was done entirely by CTC without any attempt to involve the settlers. The future colonists were paid laborers who initially did not know they would be beneficiaries or participants. Even after the chosen settlers received their houses and highland allotments, CTC, for tax purposes, continued at first to pay them as employees working communal paddy lands (in 1970, each household received individual 2-acre plots of irrigated land). Except for membership in the Co-op and later water and electricity payments, settlers did not invest their money, time, labor, or ingenuity in the project. CTC's intensive, high-quality extension services transformed laborers into good farmers who were technically qualified to carry on after CTC's withdrawal. The company assumed that providing settlers with agricultural expertise necessary for their livelihood as well as physical and social infrastructure would result in a self-sustaining community. What was lacking was involvement of colonists in problem-solving efforts from the early stages of the project. Given the nature of the MCS project (i.e., carving a settlement out of a jungle), CTC's management and inputs were required from the beginning. Nevertheless, the company could have reduced the danger of settler dependence by earlier settler selection, requiring some commitment of their resources, and actively involving them in identifying and solving on-site problems from as early as the clearing stage of the operations. Such an approach might have facilitated identification of leaders and functioned to establish some basis for community cohesion.

Second, in the absence of an initially participatory approach to planning and implementation, CTC's leadership skills and authority functioned as a surrogate for any local social cohesion and served to undermine local initiative and any natural processes of group formation. This undermining occurred for two reasons. One reason was that regardless of the efficacy of settler organizations, CTC's resources were essential to

maintain the lift-irrigation system; in this respect settlers' dependency increased as fuel prices rose.

The other reason involves the divergent interests of the company and the settlers. The project was highly successful in those areas where settlers' and CTC's interests were congruent, namely technology transfer and agricultural production. In those areas where their interests diverged, CTC's responses to local initiative in effect robbed people of confidence that collective action could solve their problems. To be more specific, the settlers' interests lay in extracting the maximum benefits from their wealthy patron. CTC's policy objective was to generate favorable publicity by sponsoring a model colonization scheme whose success was measured by crop yields and settlers' incomes. It is not necessary to cast doubt on their good will or sincerity to appreciate that the careers of the CTC field staff obviously depend on their generating the highest returns at the least cost. They felt directly responsible for agricultural production. Consequently, extension activities had high priority, and the local management intervened directly whenever interpersonal conflicts threatened to disrupt the colony.

Whereas the Resident Manager felt he was nurturing leadership through the Community Center and the Co-op, the role of local staff in conflict resolution is likely to have retarded the emergence of influential settlers. Furthermore, whenever settlers organized to negotiate with CTC over benefits, the company was free to bestow or withhold benefits according to its own interests, because ultimately the settlers were dependent on the company and had no power over it. Settlers' inability to negotiate with CTC was alone sufficient to undermine confidence in the efficacy of collective action. Further, one other factor is suggestive. In their cross-cultural study, Esman and Uphoff found that local groups seldom enter into sharp confrontations with officials or local elites unless they share some basis for trust and cohesiveness;^{2} in the case of MCS organizations, CTC itself was both the basis for solidarity and the opponent. Whereas Esman and Uphoff found that crises often help to consolidate local organizations,^{3} for MCS settlers, each confrontation with CTC provided one more proof of their impotence.

A third reason for the leadership void is that the company's conscious efforts to develop leadership through the Community Center and the Co-op were undermined by their top-down approach to the problem. Clearly, the Community Center did not respond to any felt need of the settlers. Though the educational meetings were probably useful to colonists, they regarded the Center primarily as a recreational facility. Although colonists were willing to reap the benefits of the Center as long as activities were initiated by CTC, in the end they were not willing to shoulder the costs in time, effort, or money required to maintain it.

Within MCS, the Co-op was the only broadly participatory organization through which leadership might have emerged. Under CTC management, the MPCS was characterized by several of the elements that Esman and Uphoff have found to be associated with successful, self-sustaining local organizations, including the

following: (1) fulfillment of settlers' high priority needs, (2) a small base level organization linked to a national cooperative network, (3) member participation in decision-making, and (4) membership accountability to the extent that debtors could not receive further credit.^{4} Nevertheless, the Co-op failed within a few years of CTC's withdrawal for several reasons related to CTC's top-down management. Although decision-making occurred after discussions among the executive officers and committee members selected by the settlers, it appears that CTC officers steered the process toward the outcomes they desired. Although CTC's and settlers' interests were congruent in this case, the end result of CTC's management of the Co-op was that settlers did not receive adequate experience in planning, decision-making, or resource management. The committee's main responsibility was stocktaking, and its membership changed annually. Consequently, when management was taken over by the colonists, bearing office in the Co-op seems to have been viewed as an avenue to control and tap the resources that CTC had managed. The ensuing corruption and failure might have been averted if more members had received Cooperative Department training in management skills and had gained more practical experience in running the Co-op under CTC's watchful eye. Instead, only one colonist, the manager, received formal training, and only he remained involved in the operations of the Co-op from year to year. Under the settlers' management, the Co-op was unwilling or unable to impose sanctions on the corrupt manager and other dishonest officers, a situation that led to loss of confidence in the Co-op and its bankruptcy.

The fourth and final factor in explaining the absence of viable settler organizations or leaders in MCS is CTC's rapid withdrawal. By 1973, CTC staff had been reduced to three people who spent about 75 percent of their time working on the newly acquired experimental farm. In studies of the settlement process cross-culturally and in Sri Lanka, Scudder has identified four chronological stages, each having distinct characteristics and problems.^{5} The second or "transition" stage, when settlers arrive, rarely lasts less than 5 years; this stage is characterized by risk avoidance in agricultural strategies and low productivity, with settlers aiming only to meet their families' needs for food. Because of CTC's direct management of the colony and intensive extension efforts, the company considerably reduced the risks for settlers and succeeded in achieving high agricultural yields. Nevertheless, because of the short time span between arrival of the settlers' families and CTC's retrenchment in 1973, it is doubtful that the colony had indeed reached the third stage of the settlement process, "economic and social development," in which settler organizations become effective mechanisms for community integration, economic development, and political action.⁶ CTC's total withdrawal in 1980, the stoppage of irrigation water to 44 plots, and the closing down of the experimental farm along with its opportunities for wage labor produced an unprecedented crisis for the MCS residents. Even if from the inception CTC had employed optimum techniques for nurturing settler organizations and leadership, it is reasonable to hypothesize that the company's involvement was too short lived to have produced a well-organized and smoothly running community with settlers

from such diverse backgrounds and places.

In the end, CTC failed to transmit the one skill in which a private, profit-oriented organization is strongest: management techniques. In its goal of producing a model colonization scheme, CTC managed the settlement process and the colonists efficiently and intensively but in so doing deprived the settlers of the opportunity to acquire the skills needed to organize themselves for collective action in CTC's absence. To their credit, CTC officers involved in MCS and in more recent social service projects have derived useful insights from their MCS experience. Specifically, they realize CTC spent too much on ancillary services such as electricity and domestic water and that lift irrigation was inappropriate for a settlement scheme because of settlers' inability to maintain it themselves. CTC is now cognizant of the dependency created by paternalism and seeks active involvement of villagers in its ongoing projects. Finally, the company is convinced of the need to restrict operations to areas of its greatest expertise and to transmit know-how rather than largess. With these lessons in mind, CTC withdrew from the Mahiyangana scheme in 1980 shortly after embarking on a new project in MASL's H-9 area.

{2} Milton J. Esman and Norman T. Uphoff, *Local Organizations: Intermediaries in Rural Development* (Ithaca, New York: Cornell University Press, 1984), p. 207.

{3} *Ibid.*, p. 262.

{4} *Ibid.*, pp. 145-147, 158, 223, and 237.

{5} Scudder, pp. 4-5.

2. CTC AND MASL'S SYSTEM H, BLOCK 9

2.1 Background

Whereas with MCS CTC was the sole planner and implementor of a truly integrated rural development project, the company's role in H-9 was far more circumscribed.

There, community development was not considered to be CTC's responsibility either by MASL or CTC. CTC was to handle agriculture, not including water management. It soon became

{6} *Ibid.*, p. 6.

clear, however, that the initial management understanding was unworkable, creating divided loyalties for colonists and jealousy among the field staff of the two independent organizations. Furthermore, CTC field staff found it difficult to coordinate their cultivation patterns with water allocations planned from Colombo by MASL and not known far in advance of the season. In addition, both parties agreed that community development in H-9 was lagging behind other H blocks. These difficulties resulted in a series of

discussions and negotiations between MASL and CTC. By November 1981, CTC expressed willingness to assume responsibility for community services, water management from the distribution channels downward, and maintenance of the irrigation system and roads. Minutes of a meeting held in October 1981 note that CTC's community services would include the following: (1) identifying places for the construction of wells and the groups of farmers who would use them, (2) supervising construction of wells and latrines with materials supplied by MASL, (3) "association" with the selection of volunteer health workers and implementation of the health program, (4) maintaining roads with costs reimbursed by MASL, and (5) training farmers through a program organized by CTC. CTC planned to recruit its own staff to replace MASL field staff in water management and community development. Although CTC never assumed formal responsibilities for community development or water management, MASL instituted payment of a management fee to CTC of Rs. 700,000/ - annually, commencing April 1, 1981, apparently in part to cover salaries of staff and travel expenses connected with water management and community development.

CTC's Resident Project Manager from 1980 to 1983, Norbert Wijewarnasuriya, believed that CTC should become involved in water management and community development to increase the effectiveness of CTC's main functions in H-9. In an April 1982 memo, he urged that CTC staff replace MASL people in field-level water management, believing that CTC's proper role was to assist MASL at the field level. He stressed the need for CTC to bear the cost of transporting health personnel, as well as materials for wells and latrines, for women's training programs, shramadana-s (group labor for a specified task), and major Buddhist festivals.

By January 1981, CTC had hired a community development officer for H-9 and the corporate plan, including the 1982 budget, lists water management, infrastructure, maintenance, and community development as key areas along with production, extension, and marketing. According to this plan, community development activities would revolve around two key areas: homestead development and community services, such as the provision of wells, latrines, roads, and public transport. To improve farmers' incomes, the plan called for introduction of bee-keeping, poultry, and livestock on the homestead. To implement community services, the plan suggested that CTC work with MASL, UNICEF, and other donors. CTC's contribution would include organizing Young Farmers' Clubs and a Home Garden Competition as well as festivities on two major Buddhist holidays.

2.2 CTC's Community Development Activities

CTC's community development activities were natural out-growths of its extension activities that occurred through regular visits to farmers by the nine field officers, informal discussions in turnout groups of 10-15 farmers, cottage visits, and preseasonal meetings. Cottage visits were made to farmers whose production was poor; during these visits, the field officer or community development officer would try to identify the problem and suggest solutions, both technical and social. In addition to the turnout groups, the preseasonal meetings

were the most important forum for teaching cultivation techniques. Held twice a year about 2 months before the maha and yala seasons for 50-75 farmers at a time, the pre-season meetings organized by CTC attracted whole families, including women who took an active interest in learning agricultural techniques. The Resident Project Manager spent about an hour and a half giving technical advice; bank officials attended to answer questions about credit. For example, the meeting prior to yala 1983 covered the following topics: (1) experiences of yala 1982 and maha 1982/1983, (2) discussion of the program for yala 1983, (3) improvement and maintenance of home gardens, (4) obtaining maximum yields in yala, (5) overcoming waterlogging of highland during maha rains, (6) seed supply, and (7) credit. Farmers regarded these meetings as very informative.

The Home Garden Competition, organized in 1982/1983, is a direct outgrowth of CTC's interests in crop diversification. CTC sold seeds and seedlings to the over 600 competitors and instructed them in the cultivation of a variety of crops including coconut, mango, papaya, lime, orange, coffee, turmeric, chili, onion, pulses, soybean, and other vegetables. The first-prize winner also practiced bee-keeping. CTC offered prizes as incentives. Project-wide prizes included a first prize of two Sahiwal cattle worth Rs. 3,000/-; second and third prizes of sprayer tanks worth Rs. 2,000/- each; and seven consolation prizes, each an agricultural kit worth Rs. 450/-; in addition, first, second, and third prizes were offered within each of the five irrigation blocks of H-9. The competition was a tremendous success in terms of the improvements in home gardens and in the enthusiasm it generated. The prize distribution in May 1983 was attended by two local Members of Parliament and CTC's Finance Director and attracted 3,000 spectators. The Young Farmers' Clubs (YFCs) organized entertainment, and the event resulted in three radio broadcasts, including interviews with farmers.

YFCs, inspired by the 4-H model, were begun as a means to teach agricultural techniques to future farmers and instruct them in the use and preservation of their produce. The functions of the groups went beyond agricultural extension, however, and provided an instructive example of how successful and dynamic local organizations can develop. CTC organized the YFC beginning in 1981-1982 for young people aged 14-25; membership was voluntary and those who attended contributed Rs. 1/- at each meeting. The clubs were organized by CTC's community development officer through the nine field officers. In addition, there were four or five adult volunteers from each local community to help in organizing the youth. Notably, about half the clubs' membership was female.

Meetings occurred once a month in a school, home, or public building. A typical meeting began with a Buddhist prayer, followed by the secretary's report on the previous meeting, motions and suggestions, and the collection of dues. Thereafter, members discussed plans for the month's activities and set a day for their shramadana, the "gift of labor" to accomplish some agreed-on task. The adult volunteers and then the field officer gave talks. Finally, members presented some entertainment and

planned their next meeting. CTC's Resident Project Manager, Mr. Wijewarnasuriya, who had visited the U.S. 4-H Headquarters in Chevy Chase, Maryland, attended as many of these monthly meetings as possible in order to generate enthusiasm and build unity among the members. Typically, the meetings lasted 1-2 hours and, because of the entertainment and topics of general interest, would attract up to 150 spectators of which only 40-50 were actual members.

Former YFC members credit the clubs with imparting valuable agricultural knowledge to them. Members cultivated demonstration plots and received instruction on cultivation from the field officers. The club required members to keep accurate records of what they grew in their home gardens. Young people particularly remembered lessons in home gardening, bee-keeping, and the use of fertilizer, herbicides, and pesticides.

Shramadana-s were the most popular of the clubs' activities and involved young men and women working together. The chosen task usually lasted about 5 hours and included a snack contributed by participants. Through the shramadana-s members became involved in a variety of community activities, including the following: cleaning field channels; maintaining roads; transplanting planting, harvesting, and weeding on members' land; cleaning temple compounds; and building bus stops. One informant recalled that for funerals, CTC officers would organize the YFC to collect money for poor families, to construct the customary decorative display (pandol), and to decorate the road for the funeral procession.

Through the YFC, the community development officer and field officers conducted cooking classes for women in 1983. The purpose was to teach women a variety of soybean preparations to encourage growing soybeans and to instruct them in making jams to preserve crops such as papaya and tomatoes. Each field officer conducted one class a month in his area; a total of 45-60 women participated.

The clubs engaged in a variety of activities. Two clubs opened libraries from which members could borrow one book or magazine weekly; the collections included both educational and recreational reading. One club sponsored a first-aid course. Other activities included a New Year sports meet; film and slide shows for members and nonmembers, from which Rs. 2,500/- was raised to improve existing libraries and establish new ones; a foundation stone laying at a temple; observance on the occasion of Buddhist religious holidays; dramas and variety shows, including one for the prize distribution of the Home Gardening Competition; and a program of farmer interviews, which was broadcast on the radio. The YFC's participation in a religious procession on Posen, a Buddhist festival, was so successful that it was planned to be an annual event. An exchange program permitted YFC members to go to other districts to learn about different crops and techniques. In 1983, seven YFC families hosted delegates on exchange from six different districts. In addition, some members participated in educational tours with their parents to places such as the Victoria dam and Polgolla diversion project.

The YFC were active for about 2 years, in which time 12 clubs were formed, of which 10 were considered quite active.

With the evident success of the YFC and its enthusiastic membership, CTC's Resident Project Manager, Mr. Wijewarnasuriya, developed a plan to form adult groups to strengthen farmer organization at the hamlet and turnout level and to implement community development programs. The overall objective of these Farmer Development Societies (FDS) was fourfold: (1) to generate unity among farmers, (2) to identify farmers' problems, (3) to initiate self-help programs for solving problems, and (4) to act as a channel through which farmers could deal with authorities to solve their problems.

Four pilot groups had been organized in four villages by the first quarter of 1983, each including subcommittees for agriculture, health, and culture. According to the plan, the officers of the FDS groups would come from "turnout helpers." These men were to have been full-time farmers who were influential in their communities and accepted the CTC field officer as a friend and guide. To be effective leaders, they were expected to have the cooperation of their families and to sacrifice some time and expense for hospitality.

The planned scope of FDS activities was truly ambitious, but unfortunately so little time elapsed between their establishment and the end of CTC's management functions in August 1983 that they never really got off the ground. The progress report for June 1983 notes the activities of the pilot organizations. One cultural subcommittee had organized religious activities for Buddhist holidays. Two health subcommittees had carried out health surveys to find out which families were not using latrines, to select groups for well construction, and to popularize boiling of drinking water. Members of the agricultural subcommittee in Dambawatana settlement had established two private seed farms for the production of seeds from paddy, chilies, black gram, cowpeas, and soybeans. Through the FDS, farmers learned the proper procedures; according to one field officer, 150 farmers are registered to supply seed paddy and still do so.

2.3 Conclusions: Impact and Lessons Learned

MASL and CTC were never able to reach a mutually agreeable delineation of functions and authority in H-9. After 4 years, CTC handed its functions in H-9 over to MASL and remained in the area only to offer marketing services while exploring investment opportunities. When CTC relinquished responsibility for credit, extension, and its community development activities on August 15, 1983, the local organizations it had founded ceased to function.

Former members of YFCs expressed their distinct regret at the clubs' passing. Young men felt they had learned much about agriculture as a result of their membership. Everyone, including members' parents, expressed enthusiasm for the clubs' shramadana

activities and felt that the collective action and the interest shown by CTC field officers had generated unprecedented feelings of village unity. Two young women, one of whom had been president of a local YFC, recalled that initially girls' parents had opposed their membership but relented when they met the field officers. For the girls, it was an opportunity to get out of the house and "to come forward in society"; one commented that prior to this club she had not even been allowed to meet strangers on the veranda of her home. According to field officers, women had also shown interest in the FDS meetings.

Both the YFC and the FDS, as planned, differed from previous and subsequent local organizations in the scope of their functions. YFC differed from the earlier Village Development Societies, organized by Government Rural Development Officers, in that the latter were not coed and did not integrate social and cultural functions; consequently, members had found the organization to be less interesting. In Dumbawatana, when the YFC ended, all its members joined the local Buddhist society, which is concerned with funerals and religious matters. Although YFC members urged the priest to organize a society like YFC, he has not responded.

Despite of the evident interest of former YFC members, none has taken the initiative to try to keep the clubs going or to organize shramadana-s without CTC's help. In response to questioning, all replied that they needed CTC's leadership. Several factors emerge to explain this. First, it appears that the field officers shouldered much of the initiative in organizing activities and, in addition, were the repositories of the technical expertise, which was the *raison d'etre* of the clubs. The withdrawal of their services left a leadership void that members might have filled, but they could not supply the agricultural know-how. Second, CTC directly financed the more expensive activities such as educational tours and films. Although CTC's leadership roles, its knowledge, and its funding of local activities might eventually have retarded local self-help initiative as in Mahiyangana, time was the critical factor in the cases of YFC and FDS. Neither of these organizations endured long enough to allow meaningful assessment of their potential for long-term viability. Although both organizations collapsed with CTC's withdrawal and have not been stimulated or encouraged by MASL, YFC and FDS represent marked departures from CTC's earlier approach to integrated rural development.

In Mahiyangana, CTC officials consciously nurtured leadership through two organizations, a cooperative and a community center, which correspond to two types of local organizations in Esman and Uphoff's threefold typology, namely cooperatives and a form of interest association.^{7} Both organizations failed to produce leaders or become self-sustaining because of CTC's top-down approach and settlers' real dependence on the company to maintain the lift-irrigation system. In contrast, the YFC and FDS in H-9 correspond closely to what Esman and Uphoff have called "local development associations," which are characterized by multiple development functions on an area basis and membership based on residence.^{8} Furthermore, in conception and implementation,

CTC's activities to establish these groups conform more closely to Esman and Uphoff's recommendations on how "catalysts" can assist in the formation of effective local organizations. Effective catalysts usually come from outside the community, have more education than local people, and therefore are less vulnerable to attacks on their reputation; in both CTC projects, their personnel met these criteria. Ideally, a catalyst establishes rapport with local people, then initiates discussions to identify local problems and solutions within local means to accomplish. The next step is to demonstrate local capabilities and motivate members to become and remain involved. Outside efforts should supplement ongoing local initiatives rather than substitute for them. Successful local organizations are usually small groups with informal procedures, linked horizontally and vertically into wider networks; they frequently begin with a single valued function. Membership involves people in a learning process, and effective action stimulates the group to assume wider responsibilities.{9}

In H-9, CTC gained considerable respect among farmers for its extension services prior to its attempts to organize people. Having established rapport with farmers, the field officers began organizing YFCs, whose main function was the teaching of agricultural techniques to further crop diversification. The shramadana-s functioned to solve locally identified problems and thereby to demonstrate the effectiveness of collective action as well as to generate enthusiasm and commitment among members. Contrary to the generalization that beginning with a single-valued function is the most frequent means of founding a successful, multifunctional development society, discussions with former YFC members make it clear that the social and cultural functions of the clubs from their inception distinguished them from other local organizations and were significant in fostering the unity and interest interest commented upon by several informants.

From the levels and breadth of activities, the interest they generated, and the agricultural training they imparted, it is reasonable to conclude that both the YFC and FDS held great potential for becoming effective local development organizations and might have done so if CTC had found ways to turn over initiative to members and had not withdrawn its support so soon.

Esman and Uphoff have also suggested that nurturing local organizations requires development agents to have some incentive for working through them.{10} In this respect, CTC's role can be distinguished from that of Government employees. Field officers were responsible for crop diversification and production; as employees of a profit-oriented company, their careers depend more on tangible results than do those of government employees. Consequently, the field officers' interest in local organizations was directly linked to promoting their company's interests. In H-9, CTC deserves recognition for approaching agricultural and community development in such an innovative way. In contrast to the MCS experience, the company's circumscribed role in the H-9 area was more conducive to the operation of successful development societies. Compared to MCS, H-9 residents were far less dependent on CTC, and consequently the local organizations would never have

been put in the position of trying to negotiate with an omnipotent opponent that was also its benefactor. In Mahiyangana, CTC's real power over the settlers stifled local initiative to an extent that would not have been possible in H-9. In H-9, the local organizations formed by CTC were working for the interests of CTC as well as for the interests of their membership.

{7} Esman and Uphoff, p. 67.

{8} Ibid., pp. 61-62, 67.

{9} Ibid., pp. 255-262.

{10} Ibid., pp. 274, 277, 280.

APPENDIX C

MANAGEMENT

1. MAHIYANGANA COLONIZATION SCHEME

1.1 Ceylon Tobacco Company Management of the Mahiyangana Colonization Scheme

Staff size and management intensity underwent great changes during the 1966-1980 period.

The largest staff and heaviest management involvement occurred from 1966-1971. In this period the Ceylon Tobacco Company (CTC) acquired the 1,000-acre tract on lease, cleared the jungle from roughly half of it, and chose 59 colonists from among the clearance laborers to settle on the land. The settlement of these people started in 1969, but at first they were allocated only a house and an acre of highland each. Two CTC operations managers directly controlled the land designated for paddy cultivation and used the settlers as hired hands to work the fields. (Some informants believe that this arrangement was, or was intended to become, a communal paddy cultivation system that the CTC and the settlers would hold and operate jointly while sharing in the proceeds; but we found no evidence that the paddy cultivation actually worked that way.)

CTC had four major tasks in the 1966-1971 period:

1. The physical work of land clearing, house construction, paddy field leveling, irrigation system construction, and so forth
2. Choosing the settlers from among the hired land-clearing laborers and getting them established on the land
3. Providing services and support for the settlers

4. Managing paddy production on the lowlands

Their staff at the Mahiyangana Colonization Scheme (MCS) comprised five people at the start of 1967, operating under the purview of the CTC Leaf Division, in Kandy. A Resident Manager (RM) was in charge, aided by a supervisor, a field instructor, an overseer, and a clerk. A group of 35-50 laborers did the manual work, with more added later.

Eight CTC trainees arrived in February 1967, raising the staff to 13, and an Assistant RM came later in 1967.

In 1967, Cedric Forster joined CTC as adviser to the Managing Director. Management control shifted from the Leaf Division, in Kandy, to Forster in Colombo. Forster, who visited MCS frequently and at times stayed there for certain periods with his wife (a patron of the school and the children), brought in a new RM, six more trainees, and a workshop foreman. In 1969, Forster replaced the RM with two operations managers and an office manager and added another field instructor. The maximum staff (22 people) was reached at that point, the Assistant RM position having been dropped earlier.

Cedric Forster is remembered as an autocratic visionary who was sure of what he wanted and had full authority from CTC to do it. His style appears to have been to issue commands to his staff to accomplish certain specific tasks over short periods (e.g., 2 weeks), without necessarily conveying to them an understanding of the desired outcome of these tasks or their relation to the larger picture. He seems to have served as the RM, in effect, with the on-site staff carrying out his wishes unquestioningly.

The CTC trainees were the main conduit for passing agricultural advice to the settlers.

In 1970, Forster left, and management control of MCS was handed back to the Leaf Division, in Kandy. The Leaf Division undertook three major changes:

1. It allocated the paddy land previously cultivated by CTC with paid settler labor to the settlers themselves at the rate of 2 acres per colonist.
2. It cut back CTC staff sharply, dropping those who had dealt with the CTC paddy cultivation.
3. It completed the remaining construction and released the staff that had been involved in that aspect.

Four trainees had left by 1971; eight more departed in 1972. In 1971, the Leaf Division dropped the two operations managers in favor of a new RM from the Leaf Division and returned the field instructors to the Leaf Division. The staff in 1972 consisted of RM Nital Perera, newly promoted from the

abolished job of office manager, two former trainees who had been promoted to field instructors, and a clerk.

The RM left at the end of 1972. His replacement held the title of officer-in-charge, a supervisory rather than managerial rank in CTC. He had a supervisor and a clerk as staff. The former was replaced by an overseer in 1973 or 1974. At this time CTC acquired the adjacent 50 acres and began its own farm. The staff subsequently spent about three-fourths of its time running the farm and the rest directly on the settlers. Regular staff visits ended, and the colonists were told to come in with any problems they might have.

E. Kumarage, the officer-in-charge, left in 1978, as did the clerk. The overseer was promoted to field instructor and took charge, having only two contract handymen as staff. All left after the handover to Mahaweli on August 1, 1980.

CTC gave very close attention to the colonists, especially before 1972. Its on-the-scene staff enjoyed considerable flexibility and leeway in carrying out company policy on the spot. Daily decisions were made in Mahiyangana and reported to CTC in fortnightly reports. The exception to this decentralized style was the Cedric Forster period, during which Forster apparently made virtually all of the decisions and in effect served as his own RM, whether he was in Colombo or Mahiyangana.

The CTC policy of giving the settlers practically everything they needed changed after Forster's departure to a combination of phasing down services and instituting certain service fees. The former took the form of handing over responsibility to the colonists for certain activities previously conducted by CTC. In some cases, the latter led to the farmers making alternative arrangements that were cheaper. High costs and a growing understanding of the dependency that CTC's practices had created appear to have been the company's main motives for scaling back. It is likely, moreover, that Forster's vision of the settlement was not fully shared by the Leaf Division, whose primary motivation presumably was to get on with the task of running the project at the least cost and bother to the company.

The sample of settlers we interviewed had memories of the CTC period that ranged from generally to highly favorable. The land, houses, and agricultural knowledge they received were the principal features of this positive assessment; without these gifts from CTC, it is recognized, most of them would probably be landless laborers today. Another theme often voiced was sadness and puzzlement, sometimes tinged with resentment, at CTC's departure. Several drew the parental analogy, saying that losing CTC support had been like losing their parents. CTC had done everything for them, and they were surprised and distressed when that ended.

1.2 MASL's Management of System C

After being handed over to the Government of Sri Lanka in 1980, the MCS became part of the Mahaweli Authority of Sri Lanka's (MASL) newly organized Zone 2 within System C, which came under development starting that same year. (Zone 1, essentially untouched by recent development, consists mainly of older settlement schemes; activity in zones 3-6 is moving progressively according to phased plans.)

System C is headed by a Resident Project Manager (RPM) responsible to the Executive Director of the Mahaweli Economic Agency in Colombo, which is the settlement arm of MASL. A staff of functional specialists assists the RPM in dealing with water management, lands, community development, engineering, marketing and credit, agriculture, accounting, administration, and security. In line positions below the RPM are the block managers, each responsible for some 2,000 families. The block managers also have staff: Block I, which covers the unit that incorporates the former MCS, has an agriculture officer, a community development officer, a land officer, an irrigation engineer, a surveyor, and support personnel. Next in line under the block manager come the unit managers. Block I has eight of them, each responsible for daily dealings with 200-250 families on average. Wiranagama unit, which includes the 59 ex-CTC settlers, has about 240 families. Its unit manager, like the others, is aided by a field assistant. Units depend on staff from the block office for technical services. With each settler in Wiranagama unit allocated 1 acre of highland and 2 acres of paddy, its unit manager has line responsibility for supervising about 720 acres or about 1.125 square miles of cropland with its accompanying roads, tracks, irrigation systems, and other facilities.

Unit managers establish settler groups within their units. In Wiranagama, the 59 ex-CTC farmers are organized into three groups of roughly equal size, and the remaining settlers comprise five other groups. The unit manager appoints a leader for each group after consulting the members of the group. The choice of ex-CTC group leaders apparently was not difficult to make in 1980, for the MCS colonists had by that time been in the settlement for as long as 11 years and consensus on the appointments emerged fairly readily. For the regular Mahaweli settlers just arriving in 1980, many of them strangers to each other, the unit manager's decisions on leaders may have required guesswork. Getting their groups formed also took longer.

The group structure served MASL as a means of distributing the food aid provided in the early stages of settlement before cropping patterns were established and harvests brought in. The groups also offer the unit manager a structure through which to pass information, such as announcements of the dates and places of upcoming clinics or cultivation meetings. Group leaders receive no compensation or special treatment, according to officials.

Although the group structure was described by System C officials as a top-down channel, they also stated when asked

that some complaints or disputes are raised from the settlers through the group leaders. Such matters tend to be of common concern, with individual farmers still taking their own complaints directly to the field assistant or unit manager.

In occasional extreme cases, the unit managers have changed a group leader; one group leader asked to be relieved. This has not happened among the ex-MCS group leaders, however.

Like the former CTC structure, MASL administration appears to function mainly from the top down and to be fundamentally paternalistic. Unlike the CTC operation, though, MASL operates through a very large, highly centralized bureaucracy and is correspondingly far more remote and impersonal. It is obvious that no Mahaweli settler, ex-CTC or not, can have nearly the same frequency or intensity of relationship with management that the MCS colonists had with CTC. That coupled with the large difference in length of settler experience between the two systems (4 years as of mid-1984 with MASL versus 11 years with CTC) makes assessment of the relative degrees of dependency difficult. What is clear, though, is that the settlers in both cases rely very heavily on their sponsoring organizations.

The major factor coloring the former MCS colonists' perception of MASL's management is the latter's decision not to continue CTC's admittedly expensive lift irrigation from the Mahaweli Ganga. Forty-two of the 59 settlers depended on that lift irrigation for their yala paddy cultivation. The other 17 settlers, at the opposite end of the settlement from the river, had received yala irrigation water from a small CTC-constructed reservoir fed by rainfall and a local catchment basin. The MASL plan to connect a System C diversion canal to the CTC reservoir, providing constant replenishment and enough capacity to serve all 59 farmers, did not take effect until yala of 1984, meaning that yala crops for most of the settlers were not possible in 1981-1983. Food aid similar to that provided for new MASL colonists offset some of the hardships of this period; certain farmers and their family members also found employment as hired labor with MASL or in related construction work to help make ends meet.

Yala 1984, which was finishing up during our visit in the second week of September, did not produce a good harvest. Although irrigation water via the CTC reservoir appeared to be reaching nearly all farmers freely, including those at the farthest point from the reservoir, production had been held down by pests, poor weeding practices, inadequate maintenance of water channels, and possibly some deterioration of settlers' agricultural skills following the departure of CTC's technical assistance and several years without yala harvests. Settlers also tended to be conservative in their cultivation practices because of uncertainty over whether the water had really returned for good. Moreover, the timeliness and intensity of labor inputs were perhaps not all they might have been, given patterns of supplementary paid employment that some settlers had established to help cope with the lean years.

The farmers we sampled among the 42 who had relied on CTC's lift irrigation felt abandoned by CTC and inadequately supported by MASL. But with the water now returning, hopes are rising for a better future. If System C can keep the water coming in sufficient amounts and in a timely fashion, plus deliver the other essential agricultural inputs on time, the ex-MCS colonists may have relatively few complaints in future years. Despite some fond memories of the past, they have had to adapt to a new reality as a tiny segment within an enormous scheme. As such, the keys to success are irrigation water and other essential inputs unaccompanied -- as indeed they could not possibly be accompanied -- by the kind of daily individual attention CTC provided.

2. SYSTEM H, BLOCK 9

2.1 CTC's Management

CTC understood that it was responsible for H-9's agricultural extension, inputs, credit, and marketing starting with yala 1979. In the first year its work applied only to a pilot area, but starting the second year the company extended these functions throughout H-9. This situation prevailed until yala 1983, when MASL assumed all functions for H-9 except marketing.

The project in its first year fell under the responsibility of CTC's Leaf Division in Kandy but subsequently was handed over to the jurisdiction of CTC headquarters in Colombo. Since 1979 CTC has maintained an RPM in H-9. He headed a small staff in the pilot year but subsequently gained a deputy and a production assistant, who directed tractor pool operations and land preparation. In addition, a head field officer aided by nine field officers carried out the basic extension work with farmers. In the office, a senior clerk supervised the work of three regular clerks. CTC also added a technical assistant and a community development officer. The remaining employees performed support functions as drivers, mechanics, and care-takers. For the most active period, then, the resident staff consisted of 19 members plus support staff.

The CTC RPM appeared to consider himself the functional equivalent of the Mahaweli RPM charged with overall responsibility for H-9 and four other H blocks. As such, he maintained basic relations laterally with the MASL RPM but, at times, also raised matters directly with MASL authorities in Colombo. It should be noted that the 1980-1983 RPM was not a career CTC employee; he had a background in Government agriculture service and had been picked up on a CTC contract for this assignment. The indications are that he knew his way around the Government and did not hesitate to use his Colombo contacts when he felt he needed help or support.

From MASL's standpoint, the CTC RPM's counterpart was a

MASL liaison or coordinating officer who reported to the MASL Deputy RPM for Water Management. This liaison officer evidently oversaw the work of an irrigation engineer, several engineering assistants, and the field-level jalapalaka seveka (water control officers), the latter charged with physically turning on and off the water flows according to the irrigation plan. This structure on the MASL side was in place before the system of a block officer, unit managers, and field assistants was extended to H-9.

As this foregoing description suggests, CTC managers again enjoyed considerable flexibility within a relatively small bureaucracy. The RPM's background and Government contacts probably added to that flexibility.

Our interviews with a selected sample of H-9 farmers consistently found that CTC's field visits were regular and effective. Most farmers apparently miss the kind of detailed personal attention they felt they received from CTC. (One man asked wistfully if we had come to reinstall CTC in H-9!) Time obviously did not permit the same proportion of interviews among over 2,000 H-9 farmers that we had conducted among the 59 MCS families, but the responses we got by sampling portions of four of the five irrigation subdivisions of H-9 were consistent enough to persuade us that we had discovered a common pattern (the sample came from poor families, well-to-do families, those who had come to H-9 from outside, those who had long lived in the area but had been resettled by MASL, Muslim villages, and other subgroups).

2.2 MASL's Management in H-9 Since 1983

The MASL management structure, now extended to include H-9, follows basically the same pattern seen in System C. Because System H is so large, however, it operates with three RPMs instead of one. The RPM whose jurisdiction includes H-9 holds responsibility for five blocks, namely H-1, which in fact comprises two blocks, H-2, H-7, and H-9. H-9 alone has 5,635 acres. The RPM's headquarters staff consists of DRPMs for agriculture, marketing and credit, and water management along with a community development officer, a land officer, a personnel officer, and an accountant. There is also a manager for forestry and environment, a security officer, and a public relations officer. Depending on the position, each of these persons has a technical and support staff ranging from 5 to 44 engineering assistants, clerks, mechanics, security "watchers," office aides, bookkeepers, typists, progress control officers, and so forth. All of these people are available for duty anywhere within the five blocks. Our count of the total came to 193 staff members.

In addition, the usual block managers perform line functions below the RPM. H-9's block manager supervises his nine units, each headed by a unit manager reporting to the block manager

and aided by a field assistant. The block manager has a technical staff: an irrigation engineer with various grades of assistants, two community development officers (one a woman responsible for home development), a marketing officer, a land officer, an agriculture officer, and an administrative assistant. Including support staff like a radio operator, a surveyor, a draftsman, clerks, typists, and office aides, we counted 52 H-9 block staff, aside from casual labor.

As in System C, authority appeared to be concentrated heavily in the RPM, with the rest of the structure designed primarily to carry out his directives. Although the staff is large relative to CTC's resident staff that had fewer duties to carry out, it does not, according to the farmers' testimony, seem to accomplish as much or do it as effectively. The usual comments were that agricultural extension work has dropped off noticeably in quality and quantity. A common response to questions about non-agricultural activities suggested that many respondents were not aware of any such MASL activities either before or since 1983. A more bureaucratic structure, more remoteness, markedly less personal attention, and less technical competence summarize the tenor of settlers' reactions to MASL's work compared with CTC's.

One especially interesting reaction that we heard frequently was that the quality of water management has declined since CTC pulled out of agricultural extension at the end of yala 1983. That surprised us, because CTC was never responsible for water management. The farmers agreed but stated that when water problems existed, the CTC agents would intervene with MASL authorities to straighten things out. They feel the difference now that this no longer happens. This finding -- that in effect CTC was helping make the MASL bureaucracy work better by a paternalistic intervention on the farmers' behalf--suggests that MASL still has some distance to go to make its complex structure responsive to the needs of the settlers. The kind of ad hoc intervention that CTC apparently practiced is no long-run solution, but the settlers benefited from it and clearly regret its absence.

APPENDIX D

LOGICAL FRAMEWORKS

The authors of this report have constructed partial, after-the-fact, AID-style logical frameworks for the Mahiyangana Colonization Scheme (MCS) and for the System H, Block 9 (H-9) project during its Ceylon Tobacco Company (CTC) period.

We did this as an aid to organizing our own thinking about these non-AID projects and to help place them firmly in the context of other AID-financed impact evaluations, nearly all of which deal with AID projects. The logical frameworks should help all readers sort out the major concepts that the team

believes lay behind the projects, especially the all-important purposes and assumptions.

With CTC and MASL involved in H-9, the logical framework must treat both perspectives even though our evaluation deals principally with CTC. We concluded that the two parties shared a common goal but diverged on the purpose.

The outputs shown in each case are essentially those that were actually achieved, because the projects did not have detailed implementation plans.

1. LOGICAL FRAMEWORK: MAHIYANGANA COLONIZATION SCHEME

GOAL

To reap broad public relations and political benefits for the CTC by offering a public demonstration of its corporate sense of social responsibility and willingness to make a direct contribution to national economic development

PURPOSE

To establish a self-reliant, socially cohesive rural development settlement on 1,000 acres near Mahiyangana

OUTPUTS

- Fifty-nine settler families trained in paddy and highland crop production
- Irrigation system supplying water for 118 acres of paddy, and 50 acres cultivated at the CTC farm for production and research
- Settler-managed cooperative supplying inputs and arranging for production credit and the marketing of paddy
- CTC farm serving as a research station to provide improved varieties and certified seed to colonists, produce soybean seed for the Department of Agriculture, and produce other seed needed by CTC
- Housing for settler families
- Domestic water and electricity
- Community center, day-care center, dispensary, school

IMPLICIT ASSUMPTIONS

- That early heavy doses of free CTC inputs (commodities, services, supervision) would establish a setting that encouraged settler self-reliance and eventual self-sufficiency
- That CTC's support was to be limited (although expected cost and intended life-of-project were not spelled out)
- That the cost of achieving the desired end-of-project status would not exceed CTC's willingness to pay
- That any political difficulties MCS might encounter could be neutralized with the good will and political benefit anticipated from the project

2. LOGICAL FRAMEWORK: SYSTEM H, BLOCK 9

GOAL

To test whether an enduring relationship can be established among a public development authority, a private firm charged with certain management responsibilities, and the affected farmers; that relationship should advance Government development objectives and simultaneously offer a reasonable financial return to the company and the farmers

PURPOSES

MASL

To develop an innovative management model in which a private company successfully assumes responsibility for many aspects of an integrated rural development scheme as possible

CTC

To demonstrate its development management capacity in H-9 while (a) realizing a net financial return and (b) generating favorable public relations and political mileage for the company as a partner in national development

OUTPUTS

- Two thousand settler families engaged in diversified production using agricultural inputs and technical assistance
- Functioning agricultural credit system
- Functioning CTC agricultural marketing system
- Functioning Young Farmers Clubs engaged in agricultural and community services

IMPLICIT ASSUMPTIONS (CTC)

- That its marketing functions and any agro-industrial activities it could develop would produce enough revenue to offset expenses and preferably to yield a profit
- That MASL would construct, maintain, staff, and finance all aspects of H-9 development apart from agricultural extension, inputs, credit, and marketing
- That CTC and MASL could develop a mutually satisfactory working relationship on key MASL-controlled activities that bear directly on agricultural production -- principally, irrigation water management