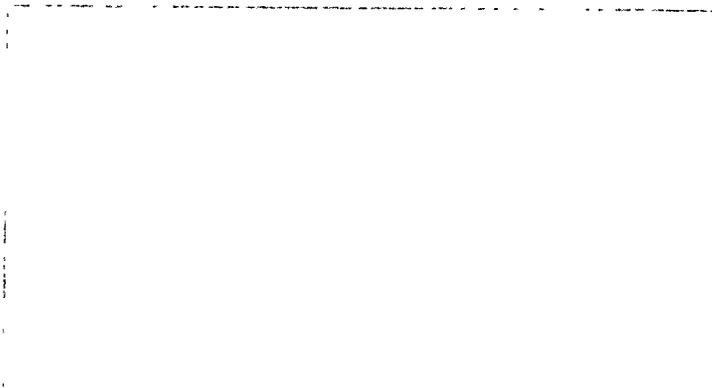


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THE ACCELERATED MAHAWELI PROGRAMME (AMP)
AND DRY ZONE DEVELOPMENT

REPORT NUMBER 7

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This report represents the independent findings and recommendations of the authors. It does not necessarily represent the official views of the Government of Sri Lanka or of the United States Agency for International Development.

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EXECUTIVE SUMMARY

I. INTRODUCTION

This report is the seventh in a series of evaluations of the Settlement Component of the Accelerated Mahaweli Programme (AMP) by Thayer Scudder and Kapila P. Vimaladharm. Initiated in 1979, all seven have been funded by the United States Agency for International Development at the request of USAID/Colombo. The information presented is gathered through the use of rapid appraisal techniques where the emphasis is based on repeated interviews of the same opportunistic but stratified sample of settler households in Systems B, C and H; on interviews with officials in Mahaweli agencies, with researchers, and with consultants who have studied various aspects of the AMP; and on reading of recent reports.

While we continue to be optimistic about the potential of the Accelerated Mahaweli Programme, we are very concerned about implementation defects limiting realization of that potential. We are equally concerned about lagging and inadequate government and donor support for completing what continues to be Sri Lanka's most important single development project, both economically and politically, as well as Sri Lanka's first major attempt at regional development.

During our recent field visit, we were again much impressed by the initiative and effort shown by the large majority of settler households to increase their production and living standards under very difficult conditions. These settlers are the main resource of the AMP and the principal risk-takers. They deserve the continued support of the Government of Sri Lanka and the donor community. We also found important programs of the Mahaweli family of agencies that are attempting to diversify settler production systems and to increase incomes, to increase settler participation through the formation of settler organizations, and to diversify the economies of the different systems through a range of private sector initiatives. These programs, combined with the ongoing initiative on the part of Mahaweli settlers, are already having a positive effect on disposable income and living standards which have improved incrementally since 1985.

On the other hand, we found serious impediments to the successful implementation of new programs and further rises in living standards -- impediments which will lead to a replication of poverty during the next five years in System H and the older settlement areas of Systems C and B unless urgent action is taken by both the Sri Lankan Government and the donor community. Urgent corrective action is also essential in regard to ongoing settlement in the northern portions of Systems C and B which is also at risk.

II. SETTLER INCOME AND MULTIPLIER EFFECTS

Because increase in disposable income of tens of thousands of small-scale producers is the engine that drives development during the early stages of industrialization, this year greater detail was gathered not just on costs of production for paddy and other field crops, but also on all sources of family income and on the full range of family expenditures. Household expenditures to meet the basic production, consumption,

educational and medical, transport, social and religious needs of a family of five average 46,566 rupees per annum (39.70 rupees to the U. S. dollar at 1989 exchange rates).

These expenditures are very much "basic needs" expenditures. Associated multiplier effects are related mainly to paddy production, rather than agricultural diversification (including dairy and livestock rearing), and nonfarm employment. "Basic needs" expenditures do not include, for example, conversion of housing from semi-permanent to permanent materials, nor do they include costs of household furnishings. They also do not include interest on production and consumption loans, or purchase of such economic assets as dairy cows, buffalos and oxen trained to plow, sewing machines, and two-wheel tractors.

For major multiplier effects to occur, we estimate that gross annual income for the majority should reach 70,000 rupees. Such an amount can not be generated through the double cropping of paddy alone. Its realization requires considerable diversification of the household production system. Such a production system includes not just farming systems on the 2.5 acre allotment and the homelot, but all sources of income to all family members including livestock management, wage labor and commercial activities

III. CONCLUSIONS AND RECOMMENDATIONS

CONCLUSION 1: In System H, and the older areas of Systems C and B, the Government of Sri Lanka and assisting donor agencies have approximately five years to help Mahaweli settlers increase their productivity, living standards, and net income to acceptable levels. If acceptable levels are not reached within this period, evidence provided to us by settlers, Mahaweli officials and researchers indicate that the settlement component of the Accelerated Mahaweli Programme (AMP) will fail to realize its stated objectives.

CONCLUSION 2: There is still time to reverse this adverse situation if corrective measures are properly prioritized, adequately funded by the Government of Sri Lanka and donors, and implemented in a timely fashion. Prioritization is especially important since there is neither the time nor the funding to take a "shotgun" approach. In regard to funding, enlightened donor support (rather than current hesitancy) is essential NOW if past funding is to be protected. Timely implementation with appropriate results is, of course, crucial. The recommendations that follow suggest the type of prioritization, backed by appropriate funding and implementation, that we believe to be essential.

RECOMMENDATIONS RELATING TO CONCLUSION 2

RECOMMENDATION 1: Continued diversification of the production system of AMP settler households, so as to increase both production and disposable (net) incomes, should share the highest priority along with the phased handing over of increasing management responsibilities to appropriate settler organizations (Recommendation 2) that also have the capacity to provide credit.

RECOMMENDATION 2: For financial and management reasons, as well as considerations relating to settler morale and well-being, a systematic, carefully prioritized program need be designed to speed up current efforts by the Mahaweli

family of agencies to hand over management responsibilities to settler organizations. Such organizations should not only be responsible for production and marketing activities, but also for land and water management. Hence in addition to production and marketing organizations, there would be land and water management organizations that could receive water at the branch canal level, paying for bulk supplies and collecting water fees from members to cover recurrent O & M expenditures. With legal standing such organizations would also be able to supply much needed credit to their members.

RECOMMENDATION 3: Hamlets facing special problems, as well as hamlets presenting special opportunities, should receive priority attention.

Discussion: Some priorities need be set for addressing settler problems and opportunities since there are insufficient staff and funds to deal simultaneously with all Mahaweli zones. We suggest that the hamlet be the unit chosen for attention. Examples of hamlets presenting special opportunities are those in System C's Zone 2 where both federated water user associations and dairy societies have been established.

There are also a substantial number of "hardship hamlets" where a significant number of settler households are affected by serious problems. Most frequent are defects in land preparation (leveling in particular) and in the irrigation system at the field canal level. Recently the Mahaweli Economic Agency has compiled a list of approximately 8,500 defects where 2.5 acre allotments can only be partially cultivated because of such defects. This figure approximates 15% of households settled to date. It probably is an underestimate.

Since inadequate land preparation and irrigation system defects are a major cause of settler poverty, high priority should be given to their correction, starting with hamlets in which such defects are concentrated.

RECOMMENDATION 4: A settler service unit such as announced by the Managing Director of the Mahaweli Economic Agency (MEA) in a July 3, 1989 notice should be institutionalized throughout the AMP to assess, prioritize, and correct settler problems. It should work closely with a donor-funded special unit within the Mahaweli family of agencies to correct the type of land preparation and irrigation system defects mentioned in the preceding section.

Discussion: MEA does not have the personnel, the funds or the equipment for the timely identification, prioritization, and correction of settler problems. In regard to defect correction, this is especially the case where re-surveying of canal and drainage alignments, and major alterations in land preparation and field canals, are necessary.

RECOMMENDATION 5: Planners of other economic enterprises in the AMP areas initially should emphasize activities which will have a direct impact on the incomes of settler households, and especially on incomes from agriculture including cropping systems, livestock management and social forestry.

Discussion: After a slow start in 1985, the Employment, Investment and Enterprise Development Division (EIED) initiated a series of high potential activities in Systems C and B. While the emphasis appears to be on agricultural programs such as outgrower schemes which can have a major impact on settler incomes, we doubt that sufficient

thought has been given to the balance between EIED's different activities.

While agro-industries, garment manufacture and other enterprises for the proposed industrial parks all have their place (indeed, are necessary to provide employment for second generation youth), as does training of entrepreneurs, we believe that primary emphasis at this time should go to agricultural activities that will significantly raise settler incomes from cropping systems, livestock production, and social forestry. As incomes rise, so will the demand of tens of thousands of settler households for housing materials and household furnishings, and a widening range of other goods and services that can be provided by the regional economy.

RECOMMENDATION 6: Because System H presents an especially difficult situation, a fresh approach to the solution of problems there is necessary.

Discussion: System H's main problems -- political disturbances and inadequate water supplies -- appear linked. New imaginative approaches are necessary to deal with the hardships that a majority of System H settlers have suffered as a result of this situation. Crop insurance has not been the answer. Not only has compensation received been significantly lower than settler losses, but many farmers seldom see the insurance money since it goes to the commercial banks to which they continue to be indebted.

One obvious approach is to improve coordination and understanding between the AMP's Water Management Secretariat and the farmers in System H in the timing and amount of water releases, and to base decisions strictly on development considerations. Another approach would be to provide additional storage facilities within System H through construction of small reservoirs. A third approach that deserves at least consideration is revenue sharing whereby a portion of the income from sales of hydropower is placed in a revolving fund for settler development. China pioneered this approach in the early 1980s in dealing with serious resettlement problems associated with the Danjankou Dam where approximately 383,000 people were evacuated from the reservoir basin. The Danjankou "remaining problems fund" has been so successful in moving large numbers of Chinese peasants out of poverty that a similar policy was implemented more recently for the Gezhouba Dam on the Yangtze River, and has been proposed for the Three Gorges Dam should it be constructed.

CONCLUSION 3: In areas still to be settled in Systems C and B, major improvements in settler selection, in the placement of settlers, and in assistance to newly arrived settlers is necessary.

Discussion: We found broad agreement that the quality of settlers has been deteriorating over the years in regard to their agricultural experience and their suitability for pioneering the problem-prone Mahaweli zones. Though such clear cut distinctions were not possible in 1985, this year we found electorate selectees in greater difficulty than purana villager, spontaneous, and evacuee settlers.

Looking to the future, a major effort should be made to observe the original selection criteria which stressed agricultural experience in addition to poverty and a family with small children. At the same time we believe selection interviews should include both spouses, since appropriate motivation in the wife is of no less importance than in the husband. To ensure that the wrong kind of settlers are not selected, and to

reduce patronage, the kind of community-based consensus used for the selection of Janasaviya families might also be applicable to Mahaweli settlers.

At this point in time when national efforts at reconciliation are ongoing, it is especially important to no longer use settlers as a mechanism for the realization of short-sighted political goals. We refer here to previous attempts to push desperately poor settlers into zones where the authorities knew full well that their lives were at risk because of conflicting land claims

A completely new approach for helping new settler households cope with the inevitable "settling-in" difficulties is essential. Among other things, provision of additional capital and materials for land preparation, potable water supplies, and appropriate housing is absolutely essential. Initial indebtedness, whether for agricultural purposes, or housing, must be avoided at all costs. This means that appropriate grants must replace loans at this time. Hence it must be accepted that initial expenses must be greater if the necessary type of future multiplier effects are to be realized. In regard to land preparation, a "settling-in" grant appears to be called for. The timing for the arrival of the first irrigation water should also be rethought. Other essential services at the time of arrival are available transportation (hence requiring adequate roads), and -- so families will be brought at the earliest possible time -- medical facilities and primary schools

RECOMMENDATIONS RELATING TO CONCLUSION THREE

RECOMMENDATION 7: Selection of future settlers should emphasize agricultural experience, and motivation of both husband and wife, as well as poverty and a couple with young children. Greater community involvement should be brought into the selection process. Since the continued ownership of land resources in the village of origin provides a temptation to return to the home area when Mahaweli going gets tough, where selectees have small land holdings, serious consideration should be given to handing these over to kin so as to provide a larger resource base for those who remain behind.

RECOMMENDATION 8: The Mahaweli family of agencies should stop settling poor people in zones where they are at risk because of conflicting land claims.

RECOMMENDATION 9: The type and amount of assistance given to settlers on arrival and during their first cultivation seasons should be rethought and upgraded.

CONCLUSION 4: While prioritization and implementation of present policies is the key issue at this point, current planning and monitoring capabilities for the next decade are inadequate. Planning and monitoring have been the responsibilities of the Planning and Monitoring Unit (PMU). While a case could be made that such activities initially should have been placed in the Ministry of Mahaweli Development, such is no longer the case. Reporting directly to the Secretary General, the PMU has been located throughout its existence in the Mahaweli Authority of Sri Lanka (MASL). The PMU should stay there. Its planning and monitoring capabilities should also be strengthened.

Discussion: In the past conceptualization occurred at the top of the Mahaweli family of agencies, with assistance from specially appointed task forces and individual "advisors." PMU was then asked to flesh out concepts into plans within the parameters

given. PMU also had the responsibility to monitor plan implementation on a monthly basis, developing a sophisticated audio-visual system to carry out that task.

Over the years PMU has developed under a single director a well-integrated and loyal staff with an excellent capability to work together. Currently, however, staff morale is very low, with one key staff member having already resigned and others looking for new jobs. There are, in our opinion, two reasons for this situation. One is the lack of direction/conceptualization from the top of the Mahaweli family of agencies. The other is the expectation that the PMU will become responsible for monitoring operations in all the agencies (numbering over 20) within the new Ministry of Lands, Irrigation and Mahaweli Development.

It will be hard enough for PMU to develop appropriate soil and water management, agronomic, and socio-economic indices to monitor the development phase of the AMP which has now taken over from the initial construction phase in System H and the older zones of Systems C and B. For this reason alone it does not make sense to extend PMU monitoring activities beyond the Mahaweli family of agencies.

RECOMMENDATIONS RELATING TO CONCLUSION FOUR

RECOMMENDATION 10: The PMU should remain situated within the MASL, with its director reporting to the Secretary General.

RECOMMENDATION 11: The functions of the PMU should be restricted to the Mahaweli family of agencies. Additional international assistance should be sought to help existing staff switch to planning for, and monitoring, the development phase of the AMP.

RECOMMENDATION 12: A high level task force should be appointed to assist the new ministers and the PMU prioritize for implementation the growing number of policies that are being set.

CONCLUSION 5: To ensure expected returns on GSL and international investments in the AMP, it is especially important for the Government of Sri Lanka and donor agencies not to cut back on their commitment to AMP, and on their financial contributions. Additional finance is needed to deal with "remaining problems" in System H and the initially settled areas of Systems C and B, and to deal with on-going settlement in Systems C and B, including prompt initiation of construction work on the right bank of System B.

Discussion: Within Sri Lanka we see lack of strong political support for the AMP as a very serious problem. This is the perception of both farmers and government officials. We see no reason to dispute their assessment. The Accelerated Mahaweli Programme continues to be Sri Lanka's largest and most important single development project. To reduce commitment and funding at this time, when well over one billion dollars in donor funds have been invested in a project that continues to have great potential as Sri Lanka's first major attempt at regional development, with national development implications, makes no sense whatsoever.

With settlement projects one cannot assume that multiplier effects will automatically follow from a given initial investment. This is because projects like the AMP involve

the colonization of problem-prone new lands areas in which adequate infrastructure and service centers, including regional marketing centers, cannot be assumed already to exist. At the same time because one is dealing with a relatively unknown problem-prone environment rather than with a well-settled old lands area, new problems are bound to arise which require urgent attention and hence additional funding. The downward spiral during the past 12 months of the living standards of thousands of settlers in System H is a major example. Another is the too slow increase in the living standards of settlers in Systems C and B, a situation that will require additional funding for income diversification, institution building and credit. Malaria, and unfamiliar soil types and increasing elephant damage in System B, are other examples of problems requiring further attention.

For reasons relating to Sri Lanka's political economy, and to economic returns, it is important for GSL and the donors to proceed at the earliest possible time with infrastructural development and settlement of the right bank of System B. Our most controversial conclusion, because of the security risks involved, we believe that prompt initiation of the right bank scheme should be given very high political priority as a major component of current efforts at national reconciliation.

RECOMMENDATIONS RELATING TO CONCLUSION 5

RECOMMENDATION 13: The Government of Sri Lanka should continue a strong commitment to the AMP as the country's largest single regional development project and largest single project.

RECOMMENDATION 14: Bilateral and multilateral donors should provide the necessary foreign exchange component to increase productivity, raise living standards, and build settler institutions in previously settled AMP areas, improve the quality of new settlement, and carry out the development of the right bank of System B.

I. INTRODUCTION

This is our seventh report dealing with the settlement component of the Accelerated Mahaweli Programme (AMP) -- earlier reports being written in 1979, 1980, 1981, 1983, 1984 and 1985. A brief visit was also made in August, 1988, in order to lay the groundwork for our current evaluation which involved four weeks in the field and several weeks in Colombo during October and November, 1989. As in the past, our emphasis was on re-interviewing settler households in Systems H, C, and B that had been selected during the 1979-1985 period. Selected on an opportunistic basis to include government-sponsored settlers from different electorates, evacuees from reservoir basins and transbasin canals, host (purana) villagers, and pre-AMP spontaneous settlers ("encroachers"), only a small number of households were interviewed during the 1979-1981 period. During the 1983-1985 period new settler households were added in all three systems until the total number was increased to 36. Eleven additional households were added during 1989, bringing the total to 47. These included in Zones 2 and 3 of System B the first Hindu (three) and Muslim (two) households in our sample. Two new households were also added in recently settled portions of System C. In addition to the 47 settler households, leaders of the Pimburetewa and Madura Oya fishermen's societies in System B were also re-interviewed.

Rapid surveys such as ours have gained increasing acceptability in recent years because of their proven ability to identify in a short period of time major problems associated with the planning and implementation of development projects and programs. Unlike most such surveys, our's has the added advantage of being longitudinal, with the same families reinterviewed at different points in time. While rapid surveys continue to have their critics, longitudinal ones give such critics the opportunity to point out previous as well as current errors. This is a draft report. We welcome suggestions for consideration during the final revision.

In re-interviewing old settler households in our sample, a nine page questionnaire covering 66 items of information was used. Most interviews lasted two to three hours, with a few households visited on several occasions. The same "wealth index" used during previous years was completed, with points given for housing, household furnishings, economic assets, water supply and waste disposal, and lighting. The questionnaire for households added during 1989 was similar, except for additional background information.

While we have continued to emphasize repeated interviews with the same households (and with members of their extended families), detailed information concerning trends in living standards, leasing of land, and new marriages among the second generation, was also gathered on other members of each household's irrigation turnout and on the larger community of settlers with which each of our households identify -- fellow evacuees from Bowatenne, for example, or settlers from the same electorate, purana village, or a group of spontaneous settlers within a particular hamlet. Though the data collected is less accurate, it nonetheless enables us to generalize for a larger population. For example, over 500 households belong to the irrigation turnouts of our settler households.

Information was also gathered in the field and in Colombo from officials in the Mahaweli family of agencies, including MASL, MECA, MEA, PMU and EIED.

(Appendix 3). This year more attention, in particular, was paid to interviews with Unit and Block Managers. And, as in the past, we discussed our data, tentative conclusions, and recommendations with high officials in the Mahaweli family of agencies, with researchers, and with consultants who have studied various aspects of the AMP. Recent reports were also studied.

Since our last report in 1985, new policies have been established, new initiatives have been taken, and large numbers of reports have been written. New policies include the recent cabinet decision to institutionalize water user associations throughout the country as part of the government's emphasis on "peoplization." New initiatives include EIED's efforts to attract local, national and international investors to the Mahaweli systems. New reports include a considerable number of academic publications as well as unpublished M.S. and Ph.D. dissertations, with the result that the AMP is now one of the most complex and best documented projects in the tropics. For that reason we believe that having outsiders like ourselves -- with long familiarity with the AMP and land settlement -- make periodic assessments is of value.

This year's report intentionally is shorter than previous reports with emphasis placed on a small number of major conclusions and recommendations with associated discussion. Because many appropriate policies already exist, these conclusions emphasize the need for prioritization as well as constraints to policy implementation. Other relevant material is placed in the 5 appendices.

As in the past we continue, on the one hand, to be optimistic about the potential of the AMP, while, on the other hand, we are very concerned about implementation defects limiting realization of that potential. In emphasizing potential, we continue to be very impressed with the large majority of Mahaweli settlers who are struggling to raise their living ~~conditions~~ ^{standards} under very difficult conditions. The initiative shown by our 47 households, for example, is considerable with all of them attempting to diversify their production system. In an attempt to move beyond subsistence, for example, a common strategy of the poorer households is to take on responsibility from a wealthier settler for the care of a cow, receiving as payment every other calf. Potential also lies with a wide range of AMP policies and programs. During our recent field visit we found important programs dealing with attempts to diversify settler production systems and to increase incomes, to increase settler participation through the formation of settler organizations, and to diversify the economies of the different systems through a range of private sector initiatives.

During our assessment, we also found serious impediments to the successful implementation of those programs. The new directions initiated in recent years are exciting. On the other hand, there is no cause for false optimism for, at this moment, the AMP is in very serious difficulties -- difficulties which will lead to a replication of poverty during the next five years in System H and the older settlement areas of Systems C and B unless urgent action is taken by both the Sri Lankan Government and the donor community. Furthermore, urgent corrective action is also essential in regard to ongoing settlement in the northern portions of Systems C and B which is also at risk.

While we take full responsibility for the contents of this report, we wish to repeat -- as in previous reports -- that our conclusions and recommendations are not ours alone. Many have been suggested to us by settlers, other researchers and Mahaweli officials. Our task has been to bring our knowledge of land settlement projects in Sri Lanka and

elsewhere to bear on the prioritization and modification of such conclusions and recommendations, as well as to formulate our own conclusions and recommendations.

II. SETTLER INCOME AND MULTIPLIER EFFECTS

Because increase in disposable income of tens of thousands of small-scale producers is the engine that drives development during the early stages of industrialization, this year greater detail was gathered not just on costs of production for paddy and other field crops, but also on all sources of family income and on the full range of family expenditures. Household expenditures to meet the basic production, consumption, educational and medical, transport, social and religious needs of a family of five exceed 40,000 rupees per annum (39.70 rupees to the U. S. dollar at 1989 exchange rates).

Table 1

HOUSEHOLD EXPENDITURES FOR BASIC NEEDS 1988/89 (averaged over a 12 month period)

Food Expenditures over past 12 Months (33 households)	Rupees 20,449
Costs of Production for Paddy (17 households)	18,558
Clothing (family of five) (37 households)	4,400
Travel Expenses (37 households)	946
Social and Ritual (38 households)	943
Medical (39 households)	800
Minor Household (pots, pans etc.) (35 households)	470

Total	Rupees 46,566

Annual expenditures for food do not include rice. They are rather consistent throughout the AMP systems (Appendix 1). Expenditures below the average are due more to poverty, or to homelot development (which can cut costs 5,000 rupees or more per annum), than to family size. In addition to homelot development, food costs can be cut through easy access to weekly fairs (poja) where costs are significantly lower than at hamlet boutiques.

Costs of production for 2.5 acres of paddy exceed 9,000 rupees per season for an averaged annual total of 18,558 rupees. This figure does not include interest on bank or other loans, or cost of crop insurance. Basing production costs on paddy is justified not just because it continues to be the major AMP crop, but also because costs of production for other field crops tend to be significantly higher (with lack of access to capital being a major reason why poorer families are more apt to be locked into paddy production). Clothing expenses include costs of school uniforms, with school expenses increasing for the higher grades. As for social and ritual expenses, they include attending neighborhood weddings, funerals, and various "at homes" (like female puberty

ceremonials) as well as contributions to the local temple.

Both travel and medical expenses tend to be higher during the initial years of settlement, with the male head of household making relatively frequent visits to his village of origin until the entire family arrives. Especially where settlers come from malaria free zones, malaria is a very serious problem during those initial years. While World Food Program issues for 12 to 18 months cut food expenditures, that saving on the purchase of food does not offset low productivity during the first seasons due to lack of irrigation water (in most cases) and poor land preparation (which often requires farmers without capital to lease out their allotment for several seasons in order to transfer the costs of land preparation to the wealthier leasee).

These expenditures are very much "basic needs" expenditures. Associated multiplier effects are related mainly to paddy production, rather than agricultural diversification (including dairy and livestock rearing), and nonfarm employment. They do not include, for example, conversion of housing from semi-permanent to permanent materials (rarely costing less than 30,000 rupees), nor do they include costs of household furnishings. They also do not include interest on production and consumption loans, or purchase of such economic assets as dairy cows (1,800/- each), buffalos and oxen trained to plow (2,000/- to 3,000/- per animal), and sewing machines (5,000+/-) -- not to mention two-wheel tractors. Furthermore, they do not include such special expenses as weddings (4,000 - 6,000/-), funerals (1,000/- to 15,000/-), or purchase of jewelry (for female household members, but also an important source of savings which can be pawned during hard times).

For major multiplier effects to occur, we estimate that gross annual income for the majority should reach 70,000 rupees. Such an amount can not be generated through the double cropping of paddy alone. For example, at prices through maha 1988/89 (3.75 rupees per kg. paddy), 100 bushels per acre would gross slightly over 20,000 rupees per season for a gross income that is insufficient to meet even "basic needs." During yala, 1989 prices rose rapidly, with many Mahaweli settlers selling paddy at 6.50 rupees per kg. At that price, 500 bushels per annum would gross 67,600 rupees if all was sold. However, at least 10% of that amount must be kept back for home consumption during the year and for seed paddy, reducing maximum income to about 60,000/-. Even if similar prices hold for the current maha season, significant rises in production costs (for land preparation by both animals and tractors, for fertilizer, especially when subsidies are reduced or eliminated, and perhaps for labor) can be expected during the coming year, hence increasing the necessary "basic needs" income.

To summarize, a gross annual income of 70,000 rupees can not be generated through the double cropping of paddy alone. Its realization requires considerable diversification of the household production system. Such a production system includes not just farming systems on the 2.5 acre allotment and the homelot, but all sources of income to all family members including livestock management, wage labor and commercial activities. The six wealthier households among our 36 households who were incorporated in the AMP prior to 1986 have all diversified their household economies. In addition to growing paddy and other field crops, one has recently shifted from commercial fish farming to prawn farming, three others have boutiques (and in one case a boutique and a paddy mill), and five have either plow animals or two-wheel tractors.

Only one of the six appears to have had no resources other than his 2.5 acre paddy allotment to start with, and his rise was greatly assisted by a very innovative son who currently is experimenting with both pig and poultry farming. As for the other five, two generated capital during the initial years as small-scale AMP contractors, two others had access to capital for diversification from relatives, and the fifth had capital resources at the time of his arrival as well as seven sons. Their experience, and that of our other households who are just beginning to move beyond subsistence, points up not only the importance of diversification, but the importance of resources to facilitate that diversification.

III. CONCLUSIONS AND RECOMMENDATIONS

CONCLUSION 1: In System H, and the older areas of Systems C and B, the Government of Sri Lanka and assisting donor agencies have approximately five years to help Mahaweli settlers increase their productivity, living standards, and net income to acceptable levels. If acceptable levels are not reached within this period, evidence provided to us by settlers, Mahaweli officials and researchers indicates that the settlement component of the Accelerated Mahaweli Programme will fail to realize its stated objectives.

Discussion: There are numerous reasons to support this conclusion. Because of inadequate land preparation and irrigation system construction, a significant proportion of Mahaweli settlers (we estimate approximately 20%) are unable to cultivate their full 2.5 acres. The large majority of such settlers are not only poor but are poor through no fault of their own. Unable to repay loans to the commercial banks, they have had to rely increasingly on other sources of credit at higher rates of interest. Many have leased out (badu) or mortgaged (ukas) their lands.

Appendix 2 shows debts of our households in Systems H, C, and B that have been outstanding for at least two seasons. It also shows the extent of leasing out of arable land within the household's irrigation turnout or other reference population. While eye-catching, the figures are not quite so serious as they may suggest. In regard to indebtedness, for example, there are other sources of credit at relatively low interest rates that many settlers rely upon. Most common are loans from friends, relatives and boutique owners. In the former two cases interest is quite low. In the later case it is higher, the borrower usually repaying in paddy at below market rates. Since 1985, settlers have also begun to receive credit from regional development banks, multi-purpose cooperatives, and, of particular importance, their own organizations. As for leasing out, most such leases continue to be for one to four seasons only. According to our evidence, few Mahaweli settlers have lost control of their land. Even in cases of land mortgaging (ukas), we have noted new mechanisms being developed to allow such leases to be converted by local entrepreneurs to another type of leasing which allows the owner a greater opportunity to eventually regain his or her land. While 30% of our settler households in the older areas of Systems H, C and B are still poor, none have permanently lost their land to outsiders, although some have "transferred" part or all of their 2.5 acre allotment to one or more relatives

In noting other sources of credit, and the fact that leasing has yet to pass Mahaweli lands to large numbers of outsiders, we do not mean to suggest that the absence of adequate institutional credit and the presence of leasing are not serious problems. They are serious problems, especially at the time irrigation water is first supplied, and during

all too frequent periods of crop failure.

In system H, the majority of settlers have slipped backward during the past 12 months because of crop failure resulting from inadequate water supplies during maha, 1988/89 and no water during yala, 1989. While we have found a small improvement in the living standards of the majority of our settler households in Systems C and B, the increase is insufficient to generate significant multiplier effects.

The inability of many Mahaweli settlers to repay commercial bank loans involves a larger number than the 20% with land preparation and irrigation system defects. Appendix 4 shows the recent repayment situation in the Bank of Ceylon's lending area in the southern portion of System B. Since the total number of settler households within that area exceeds 7,000, at best only about one third are able to take out loans. The situation is much worse in System H. Even though the Hatton's Bank in H-5 has the best lending program in the AMP, less than 20% of the settlers took out loans for the current maha season.

Our 47 households provide detailed information on why so few settlers are now able to take out commercial bank loans. While some avoid such loans as a matter of principle, not wishing any kind of indebtedness, they are a small minority. The majority do not take out bank loans either because they were unable to repay loans received during their first year as Mahaweli settlers or because of crop failure at a subsequent time due to reasons beyond their control. Such reasons include inadequate water supplies (especially in System H) and elephant damage -- the severity of which has been increasing in recent years.

Meanwhile the severity of the second generation problem is annually increasing since the majority of settlers in these older AMP zones belong to the host population or are evacuees. Unlike electorate selectees who tend to be younger couples with small children, a significant proportion of host settlers and evacuees have older children, some of whom have married since their parents were incorporated within the AMP. For example, in Kandegama Hamlet of System B's Zone 5, the Unit Manager estimated that 40 to 50 second generation families have been added to the original 141 allottees. Our own data suggests that the proportion of new marriages is even higher in the older areas of all three Systems, where some settlers noted second generation marriages in 50% or more of first generation households (Appendix 2).

CONCLUSION 2: There is still time to reverse this adverse situation if corrective measures are properly prioritized, adequately funded by the Government of Sri Lanka (GSL) and donors, and implemented in a timely fashion. Prioritization is especially important since there is neither the time nor the funding to take a "shotgun" approach. In regard to funding, enlightened donor support (rather than current hesitancy) is essential NOW if past funding is to be protected. Timely implementation with appropriate results is, of course, crucial. The recommendations that follow suggest the type of prioritization, backed by appropriate funding and implementation, that we believe to be essential.

RECOMMENDATIONS RELATING TO CONCLUSION 2

RECOMMENDATION 1: Continued diversification of the production system of AMP settler households, so as to increase both production and disposable (net) incomes,

should share the highest priority along with the phased handing over of increasing management responsibilities to appropriate settler organizations (discussed under Recommendation 2) that also have the capacity to provide credit.

Discussion: It is now accepted widely that during the early stages of industrialization, the rising disposable income of large numbers of small-scale family farms is the engine that drives development forward. For this reason the number one economic priority should be to increase the productivity and disposable income from the 2.5 acre and homelot allotments (while the number one institutional priority is to facilitate the emergence of viable, credit-worthy settler organizations).

Current policies of the AMP are intended to achieve rising disposable income through crop diversification, the development of nonfarm enterprises and employment, agrobusiness, industrial estates and other means. Such policies are excellent. However, there is a need to better phase these activities in time, to integrate them at household, community, system and intersystem (regional) levels, and to coordinate the activities of the different implementing agencies.

At the household level, we believe that the current USAID-funded Mahaweli Agriculture and Rural Development (MARD) approach in System B, whereby cropping involves four to five crops for vala (and multiple crops for maha to the extent possible) on the basis of soil and water conveyance conditions, is applicable to all Mahaweli systems. While emphasizing higher value other field crops (OFC), MARD's approach is also designed to ensure that each household grows sufficient paddy to meet consumption needs. We suggest that wherever possible, all settlers be allowed to grow sufficient paddy for consumption since our data shows that the need to purchase rice by Mahaweli settlers constitutes a serious drain on family finances. Hence, for example, settlers in System B's Damminna Block with five acres under dairy and coconuts should also be allowed to cultivate approximately 0.5 acres in paddy.

On the other hand, we believe that more attention need be paid by MARD and the Mahaweli family of agencies to the diversification of annual and tree crops on the homelot, and to the integration of dairy production and livestock rearing in the production system. There are several reasons for this. One is that our data indicate that production of fruits and nuts, vegetables, starchy staples and animal products significantly decreases by 5,000 to 10,000 rupees family expenditures on foodstuffs. Second, such production has important nutritional impacts. Third, it provides income generating opportunities to settler wives and children -- activities that raise their status within the household while providing an important source of income and dietary improvement.

RECOMMENDATION 2: For financial and management reasons, as well as considerations relating to settler morale and well-being, a systematic, carefully prioritized program need be designed to speed up current efforts to hand over MASL and MEA management responsibilities to settler organizations. Such organizations should not only be responsible for production and marketing activities, but also for land and water management. Hence in addition to production and marketing organizations, there would be land and water management organizations that could receive water at the branch canal level, paying for bulk supplies and collecting water fees from members to cover recurrent O & M expenditures. With legal standing such organizations would also be able to supply much needed credit to their members.

Discussion: While it is one thing to advocate increased settler management responsibilities, it is not easy to initiate sustainable settler organizations. During the 1950s, however, Sri Lanka had one of the most successful participatory cooperative movements in the tropics prior to its politicization by the major political parties. Furthermore, since its establishment, the Mahaweli family of agencies has been facilitating the formation of a variety of settler-managed organizations, though on a rather ad hoc basis.

Through the Draft Animal and Dairy Development Programme (DADDP), MASL emphasis has been on dairy societies and, more recently, on paddy and poultry societies. MEA emphasis has been on the organization of irrigation turnout units and, in some areas, on their federation at the D-channel level. A small number of other societies have arisen strictly as a result of settler initiatives. Because of their importance, these efforts warrant further discussion.

DADDP's dairy societies, and some of MEA's turnout organizations and D-channel federations, show that Mahaweli settlers have the capacity increasingly to manage their own affairs. Currently there are 17 dairy societies in Zones 1, 2 and 3 of System C with additional societies to be started during 1990 in Zone 4. There are another 16 societies with approximately 2,000 members in System H, 10 of which have already been registered with the Department of Cooperatives. In System B there are six such societies, four of which are registered.

Dairy societies in System C are small, tending to have less than 100 members. In each case, the secretary is the daughter of a settler. During 1986 the various societies were federated within a union in which members constitute a majority of the nine member board, the other members being government officials. While the Secretary General of the MASL has been the driving force behind these societies, and is currently the chairman of the union board, the intention is to hand over full management responsibilities to members within a three year period. Thereafter DADDP and Department of Cooperatives staff would continue to provide technical assistance. Responsibilities will include running the union's dairy products processing factory in Girandurukotte. Registered as cooperatives under the Cooperative Ordinance, the societies have legal standing as organizations which can receive and give credit.

The MASL Secretary General has also received recent approval for establishing societies for the production and marketing of paddy and other field crops. With 80 members already signed up from Ginnoruva Hamlet in Zone 2 of System C, the first such society will be formed during July, 1990. Once registered as a cooperative, this society will provide credit in kind and cash to its members, and buy, grade and sell -- eventually through auctions -- paddy.

Plans are also to develop a credit union within the society. Should this pilot project work, additional societies would be formed and federated within a union. As in the case of the dairy societies, that union would eventually construct and manage its own paddy mill and parboiling facility with the goal of eventually selling Mahaweli rice.

In System H, three livestock societies have been recently formed in conjunction

with Mahaweli Livestock Enterprises Ltd., which is currently completing construction of a poultry processing factory. Funds come from a number of sources, including 40 settler society members who have each purchased shares valued at Rs 3,000/- . With a membership of about 30, each society currently is emphasizing poultry with members receiving day old chicks for 45 day fattening in batches of 500. At least two members have also received upgraded pigs from the Niraviya Farm for breeding, with piglets to be sold to other settlers.

While the performance of irrigation turnout organizations is spotty, some of our settler households belong to turnouts whose members are able to cooperate effectively in distributing water, cleaning field canals and maintaining access roads, and in resolving disputes. Generally speaking, we have found that key factors are impartial leadership, homogeneity of turnout members in terms of common origin (e.g. purana villagers, evacuees from the same area, and so on), and, of course, a well designed and constructed field canal system that receives water at the right times in the right amounts.

Over the years various sporadic attempts have been made to federate a group of turnouts at the D-channel level. Several of these experiments have been sufficiently successful to suggest that AMP settlers, with careful selection and the type of careful training that MARD is currently carrying out in System B, have the capability to buy water in bulk from branch canals, recover costs from members, allocate water to the different turnouts, and handle O & M operations. In H-5, for example, starting this maha season an MEA employee (the jala palaka) in at least one case has been replaced by the D-channel federation leader to whom the turnout keys for water distribution have been given. Also within System H, as elsewhere in the AMP area, some D-channel organizations now receive contracts from the MEA to clean vegetation from, and desilt, D-channels

Based on experiments in the older Minipe Settlement Scheme, another attempt to federate turnouts at the D-channel level has been carried out in System C's Zone 2. The initial effort failed in part because the Engineering Assistant who was supposed to train the settlers was responsible for three blocks. Overworked, he was unable to attend meetings regularly of what was then (as well as now) called the jala palaka committee. As a result settlers concluded that the government had lost interest. Subsequently a new committee was formed with closer MEA supervision and technical assistance. With both the president and the secretary being settlers, currently this committee takes contracts for D-channel maintenance, including contracts for renovating field canals with the new precast concrete canal liners.

The current situation in Bathalayaya Block is especially relevant. There turnout groups are being federated in each of the 8 units. Meeting monthly with the Unit Manager, leaders from the approximately 20 turnout groups in each unit have elected their own leadership committee. These committees in turn have recently begun to send their officers to periodic meetings with the Acting Block Manager, two such meetings having been held to date. Back at the unit level, one committee in Ratkinda has elected a marketing subcommittee to deal with other field crops. Though MEA-organized marketing of fruits and vegetables through the Marketing Department (that used MEA-provided lorries) has temporarily stopped because of the security situation, this society was formed to take advantage of such efforts, as well as MEA-arranged purchase of onions through another government department. The subcommittee also

purchases inputs for members and provides credit up to 90% of the share capital contributed by the 50 members. Similar subcommittees are currently being organized in two other units. As with the Ratkinda subcommittee, currently they have no legal standing, being registered only with the MEA.

Two other experiments with settler organization deserve mention. Hatton's National Bank initiated the first experiment in one turnout served by distributary channel D-4 in H-5. Working closely with the Block and Unit Manager, Hatton's agricultural staff concentrated their efforts on that turnout's six farmers, providing them with both credit and technical assistance. During the two years of this pilot project all six members, in terms of their credit worthiness, were A class customers. Though the experiment was handed over to MEA in 1986, today those six members are still A class customers who took out loans for this maha in a zone where the large majority of settlers are unable to take out cultivation loans because of past indebtedness. As a result of this experiment, and other work by his five agricultural officers, the Branch Manager of Hatton's is convinced that commercial banks' rural credit for Mahaweli settlers could be profitable if adequate water supplies and training were provided.

The second experiment, according to the System C Resident Project Manager, was initiated in Zone 4 by a settler who is a retired inspector of cooperatives. Though as yet unregistered, he has provided the leadership for establishing what is in effect a small Cooperative Agricultural Produce and Sales Society (CAPS) in Medagama Hamlet. With less than 50 members who have purchased share capital up to Rs 1,000/-, this farmers' society purchases inputs for its members and markets their produce. Profits during the first year were significant.

These various examples show two things. First, that settlers are capable of organizing themselves to carry out a wide range of tasks. Second, that the Mahaweli family of agencies is willing to hand over, in some instances, increasing management responsibilities to such groups. This willingness need be generalized throughout the AMP areas for a number of reasons relating to the dynamics of land settlement projects. When large schemes like Mahaweli are initiated the political spotlight is focused upon them. But as time goes by the spotlight shifts to new projects. This is especially the case after changes in governing personnel that follow elections or other changes in government. By then finances begin to dry up, while the more experienced personnel are apt to shift to other jobs. Examples of this process include the Sudan's Gezira Project which was eclipsed by the New Halfa Agricultural Scheme, which in turn was eclipsed by the Rahad Scheme. The same situation now applies to the AMP.

With increasing bureaucratization of the Mahaweli family of agencies (except for EIED which continues to have the characteristics of a dynamic new agency), and seriously reduced funding, the time has now come for the AMP to begin systematically preparing settlers in the older zones to take over, through appropriate organizations, increasing management responsibilities. Such an approach will have the added advantage of forging a new partnership between MEA and MASL staff and settler communities.

In addition to a consistent handing over policy, it makes sense to hire new jala palakas and field assistants wherever possible from the second generation of settlers, with special emphasis on the recruitment and training of women extensionists for work in both the homelots and the 2.5 acre allotments. In regard to such personnel one can

anticipate a time when they receive their salaries from settler organizations rather than from the MEA.

As mentioned previously, developing viable settler organizations which are sustainable will require very careful, and consistent, organizational and training efforts on the part of the Mahaweli family of agencies over the next five years. Training is crucial, including training in perception which is intended to convince Mahaweli settlers that the organizations and leadership are genuinely their own rather than extensions of government agencies and political institutions.

Four other issues we believe warrant special attention. The first concerns the relationship of the various societies to each other. Currently, federations of turnout groups are based on water management units, while MASL's dairy and paddy societies, and MEA's subcommittees for other field crops, recruit members over a wider area on a household by household basis. What should the relationship be between these two quite different types of societies?

The second issue concerns the best institutional mechanism, or mechanisms, for providing the societies with the necessary legal standing so that, for example, they can receive credit from commercial banks. One option is to register them under the Cooperative Ordinance, while another is to establish them as limited liability companies under the Peoples' Companies Law. Water User Associations present special problems so long as the settlers continue to remain as tenants of the state. While such associations have the capacity to purchase water in bulk, hence taking over from the MEA the difficult task of collecting water user fees to cover recurrent expenditures, settler responsibilities would be enhanced if they also received some form of ownership of their lands. Swarna Bhoomi title has been mooted as one option. Presumably to satisfy such donors as the World Bank, it would have to involve at least a token "capital development" payment for the land (under present circumstances of poverty it is unrealistic to expect to recover an appreciable portion of capital development costs from the settlers).

The third issue concerns ongoing responsibility for providing technical assistance, credit, and other forms of assistance to settler societies. Merely handing over to other divisions within the new Ministry of Lands, Irrigation, and Mahaweli Development does not appear to be a particularly attractive option. The same can be said for handing over to the Ministry of Agriculture's Department of Cooperatives. An attractive possibility conceptualized by the MASL Secretary General and EEC personnel is to establish a Foundation with nongovernmental standing that would base a small dedicated staff in the field, and provide technical assistance and revolving fund credit for economic activities to settler societies. Funds would be provided by the EEC and other donors, while oversight would be provided by a board of distinguished Sri Lankans (recruited on the basis of their integrity and familiarity with land settlement rather than their government position). Auditing of accounts, and perhaps investment of funds, would be done outside of the country.

The fourth issue concerns recruitment and placement of settlers for AMP areas still to be settled. While this issue will be dealt with in more detail below, recruitment criteria should include willingness to participate in settler organizations and, for a small minority of settlers, previous experience with peoples' organizations as was the case with the former inspector of cooperatives mentioned in an earlier paragraph. As for

placement of settlers, special effort should be made not only to place settlers who can work together in the same turnout (which means, in effect, recruitment from the same village, religion or geographical area), but also to place members of the same turnout on adjacent homelots.

RECOMMENDATION 3: Hamlets facing special problems, as well as hamlets presenting special opportunities, should receive priority attention.

Discussion: Some priorities need be set for addressing settler problems and opportunities since there are insufficient staff and funds to deal simultaneously with all Mahaweli zones. We suggest that the hamlet be the unit chosen for attention, and that initial priority be placed, on the one hand, on hamlets presenting special problems, and, on the other hand, on hamlets presenting special opportunities. Examples of hamlets presenting special opportunities are those in System C's Zone 2 where both federated water user associations and dairy societies have been established. Clearly such hamlets provide good opportunities for further production system diversification and institution building among the settler population.

On the other hand, during our month in the field we came upon a number of hamlets that we have labeled "hardship hamlets" because a significant number of settler households are affected by serious problems. Most frequent are defects in land preparation (leveling in particular) and in the irrigation system at the field canal level. Recently MASL has received from MEA a list of approximately 8,500 defects where 2.5 acre allotments can only be partially cultivated because of such defects. This figure approximates 15% of households settled to date. It probably is an underestimate, our impression being closer to 20%.

Since inadequate land preparation and irrigation system defects are a major cause of settler poverty, high priority should be given to their correction, starting with hamlets in which such defects are concentrated. A case in point might be Kandegama in Zone 5 of System B. Land leveling here was done at the expense of soil fertility, with gravelly soils exposed when the more fertile top soils were pushed aside. Such allotments may be better planted in tree crops or other field crops, hence giving MARD an opportunity to apply cropping system diversification to specific problems.

Muthugala, a Tamil-speaking village in Zone 2 of System B, illustrates a wider range of problems that date from the present back to the initial period of settler selection. Because a number of marriages were unregistered among poorer households in the community, as well as for other reasons, over 10% of the population that should have received both highland and 2.5 acre allotments did not receive land. Then in 1985, several weeks before our visit that year, over 30 youth were detained by the security forces, some of whom were not released until the Indian Accord in 1987. In between those years, some residents were prohibited from cultivating their tobacco and Mahaweli riverine fields because they were located in areas set aside for natural resource reserves. The diversification of the community's production system was further reduced when large numbers of cattle died from an epidemic which eliminated 90% of the livestock of some families. In contrast to neighboring Karapola and Katuwanvila, a significant proportion of Muthugala's settler population are very poor indeed.

Yet another special problem affecting a number of hamlets on the edges of System

B, including villages in Damminna, Ellewewa, Vijayabapura, and Senapura Blocks, is elephant damage to both homelots and 2.5 acre allotments. Elephant damage is also an ongoing problem in southwestern portions of H System, although there it is not as serious as in System B where the problem appears to be increasing. Though solutions are difficult to imagine, presumably they could include the formation of the type of buffer zones that have proved relatively successful in tropical Africa, the recruitment of second generation youth as elephant watchers and scarers, and in key locations, electric fences.

RECOMMENDATION 4: A settler service unit such as announced by the MEA Managing Director in a July 3, 1989 notice should be institutionalized throughout the AMP to assess, prioritize and correct settler problems. It should work closely with a donor-funded special unit within the Mahaweli family of agencies to correct the type of land preparation and irrigation system defects mentioned in the preceding section.

Discussion: MEA does not have the personnel, the funds or the equipment for the timely identification, prioritization, and correction of settler problems. One major problem involves providing 2.5 acre allotments to host population settler households that were mistakenly passed over during the land allocation process. We have two such households in our System H sample. In system B, at least 10 percent of households in Muthugala were passed over, and, quite possibly, the same situation applies to neighboring Karapola. Though we have pointed out such inequities in the past, MEA does not have the institutional capacity at the moment to correct them systematically. In regard to defect correction, this is especially the case where resurveying of canal and drainage alignments, and major alterations in land preparation and field canals, are necessary.

Another problem is that some defect "correction" in the past has merely brought systems back to their original defective state. Such reasons are why we recommend donor assistance for defect correction, starting with the most seriously affected hamlets. While we also recommend a defect correction unit, with farmer participation and consultation, its main functions would be to identify defects, propose solutions, prioritize the order in which they should be corrected (with a concentration on those hamlets with the largest number of serious defects), and ensure that correction actually occurred to the necessary standard. As for the physical correction of the defects, that could involve private contractors as well as MECA, MEA, and settler organizations depending on the nature of the defect, and the time of its identification.

RECOMMENDATION 5: Planners of other economic enterprises in the AMP areas initially should emphasize activities which will have a direct impact on the incomes of settler households, and especially on incomes from agriculture including cropping systems, livestock management and social forestry.

Discussion: After a slow start in 1985, EIED has in the past two years initiated a series of high potential activities in Systems C and B. In contrast to MEA (which has lost some of its best staff to EIED, hence leading to tension between the two agencies) and PMU, there is a very real sense of excitement among EIED staff. While the emphasis appears to be on agricultural programs such as outgrower schemes which can have a major impact on settler incomes (as is already the case with gherkins, and could be the case with cashew, tropical fruits such as mangoes and papaya grown on homelots, grapes, and a wide range of speciality vegetables for Middle Eastern and

Japanese markets), we doubt that sufficient thought has been given to the balance between different activities.

While agro-industries, garment manufacture and other enterprises for the proposed industrial parks all have their place (indeed, are necessary to provide employment for second generation youth), as does training of entrepreneurs, we believe that primary emphasis at this time should go to agricultural activities that will significantly raise settler incomes from cropping systems, livestock production, and social forestry. As incomes rise, so will the demand of tens of thousands of settlers for housing materials and household furnishings, and a widening range of other goods and services that can be provided by the regional economy. Phasing of activities is especially important to avoid the type of predicament that the community of blacksmiths brought from Kotmale to Ellewewa Block in System B currently face. They were moved into the area with considerable fanfare and expense, including electrification. Initially they were kept busy with MEA orders for tools for newly recruited settlers. Once that demand fell, however, local markets were soon saturated, so that today most of the blacksmith community is underemployed. Granted their isolation, marketing solutions to their problem will not be easy to find.

In addition to those activities already mentioned, dairy under coconuts, goats and sheep under cashews, and mulberry trees for silkworm production on the homelot all seem attractive ventures for combining private sector nuclear estates with outgrower schemes.

While outgrower schemes have considerable potential as illustrated by oil palm in Malaysia and Papua-New Guinea, sugar cane in Zambia, and cotton in Zimbabwe, there are also risks that private sector companies will eventually freeze out their outgrowers as Del Monte did with pineapple outgrowers in Kenya. EIED should, therefore, assess carefully the amount of land needed to attract private companies and individuals to set up nucleus estates without providing a size of holding which will allow potential outgrowers to be neglected.

RECOMMENDATION 6: Because System H presents an especially difficult situation, a fresh approach to the solution of problems there is necessary.

Discussion: System H's main problems -- political disturbances and inadequate water supplies -- appear linked. Through drought periodically further cuts back on water supplies, as did the damage to one of the Ukuwela turbines in early 1989 (hence contributing to crop failure in much of H during maha, 1988/89 and the absence of water releases in vala, 1989), even in good years farmers in H have had to split their allotments during vala on betma (sharing) arrangements. While the betma arrangement was an imaginative attempt to adapt customary land use practices in time of water shortage to a modern irrigation system, betma is nonetheless unpopular among System H farmers. Partly, of course, this is because they can use only half of their allotment during vala which is when they can expect their highest profits from other field crops. There are, however, other real constraints associated with betma. The partner who does not "own" the allotment is much less motivated to maintain the irrigation system, including access and drainage canals, and bunds within the field. He is also less motivated to complete the timely removal of chili plants so as to allow the owner to initiate land preparation in anticipation of the next maha season.

System H also suffers from design defects. It has been pointed out to us that the initial breaching of ancient tanks meant that farmers must rely on long canal systems which may or may not contain water, and which can be more easily manipulated by officials for economic and political reasons. One reason why System H has inadequate water supplies is that up-system flows are diverted through the turbines to the older irrigation systems in Polonnuruwa District, hence providing both hydropower generation and water for irrigation whereas flows into H are largely for irrigation purposes. Supplies are additionally reduced by offtakes, which otherwise would go to System H, being diverted to fill tanks in Anuradhapura District outside of H System.

New imaginative approaches are necessary to deal with the hardships that a majority of System H settlers have suffered as a result of this situation. Crop insurance has not been the answer. Not only has compensation received been significantly lower than settler losses, but many farmers seldom see the insurance money since it goes to the commercial banks to which they continue to be indebted.

One obvious approach is to improve coordination and understanding between the Water Management Secretariat and the farmers in System H in the timing and amount of water releases, and to base decisions strictly on development considerations. The type of situation that occurred during yala, 1989 when farmers, at considerable financial expense, were told to go ahead with their chili and onion nurseries, for which no water was subsequently given, should not be allowed to recur.

Another approach would be to provide additional storage facilities within System H though construction of small reservoirs. A third approach that deserves consideration is revenue sharing whereby a portion of the income from sales of hydropower is placed in a revolving fund for settler development. China pioneered this approach in the early 1980s in dealing with serious resettlement problems associated with the Danjiangkou Dam where approximately 383,000 people were evacuated from the reservoir basin. Dealing with "remaining problems," this fund has been so successful in moving large numbers of Chinese peasants out of poverty that a similar policy was implemented more recently for the Gezhouba Dam on the Yangtze River, and has been proposed for the Three Gorges Dam should it be constructed.

CONCLUSION 3 In areas still to be settled in Systems C and B, major improvements in settler selection, in the placement of settlers, and in assistance to newly arrived settlers is necessary.

Discussion: We found broad agreement that the quality of settlers has been deteriorating over the years in regard to their agricultural experience and their suitability for pioneering the problem-prone Mahaweli zones. Though such clear cut distinctions were not possible in 1985, this year we found electorate selectees in greater difficulty than purana villager, spontaneous, and evacuee settlers. The fact that electorate selectees are having a harder time than evacuees shows that origin from outside of the dry zone is not a major factor in explaining differences. Among evacuees those from Kotmale generally speaking are the best off today. We believe that there are several reasons for this situation. Especially important is the previous agricultural experience of many Kotmale settlers and the fact that the large majority had access to capital, in the form of compensation, during their initial years as Mahaweli settlers (even poorer evacuees from Bowatenne had access to about 5,000/- compensation per family). Furthermore, at least some Kotmale settlers had had

previous agricultural experience in the dry zone, having worked as agricultural laborers in Polonnuruwa District where other Kotmale people took up residence at an earlier date as settlers on some of the older settlement schemes.

We are not suggesting that previous agricultural experience is essential for every settler. On the contrary, to diversify the population of each hamlet, it is important to include a small proportion of settlers with skills as carpenters, masons, blacksmiths, herbalists, snakebite specialists and so on. Furthermore, a number of our settlers with no farming experience have the makings of good farmers. However, it is logical to insist that the majority of settlers should have had some relevant agricultural experience prior to their arrival in the Mahaweli systems. Such is not the case, for example, with a significant number of households selected in recent years from electorates within Kegalle and Galle Districts. To ensure that the wrong kind of settlers are not selected, and to reduce patronage, it has been suggested to us that the same kind of community-based consensus used for the selection of Janasaviya families might also be applicable to Mahaweli settlers.

Looking to the future, a major effort should be made to observe the original selection criteria which emphasized agricultural experience along with poverty and a family with small children. At the same time we believe selection interviews should include both spouses, since appropriate motivation in the wife is of no less importance than in the husband. At this point in time when national efforts at reconciliation are ongoing, it is especially important to no longer use settlers as a mechanism for the realization of short-sighted political goals. We refer here to previous attempts to push desperately poor settlers into zones where the authorities knew full well that their lives were at risk because of conflicting land claims between Sri Lanka's different ethnic populations.

Once settlers are chosen, more attention need be paid to their welfare during the settling-in process. Few researchers, ourselves included, let alone officials, can fully comprehend the difficulties that settlers must face during the initial years of settlement. When asked, the large majority of settlers replied that the worst year they had experienced was their first year in the new Mahaweli settlements. At that time they had to build temporary housing, carry out dryland farming in a problem-prone environment, live with new neighbors, adapt to an unfamiliar government bureaucracy, and deal with such unfamiliar institutions as commercial banks. Add to this malaria (with which future selectees will have had little experience), ravages by elephant and wild boar, poorly prepared field allotments and tertiary irrigation systems, and it is hardly surprising that a significant number of settlers fall into debt during their first irrigation season.

A completely new approach to helping settler households cope with the inevitable initial difficulties is essential. Among other things, provision of additional capital and materials for land preparation, potable water supplies, and appropriate housing is essential. Initial indebtedness, whether for agricultural purposes, or housing, must be avoided at all costs. This means that appropriate grants must replace loans at this time. Hence it must be accepted that initial expenses must be greater if the necessary type of future multiplier effects are to be realized. In regard to land preparation a "settling-in" grant appears to be called for. The timing for the arrival of the first irrigation water should also be rethought. In this regard, the experiment in the northern portion of System C this maha to provide some settlers with irrigation water at the time of their

arrival deserves careful monitoring.

As for potable water supplies, far too many settlers have expended too much time, energy and scarce capital on digging deep (up to 30 feet) wells which never produce sufficient water either because rock is hit, or the aquifer dries up at the very time adequate domestic water supplies are needed. While the EEC's emphasis on appropriate initial housing, and their experiments with low cost housing, are important, it is equally important that settlers not be saddled with housing loans at that time. Other essential services at the time of arrival are available transportation (hence requiring adequate roads), and -- so families will be brought at the earliest possible time -- medical facilities and primary schools

RECOMMENDATIONS RELATING TO CONCLUSION THREE

RECOMMENDATION 7: Selection of future settlers should emphasize agricultural experience, and motivation of both husband and wife, as well as poverty and a couple with young children. Greater community involvement should be brought into the selection process. Since the continued ownership of land resources in the village of origin provides a temptation to return to the home area when Mahaweli going gets tough, where selectees have small land holdings, serious consideration should be given to handing these over to kin so as to provide a larger resource base for those who remain behind.

RECOMMENDATION 8: The Mahaweli family of agencies should stop settling poor people in zones where they are at risk because of conflicting land claims.

RECOMMENDATION 9: The type and amount of assistance given to settlers on arrival and during their first cultivation seasons should be rethought and upgraded.

CONCLUSION 4: While prioritization and implementation of present policies is the key issue at this point, current planning and monitoring capabilities for the next decade are inadequate. Planning and monitoring have been the responsibilities of the Planning and Monitoring Unit (PMU). While a case could be made that such activities initially should have been placed in the Ministry of Mahaweli Development, such is no longer the case. Reporting directly to the Secretary General, the PMU has been located throughout its existence in the MASL. The PMU should stay there. Its planning and monitoring capabilities should also be strengthened.

Discussion: In the past conceptualization occurred at the top of the Mahaweli family of agencies, with assistance from specially appointed task forces and individual "advisors." PMU was then asked to flesh out concepts into plans within the parameters given. PMU also had the responsibility to monitor plan implementation on a monthly basis, developing a sophisticated audio-visual system to carry out that task.

In our past reports we have been critical of PMU for failing to develop a regional planning capacity -- a serious failing granted the fact that the AMP is not only Sri Lanka's first major regional development project, but also Sri Lanka's major project of the 1970s, 1980s, and 1990s. The June, 1988, report of the UNDP Evaluation Mission on the PMU, and, more specifically, on UNDP funding to PMU, concluded that the regional planning goal could not be realized because at the project preparation/appraisal stage "no agreements were sought from other ministries/agencies that they would accept

PMU's lead in regional planning and that they would be willing to cooperate." We agree with this assessment. Within the constraints imposed upon it, PMU has done a good job.

Over the years PMU has developed under a single director a well-integrated and loyal staff with an excellent capability to work together. Currently, however, staff morale is very low, with one key staff member having already resigned and others looking for new jobs. There are, in our opinion, two reasons for this situation. One is the lack of direction/conceptualization from the top of the Mahaweli family of agencies. The other is the expectation that the PMU will become responsible for monitoring operations in all the agencies (numbering over 20) within the new Ministry of Lands, Irrigation and Mahaweli Development.

It will be hard enough for PMU to develop appropriate soil and water management, agronomic, and socio-economic indices to monitor the development phase of the AMP which has now succeeded the construction phase in System H and the older zones of Systems C and B. For this reason alone it does not make sense to extend PMU monitoring activities beyond the Mahaweli family of agencies. As for the absence of conceptualization for the next ten years from the top, following the suggestion of the PMU director, we suggest that a high level task force of senior officials and research personnel familiar with the AMP be appointed to work with the new Cabinet Minister and the State Minister for Mahaweli Development, and with the PMU, to develop new guidelines and priorities for implementation.

As for assisting the PMU we endorse the major part of the recommendations of the 1988 UNDP Evaluation mission. In particular, we endorse the following recommendations:

If the Mahaweli programme is to be conceived and operated as a regional development strategy, the PMU should take responsibility for designing a time series data set not restricted to the within programme areas but also on adjacent regions where the Mahaweli programme impact may be felt.

In order to take on this role PMU would require funding and technical assistance in obtaining all computer-ware, especially software needed; additional technical training of its staff; advice in developing a set of relevant and rigorous development indicators. . . .

RECOMMENDATIONS RELATING TO CONCLUSION FOUR

RECOMMENDATION 10: The PMU should remain situated within the MASL, with its director reporting to the Secretary General.

RECOMMENDATION 11: The functions of the PMU should be restricted to the Mahaweli family of agencies. Additional international assistance should be sought to help existing staff switch to planning for, and monitoring, the development phase of the AMP

RECOMMENDATION 12: A high level task force should be appointed to assist the new ministers and the PMU prioritize for implementation the growing number of policies that are being set.

CONCLUSION 5: To ensure expected returns on GSL and international investments in the AMP, it is especially important for the Government of Sri Lanka and donor agencies not to cut back on their commitment to AMP, and on their financial contributions. Additional finance is needed to deal with "remaining problems" in System H and the initially settled areas of Systems C and B, and to deal with on-going settlement in Systems C and B, including prompt initiation of construction work on the right bank of System B.

Discussion: Within Sri Lanka we see lack of strong political support for the AMP as a very serious problem. This is the perception of both farmers and government officials. We see no reason to dispute their assessment. Emphasizing their close relationships with MEA officials during the early years of settlement, farmers now point to a lack of attention to, and concern for, their problems.

As for high government officials and donors, both seem to have forgotten that the AMP continues to be Sri Lanka's largest and most important single development project. To reduce commitment and funding at this time, when well over one billion dollars in donor funds have been invested in a project that continues to have great potential as Sri Lanka's first major attempt at regional development, with national development implications, makes no sense whatsoever.

With settlement projects one cannot assume that multiplier effects will automatically follow from a given initial investment. This is because projects like the AMP involve the colonization of problem-prone new lands areas in which adequate infrastructure and service centers, including regional marketing centers, cannot be assumed already to exist. In some situations, such infrastructure and regional marketing and service centers have to be created (Dehiattakandiya) or enlarged (Welikanda). At the same time because one is dealing with a relatively unknown problem-prone environment rather than with a well-settled old lands area, new problems are bound to arise which require urgent attention and hence additional funding. The downward spiral during the past 12 months of the living standards of thousands of settlers in System H is a major example. Another is the too slow increase in the living standards of settlers in Systems C and B, a situation that will require additional funding for income diversification, institution building and credit. Malaria, and unfamiliar soil types and increasing elephant damage in System B, are other examples of problems requiring further attention.

For reasons relating to Sri Lanka's political economy, and to economic returns, it is important for GSL and the donors to proceed at the earliest possible time with infrastructural development and settlement of the right bank of System B. Our most controversial conclusion, because of the security risks involved, we believe that prompt initiation of the right bank scheme should be given very high political priority.

As noted in Appendix 5, the Government of Sri Lanka is committed to allocating new allotments under the AMP "on the basis of National Ethnic Ratios of Sri Lankan Tamils, Muslims, Indian Tamils." The large majority of these Tamils and Muslims are to be settled on the right bank of System B. Failure to achieve this goal expeditiously will seriously undermine current efforts at national reconciliation. Under such circumstances, it makes little sense to subject investment in the right bank to narrow rate of return analysis which would ignore the type of unquantifiable political benefits that can be expected to benefit the nation with the development of the right bank.

Funds for initiating right bank activities are present in the Public Investment 1989-1993. Because of the security situation there has been considerable hesitancy on the part of donors to proceed. Certainly risks exist. On the other hand, there is little evidence that the different factions in System B have any intention of damaging irrigation structures on either the left bank or the right bank, most strife occurring when settlers are moved into areas over which other groups believe they have justifiable claims. In this regard, it is interesting to note that elsewhere in the world the planning and implementation of large-scale river basin development projects have proceeded under conditions of strife simply because each party with governing aspirations sees that project as in its ultimate interests. Examples include on-going planning for Mekong River development during the Vietnamese war; joint management of the Kariba Dam by Zambia and Rhodesia, and initiation of feasibility studies for other jointly operated dams on the Zambezi, during the war for Zimbabwean independence; and the current collaboration between the various factions in Lesotho and South Africa in connection with the Lesotho Highlands Development Project. Though each situation is different, under the circumstances one would not suspect Tamil militants to attack right bank construction which is for the ultimate benefit of the Tamil areas as well as for Sri Lanka as a whole.

RECOMMENDATIONS RELATING TO CONCLUSION 5

RECOMMENDATION 13: The Government of Sri Lanka should continue a strong commitment to the AMP as the country's largest single regional development project and largest single project.

RECOMMENDATION 14: Bilateral and multilateral donors should provide the necessary foreign exchange component to increase productivity, raise living standards, and build settler institutions in previously settled AMP areas, improve the quality of new settlement, and carry out the development of the right bank of System B.

APPENDIX 1

System and Number	Settler Type	Expenditures for Food Over Past 12 mo. (in Rupees)	Changes in Living Standards over the past 12 months	Changes in Living Standards of Reference Group (past 12 mo.)
B01	Spontaneous Settler	21,478	Slight Improvement	Improvement (1) No change (12)
B02	Pimburettawa Tank Allottee (pre-AMP settler)	17,472	Gone down	No change (24) Gone Down (1)
B03	Mahadamana Tank Allottee (pre-AMP settler)	18,252	Gone down	Improvement (15) No Change (60) Gone Down (5)
B04	Electorate Selectee	NOT PRESENT (B015 done as a partial substitute)		
B05	Evacuee	14,003	No Change	Improvement (10) No Change (50) Gone Down (50)
B06	Evacuee	20,892	Gone down	Improvement (2) No Change (11) Gone Down (4)
B07	Electorate selectee	27,404	Improvement	Improvement (25) No Change (47) Gone Down (20)
B08	Electorate selectee	No data as absent during <u>yala</u> , 1989	Improvement	Improvement (6) No Change (4) Gone Down (3)
B09	Pre Mahaweli allottee	19,084	Improvement	Improvement (10)
B10	Evacuee	20,616	Gone Down	No Change (7) Gone Down (4)
B12	Evacuee	24,830	No Change	No Change (14)
B14	Electorate selectee	18,338	No Change	Improvement (20) Gone Down (30)
B16	Purana villager (Tamil-speaking Hindu)	18,070	Improvement	Improvement (11) Gone Down (7)
B17	Purana villager (Tamil-speaking Hindu)	17,238	Improvement	Improvement (4) No Change (11) Gone Down (4)
B18	Purana villager (Tamil-speaking Muslim)	No data	Improvement	Improvement (100) No Change (155)
B19	Purana villager (Tamil-speaking Hindu)	No data	Gone Down	Improvement (10) Gone Down (50)
B20	Electorate Selectee (Singala-speaking Muslim)	Arrived August, 1988 -- Still on World Food Program (WFP) Rations		
B22	Electorate selectee	Arrived January, 1989 -- Still on WFP Rations		

System and Number	Settler Type	Expenditures for Food Over Past 12 mo. (in Rupees)	Changes in Living Standards over the past 12 months	Changes in Living Standards of Reference Group (past 12 mo.)
C01	CTC Farm Allottee (pre-AMP settler)	10,906	Improvement	Major Improvement (3) Improvement (17)
C02	Evacuee	27,807	No Change	Improvement (1) No Change (9)
C03	Electorate selectee	29,528	Improvement	Improvement (13)
C04	Evacuee	34,502	Improvement	Improvement (7) No Change (6)
C05	Evacuee	18,148	Improvement	Improvement (8) Slight Improvement (31)
C06	LDO Allottee (Pre-AMP)	29,679	Major Improvement	Major Improvement (10) Improvement (9) Gone down (3)
C07	Evacuee	35,477	Major Improvement	Major Improvement (9) No Change (20)
C08	Evacuee	16,052	Gone Down	Improvement (5) No Change (1) Gone down (15)
C09	Electorate Selectee	11,713	Improvement	Major Improvement (10) No Major Change (250) Gone down (20)
C10	Spontaneous Settler	Yet to be incorporated.		
H01	Purana Villager	Rely on own boutique and home garden	Improvement	Major Improvement (8) Improvement (8) No Change (7) Gone Down (3)
H02	Electorate Selectee	13,247	No Change	Improvement (1) No Change (9) Gone Down (1)
H03	Spontaneous settler yet to be incorporated within AMP			
H04	Electorate Selectee	13,567	No Change	Improvement (4) No Change (11) Gone Down (1)
H05	Evacuee	17,311	Gone Down	Improvement (4) No Change or Down (55)
H06	Evacuee	Questionable data given 3 families and 25 workers	Major Improvement	Improvement or No Change (113) Gone Down (37)
H07	Evacuee (data on ego's mother's household)	15,894	No Major Change	Improvement or No Change (117) Gone Down (33)
H08	Spontaneous Settler	18,203	Gone Down	Improvement (1) Gone Down (16)

System and Number	Settler Type	Expenditures for Food Over Past 12 mo. (in Rupees)	Changes in Living Standards over the past 12 months	Changes in Living Standards of Reference Group (past 12 mo.)
H09	Purana Villager	34,320	Improvement	Improvement (4) No Change (7) Gone Down (2)
H10	Electorate selectee	Ego murdered and nominated heir in detention	Gone Down	Improvement (7) -1988 data No Change (53) Gone down (3)
H11	Evacuee	20,350	Improvement thru 1988 (gone down since)	Improvement (40) -1988 data Gone Down (6)
H12	Evacuee	21,728	Improvement thru 1988	Improvement (10) -1988 data No Change (16) Gone Down (20)
H13	Purana Villager	22,586	Improvement	Improvement (75 to 100) No Change (100 to 125)
H14	Spontaneous Settler	23,088	Improvement	Improvement (2) Gone Down (15)
H15	Spontaneous Settler (homelot only)	13,442	No Major Change	Same Group as H14
H16	Purana Villager	9,568	Improvement	Improvement (10) No Change (26)

APPENDIX 2

System & Number	Indebtedness	Leasing out (-) Leasing in (+) No leasing (No)	Leasing out (-) Leasing in (+) of ref. group (1)	New marriages in reference group since coming to Mahaweli
B01	None	(-)	2 of 14 (-)	n/d
B02	None	No	None of 25	n/d
B03	2100 (2)	No	None of 13	76 from 216 (3)
B05	5000 (2)	No	1 of 7 (-)	40-50 from 142 (3)
B06	1400 (2)	No	5 of 17 (-)	ditto
B07	None	No	2 of 9 (-)	40 from 92
B08	2000 (2)	No	3 of 13 (-) 1 of 13 (+)	n/d
B09	None	No	1 of 8 (-) 2 of 8 (+)	As with B03 (3)
B10	1000	No	2 of 11 (-)	As with B05 (3)
B11	None	Has 5 acres allotment under coconut and Dairy.		
B12	5000 (2)	No	11 of 1 (-)	n/d
B13	Leader of Pimburettewa Fisheries Society.			
B14	4200 (2)	(-)	29 of 50 (-) 10 of 50 (+)	30 from 50
B16	None	No	8 of 16 (-)	40 from 289 (3)
B17	9700 EEC Loan	No	3 of 19 (-)	7 from 21 (3)
B18	None	No	20 of 255 (-)	120 from 255
B19	2600 (2)	No	7 of 15 (-)	n/d
B20	None	No	None	Not relevant
	Arrived August, 1988			
B21	Victoria Basin evacuee still living in the basin.			
B22	Arrived in January, 1989			

System & Number	Indebtedness	Leasing out (-) Leasing in (+) No leasing (No)	Leasing out (-) Leasing in (+) No leasing (No) of ref. group	New marriages in reference group since coming to Mahaweli
C01	None	No	5 of 20 (-) 8 of 20 (+)	13 from 20
C02	None	No	1 of 10 (+)	n/d
C03	None	No	1 of 13 (-)	n/d
C04	3,000 (2)	No	4 of 13 (-) 2 of 13 (+)	9 from 13
C05	None	(-)	3 of 9 (-)	20 from 39
C06	None	No	3 of 22 (-)	20 from 22
C07	None	(+)	3 of 29 (-) 4 of 29 (+)	n/d
C08	None	No	7 of 21 (-)	n/d
C09	None	No	1 of 12 (-)	n/d
C10	Spontaneous Settler yet to be Selected for AMP			
H01	None	No	3 of 8 (-)	n/d
H02	2600 (2)	(-)	4 of 11 (-)	n/d
H03	Spontaneous Settler yet to be selected for AMP			
H04	None	No	7 of 11 (-)	n/d
H05	3000+(2)	No	50% approx (-)	n/d
H06	None	(+)	75% approx (+) (4) 25% approx (-)	300+ from 150
H07	Up to 6000 (2)	(-)	78% approx (+) (4) 22% approx (-)	n/d
H08	4000 (2)	No	See H14	See H14
H09	4000 (2)	No	2 of 13 (+)	5 of 13
H10	n/d		23 of 63 (-) (5)	n/d

System & Number	Indebtedness	Leasing out (-) Leasing in (+) No leasing (No)	Leasing out (-) Leasing in (+) No leasing (No) of ref. group	New marriages in reference group since coming to Mahaweli
H11	None	No	16 of 46 (-) (5) 23 of 46 (+) (5)	n/d
H12	None	No	20 of 46 (-)	n/d
H13	None	No	30 of 200 (-) 30 of 200 (+)	75 from 200
H14	5400 (6)	No	15 of 17 (-)	10 from 17
H15	Spontaneous Settler with homelot but no 2.5 acre allotment			
H16	None	No	16 of 23 (-) (5)	n/d

Notes:

(1) During initial interviews respondents only queried about leasing out. When a question added about leasing in, answers indicate that most leasing in is between Mahaweli settlers rather than Mahaweli settlers and "outsiders." Such leasing in may be largely within a hamlet or between hamlets.

(2) Plus interest.

(3) Data provided by Unit Manager rather than AMP settlers.

(4) In this case wealthier Kotmale settlers lease in land of poorer purana villagers in the next hamlet. H06 and H07 are giving estimates in regard to the same reference group of Kotmale settlers.

(5) 1988 as opposed to 1989 data.

(6) Settler not repaying out of anger at Bank policy as opposed to inability to repay.

APPENDIX 3

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Staff and owners associated with Royal Garden Farms Ltd, and Volanka.

APPENDIX 4

Loans to Mahaweli Settlers and Repayment Rates

Season	Bank of Ceylon System B area (approximately 7,500 families)		Hatton's Bank System H-5 area (approximately 5,000 families)	
	Loans Given	Repayment	Loans Given	Repayment
Yala 1985	623	558 (90%)	861	91%
Maha 1985/6	1322	1051 (80%)	2040	92%
Yala 1986	1273	930 (73%)	798	91%
Maha 1986/7	2502	1860 (74%)	1130	95%
Yala 1987	2305	1350 (59%)	418	99%
Maha 1987/8	2249	1044 (46%)	1124	79%
Yala 1988	1076	647 (60%)	434	97%
Maha 1988/9	943	628 (60%)	446	97%
Yala 1989	790	Collection still under way	No cultivation	
Maha 1989/90	No data yet		867	

ALIENATION OF NEW ALLOTMENTS UNDER MAHAWELEI PROJECT

1. The total number of new allotments estimated to be available in Systems "A" to "H" under the accelerated Mahaweli Programme is as follows:—

System "A"	14,300
System "B"	37,483
System "C"	22,000
System "D"	14,800
System "E"	Nil
System "F"	Nil
System "G"	2,900
System "H"	10,000 (Notional)
	101,483

2. Out of this number of allotments, the entitlement on the basis of National Ethnic Ratios of Sri Lanka Tamils, Muslims, Indian Tamils will be as follows:—

Sri Lanka Tamils	12,787 allotments
Muslims	7,509 allotments
Indian Tamils	5,683 allotments
	25,979 allotments

Note.—The notional entitlement on the basis of National Ethnic ratios of the Sinhalese will thus be 75,504 allotments.

3. These allotments will be made available in the Trincomalee and Batticaloa Districts to the Tamil speaking people. Up-to-date, 882 allotments have been given to Tamils while 1,481 have been alienated among the Muslims. The details as follows:—

System	Tamils	Muslims	Total
"A"	47	822	869
"B"	14	91	105
"C"	821	568	1,389
Total	882	1,481	2,363

4. These numbers will have to be deducted from the national entitlement of these ethnic groups indicated in paragraph 2 above when the actual alienations are being made. It is presently estimated that in Trincomalee and Batticaloa Districts approximately 12,700 allotments will be available in Trincomalee and approximately 18,690 allotments in Batticaloa for settlement. The remaining allotments in the Trincomalee and Batticaloa Districts will be allotted to Sinhalese.

Note.—The number of allotments that will actually become available in the various Systems may vary when surveys and other land investigations are completed.

5. It is the policy of the Government to maintain the ethnic proportions of the Trincomalee and Batticaloa Districts that prevailed at the time of National Census of 1981, in making settlements in Systems "A", "B" and "D". However, it is not possible to prevent some modifications of the ethnic proportions of the Indian Tamils in these Districts as their full national entitlement will have to be made out of the allotments available in these Districts.