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INTERNATIONAL FUND FOR AGRICULTURAL DEVELOPMENT
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REPORT AND RECOMMENDATION OF THE PRESIDENT

TO THE EXECUTIVE BOARD ON A PROPOSED LOAN TO

THE REPUBLIC OF MALAWI

FOR

THE SMALLHOLDER FLOOD PLAINS DEVELOPMENT PROGRAMME



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CURRENCY EQUIVALENTS

Currency Unit	=	Malawian Kwacha (MWK)
USD 1.00	=	20 MWK
MWK 1.00	=	USD 0.05

WEIGHTS AND MEASURES

1 kilogram (kg)	=	2.204 pounds (lb)
1 000 kg	=	1 metric tonne (t)
1 kilometre (km)	=	0.62 miles (mi)
1 metre (m)	=	1.09 yards (yd)
1 square metre (m ²)	=	10.76 square feet (ft ²)
1 acre (ac)	=	0.405 ha
1 hectare (ha)	=	2.47 acres

ABBREVIATIONS AND ACRONYMS

AfDB	African Development Bank
ADDs	Agricultural Development Divisions
CI	Cooperating Institution
DANIDA	Danish International Development Assistance
DOI	Department of Irrigation
ERR	Economic Rate of Return
GDP	Gross Domestic Product
GTZ	German Agency for Technical Cooperation
ICB	International Competitive Bidding
JICA	Japan International Cooperation Agency
LCB	Local Competitive Bidding
MAI	Ministry of Agriculture and Irrigation
MRFC	Malawi Rural Finance Company
NGOs	Non-Governmental Organizations
NIPDS	National Irrigation Policy and Development Strategy
NITF	National Irrigation Task Force
SCF	Standard Conversion Factor
SFPDP	Smallholder Flood Plains Development Programme
SFSP	Smallholder Food Security Project
SOF	Special Operations Facility
UNDP	United Nations Development Programme
UNOPS	United Nations Office for Project Services
WUAs	Water Users Associations

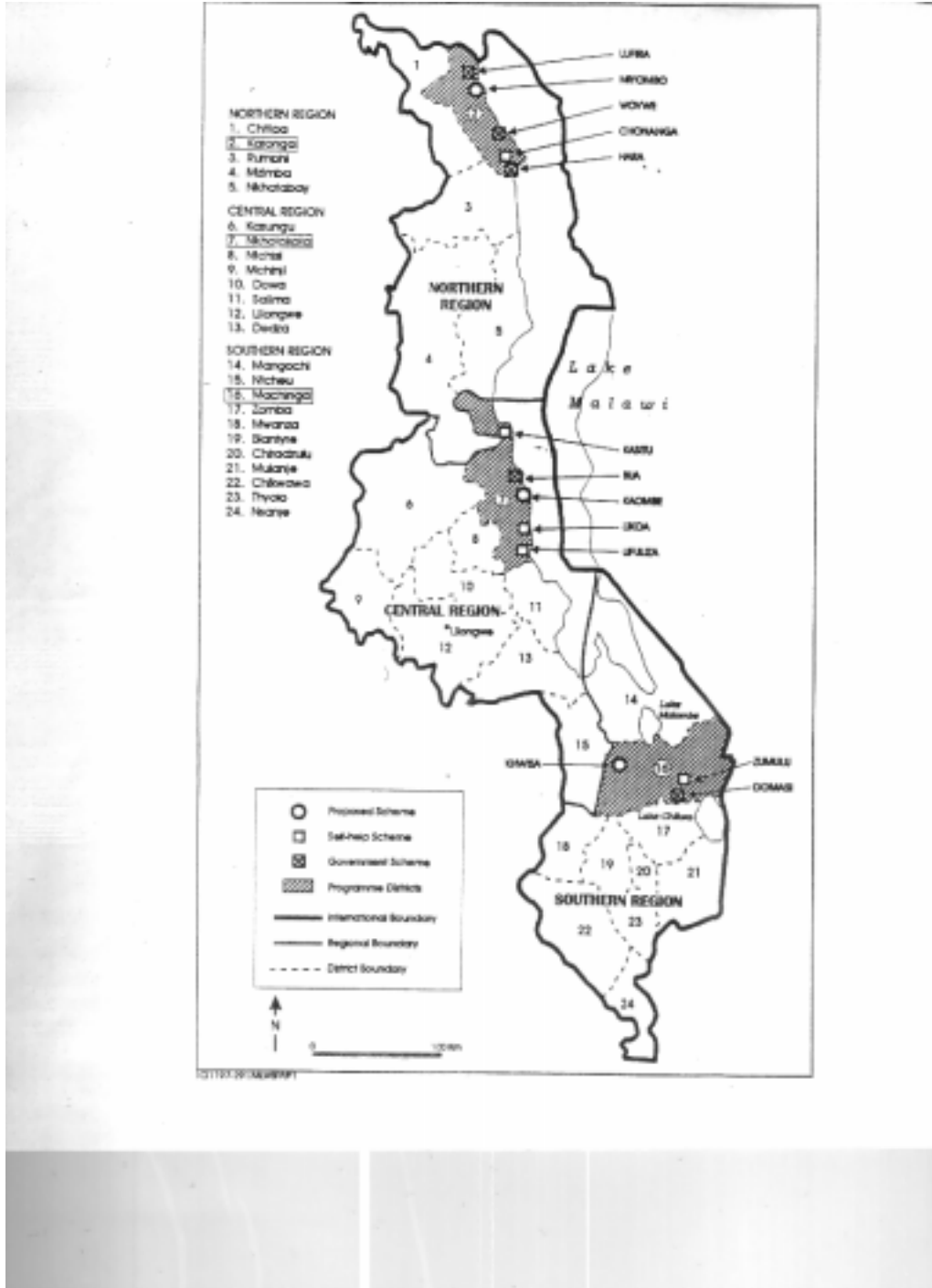
GOVERNMENT OF THE REPUBLIC OF MALAWI

Fiscal Year

1 July - 30 June



MAP OF THE PROGRAMME AREA



Source: IFAD Appraisal Report

The designations employed and the presentation of the material in this map do not imply the expression of any opinion whatsoever on the part of IFAD concerning the delimitation of the frontiers or boundaries, or the authorities thereof.



REPUBLIC OF MALAWI

SMALLHOLDER FLOOD PLAINS DEVELOPMENT PROGRAMME

LOAN SUMMARY

INITIATING INSTITUTION:	IFAD
BORROWER:	Republic of Malawi
EXECUTING AGENCY:	Ministry of Agriculture and Irrigation
TOTAL PROGRAMME COST:	USD 15.47 million
AMOUNT OF IFAD LOAN:	SDR 9.25 million (equivalent to approximately USD 12.46 million)
TERMS OF IFAD LOAN:	40 years, including a grace period of ten years, with a service charge of three fourths of one per cent (0.75%) per annum
COFINANCIERS:	Ireland (subject to confirmation) Denmark (parallel Upland Dambos Wetlands Programme)
AMOUNT OF COFINANCING:	Ireland: USD 1.09 million
PARALLEL PROGRAMME:	Denmark: USD 1.10 million
CONTRIBUTION OF BORROWER:	USD 1.70 million
CONTRIBUTION OF BENEFICIARIES:	USD 0.22 million
APPRAISING INSTITUTION:	IFAD
COOPERATING INSTITUTION:	United Nations Office for Project Services (UNOPS)



PROGRAMME BRIEF

Who are the beneficiaries?

The programme beneficiaries comprise about 14 700 families (78 000 persons) living in the flood plains of the Karonga, Nkhoshe and Machinga districts who do not produce sufficient food and crops to feed themselves. As about one third of these families are headed by women, there are constraints on the labour that can be used for farming and income from outside sources is very limited. Many family members suffer from poor health because of water-borne diseases carried by unclean drinking water.

Why are they poor?

There are two reasons why the families living in the flood plains are poor: (a) their food production is limited by the very small size of their land holdings; and (b) most cropping is under rainfed conditions, and thus crop production is limited by the amount and timing of water availability.

What will the programme do for them?

In order to improve the availability of water throughout the year, the programme will provide affordable irrigation technology to help the beneficiaries. Irrigation development for beneficiaries will include the construction/rehabilitation of selected irrigation schemes and the provision of tubewells and irrigation equipment (small motor pumps and low-lift devices). Farmers will also learn better crop production techniques through an on-farm trials and demonstrations programme, and the programme will provide training on the importance of protecting the water catchment areas for irrigation. Along with technical support for irrigation, credit will be provided to enable farmers to finance their on-farm investments. The programme will also provide institutional support and training for implementing agencies, programme management staff and programme beneficiaries.

The combination of better water availability and improved cropping techniques will enable farmers to raise production not only during the main crop season but also to cultivate a second or even third crop during the year. Total production will increase by about 150% as a result of programme support. On average, the beneficiaries families will see their overall crop production increase by about 0.9 t, which will ensure their own food security and provide them with a small surplus which they could sell for cash. In addition to the support for production activities, the programme will also provide for health care, sanitation, domestic water supply and other community services to generally improve the standard of living of the beneficiaries.

How will the beneficiaries participate in the programme?

The irrigation schemes will be constructed/rehabilitated at the request of the beneficiaries. During the construction process, beneficiaries will participate in the design of the physical layout of the schemes to ensure that their needs and constraints are taken into consideration. NGOs already operating in the rural areas of Malawi will be used to promote new water user associations (WUAs) and reinforce existing local groupings. Beneficiaries will also receive training in management and financial skills so that they are better prepared to be their own advocates in the programme implementation process.

Special emphasis has been placed on ensuring that on-farm trials and demonstrations are held on plots owned/managed by women-headed households, so that their needs are acknowledged when developing improved crop techniques.



**REPORT AND RECOMMENDATION OF THE PRESIDENT OF IFAD
TO THE EXECUTIVE BOARD ON A PROPOSED LOAN TO
THE REPUBLIC OF MALAWI
FOR
THE SMALLHOLDER FLOOD PLAINS DEVELOPMENT PROGRAMME**

I submit the following Report and Recommendation on a proposed loan to the Republic of Malawi for SDR 9.25 million (equivalent to approximately USD 12.46 million) on highly concessional terms to help finance the Smallholder Flood Plains Development Programme. The loan will have a term of 40 years, including a grace period of ten years, with a service charge of three fourths of one per cent (0.75%) per annum. It will be administered by the United Nations Office for Project Services (UNOPS) as IFAD's cooperating institution.

PART I - THE ECONOMY, SECTORAL CONTEXT AND IFAD STRATEGY^{1/}

A. The Economy and Agricultural Sector

1. Malawi is a landlocked country bordered by the United Republic of Tanzania, Mozambique and Zambia and a total land area of about 95 000 km². The population of Malawi, estimated at about 11 million in 1996, is growing at an annual rate of about 3.1%. The country's geographical position and limited resources make it vulnerable to external shocks, as evidenced over the last decade by the effects of falling world prices in primary agricultural commodities, especially tobacco; erratic rainfall punctuated by severe drought, notably in 1992, 1994 and 1995; and the war in Mozambique which cut transport links and brought a flood of refugees to Malawi. It has been estimated that, from 1992 to 1995, Malawi lost four years of Gross Domestic Product (GDP) and national income as a result of the drought. In more than a decade of adjustment, Malawi's aggregate economic performance has been generally disappointing. GDP averaged only 2.4% annual growth between 1981 and 1996; these has been little diversification of output; and exports and private sector investment have fallen.

2. In 1995, the structure of GDP was 42% to agriculture, 27% to industry and 31% to services. Annual inflation has dropped from an average of 40.3% in 1992-96 to 7.2% in 1997. About 87% of the population is rural, but increasing by 3% per annum and thus threatening to accelerate woodland depletion, soil degradation and erosion. Population density is about 196 per square kilometre of arable land, making Malawi one of the most densely-populated countries in Africa. Malawi will have to continue to rely mainly on agriculture to generate wealth for its social and economic development, there being no significant contribution to the economy from mineral resources, either present or potential. Added to this, any contribution from light industry and manufacturing is hampered by long distances from suitable markets and a poorly-educated, low-skilled labour force. In spite of these weaknesses, a number of fundamental changes have recently taken place that could significantly improve prospects for growth. These include peace in Mozambique and the democratic transition in South Africa (an important market) and in Malawi itself. On the economic front, significant policy changes have re-established macroeconomic stability and liberalized the economy, and the Government is according greater priority to poverty reduction.

^{1/} See Appendix I for additional information.



3. Malawi's agriculture comprises two distinct subsectors: the estate and the smallholder. Approximately 85% of all arable land (4.3 million ha) is held under customary tenure by some 1.8 million smallholder households, of which only about 15% cultivate more than 1.15 ha. In 1995/96, the share of smallholder value added was equal, divided between maize (35%), other food crops (34%), and cash crops and livestock (31%).

4. It is estimated that approximately 76 410 ha are now under irrigation in Malawi, of which 50 000 ha come under traditional cultivation. Of 26 410 ha under irrigation formally developed during the past 30 years, large-scale sugar and tea estates account for 16 160 ha and 3 000 ha respectively, government rice schemes for 3 600 ha and self-help schemes for 3 650 ha.

B. Lessons Learned from Previous IFAD Experience

5. The main lessons learned from IFAD-financed projects relevant to smallholder agriculture and irrigation in Malawi include that: (a) project design and implementation must take place within the context of supportive economic policies and legal frameworks; (b) activities need to be demand-driven, farmer-centered and genuinely participatory; (c) appropriate mechanisms should be included so as to mainstream women; (d) thorough institutional analyses and capacity assessments should be undertaken prior to implementation; and (e) projects should avoid a supply-driven approach, especially those having a credit components which can expand too quickly at the expense of group cohesion.

6. IFAD's past and ongoing projects in Malawi have focused on the systematic removal of constraints on smallholder production and productivity, with increasing emphasis on those affecting the most resource-poor households. The benefits of IFAD support have included overall poverty alleviation; increased income and food security; and improved access to production inputs, notably seed, fertilizer and appropriate financial services. Both the design and the planned implementation of the Smallholder Flood Plains Development Programme (SFPDP) are highly participatory; the programme fully incorporates lessons learned while maintaining a consistent focus on smallholder production and productivity, mainly through appropriate technical and organizational innovations and targeted credit provision.

C. IFAD's Strategy for Collaboration with Malawi

Malawi's Policy for Poverty Eradication

7. The Government of Malawi accords high priority to poverty alleviation through the promotion of sustainable broad-based growth and social development. The poverty-alleviation strategy, articulated in government policy documents, consists of:^{2/}

- (a) creating employment and income-earning opportunities in agriculture and in micro and small enterprises;
- (b) developing human resources by improving education, health, water and sanitation services;
- (c) increasing the participation of poor women, men and youth in educational, social and political affairs; and
- (d) accelerating the decentralisation process.

^{2/} Agriculture and Livestock Development Strategy and Action Plan (ALDSAP, 1995) and draft National Irrigation Policy and Development Strategy (NIPDS, 1996).



8. In addition to national and local authorities, local communities, the private sector and NGOs are expected to play important roles in achieving these development goals which in recent years have been underpinned by an economic policy framework based on the following elements:

- (a) centrality of the smallholder agriculture sector;
- (b) reliance on the private sector and competitive markets to provide incentives for growth;
- (c) restoration of macroeconomic stability and a competitive exchange rate; and
- (d) reorientation of public expenditure towards social services and other programmes benefiting the poor.

The Poverty Eradication Activities of other Major Donors

9. A number of multilateral and bilateral donors are involved in supporting development of the agricultural sector in Malawi. Current support to the irrigation subsector consists of:

- (a) assistance in 1996 from IFAD and the World Bank in developing the National Irrigation Policy and Development Strategy (NIPDS) paper, which has been guiding the work of the Department of Irrigation (DOI) and providing elements of a framework for donor assistance;
- (b) relatively small-scale interventions financed by the African Development Bank (AfDB), German Agency for Technical Cooperation (GTZ), and by France and China;
- (c) support to larger schemes, provided by Japan International Cooperation Agency (JICA) and the European Union; and
- (d) DANIDA (Danish International Development Assistance) support to the subsector, involving assistance in finalizing the National Irrigation Policies (NIPs), institutional strengthening and pre-project feasibility studies. DANIDA, the Food and Agriculture Organization of the United Nations, and the United Nations Development Programme (UNDP) are reviewing the possibility of providing support to the small-scale irrigation sector for an Upland *Dambos* Wetlands Programme, a Food Security Project in Mzuzu, Blantyre and Shire Valley, and under the UNDP Sixth Cycle Country Programme, respectively. The SFPDP has been designed as to be parallel and linked to the planned DANIDA Upland *Dambos* Wetlands Programme.

IFAD's Strategy in Malawi

10. IFAD has integrated its efforts with sector-wide interventions supported by International Development Association and other donors, initiating national subprojects with a specific poverty focus, e.g., the IFAD-financed Smallholder Food Security Project (SFSP). It will maintain its traditional focus on the smallholder sector by supporting smallholder organizations within the context of a liberalized economy; and, more specifically, by focusing on the smallholder irrigation sector which offers considerable untapped-tapped potential for addressing poverty eradication and food security objectives on densely-populated land through crop intensification and diversification.

11. One of the main elements of IFAD's overall strategy is to mount projects/programmes driven by beneficiary participation in design and implementation. This is a core feature of SFPDP since lack of beneficiary "ownership" and participation has been found to be the fundamental cause of under-performance on previous irrigation schemes. Hence, IFAD has strongly endorsed participation



as an essential feature of the policy document for the subsector and of SFPDP implementation arrangements in which the beneficiaries and water users associations (WUAs) will have a leading role and responsibility as grass-roots organizations.

12. The SFPDP has a built-in flexibility and has been designed as a programme in two senses. First, it was designed to lay the foundations for a larger-scale programme by means of capacity-building and the accumulation of experience with demand-led smallholder irrigation that, in the medium term, will allow for expansion of the national irrigation programme to embrace highly diverse and informal systems of irrigation. Second, within the SFPDP itself, a first phase of development of pre-identified schemes and technologies will give way to a second phase of flexibility in terms of locations and methods, in accordance with farm demand and local capacities, serving the remaining larger schemes in the flood plains and informal and formal irrigation in other districts. The programme began the process of building up local capacity at the time of pre-formulation, and this continues intensively during the first year and thereafter. Gender analyses have been conducted through participatory rural appraisal and at all stages of preparatory field work in order to ensure a balanced gender focus throughout implementation.

13. In order to ensure a degree of quality control during the programme cycle, care has been taken to establish a participatory monitoring and evaluation process that will have linkages with the logical framework (logframe) and provide feedback and information to management. Use of the logframe will feature in training courses conducted during the course of implementation. Programme start-up will be expedited by means of an IFAD Special Operations Facility (SOF) and by conditions of effectiveness in the pre-programme period.

Programme Rationale

14. The potential for increasing farm output and incomes through rainfed cropping is limited by the small cropped areas of Malawian farms and by smallholder practices, particularly for the traditional maize, cassava and sorghum crops. In contrast, in the flood plains areas, there is considerable untapped potential for small-scale, supplementary irrigation development to improve the efficiency and extent of traditional wetland gardening and flood plains rice cultivation, and to expand small and medium-scale irrigation from surface water and groundwater. Irrigation is recognized by the Government as being one of the few means available for significantly expanding production.

PART II - THE PROGRAMME

A. Programme Area and Target Group

15. The programme area consists of flood plains in the three districts of Karonga, Nkhosakota and Machinga, located in the Agricultural Development Divisions (ADDs) of Karonga, Salima and Machinga, respectively (see map). Total population by district is as follows: Karonga - 202 500; Nkhosakota - 216 300; and Machinga - 705 100, for a total of 1.1 million. Rural poverty is pervasive in these districts, where there are concentrations of rice production in the flood plains and potential for expanding irrigated cropped areas.

16. Of the 1.8 million smallholder farming families in Malawi, approximately 85% cultivate less than 2 ha of land. The typical target group households will be resource-poor, vulnerable and living in the flood plains; and 90% will be seasonally in food deficit. About 30% of this target group will be female-headed households who are the poorest and with the smallest land holdings and are vulnerable



because of their relative lack of labour. The average land holding of food-insecure households ranges from about 0.56 ha in Karonga district in the north, to 0.64 ha in Nkhotakota district in the centre and 0.72 ha in Machinga district in the south. Where irrigation can be practised, an average of about 0.3 ha is irrigated in the dry season. Average annual family incomes were estimated in 1996 to be only USD 68 for the “very poor” families and USD 200 for the “poor” families. Poverty levels have been determined largely according to land/asset holding and access to off-farm employment and income-generating activities. Most families are vulnerable to drought and are in bad health, particularly as a result of water-borne diseases, because of poor supplies of drinking water. Previous development efforts in this area have met with only limited success mainly due to lack of participation, commitment and “ownership” on the part of potential beneficiaries.

B. Objectives and Scope

17. The principal objectives of the proposed programme are to: (i) improve the household food security of resource-poor and vulnerable flood plains smallholder families in three representative districts and increase the incomes of these households to enable them to purchase essentials; (ii) contribute to improving the nutritional status of these families; and (iii) provide critical health and drinking water services at the community level. In so doing, the essential aim will be to attain an equitable gender balance among the beneficiaries and full sensitivity to environmental issues and priorities. The secondary objective is to create a capability at the grass-roots level to enable community-based associations to develop and manage their own water resource activities and to strengthen the long-term capacity of public and non-governmental institutions concerned with supporting the farm water-use and irrigation sector in Malawi.

C. Components

18. The programme has five components: (i) capacity-building and institutional support in order to re-orient government staff towards working in response to, and in partnership with, irrigating smallholders; (ii) expansion of flood plains irrigation and improved water use and activities to foster catchment protection; (iii) promotion of improved irrigation agronomy and marketing through participatory research and extension, and on-farm demonstrations; (iv) community infrastructure and support services focusing on health care, sanitation, domestic water supply, and improved village access to such services in response to beneficiary demands orchestrated by NGOs; and (v) a new credit facility to enable MRFC and selected NGOs to provide seasonal and/or medium-term loans to smallholder groups for irrigation activities. These components are described in greater detail below:

19. **Capacity-Building and Institutional Support.** The limited institutional capacity of DOI and the ADD structure for irrigation development has been widely recognized by the donor community as a major constraint on future support to the sector. Smallholders in the flood plains have little capacity or experience in developing and managing their own irrigation schemes and activities. The programme will focus on capacity-building for the public sector at national and programme level and for programme coordination and implementation. The component will reinforce DOI’s efforts to change its approach from one of top-down planning and implementation of transformation irrigation schemes to facilitation and support for farmer initiatives. Training will fill knowledge gaps: for ADD agricultural staff, it will include basic irrigation agronomy, field water management and system maintenance requirements, and the economics of irrigated crops; for irrigation officers, it will include the planning and design of irrigation schemes, conveyance systems, construction, tendering, and supervising contractors; and, for front-line extension staff, it will include participatory methods.

20. These activities will be carefully coordinated and integrated with other capacity-building efforts in smallholder irrigation. Pre-programme training for the first half of 1998 is being organized



in collaboration with DANIDA, with financial contributions from the ongoing IFAD-supported Smallholder Food Security Project.

21. **Irrigation Development.** This component involves seven sets of activities concerned with the expansion of smallholder irrigation, namely: rehabilitation or construction of 18 larger-scale formal irrigation schemes of differing types; upgrading of five self-help schemes and of five government schemes; support for small-scale irrigation initiatives, i.e., shallow tubewells, small motorized pumps, and low-lift devices; catchment protection where needed; assessment of flood plains water resources; and introduction of alternative affordable irrigation technologies for smallholders. All irrigation development supported by the programme will be undertaken in response to local demand, and interventions will be designed and implemented with full local participation. Designs for the development schemes in Years 1 and 2 were completed during the pre-formulation period with the full participation of the prospective beneficiaries and local staff, to provide a sound basis for replication under the programme. The schemes implemented will be those meeting agreed investment criteria, including a threshold economic rate of return (ERR) estimated at 12% or more.

22. **Improved Irrigation Agronomy and Marketing.** This component covers a set of complementary activities required to strengthen key aspects of farm-level irrigated crop practices, i.e., participatory extension approaches, improved crop husbandry practices, better water management, farm management economics and demonstrations of improved farm equipment. Also included are marketing training for farmers and field staff, and a minimum of new rural market infrastructure in the immediate vicinity of or within Programme schemes.

23. **Community Infrastructure and NGO Support Services.** This component aims at improving domestic water supplies and sanitation in the villages associated with the irrigation schemes, as well as village access to and within them, depending on the beneficiaries' demands and needs. In addition, the component will support health centres in the scheme areas with a view to improving their capacity to diagnose and treat water-borne diseases.

24. The programme will finance contractual services from experienced international NGOs already operating in rural areas of Malawi to promote new WUAs and reinforce local groupings by strengthening their cohesion, management and financial skills. The success and sustainability of the Programme will depend greatly on the capacity of WUAs to manage their own schemes. Training will focus on WUA organization and management responsibilities, water control and distribution, and scheme operation and maintenance. The NGOs involved will be experienced in water supply and health, use participatory approaches and work closely with rural community-based organizations. Participatory contracts with NGOs and component work programmes and budgets will be cleared with the responsible Ministries to ensure coordination. The international NGOs covered by the appraisal mission include Action Aid, Save the Children, and World Vision, which have already expressed strong interest in participating in SFPDP.

25. **Expanded Rural Financial Services.** Access of smallholders to the ongoing financial resources of the Mudzi Fund in the MRFC, already funded by IFAD, will be improved by extending MRFC's outreach, using NGOs to engage new development credit officers, carry out pre-credit activities, support water-user groups or associations in their use of production or business credit, and monitor credit activities. Following the closure of the Mudzi Financial Services Project (probably at the end of 2001), the beneficiaries will be given access to new credit facilities of USD 1.0 million (operated by MRFC). An additional USD 0.5 million will be supplied through the direct agency of selected NGOs, for which suitable contractual arrangements will be finalized during the first year of implementation. The recent mid-year review made substantive proposals for accelerated credit delivery to beneficiaries, to be implemented in collaboration with the Government, including a new



participatory agreement with the Government, use of more rural intermediaries, including NGOs, and a possible risk-sharing formula.

D. Costs and Financing

26. The total cost of the SFPDP is estimated at MWK 374 million (USD 15.47 million). This will be financed by IFAD, the Government of Malawi (GOM) and the beneficiaries, and, subject to confirmation, a grant under the Supplementary Fund Agreement between IFAD and the Department of Foreign Affairs of Ireland. The Irish grant would finance about USD 1.09 million, or 7% of total costs. IFAD will finance USD 12.46 million, or 81%, of Programme costs. The GOM's local currency contribution will be equivalent to USD 1.7 million, or 11% of Programme costs, mostly in the form of duties and taxes foregone. The estimated value of DANIDA support for the parallel Upland Dambos Wetlands Programme in the same and adjoining districts amounts to approximately USD 1.1 million for the initial two-year phase, to be followed by an eight-year implementation phase for which the funding commitment has not yet been finalized.

TABLE 1: SUMMARY OF PROGRAMME COSTS*
(USD million)

Components	Local	Foreign	Total	% of Foreign Exchange	% of Base Costs
1. Irrigation development	2.00	1.92	3.92	49	28
2. Improved irrigation agronomy and marketing	0.61	0.68	1.28	53	9
3. Community infrastructure and NGO support services	2.02	1.26	3.27	38	23
4. Expanded rural financial services	1.49	-	1.49	-	11
5. Capacity building and institutional support	2.07	2.02	4.09	49	29
Total base costs	8.18	5.87	14.06	42	100
Physical contingencies	0.24	0.20	0.43	46	3
Price contingencies	0.57	0.41	0.98	41	7
Total programme costs	8.99	6.48	15.47	42	110

* Discrepancies in totals are due to rounding-up of figures.

TABLE 2: FINANCING PLAN^{*a/}
(USD millions)

Components	Government		IFAD		Beneficiaries		Irish Grant <u>b/</u>		Total		For. Exch.	Local (Excl. Taxes)	Duties & Taxes
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%			
1. Irrigation development	0.55	12	3.47	77	0.22	5	0.28	6	4.52	29	2.18	1.79	0.55
2. Improved irrigation agronomy and marketing	0.08	6	0.96	68	-	-	0.37	26	1.41	9	0.73	0.60	0.07
3. Community infrastructure and NGO support services	0.49	13	3.18	87	-	-	-	-	3.67	24	1.42	1.83	0.43
4. Expanded rural financial services	0.00	0	1.49	100	-	-	-	-	1.49	10	0.00	1.49	0.00
5. Capacity building and institutional support	0.57	13	3.36	77	-	-	0.44	10	4.38	28	2.15	2.07	0.15
Total	1.70	11	12.46	81	0.22	1	1.09	7	15.47	100	6.48	7.78	1.21

* Discrepancies in totals are due to rounding-up of figures.

a/ Costs include estimated credit needs for PYs 4-7; those for PY 1-3 will be met by MRFC Mudzi Fund.

b/ Subject to confirmation.





E. Procurement, Disbursement, Accounts and Audit

27. **Procurement.** The procurement of items financed by IFAD will be managed by the Procurement Unit of the Ministry of Agriculture and Irrigation (MAI) and the Programme Coordination Unit, in accordance with IFAD's procurement guidelines. Where possible, vehicles and equipment will be purchased in packages of more than USD 100 000 suitable for International Competitive Bidding (ICB). The procurement of goods with an estimated value of less than USD 100 000 and aggregating to no more than USD 300 000 will follow Local Competitive Bidding (LCB) procedures, whereas small "off-the-shelf" items of less than USD 10 000 each and aggregating to no more than USD 100 000 will be procured through prudent local shopping after obtaining three independent price quotations. LCB will be used for civil works for road improvement and for the construction and rehabilitation of small-scale irrigation schemes. Tendering and selection of small contractors will be managed at the ADD level, while for road improvement, tendering and selection will be managed by the Roads Department of the Ministry of Works. All contracts for goods, civil works, technical assistance and consultancy services involving firms and having an estimated value of more than USD 100 000 per contract, and all ICB contracts, will be subject to prior review by the cooperating institutions (CI). All other contracts will be reviewed as part of CI supervision. Incremental operating costs, running and maintenance of vehicles, motorcycles and equipment, salaries and staff allowances will be paid according to government procedures which will be reviewed during CI supervision.

28. **Disbursements.** The IFAD loan will be disbursed over a period of seven years, beginning about mid-year 1998. Disbursements will be fully documented except for expenditures valued at not more than the equivalent of USD 10 000 which will be made against Statements of Expenditure (SOEs). Documentation for withdrawals under SOEs will be retained by MAI in a central location for review by supervision missions. The Government will establish a Special Account in United States dollars in a commercial bank, acceptable to IFAD, to be administered by DOI to ensure the ready availability of funds for programme expenditures. Upon loan effectiveness being declared, IFAD should make an initial deposit of USD 500 000 to the Special Account, equivalent to anticipated average disbursements for a six-month period. The closing date of the loan is 31 December 2005.

29. **Accounts and Audit.** The Financial Controller and the Chief Accountant of MAI will be responsible for maintaining separate financial statements and accounts for the disbursement of IFAD funds for their respective activities. SOEs will relate to expenditures incurred through disbursement of funds in accordance with normal treasury instructions, and for goods and services to be obtained through direct payments. In accordance with the change in the financial year to 1 July-30 June, which will take effect during 1998, orderly and timely delivery of financial accounts ending on 30 June of each year will be ensured by MAI's finance division. The SFPDP accounts will follow the improved accounting guidelines agreed under SFSP. Six-monthly reports, consolidating the returns from rural development programmes (RDPs), ADDs, DOI and other institutions, will be submitted to the National Irrigation Task Force (NITF), the CI and IFAD. The consolidated accounts for IFAD, the SOEs and the Special Account, will be audited by the Auditor-General's Office. Audit reports and audited statements will be submitted to IFAD and the CI within six months of the close of the fiscal year. Auditing has been included as a programme cost.

F. Organization and Management

30. **Programme Management.** Overall responsibility for implementation of the programme will rest with MAI. The Programme will be executed by a programme coordination unit of DOI/MAI, working in close collaboration with the ADDs of the three districts and their respective field staff with and qualifying NGOs. Implementation of the Programme is planned to be flexible and demand-



driven. Each annual work programme and budget (AWP/B) will be adjusted in line with the preceding year's experience and progress. The first AWP/B will be based on the detailed models for specific schemes in the three districts, for which the detailed participatory field work and design were undertaken at the pre-formulation stage. Subsequent selection and planning of schemes will have the benefit of a water resources assessment to be conducted during the first year of implementation under a consultancy contract. The Programme will include contracting agreements with partner NGOs to implement the community infrastructure and support services component and perform key functions in other components. NGOs will be selected in accordance with agreed eligibility criteria of experience, competence and field presence.

31. **Targeting.** Site selection criteria focus on geographical, technical and financial considerations together with beneficiary interest and poverty criteria. To a large extent, the activities and services financed under the Programme will be self-targeting in that they were designed to support labour-intensive cultivation of small family plots. Sites will be targeted where surface or ground water can be used economically for irrigation, where there is beneficiary demand and, particularly, where poverty and food insecurity are clearly in evidence.

32. **Participation Arrangements.** Potential beneficiaries have been closely involved during programme formulation through workshops and participatory rural appraisal and planning exercises. NGOs under contract to SFPDP and participatory agreements with MAI will help the beneficiaries form their own WUAs. The basis for this is contained in the draft NIPDS, the formal approval of which and enactment of legislation for WUAs constitute important conditions for the Programme loan. The irrigation subsector benefits from an established structure of task forces and component working groups at national, ADD and district level. The programme will enable the beneficiaries to have full recourse to and participation in this task force structure.

33. **Gender Mainstreaming.** Programme field staff will be trained, *inter alia*, to promote the full participation of women farmers and women-headed households in all programme activities. Women's representation will be required in WUAs, and a minimum of 30% of the on-farm trials and demonstrations implemented under each of the agronomy subprogrammes will be conducted in partnership with women farmers on the plots managed by them. This will ensure that the particular constraints facing women farmers are addressed through the selection of appropriate technology and by improving their access to extension advice.

34. **Monitoring, Evaluation and Reporting.** The SFPDP will introduce a logframe approach, to be developed as the programme proceeds, with the benefit of technical assistance and training courses. This will be linked to both the budgetary process and the AWP/B, which will include quantitative and qualitative indicators. Monitoring and evaluation data will be disaggregated by gender to ensure proper assessment of women's participation rates. The concept of participatory monitoring will be introduced and put into practice within the WUAs. Six-monthly and annual report formats will be introduced, as required. In addition, the International Irrigation Management Institute is to be contracted to assess programme results (in PYs 3 and 5) against the intended technical objectives, the first input to coincide with the mid-term review in PY3.

G. Economic Justification

35. The major benefits of the SFPDP will be increased food security and incomes for the targeted smallholder families through increased agricultural production. This will be achieved by: (i) expanding irrigated areas by constructing new irrigation schemes and fostering small-scale irrigation initiatives; and (ii) raising the efficiency of irrigation on existing self-help and government schemes. The total area to be covered by irrigation over the seven-year period will be about 4 400 ha.



Approximately 14 700 farm families will benefit directly from the programme, and of these about 30% (4 400 families) are expected to be women-headed. With an average family size of 5.3 persons per household, this represents about 78 000 people in flood plains areas of the three programme districts. Indirectly, many other rural families in areas surrounding the programme's irrigation schemes/activities will derive secondary benefits from increased food supplies and newly-created labour opportunities. In addition to supporting farmers to raise their production and incomes, the programme will also reduce the poverty and food insecurity of the direct and indirect beneficiaries and strengthen the self-help capacity of smallholders. Returns from women's labour will increase as they will cultivate their own crops in the dry off-season rather than working off-farm.

36. Aggregate incremental annual production at full development has been estimated at about 10 250 mt of grains (rice and maize), 2 200 mt of sweet potatoes and 1 300 mt of vegetables, representing an overall increase of 156% over the present situation and an average growth in production of about 0.93 t per farm household. The total annual value of incremental production is estimated at MWK 39.7 million (USD 1.98 million), corresponding to MWK 2 702 (USD 135) per farm household.

37. The Programme's overall economic viability is confirmed by its estimated ERR of 11.4%. The costs of the national-level capacity-building sub-component were excluded from the base-case analysis, while 50% of the costs of programme-specific capacity-building, 50% of the community infrastructure and support services, 50% of all technical assistance and 100% of the institutional support sub-component were included. Indicative recurrent costs associated with the O&M of the irrigation schemes have been valued at USD 115 000 per annum (USD 26 per ha). A Standard Conversion Factor (SCF) of 0.85 has been used for converting domestic financial prices to economic values, and incremental family labour has been valued at a shadow wage rate (SWR) of MWK 10 (USD 0.5) per day. The ERR rises to a robust 15% when all the costs associated with community infrastructure and support services, for which many of the benefits are unquantifiable, are excluded from the analysis.

38. The programme will contribute to benefits which are difficult to quantify in monetary terms yet represent real increases in the quality of life. These include: greater household food security and nutritional and health improvements associated with improved domestic water supply and sanitation structures; incremental and diversified crop production; and the adoption of labour-saving technologies. The direct beneficiaries of such improvements will be mainly women. Improved village feeder roads will greatly facilitate marketing and the delivery of a variety of services. The programme will also have a large number of indirect beneficiaries, including farmers living in the neighbourhood of the scheme/activity areas who will benefit from improved rural infrastructure and agricultural services. Lastly, the programme will provide a basis for replication of development over the wider potential area in Malawi for flood plains irrigation.

H. Risks

39. There are no inherent technical risks associated with the Programme as the technology and cropping systems to be used are well known in Malawi. Other risks associated with the Programme have been identified in the logframe and appraisal report and, as far as possible minimized by making adjustments to the design, implementation arrangements and phasing, as follows:

- (a) market risks: improved access roads, market centres and field-level staff training in basic farm economics;



- (b) staff capacity and farmer ownership: seven-year investment period allows time for substantial capacity-building and genuine participation in planning and implementation; targeted technical assistance; contracted NGO experience and expertise; intensive participatory rural appraisal (PRA) and farmer training; emphasis on participation; ownership, demand-driven approach;
- (c) credit services for smallholders: NGO pre-credit activities; support and training of WUAs; mid-term assessment of relative performance of MRFC and participating NGOs prior to allocation of responsibility for administering incremental credit lines;
- (d) water resources availability: Flood Plains Water Resources Assessment Study; and
- (e) incremental labour availability: most of the incremental labour will be required during the dry season, when scheme construction, rehabilitation, and maintenance will be undertaken together with dry-season crop cultivation. Improved structures, maintenance and water control will reduce labour requirements during the wet season (for *ad hoc* repairs, emergency maintenance, weeding, etc.), while increased yields will increase the amount of labour required during harvesting.

I. Environmental Impact

40. The programme will have a positive environmental impact in that it will reduce flooding, stabilize stream flows, help control water-borne diseases and protect catchments. An initial environmental examination has been concluded positively and provision is made for a detailed environmental impact assessment when relevant to the individual irrigation schemes within the three programme districts.

J. Innovative Features

41. The more creative aspects of the programme are as follows:

- (a) the high levels of participation of both the beneficiaries and Government and their involvement and contribution throughout the pre-investment phases of the socio-economic production study, inception, pre-formulation and formulation, and in the proposed physical implementation of the programme itself;
- (b) the highly-decentralized implementation arrangements whereby most of the work will be done by the WUAs and their members and by the RDP, which is the lowest level organizational unit of the MAI Extension Services;
- (c) the role of stakeholders other than the Government within the programme, i.e., WUAs, farmer members, NGOs and private sector contractors, representing about 34% of programme expenditures; the latter does not include the WUAs' operation and maintenance of the schemes, which will be mostly in kind;
- (d) the radically transformed role of the Government, which will back-stop farmers' initiatives and efforts rather than directly managing irrigation development; and
- (e) the programme approach, which is the proper and only format for a flexible, supportive framework that can accommodate emerging farmer demand for irrigation services in locations that cannot be predicted.



42. The programme features that specifically reflect IFAD's corporate strategy are beneficiary participation in design and implementation; building of local capacities and a balanced gender focus; and actions to ensure quality control throughout the programme cycle. It is expected that this Programme will directly benefit from the output of the Regional Aquaculture Technical Assistance Grant presently under preparation by IFAD.

PART III - LEGAL INSTRUMENTS AND AUTHORITY

43. A loan agreement between the Republic of Malawi and IFAD constitutes the legal instrument for extending the proposed loan to the Borrower. A summary of the important supplementary assurances included in the negotiated Loan Agreement is attached as an annex.

44. The Republic of Malawi is empowered under its laws to borrow from IFAD.

45. I am satisfied that the proposed loan will comply with the Agreement Establishing IFAD.

PART IV - RECOMMENDATION

46. I recommend that the Executive Board approve the proposed loan in terms of the following resolution:

RESOLVED: that the Fund shall make a loan to the Republic of Malawi in various currencies in an amount equivalent to nine million two hundred and fifty thousand Special Drawing Rights (SDR 9 250 000) to mature on and prior to 15 January 2038 and to bear a service charge of three fourths of one percent (0.75%) per annum and to be upon such other terms and conditions as shall be substantially in accordance with the terms and conditions presented to the Executive Board in this Report and Recommendation of the President.

Fawzi H. Al-Sultan
President



**SUMMARY OF IMPORTANT SUPPLEMENTARY ASSURANCES
INCLUDED IN THE NEGOTIATED LOAN AGREEMENT**

(Loan negotiations concluded on 27 March 1998)

1. The Government of Malawi (the Government) shall make the proceeds of the grant, necessary to execute Part A of the Programme, available to DOI through MAI, MRFC or any other successor institution acceptable to IFAD under a subsidiary loan agreement satisfactory to IFAD; and to selected NGOs or other agencies acceptable to IFAD under participatory agreements satisfactory to IFAD.
2. The Government shall, for the purposes of the Programme, open and maintain in a suitable commercial bank, acceptable to IFAD, a Special Account in United States dollars, on terms and conditions satisfactory to IFAD.
3. The Government shall take all reasonable measures to ensure that the Programme is carried out with due diligence in regard to environmental factors and in conformity with national environmental legislation and any international environmental treaties to which the Government may be a party, including the maintenance of appropriate agricultural pest management practices, where applicable. To that end, the Government shall ensure that the pesticides procured under the Programme do not include any pesticide which is either proscribed by the International Code of Conduct on the Distribution and Use of Pesticides of the Food and Agriculture Organization of the United Nations (FAO), as amended from time to time, or listed in Tables 1 (Extremely Hazardous) or 2 (Highly Hazardous) of the WHO Recommended Classification of Pesticides by Hazard and Guidelines to Classification 1996-1997, as amended from time to time.
4. The Government, in consultation with the cooperating institution, shall cause MRFC or any other successor institution acceptable to IFAD, or selected NGOs or other agencies acceptable to IFAD, to establish and maintain Revolving Funds for the Programme for keeping therein the principal and interest, net of operating and other expenses, received on the credits made to farmers from the proceeds of the loan. Amounts available in the Revolving Funds shall be used by MRFC or any other successor institution acceptable to IFAD, or selected NGOs or other agencies acceptable to IFAD, for the expansion of credit facilities to the beneficiaries, consistent with the loan agreement and the development activities of MRFC or any other successor institution acceptable to IFAD, or selected NGOs or other agencies acceptable to IFAD, and consistent with the objectives and policies of IFAD, at least until such date as the principal and interest and other charges on the loan shall have been paid in full.
5. (a) During the execution of the Programme, the Government and IFAD shall periodically review the interest rates to be applied to the credits to be made out of the proceeds of the loan. The Government, if necessary, shall take appropriate measures, consistent with the policies of the Government, to harmonize the interest rates on credits with IFAD's policy on relending rates.

(b) In the implementation of paragraph (a) above, the Government shall ensure that MRFC or any other successor institution acceptable to IFAD, or selected NGOs or other agencies acceptable to IFAD, shall minimize their costs in executing Part E of the Programme, as it affects their margin(s) of the interest spread.



6. The following are specified as additional events for the suspension of the right of the Government to make withdrawals from the Loan Account for the purposes of the General Conditions:

- (a) the new or amended legislation for the registration of WUAs shall not have been approved by Parliament within two years of the date of signature of the loan;
- (b) within one year of the signature of the loan agreement: studies on the repair and upgrade needs for self-help schemes in Chonanga, Kasitu, Zumulu, Likoa and Lifuliza shall not have been conducted; and a detailed programme and timetable for the transfer of five public irrigation schemes to WUAs or irrigation groups in Domasi, Lufira, Wovwe, Hara and Bua, to be repaired and upgraded under the loan, shall not have been provided and executed; and
- (c) adequate new legislation or adequate amendment of the present Cooperative Societies Act (1946) covering the legal registration of WUAs shall not have been presented to Parliament within 12 months of the date of signing of the loan agreement.

7. At the national level, overall responsibility for Programme implementation shall rest with the MAI. Within the MAI, the DOI shall be responsible for coordinating and supervising Programme activities.

8. NGOs shall be selected on the basis of the following criteria: (a) readiness and willingness to participate and enter into a participatory agreement with DOI, acceptable to IFAD; (b) established presence and local staffing in rural areas, preferably in the three ADDs; (c) proven track record in working in the development sectors for which they are selected; (d) established capacity for budgeting, reporting and monitoring and the provision of audited accounts of the three previous years of operation; (e) capability for technical back-stopping their rural development activities in the country, including water resources, rural finance, financial control or health; and (f) in the case of international NGOs, to have established working relationships with local NGOs.

9. During implementation of the Programme, the Government shall ensure that the annual proposals for health, water supply and roads contained within each Annual Work Plan and Budget (AWPB) shall be recommended by the appropriate ADD District Task Force for clearance by the appropriate District Development Committee.

10. The Government shall ensure that DOI and ADD staff are trained in farm water and scheme management and operations.

11. The Government shall ensure that WUAs or any other groups using water resources under the Programme shall meet their operating and maintenance costs, including replacement and repair costs of irrigation equipment.

12. The Government shall ensure that farmers pay a nominal water abstraction charge of MWK 10 per farmer per year to be paid to the Water Resources Board.

13. The Government shall ensure that a minimum of 30% of on-farm trials and demonstrations implemented under the water management improvement, participatory research and extension, crop demonstrations, and appropriate labour-saving technologies programme activities shall be conducted in partnership with women farmers on plots managed by them.



14. The Government shall ensure that priority shall be given to households in the poorest areas based on social, agronomic, demographic and other general indicators. To that end, the Government shall ensure that an annual workshop is held in each ADD/DTF, where new sites will be ranked according to criteria agreed with the IFAD.
15. The Government shall ensure the establishment of strong and autonomous WUAs, through:
- (a) support for training in relevant legal and financial matters for WUA leaders;
 - (b) ensuring that, upon application by WUAs, water abstraction rights are confirmed (or that procedures are waived) by the Water Resources Board for all schemes and small-scale irrigation activities to be repaired or established under the Programme;
 - (c) support for in-country study tours of successful irrigation schemes by WUA farmer representatives;
 - (d) appropriate equipment for water points developed under the Programme;
 - (e) support for the training of emerging WUAs in the importance of protection catchment areas in the operation and maintenance of irrigation schemes; and
 - (f) support for a water resources assessment study in the flood plains, to be conducted in Programme Year 1 using loan funds. The study is expected to confirm the availability of adequate and suitable water resources for irrigation and water supply development.
16. The Government shall ensure that it shall adopt the NIPDS within 12 months from the date of the loan agreement.
17. The Government shall ensure that, within one year of the effectiveness of the loan agreement, DOI, in consultation with MAI, shall prepare detailed arrangements, including staff responsibilities, a workplan and supporting budget for the establishment of a Programme monitoring and evaluation (M&E) system, with quantifiable performance indicators.
18. No withdrawals shall be made in respect of payments made for expenditures under Category I of the allocation table set forth in paragraph 1 of Schedule 2 of the loan agreement until the Electricity Supply Commission of Malawi (ESCOM) shall have provided power to a distance of approximately 2 km from the headworks.
19. No withdrawals shall be made in respect of payments made for expenditures under Category IV(a) of the allocation table set forth in paragraph 1 of Schedule 2 until selected NGOs, or other agencies acceptable to IFAD, shall have signed the participatory agreements referred to in paragraph 3.01(a)(iii) of the loan agreement.
20. No withdrawals shall be made in respect of payments made for expenditures under Category IV(b) of the allocation table set forth in paragraph 1 of Schedule 2 of the loan agreement until such time as MRFC, or any other successor institution or other agencies acceptable to IFAD, shall have signed the subsidiary loan agreement referred to in paragraph 3.01(a)(ii) of the loan agreement.
21. The following are specified as additional conditions precedent to the effectiveness of the loan agreement:



- (a) the National Programme Coordinator (NPC), with experience and qualifications satisfactory to IFAD, shall have been recruited; and
- (b) the Financial Controller and the Procurement Officer, both with experience and qualifications satisfactory to IFAD, shall have been recruited.



COUNTRY DATA

Land area (km² thousand) 1994 1/	94	GNP per capita (USD) 1995 2/	170
Population (million) 1995 1/	10	Average annual real rate of growth of GNP per capita, 1985-95 2/	-0.7
Population density (population per km²) 1995 1/	104	Average annual rate of inflation, 1985-95 2/	22
Local currency	Kwacha	Exchange rate: USD 1 =	20 MWK
Social Indicators		Economic Indicators	
Population (average annual rate of growth) 1980-95 1/	3.1	GDP (USD million) 1994 1/	1 465
Crude birth rate (per thousand people) 1995 1/	47	Average annual rate of growth of GDP 1/ 1980-90	2.3
Crude death rate (per thousand people) 1995 1/	20	1990-95	0.7
Infant mortality rate (per thousand live births) 1995 1/	133	Sectoral distribution of GDP, 1995 1/	
Life expectancy at birth (years) 1994 3/	41.1	% agriculture	42
Number of rural poor (million) 1/	n.a.	% industry	27
Poor as % of total rural population 1/	n.a.	% manufacturing	18
Total labour force (million) 1995 1/	5	% services	31
Female labour force as % of total, 1995 1/	49		
Education		Consumption, 1995 1/	
Primary school enrolment (% of age group total) 1993 1/	80	Government consumption (as % of GDP)	20
Adult literacy rate (% of total population) 1994 3/	55.8	Private consumption (as % of GDP)	76
Nutrition		Gross domestic savings (as % of GDP)	
Daily calorie supply per capita, 1992 3/	1 827	Balance of Payments (USD million)	
Index of daily calorie supply per capita (industrial countries=100) 1992 3/	59	Merchandise exports, 1995 1/	325
Prevalence of child malnutrition (% of children under 5) 1989-95 1/	27	Merchandise imports, 1995 1/	491
Health		Balance of trade	
People per physician, 1993 1/	44 205	- 166	
People per nurse, 1993 1/	28 951	Current account balances (USD million)	
Access to safe water (% of population) 1990-96 3/	37	before official transfers, 1995 1/	
Access to health service (% of population) 1990-95 3/	35	after official transfers, 1995 1/	
Access to sanitation (% of population) 1990-96 3/	6	Foreign direct investment, 1995 1/	
Agriculture and Food		Net workers' remittances, 1995 1/	
Cereal imports (thousands of metric tonnes) 1994 1/	506	Income terms of trade (1987=100) 1995 1/	
Food imports as percentage of total merchandise imports 1993 1/	n.a.	100	
Fertilizer consumption (hundred grams of plant nutrient per arable ha) 1994/95 1/	214	Government Finance	
Food production index (1989-91=100) 1995 1/	107	Overall budget surplus/deficit (as % of GDP) 1994 1/	
Food aid in cereals (thousands of metric tonnes) 1994-95 1/	204	n.a.	
Land Use		Total expenditure (% of GDP) 1994 1/	
Agricultural land as % of total land area, 1994 1/	38	n.a.	
Forest and woodland area (km ² thousand) 1990 1/	35	Total external debt (USD million) 1995 1/	
Forest and woodland area as % of total land area, 1990 1/	37	2 140	
Irrigated land as % of arable land, 1994 1/	1.6	Total external debt (as % of GNP) 1995 1/	
		79.3	
		Total debt service (% of exports of goods and services) 1995 1/	
		25.9	
		Nominal lending rate of banks, 1995 1/	
		47.3	
		Nominal deposit rate of banks, 1995 1/	
		37.3	

n.a.: not available.

Figures in italics indicate data that are for years or periods other than those specified.

1/ World Bank, *World Development Report*, 19972/ World Bank, *Atlas*, 19973/ UNDP, *Human Development Report*, 1997



PREVIOUS IFAD LOANS IN MALAWI

Loan No.	Project Title	Initiating Institution	Cooperating Institution	Terms of Loan	Approval Date	Effectiveness Date	Actual Closing Date	Loan Amount ^{1/} SDR million	Disbursements as at 16/02/98	
									SDR million	%
ONGOING PROJECTS										
338-MW	Rural Financial Services Project: Mudzi Financial Services Subproject	World Bank: IDA	World Bank: IDA	hc	02/12/93	28/04/95	31/03/01	8 650 000	1 514 209	18%
SRS 035-MW	Agricultural Services Project: Smallholder Food Security Subproject	World Bank: IDA	World Bank: IDA	hc	15/09/93	30/07/94	31/03/00	9 350 000	3 581 045	38%
Subtotal								18 000 000	5 095 254	
CLOSED LOANS ^{2/}										
70-MW	Dowa West Rural Development	IFAD	World Bank: IBRD	hc	08/09/81	12/10/81	30/09/93	9 600 000	7 680 000	80%
120-MW	Smallholder Fertilizer	IFAD	World Bank: IDA	hc	21/04/83	22/06/83	31/03/89	8 500 000	8 500 000	100%
158-MW	Kasungu Agricultural Development	IFAD	World Bank: IDA	hc	12/12/84	26/04/85	30/04/94	13 650 000	12 285 000	90%
212-MW	Smallholder Agricultural Credit	IFAD	World Bank: IDA	hc	02/12/87	02/09/88	30/06/95	4 950 000	4 800 000	97%
Subtotal								37 700 000	33 265 000	
TOTAL								55 700 000	38 360 254	

^{1/} Original IFAD loan in SDR equivalent at exchange rate on approval dated. Percentage of disbursement is calculated on the basis of the original IFAD loan.

^{2/} Closed loans, net of cancellations (SDR).

Note: hc = highly concessional



SUMMARY DESCRIPTION OF PROGRAMME

Programme Objectives

1. The principal objectives of the programme are to: (i) improve the household food security of resource-poor and vulnerable flood plain smallholder families in three selected and representative districts; (ii) contribute to improving the nutritional and health status of these families; and (iii) provide critical health and drinking water services at the community level. Its secondary objective is to create a capability at the grass-roots levels for community-based associations to enable them to develop and manage their own water resource activities and strengthen the long-term capacity of public and non-governmental institutions concerned with supporting the farm water-use and irrigation sector in Malawi. The programme represents the first phase of a long-term development effort for the sub-sector following a participatory and demand-driven approach the smallholders will participate in designing the irrigation schemes from the outset and in their implementation and will be fully responsible for scheme operation and maintenance (O&M).

Programme Description

2. The programme has five components: (i) expansion of flood plains irrigation and improved water use; (ii) promotion of improved irrigation agronomy and marketing through participatory research and extension, on-farm demonstrations, and activities to foster awareness and action in catchment protection, (iii) community support services focusing on health care, sanitation, domestic water supply; and improved village access, in response to beneficiary demands orchestrated by NGOs; (iv) a credit facility to enable MRFC and selected NGOs to provide seasonal and/or medium-term loans to smallholder groups for irrigation activities, and (v) capacity-building and institutional support to re-orient government staff work in response to, and in partnership with, irrigating smallholders.

Programme Benefits and Risks

3. The programme is expected to increase agricultural production over an area of about 4 400 ha by near improved or new irrigation. Approximately 14 700 farm families will benefit directly, assuming an average irrigated holding of 0.3 ha, and given an average family size of 5.3 persons per household, the programme should reach around 78 000 people in the flood plains areas. In addition to raising their production and incomes, the programme will strengthen participating smallholders' self-help capacity and contribute to improvements in their general health. Aggregate incremental annual production at full development has been estimated at about 10 250 mt of grains (rice and maize), 2 200 mt of sweet potatoes and 1 300 mt of vegetables, representing an overall increase of 156% over the present situation, and correspond to an growth in production of about 0.93 mt per farm household. The total annual value of incremental production is estimated at MWK 39.7 million (USD 1.98 million), corresponding to MWK 2 702 (USD 135) per farm household. Programme-induced incremental production and income, especially that controlled by women, will improve household food security and nutrition in the targeted areas. The programme is expected to generate a satisfactory overall economic return of 11.4% on productive components, and any financial and marketing risks will be addressed though investments in improved village access and market centres. Concern as to the availability of labour are minimal as scheme construction activities and the bulk of incremental farming activities (dry season cropping) will take place during the off-season and replace off-farm labour.

LOGICAL FRAMEWORK

SMALLHOLDER FLOOD PLAINS DEVELOPMENT PROGRAMME																											
	Objectively Verifiable Indicators	Means of Verification	Important Assumptions																								
GOAL Sustainable alleviation of poverty among smallholders in the flood plains areas of Malawi.	1.1 Average farm net income (before family labour) increased by at least 50% by end of PY7 1.2 Average return to family labour increased by at least 20% by end of PY7.	1.1 Farm surveys 1.2 (as above)	1. GOM remains committed to smallholder irrigation on a participatory, decentralized and financially viable basis.																								
OBJECTIVES 1. Irrigated crop production is intensified, extended and diversified for drought resilience, income benefits, and household food security 2. Domestic water supply and sanitation facilities are provided and health standards improved	<p>1.1 At least 80% (11 800) of the total 14 700 target smallholder farmers increase annual production under irrigation (in tonnes) by at least 80% of the target increase:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th style="text-align: center;">PY1</th> <th style="text-align: center;">Full Dev.</th> <th style="text-align: center;">Increment</th> </tr> </thead> <tbody> <tr> <td>Rice</td> <td style="text-align: center;">5 850</td> <td style="text-align: center;">13 800</td> <td style="text-align: center;">7 950</td> </tr> <tr> <td>Maize</td> <td style="text-align: center;">1 250</td> <td style="text-align: center;">3 550</td> <td style="text-align: center;">2 300</td> </tr> <tr> <td>Grains</td> <td style="text-align: center;">7 100</td> <td style="text-align: center;">17 350</td> <td style="text-align: center;">10 250</td> </tr> <tr> <td>Vegetables</td> <td style="text-align: center;">340</td> <td style="text-align: center;">1 640</td> <td style="text-align: center;">1 300</td> </tr> <tr> <td>Sw. Potato</td> <td style="text-align: center;">1 330</td> <td style="text-align: center;">3 530</td> <td style="text-align: center;">2 200</td> </tr> </tbody> </table> <p>1.2 By PY7, 3 500 ha are under 150% cropping intensity</p> <p>2.1 126 boreholes and 126 pit latrines provided in 60 villages around 21 schemes by PY6 2.2 10 health centres with improved diagnostic facilities for malaria and bilharzia 2.3 At least 2 500 farmers given at least 2 days of health training. 2.4 60 villages with improved disease reporting and treatment response from health centre. 2.5 At least 45 health workers attended training/ workshop on improved health delivery to flood plains villages.</p>		PY1	Full Dev.	Increment	Rice	5 850	13 800	7 950	Maize	1 250	3 550	2 300	Grains	7 100	17 350	10 250	Vegetables	340	1 640	1 300	Sw. Potato	1 330	3 530	2 200	<p>1.1 Programme production records 1.2 Farm Surveys 1.3 Field Surveys (ADD/programme Reports)</p> <p>2.4 Rapid rural surveys, evaluation reports 2.5 Health centre records 2.6 Programme training records 2.7 Health centre records; rapid rural surveys 2.8 Programme training records</p>	<p>2. Increased agricultural production and income enable farmers to improve their nutritional status 3. Sustained market demand for programme's agricultural commodities 4. GOM ensures sufficient supply of power for irrigation 5. Groundwater resources remain adequate over time 6. Selected schemes and irrigation activities are financially viable</p> <p>7. National Irrigation Policy and Development Strategy is adopted by GOM by end of PY1 8. Customary ownership of land, water and irrigation works is clear, so as to provide necessary incentives for long-term investments</p>
	PY1	Full Dev.	Increment																								
Rice	5 850	13 800	7 950																								
Maize	1 250	3 550	2 300																								
Grains	7 100	17 350	10 250																								
Vegetables	340	1 640	1 300																								
Sw. Potato	1 330	3 530	2 200																								
OUTPUTS 1. Capacity-building and institutional support programme implemented 2. Irrigation development works completed	<p>1.6 Training in site selection, PRA, farmer organizations, scheme design and management, and computer, provided for ADD, RDP, EPA staff and for FAs by PY2 1.7 420 farmers trained in organization, scheme operation and maintenance by PY6 1.8 21 study tours conducted for a total of 525 farmers (in-country) and 3 MAI staff (regional) 1.9 Training in logframe analysis and management provided for 9 staff by PY1 1.10 At least 18 weeks of management training and 2 overseas degrees given to DOI staff.</p> <p>2.1 15 new schemes completed, 6 schemes upgraded by PY6 2.2 At least 3 new technologies tested and introduced to farmers by PY3 and 6 by PY6</p>	<p>9. Programme training records, staff surveys, farm surveys and reports</p> <p>2.1 ADD/DOI/programme records 2.2 Technology testing reports, field surveys.</p>	<p>9. Trainees are sufficiently motivated and committed to participatory development 10. NGOs and private sector available and capable of delivering services required</p> <p>11. WUAs are legally recognized and laws are enforced</p>																								



SMALLHOLDER FLOOD PLAINS DEVELOPMENT PROGRAMME : LOGICAL FRAMEWORK			
	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
3. Improved irrigation, agronomy and marketing development programme implemented	3.1 All farmers are trained in water management at each scheme 3.2 At least 2 on-farm adaptive trials (each comprising several plots) conducted annually at each scheme 3.3 At least 3 demonstration plots maintained at each scheme each year 3.4 All farmers at each scheme trained in integrated pest management 3.5 A minimum of 30% of on-farm trails and demonstrations conducted in partnership with women farmers on plots managed by them.	3.1 Programme training records 3.2 Field surveys, trail reports 3.3 Field surveys 3.4 Farmer assessment surveys (PRA) 3.5 (as above)	1. Appropriate technological packages available 2. Inputs delivered on time for planting cycle 3. No excessive flooding of particular locations in Programme area due to breaches in embankments
4. Expanded rural financial services implemented	4.6 WUAs at programme schemes and other farmer groups interested in irrigation receive pre-credit training from NGO extension and credit officers 4.7 WUAs obtain seasonal credit from MRFC through Mudzi window; farmers groups obtain medium-term credit for alternative irrigation structures (shallow tubewells, portable motorized pumps, treadle pumps, etc.) 4.8 Credit lines accessed by WUAs and farmer groups for both seasonal and medium-term credit	4.6 Supervision of NGOs, field surveys 4.7 MRFC and NGO records, beneficiary monitoring	4. Market cost of capital permits viable investment and acceptable risk 5. MRFC implements mid-term review recommendations; its performance and outreach improve
5. Village water supply, health and sanitation improvements implemented	5.9 126 water points, 126 pit latrines provided in the programme area by PY6. 5.10 60 VWCs trained in improved water point management.	5.1 Rapid rural survey 5.2 PRA, programme records	9. Communities maintain watering points 10. Trained health workers provide expected services 11. Households receptive to health education





APPENDIX V

QUANTITATIVE INPUTS, TARGETS AND KEY PROGRAMME FACTORS

FINANCING	USD
IFAD	12.46
Irish Trust Fund ^{3/}	1.09
Government	1.70
Beneficiaries	0.22
Total	15.47

PROGRAMME COSTS	USD
Irrigation Development	3.92
Improved Irrigation Agronomy and Marketing	1.28
Community Infrastructure and NGO Support Services	3.27
Expanded Rural Financial Services	1.49
Capacity-Building and Institutional Support	4.09
Total	15.47

BENEFICIARIES	No.
Smallholder farm households, of which	14 700
female-headed farm households (30%)	4 410
Approximate total no. of people	78 000

ECONOMIC RATE OF RETURN	11.4%
Costs increased by 10%	9.8%
Benefits reduced by 10%	9.7%

INCREMENTAL PRODUCTION	Tonnes
Food grains	10 250
Vegetables	1 300
Sweet potatoes (or equivalent)	2 200
Total	13 750

WITH-PROGRAMME NET FARM INCOME	USD
New pump scheme	156
Water impoundment scheme	181
Small dam scheme	190
Shallow tubewell	224
Portable motorised pump	224
Treadle pump	233

^{3/} Subject to confirmation.

COSTS AND FINANCING

Project Components Cost Summary									
	Local	(MWK)		Total	Local	(USD)		Foreign Exchange	Base Costs
		Foreign	Foreign			Foreign	Total		
A. Capacity-Building and Institutional Support									
1. National-level Capacity-Building	10 088 400	11 648 600	21 737 000	504 420	582 430	1 086 850	54	8	
2. Programme-specific Capacity-Building	10 470 441	18 647 049	29 117 490	523 522	932 352	1 455 875	64	10	
3. Institutional Support	20 764 050	10 096 500	30 860 550	1 038 203	504 825	1 543 028	33	11	
Subtotal Capacity-Building and Institutional	41 322 891	40 392 149	81 715 040	2 066 145	2 019 607	4 085 752	49	29	
B. Irrigation Development									
1. Model Schemes	5 734 017	6 361 133	12 095 150	286 701	318 057	604 758	53	4	
2. Self-help Schemes	4 054 172	1 160 867	5 215 039	202 709	58 043	260 752	22	2	
3. Government Schemes	5 461 624	4 217 456	9 679 080	273 081	210 873	483 954	44	3	
4. New Activities	20 490 600	20 597 400	41 088 000	1 024 530	1 029 870	2 054 400	50	15	
5. Catchment Protection	168 173	1 003 553	1 171 725	8 409	50 178	58 586	86	-	
6. Water Resources Assessment Study	1 626 000	2 856 000	4 482 000	81 300	142 800	224 100	64	2	
7. Technology Improvement	2 535 600	2 232 900	4 768 500	126 780	111 645	238 425	47	2	
Subtotal Irrigation Development	40 070 186	38 429 308	78 499 494	2 003 509	1 921 465	3 924 975	49	28	
C. Improved Irrigation Agronomy and Marketing									
1. Irrigation Agronomy	8 182 503	8 917 823	17 100 325	409 125	445 891	855 016	52	6	
2. Marketing	3 929 040	4 628 640	8 557 680	196 452	231 432	427 884	54	3	
Subtotal Improved Irrigation Agronomy and Marketing	12 111 543	13 546 463	25 658 005	605 577	677 323	1 282 900	53	9	
D. Community Infrastructure and Support Services									
1. Domestic Water Supply	6 703 200	6 132 000	12 835 200	335 160	306 600	641 760	48	5	
2. Health and Sanitation	1 868 812	931 498	2 800 310	93 441	46 575	140 016	33	1	
3. Village Access Improvement	4 771 250	4 771 250	9 542 500	238 563	238 563	477 125	50	3	
4. NGO Services	26 985 664	13 269 820	40 255 484	1 349 283	663 491	2 012 774	33	14	
Subtotal Community Infrastructure and Support	40 328 926	25 104 568	65 433 494	2 016 446	1 255 228	3 271 675	38	23	
E. Expanded Rural Financial Services									
1. Credit /a	29 818 000	-	29 818 000	1 490 900	-	1 490 900	-	11	
Subtotal Expanded Rural Financial Services	29 818 000	-	29 818 000	1 490 900	-	1 490 900	-	11	
Total BASELINE COSTS	163 651 546	117 472 487	281 124 033	8 182 577	5 873 624	14 056 202	42	100	
Physical Contingencies	4 733 044	3 958 132	8 691 176	236 652	197 907	434 559	46	3	
Price Contingencies	49 908 518	34 052 830	83 961 348	571 912	405 000	976 913	41	7	
Total PROJECT COSTS	218 293 107	155 483 450	373 776 557	8 991 142	6 476 531	15 467 673	42	110	

/a Costs include estimated credit needs for PYs 4 - 7; those for PYs 1 - 3 will be met by MRFC Mudzi Fund



Expenditure Accounts Project Cost Summary

	Local	(MWK)		Local	(USD)		Foreign Exchange	Base Costs
		Foreign	Total		Foreign	Total		
I. Investment Costs								
A. Civil Works								
Survey, Design, Constr. Supervision	3 255.750	361.750	3 617.500	162.788	18.088	180.875	10	1
Civil Works (contracts)	19 736.503	20 487.201	40 223.704	986.825	1 024.360	2 011.185	51	14
Electricity Supply (contracts)	3 551.624	8 020.456	11 572.080	177.581	401.023	578.604	69	4
Earthworks	15 312.357	820.108	16 132.465	765.618	41.005	806.623	5	6
Subtotal Civil Works	41 856.234	29 689.515	71 545.749	2 092.812	1 484.476	3 577.287	41	25
B. Vehicles, Equipment and Materials								
Vehicles	988.875	18 788.625	19 777.500	49.444	939.431	988.875	95	7
Irrigation Machinery and Equipment	5 572.500	13 002.500	18 575.000	278.625	650.125	928.750	70	7
Other Equipment and Materials	2 360.522	8 023.863	10 384.385	118.026	401.193	519.219	77	4
Agricultural Inputs	1 105.365	337.860	1 443.225	55.268	16.893	72.161	23	1
Subtotal Vehicles, Equipment and Materials	10 027.262	40 152.848	50 180.110	501.363	2 007.642	2 509.006	80	18
C. Training and Technical Assistance								
Farmers' Training	2 173.311	241.479	2 414.790	108.666	12.074	120.740	10	1
Technical Staff Training	15 598.980	4 333.220	19 932.200	779.949	216.661	996.610	22	7
National Technical Assistance	11 715.750	1 931.750	13 647.500	585.788	96.588	682.375	14	5
International Technical Assistance	2 823.900	23 435.100	26 259.000	141.195	1 171.755	1 312.950	89	9
Studies	1 826.600	622.400	2 449.000	91.330	31.120	122.450	25	1
Subtotal Training and Technical Assistance	34 138.541	30 563.949	64 702.490	1 706.927	1 528.197	3 235.125	47	23
D. Credit /a	29 818.000	-	29 818.000	1 490.900	-	1 490.900	-	11
Total Investment Costs	115 840.037	100 406.312	216 246.349	5 792.002	5 020.316	10 812.317	46	77
II. Recurrent Costs								
A. Incremental Staff Costs								
Staff Salaries	28 518.100	-	28 518.100	1 425.905	-	1 425.905	-	10
Field Assistants Salaries	6 602.750	-	6 602.750	330.138	-	330.138	-	2
Field Allowances	5 376.584	-	5 376.584	268.829	-	268.829	-	2
Subtotal Incremental Staff Costs	40 497.434	-	40 497.434	2 024.872	-	2 024.872	-	14
B. O&M Vehicles	4 045.575	9 439.675	13 485.250	202.279	471.984	674.263	70	5
C. O&M Office and Equipment	2 680.380	6 254.220	8 934.600	134.019	312.711	446.730	70	3
D. O&M Scheme /b	588 120	1 372 280	1 960 400	29 406	68 614	98 020	70	1
Total Recurrent Costs	47 811 509	17 066 175	64 877 684	2 390 575	853 309	3 243 884	26	23
Total BASELINE COSTS	163 651 546	117 472 487	281 124 033	8 182 577	5 873 624	14 056 202	42	100
Physical Contingencies	4 733 044	3 958 132	8 691 176	236 652	197 907	434 559	46	3
Price Contingencies	49 908 518	34 052 830	83 961 348	571 912	405 000	976 913	41	7
Total PROJECT COSTS	218 293 107	155 483 450	373 776 557	8 991 142	6 476 531	15 467 673	42	110
/a Costs include estimated credit needs for PYs 4 - 7 ; those for PYs 1 - 3 will be met by MRFC Mudzi Fund								
/b This represents the cash costs expended by WUAs for fuel, spare parts and replacements, etc. It does not include the value of faily labour utilised in day-to-day operation and maintenance of the								





Disbursement Accounts by Financiers (USD)												
GOM	IFAD		Beneficiaries		Irish Trust Fund		Total		For. Exch.	Local (Excl. Taxes)	Duties & Taxes	
	Amount	%	Amount	%	Amount	%	Amount	%				
A. Civil Works												
1. Contracts	522 244	20.0	2 090 746	80.0	-	-	2 612 989	16.9	1 240 846	849 900	522 244	
2. Earthworks	0	-	878 763	90.0	97 640	10.0	976 403	6.3	49 581	926 822	-	
3. Electricity	139 551	20.0	558 204	80.0	-	-	697 755	4.5	483 978	74 226	139 551	
Subtotal Civil Works	661 795	15.4	3 527 712	82.3	97 640	2.3	4 287 147	27.7	1 774 404	1 850 948	661 795	
B. Vehicles, Equipment and Materials												
1. Vehicles and Irrigation Equipment	203 785	9.9	1 854 422	90.1	-	-	2 058 207	13.3	1 700 565	153 857	203 785	
2. Other Equipment, Materials and Agricultural Inputs	98 125	14.5	579 192	85.5	-	-	677 317	4.4	475 442	103 750	98 125	
Subtotal Vehicles, Equipment and Materials	301 910	11.0	2 433 614	89.0	-	-	2 735 524	17.7	2 176 007	257 607	301 910	
C. Training, Technical Assistance, Studies												
1. Training, National Technical Assistance, Studies	0	-	2 043 554	100.0	-	-	2 043 554	13.2	372 909	1 670 645	-	
2. International Technical Assistance	0	-	272 870	20.0	1 091 480	80.0	1 364 350	8.8	1 217 747	146 603	-	
Subtotal Training, Technical Assistance, Studies	0	-	2 316 424	68.0	1 091 480	32.0	3 407 904	22.0	1 590 655	1 817 248	-	
D. Credit												
E. Incremental Operating Expenses												
1. Staff Salaries and Allowances	-	-	1 838 907	100.0	-	-	1 838 907	11.9	-	1 838 907	-	
2. Field Assistants	370 914	100.0	-	-	-	-	370 914	2.4	-	370 914	-	
3. O&M Vehicles, Equipment and Office	364 937	30.0	851 519	70.0	-	-	1 216 456	7.9	851 519	121 646	243 291	
4. O&M Schemes*	0	-	-	-	119 921	100.0	119 921	0.8	83 945	35 976	-	
Subtotal Incremental Operating Expenses	735 851	20.8	2 690 426	75.9	119 921	3.4	3 546 198	22.9	935 464	2 367 443	243 291	
Total	1 699 555	11.0	12 459 076	80.5	217 561	1.4	15 467 673	100.0	6 476 531	7 784 146	1 206 996	

* This represents the cash costs expended by WUAs for fuel, spare parts and replace ments, etc. It does not include the value of family labour used in day-to-day operation and maintenance of the irrigation systems.

Components by Financiers (USD)												
GOM	IFAD		Beneficiaries		Irish Trust Fund		Total		For. Exch.	Local (Excl. Taxes)	Duties & Taxes	
	Amount	%	Amount	%	Amount	%	Amount	%				
A. Capacity-Building and Institutional Support												
1. National-level Capacity Building	61 701	5.4	955 656	82.9	-	135 375	11.7	1 152 731	7.5	615 637	478 428	58 666
2. Programme-specific Capacity Building	88 297	5.7	1 259 025	81.5	-	197 015	12.8	1 544 336	10.0	993 550	491 922	58 864
3. Institutional Support	424 582	25.3	1 145 367	68.2	-	110 678	6.6	1 680 627	10.9	543 055	1 100 978	36 595
Subtotal Capacity-Building and Institutional Support	574 580	13.1	3 360 048	76.8	-	443 067	10.1	4 377 695	28.3	2 152 242	2 071 328	154 125
B. Irrigation Development												
1. Model Schemes	69 687	10.5	459 127	69.5	50 612	7.7	81 503	12.3	660 929	4.3	344 920	246 322
2. Self-help Schemes	34 423	11.1	260 908	84.4	13 691	4.4	-	309 022	2.0	68 833	205 766	34 423
3. Government Schemes	92 182	15.9	462 447	79.7	25 261	4.4	-	579 890	3.7	250 540	237 168	92 182
4. New Activities	342 333	14.1	1 959 893	80.6	127 998	5.3	-	2 430 225	15.7	1 200 292	887 599	342 333
5. Catchment Protection	2 856	4.7	23 460	38.5	-	34 572	56.8	60 888	0.4	51 916	6 842	2 130
6. Water Resources Assessment Study	1 892	0.8	118 831	52.2	-	106 814	46.9	227 537	1.5	144 872	80 773	1 892
7. Technology Improvement	10 958	4.4	184 361	73.9	-	54 178	21.7	249 497	1.6	116 217	122 322	10 958
Subtotal Irrigation Development	554 331	12.3	3 469 028	76.8	217 561	4.8	277 068	6.1	4 517 988	29.2	2 177 590	1 786 793
C. Improved Irrigation Agronomy and Marketing												
1. Irrigation Agronomy	30 626	3.3	608 051	65.5	-	289 998	31.2	928 676	6.0	477 529	426 010	25 137
2. Marketing	48 609	10.1	349 567	72.9	-	81 346	17.0	479 523	3.1	253 404	177 510	48 609
Subtotal Improved Irrigation Agronomy and Marketing	79 235	5.6	957 619	68.0	-	371 344	26.4	1 408 199	9.1	730 932	603 520	73 746
D. Community Infrastructure and Support Services												
1. Domestic Water Supply	150 490	19.5	621 531	80.5	-	-	-	772 021	5.0	369 571	251 960	150 490
2. Health and Sanitation	23 073	14.3	137 853	85.7	-	-	-	160 926	1.0	54 825	83 028	23 073
3. Village Access Improvement	112 833	20.0	451 334	80.0	-	-	-	564 167	3.6	282 084	169 250	112 833
4. NGO Services	205 013	9.4	1 970 764	90.6	-	-	-	2 175 777	14.1	709 287	1 327 367	139 123
Subtotal Community Infrastructure and Support Services	491 410	13.4	3 181 482	86.6	-	-	-	3 672 892	23.7	1 415 767	1 831 605	425 520
E. Expanded Rural Financial Services												
1. Credit *	-	-	1 490 900	100.0	-	-	-	1 490 900	9.6	-	1 490 900	-
Total Disbursement	1 699 555	11.0	12 459 076	80.5	217 561	1.4	1 091 480	7.1	15 467 673	100.0	6 476 531	7 784 146
* Costs include estimated credit for PYs 4-7, those for PYs 1-3 will be met by MRFC Mudzi Fund												



ORGANIZATION AND MANAGEMENT

1. The SFPDP will be implemented on the flood plains of the three Districts of Karonga, Machinga and Nkhotakota located in the ADDs of Karonga, Salima and Machinga, respectively. In addition to the direct target group - smallholder farmers - the following are the main stakeholders of the programme: district authorities, traditional authorities (TAs), ADDs and irrigation task forces (both at the national and ADD/District levels). The MAI will be the lead implementing agency.

2. At the national level, a National Programme Coordinator (NPC), appointed on a contract basis for the duration of the programme, will be responsible for overall planning, checking and approving RDP and ADD work plans and budgets, supervision of programme implementation, organizing staff training, overall reporting to the Government, the CI and IFAD, and financial administration. He/she will be assisted by a financial controller, a procurement officer and a secretary. The procurement officer will be responsible for the procurement of goods and services financed under the programme, for tendering and contractual arrangements for external services (NGOs, consultants, contractors) and for monitoring progress.

3. MAI staff at the ADD level include officers with subject matter specialist knowledge and experience who will provide support on specific features during programme implementation. Coordination of staff activities at the ADD level is the responsibility of the programme manager (PM). However, the PM has extensive duties out a large geographical area and, given the nature of SFPDP, day-to-day management of SFPDP support activities at the ADD level will thus be delegated to the divisional irrigation officer (DIO). Who will be responsible for drawing a quarterly work plan for support activities based on the need for assistance in the programme extension planning areas (EPAs). The DIO will also prepare an AWP/B for support activities at the ADD level, to be submitted to the PM and the NPC for approval, and ensure that quarterly and annual reports on SFPDP matters are submitted to the NPC through the PM.

4. The project officer (PO) will be responsible for managing one or more EPA-level teams involved in SFPDP implementation. This will include creating annual and quarterly work plans, assigning tasks and responsibilities, supervising staff, disbursing programme funds, monitoring progress and writing progress reports. The PO will submit the AWP/B directly to the NPC/SFPDP and report directly to him/her concerning programmes implementation, through the submission of quarterly and annual reports which include a description of actual's planned programme activities and outputs, an analysis of problems, and justification for programme expenditure. However, the PJO will be administratively responsible to the PM of the ADD, to whom all SFPDP plans and reports will be copied.

5. Co-ordination at the District Level. In order to ensure proper understanding and cooperation between traditional leaders, MAI staff, other government departments, NGOs and private sector institutions, meetings of the ADD/district task forces for irrigation development will be held at least twice-yearly to assist the programme from the pre-formulation stage. The ADD/DTF, chaired by the District Commission, will comprise representatives of different government ministries, the ADDs, the PM, traditional authorities, NGOs and representatives of the farmers and the private sector. Field progress reported by the PJO will be verified by the ADD/DTF through annual field visits.

6. Co-ordination and advice on policies at the national level will be the responsibility of the NITF, which was established for the purpose of coordinating irrigation development through the country and is co-chaired by the controller of irrigation services and the controller of agricultural extension and training of MAI. The NPC will be required to brief the NITF, which will meet twice-



yearly to discuss SFPDP matters and verify field progress through an annual field visit. The NITF will meet more often on matters pertaining to other irrigation programmes such as the DANIDA Upland Dam and Dambo programme.

7. For targeting, reliance will be mainly placed on geographical specification or locational targeting of WUAs and communities. To a large extent, the activities to be financed under the programme will be self-targeting in that they constitute farm-level activities that the more progressive farmers or estates will not do, i.e., labour-intensive cultivation of small family plots and products that often include perishable vegetables and fruits and require rapid responses to market signals. Further reliance will be placed on affirmative criteria in the confirmation by DOI and the ADD/DTFs of the WUAs to be supported under the programme. This will require that at least 30% of the membership of the WUA or group shall be women heads-of-families or their nominees.

8. The training of farmers and leaders of the WUAs will be an integral part of the programme. An extensive programme of training courses will take place during the scheme preparation, implementation and operation stages so as to establish a capacity for managing and maintaining each system. Farmer training will cover water distribution and scheduling, system operation and maintenance, technical skills for system repairs, sources for spare parts, replacement of equipment and catchment protection. To address the limited capacity in DOI/MAI to provide such training, international technical assistance will design training courses and a manual, and train government staff (training of trainers). A combination of ADD training specialists, NGO specialists and RDP subject matter specialists will provide training for farmers.

9. The contracting of experienced international NGOs will be central to the implementation of the Community Infrastructure and Support Services component which will direct services to WUAs and informal groups and be responsible for implementing of the infrastructural sub-components of health and water supply in collaboration with the district structure of the Ministries of Health and Water Development. A condition of disbursement for NGO services, water supply and health will be the signing of a participatory agreement with selected NGOs which meet agreed eligibility criteria.

10. Associations or groups of water users are central to the programme as the operators of irrigation facilities; success in forming and building them together will be the determinant of the speed of programme implementation. WUAs are voluntary groups of users of a common, privately-owned and operated irrigation facility such as a rice gravity scheme, pump-gravity irrigation scheme or a shallow tubewell. The WUAs are partners with the Government and will share responsibility for construction or repair where they may provide labour and materials but not cash. They will contribute labour and materials to the earthworks at the construction stage and during on-farm development of irrigation channels. In addition, the beneficiaries, organized by their WUAs, will meet any cash payments associated with the O&M of the schemes, including the costs of capital replacement of pumps and other capital items.

11. WUAs require registration or an equivalent process in order that, as a legal entity, they may assume irrigation-related assets and obligations, contract for services and have legal recourse. To establish a legal basis for such registration, assurances will be sought from Government during loan negotiations that it will enact enabling legislation, based upon legislation other than the Cooperative Societies Act, to cover the legal registration of WUAs, to be approved by Parliament within one year of loan signing. Failure to do so may constitute a condition for suspension.



FINANCIAL AND ECONOMIC ANALYSIS

1. The programme's impact at the farm level has been assessed in terms of changes in: (i) farm income; (ii) production costs; (iii) financing; (iv) labour requirements; and (v) returns to family labour. Separate crop budgets for the main crops (paddy, maize, tomatoes, sweet potatoes, cassava) were calculated for each scheme/type of irrigation activity, for both the "without programme" and the "with programme" scenario, and it was assumed that full yields would be realised from PY 5 onwards. Gross margins per hectare were calculated for each crop model, representing the value of outputs and the variable costs of production (costs of hired labour included). Dividing the gross margin by the number of family labour days required gives the return to family labour per person day. Gross margins and return to labour for each of the crop models are summarized in annex II, appendix 1 of the appraisal report.

2. Based on the crop models and findings of the pre-formulation and formulation missions, typical farm models were created for each of the schemes and new irrigation activities.^{4/} The cropping patterns used are rice-based in the case of schemes involving a number of farms where water is diverted from a river or pumped by electricity from Lake Malawi or a river. In the case of irrigation activities where water is pumped using small portable diesel pumps or a treadle pump, lower water-demanding and higher-valued vegetable crops are more dominant in the farm models to pay for the higher cost of water. The typical situation, i.e., that farmers will cultivate land both within and outside the scheme area, is reflected in the farm models.

3. Changes in farm incomes "with programme" compared to the "without programme" situation varied considerably between the model irrigation schemes/activities analysed and the results are summarized in the table below. The annual incremental net income per farm ranges from MWK 994 (government schemes) to MWK 2 858 (shallow tubewell and portable motorised pump), corresponding to increases of 45% and 191% respectively. The net income "without programme" has been compared to the net income after five years "with programme", when full production benefits are assumed to be reached.

4. The average family labour requirements are about double "with programme" compared to "without programme". Almost all the incremental family labour will be required during the dry season when much surplus labour is available because, without irrigation the farmers are unable to tend their plots for lack of water. At the same time, however, returns to family labour are increased in all cases, with increases from MWK 2 to MWK 14 per family labour day.

5. Financial budgets were prepared for each type of model irrigation scheme/activity over a period of ten years. The results of the financial analyses indicate that, in all cases except the treadle pump, shallow tubewell and small motorized pumps, capital investment costs will need to be met by GOM. At the existing stage of irrigation development in Malawi, smallholders cannot meet the investment cost of gravity irrigation. Farmers could contribute their own labour for excavation and on-farm irrigation development. In the financial budgets, this has been limited to about USD 64 per farmer (about 122 person-days per farm family) which will be a significant and realistically-achievable contribution. Credit for the purchase of (i) farm inputs (seeds, fertilizer, crop protection and land preparation); and (ii) shallow tubewells, small motorized pumps and treadle pumps, was costed in the analyses at a real interest rate of 22% per annum. In the financial analysis of the treadle pump, it was assumed that a five year loan would be used to finance the pump and accessories

^{4/} For details of the farm models, see Annexes II and VI of the appraisal report.



associated with irrigation. A one-year grace period on principal repayments, necessary for the operation to be financially viable to a typical smallholder, was incorporated.

6. Internal WUA water charges were included in the production costs to cover annual costs of O&M and pump replacement. In the case of schemes involving a number of farmers, it was assumed that water charges would be on a simple area-irrigated basis. Although individual WUAs will need to decide on the method of recouping O&M and capital replacement costs from their water users, in the absence of water meters, a flat charge per unit area irrigated will be the most simple and practical system. An alternative, more equitable, system would be to charge by area and type of crop irrigated, although this would be more complicated to administer. Water charges for the models evaluated are tabulated below. These vary from MWK 1 216/ha (USD 61/ha) for the shallow tubewell and portable motorized pump models to MWK 38/ha (USD 2/ha) for the treadle pump model. Compared to the relatively high cost of running a diesel pump, the water charge for the model pump scheme, which is calculated on the basis of using electricity for pumping, is much less at MWK 361/ha (USD 19/ha).

7. The financial viability of the model irrigation schemes involving a number of farmers is satisfactory. These types of schemes, based on river diversion or pumping water using electricity, will be financially attractive in rice-based systems of production. However, small portable motorized pumps and treadle pumps, which are much more expensive to operate per unit of water, may require that the farmers irrigate only higher-value crops, such as vegetables, if they are financially viable.

8. An economic analysis was conducted for each individual scheme and for the programme as a whole, based on the land-use models. The ERRs range from 12% to over 50%, assuming a 25-year life for each scheme.

9. The assessment of the overall economic viability of the programme includes the full economic costs associated with the components and sub-components considered to be essential to the achievement of economic benefits. Thus, in the base-case analysis, the costs of the national-level capacity-building sub-component were excluded from the analysis, while 50% of the programme-specific capacity building, 50% of the community infrastructure and support services, and 50% of all technical assistance were included. Indicative recurrent costs associated with the O&M of the irrigation schemes were valued at USD 115 000 per annum (USD 26/ha). A SCF of 0.85 was used for converting domestic financial prices to economic values, and incremental family labour has been valued at a SWR of MWK 10 (USD 0.5) per day. The overall ERR of the programme was calculated across 20 years at 11.4%, rising to a robust 15% when all the costs associated with community infrastructure and support services were excluded from the incremental economic cost stream.

10. A sensitivity analysis was conducted to assess the impact on the economic viability of the programme of reduced benefits, increased costs and implementation delays. This is confirmed by a sensitivity analysis for most of the schemes to assess the robustness of their economic viability as a result of reduced benefits or increased costs. The results of the sensitivity analysis are shown below:

EIRR over 20 years

Base case	11.4%
Costs increased by 10%	9.8%
Benefits reduced by 10%	9.7%