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Enabling the rural poor
to overcome poverty

United Republic of Tanzania

Completion Evaluation

Executive Summary and Agreement at Completion Point of the Participatory Irrigation Development Programme

Evaluation Committee — Forty-seventh Session
Rome, 13 April 2007

For: **Review**

Note to Evaluation Committee members

This document is submitted for review by the Evaluation Committee.

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Map of the programme area

The United Republic of Tanzania Participatory Irrigation Development Programme

Completion Evaluation



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.

Map compiled by IFAD

Completion Evaluation

Participatory Irrigation Development Programme

Part A – Executive summary

I. Introduction

A. Country background¹

1. The United Republic of Tanzania is a country with 38 million inhabitants. In 2005, around 75 per cent of the population lived in rural areas, deriving their livelihoods mainly from agriculture and related activities. About 20 per cent of the rural population live in absolute poverty (i.e. below the food poverty line). In 2005, the United Republic of Tanzania was one of the poorest countries in the world, with a GDP at purchasing power parity of US\$580 per capita. The agricultural sector accounts for 45 per cent of the country's GDP, and engages 82 per cent of the labour force. Only 15 per cent of the 40 million hectares of arable land is currently cultivated. The estimated potential for irrigation is 2.1 million hectares. Unreliable rainfall is a major constraint on agricultural development.
2. A number of policies have been formulated to address the country's development concerns, notably, the Vision 2025, which spells out the long-term economic and social development aspirations of improving the living standards of the people; the poverty reduction strategy paper, which was issued in 2000 and is the focus of most development interventions; the Tanzania Assistance Strategy through which donor assistance is harmonized; the sector-wide approach to budget support which is aimed at reducing duplication, encouraging donor harmonization and rationalizing the flow and allocation of funds; and the Agricultural Sector Development Programme which complements the country's poverty reduction strategy and rural development strategy.
3. Various donors, inter alia, IFAD, the World Bank and Danish International Development Assistance have been supporting irrigation development in the country. IFAD has developed two country strategic opportunities papers for the United Republic of Tanzania, the first in 1998 and the second in 2003. The latter was informed by a country programme evaluation undertaken by the Office of Evaluation (OE) in 2001-2002. In terms of investments, the Fund has provided US\$193 million as loans for 12 projects in the country since 1978; these include operations in the irrigation subsector. Currently, 5 of these 12 projects and programmes are ongoing.

B. The programme

4. The Participatory Irrigation Development Programme is a six-year operation. The programme became effective in February 2000 and its current closing date is end-June 2007. Prior to the programme, from 1990-1997, IFAD financed another project in more or less the same geographic area, the Smallholder Development Project for Marginal Areas, which was largely aimed at promoting small-scale irrigation development.
5. The initial objectives of the Participatory Irrigation Development Programme were to: (i) increase the availability and reliability of water through improved low-cost systems of water control; (ii) raise agricultural productivity through better extension services; and (iii) build institutional capacity with the long-term vision of realizing the potential of smallholder irrigation development. Notably, these objectives were revised in 2001 to align them with the national Agricultural Sector Development

¹ Some data in this section is taken from the World Bank's World Development Indicators, 2005.

Programme² and it is against the new objectives and outputs that the Participatory Irrigation Development Programme has been evaluated. The programme has four main components, namely: (i) irrigation development; (ii) support to agricultural development; (iii) strengthening farmers' organizations and local institutions; and (iv) programme coordination.

6. The programme covers 12 important crop-producing districts³ in the central plateau regions. There is considerable unused arable land in the programme area, largely as a result of the lack of irrigation systems.
7. In the districts covered by the programme, 21-49 per cent of the population live below the basic needs poverty line, mainly because of poor soils and erratic rainfall. Women have limited access to agricultural resources and woman-headed households represent about 11 per cent of the programme target group. In general, the indicators for social and physical infrastructure are below the national average in the programme area.
8. The total programme cost was US\$25.3 million, towards which IFAD provided a loan for US\$17.1 million on highly concessional terms.⁴ The World Food Programme provided US\$3.6 million in cofinancing and Irish Aid, US\$0.8 million. The Government provided counterpart funds equivalent to US\$3.1 million, and the programme beneficiaries also provided valuable contributions in the form of labour and locally available materials (equivalent to US\$0.6 million).
9. The Ministry of Agriculture, Food and Cooperatives was designated as overall executing agency, while district councils were responsible for actual programme implementation. A programme coordination unit was established in Dodoma, inter alia, to ensure coordination among the line departments involved in programme activities.
10. Various training centres, universities, NGOs, consulting companies and private contractors were also involved in the programme, providing a range of services required for implementation. The United Nations Office for Project Services (UNOPS) was the cooperating institution. Furthermore, efforts were made to ensure close coordination and synergies with other ongoing IFAD-funded projects in the country such as the Agricultural Marketing Systems Development Programme and Rural Financial Services Programme. These two operations, in particular, were expected to support the programme in the areas of marketing and financial services.

C. Objectives and methodology of the evaluation

Objectives

11. The main objectives of the evaluation were to: (i) assess the performance and impact of the programme; and (ii) generate findings and recommendations that would serve IFAD and the Government in designing and implementing similar projects and programmes in the future. The evaluation was also to provide an opportunity for learning and exchanging views with multiple partners on issues related to participatory irrigation development and its contribution to broader rural poverty alleviation efforts in the country (see paragraph 12).

² The programme revised the original logical framework as follows: Purpose: Crop productivity through expansion and improvement of farmer-initiated and well-managed small-scale irrigation schemes sustainably increased; Outputs: (1) Water management systems in the programme areas improved, (2) Services for agricultural development improved, (3) Market access roads in the programme areas constructed/improved, (4) Capacity of local institutions (farmers, districts, private sector) improved, participation, equity and sustainability fostered, and coordinated programme activities in place.

³ This later became 13 districts as Shinyanga Rural was split into Shinyanga and Kishapu Districts during the period of implementation.

⁴ The disbursements from IFAD's loan are currently around 98 per cent.

Methodology

12. This assessment followed OE's guidelines for project evaluations⁵ and a six-point scale has been used to attribute ratings to each of the evaluation criteria.⁶ The overall approach to the evaluation included a desk review of the relevant documents, a rapid assessment study,⁷ the main evaluation mission, which entailed almost four weeks of fieldwork and included interviews with key informants,⁸ focus group discussions and other participatory approaches involving beneficiaries in seven selected schemes from six districts.⁹ A final multistakeholder workshop was held in Dar es Salaam in October 2006 to discuss the evaluation's results and lessons learned, as well as to lay the basis for the Agreement at Completion Point (see Part B of this document). The evaluation process involved active interaction and dialogue among members of the core learning partnership (CLP).¹⁰
13. The evaluation mission categorized the 56 programme schemes into three groups, according to two important characteristics: (i) the availability of water; and (ii) the existence of irrigated farming traditions. Group A (covering 9 schemes) had permanent water availability and the community had a tradition of irrigated farming. Group A was therefore most suited to irrigation schemes. Group B (covering 32 schemes) had seasonal/partial availability of water, experience in rice-growing with water-harvesting techniques of bunding, and therefore was suitable for enhanced water-harvesting schemes. Lastly, Group C (covering 15 schemes) had partial availability of water (seasonal rivers), limited or no experience with irrigation or water-harvesting, and therefore qualified for water-harvesting schemes. The evaluation team visited samples of all three groups.

II. Programme performance

A. Design features: some general considerations

14. The programme was designed to include 18 districts identified during programme formulation and appraisal. However – owing to budgetary constraints – the programme steering committee in 2001 approved coverage by the programme of 12 districts only (which later became 13, see footnote 3).
15. The process of selecting¹¹ districts, schemes/communities and individual beneficiaries was lengthy. It entailed involving potential beneficiaries in a process of consultation and dialogue for around five months before decisions were taken on the

⁵ This included making an assessment of the programme according to internationally recognized evaluation criteria, namely: (i) programme performance, including relevance, effectiveness and efficiency; (ii) impact on rural poverty; and (iii) performance of partners involved in the programme, including IFAD, the cooperating institution, government institutions and others.

⁶ As per OE's project evaluation methodology, on the six-point scale, 6 represents the best score. For example, in assessing project relevance, the scale would read as follows: 6 (highly relevant), 5 (relevant), 4 (partly relevant), 3 (partly irrelevant), 2 (irrelevant), 1 (highly irrelevant).

⁷ The rapid assessment study collected household data on food security, incomes, and opinions on programme relevance and effectiveness from beneficiary and non-beneficiary communities.

⁸ Informants were from the key ministries, donor agencies, local authorities and also included community leaders.

⁹ The mission was composed of Mr Ole Olsen, consultants' team leader; Mr Moshe Finkel, Irrigation Engineer; Mr Charles Lwanga-Ntale, Social Scientist; and Ms Sylvia Schweitzer, IFAD Associate Professional Officer. The lead evaluator was Ms Victoria Matovu, OE.

¹⁰ The CLP comprised representatives from: the ministries responsible for poverty eradication; the Ministry of Agriculture, Food and Cooperatives; regional and district authorities, irrigation and agricultural extension services; the World Food Programme; Irish Aid; and research institutions and universities. The CLP also included representatives of UNOPS, Nairobi; the Eastern and Southern Africa Division, IFAD; OE; in addition to stakeholders in irrigation development such as the Danish International Development Assistance and the Japan International Cooperation Agency.

¹¹ The criteria for selecting districts included the number of sites and the irrigation potential in the district and the contribution by the district of staff for programme implementation. Scheme selection was also informed by technical, social, economic and agricultural aspects and the situation in terms of management capacity, ease of implementation, land distribution and the environment. At the community level, resource-poor farmers especially women and woman-headed households were the main target groups. Target group composition had to meet the following requirements: (a) beneficiaries should not hold more than 2 hectares of cultivable land; (b) 75 per cent of the beneficiaries should be below the poverty line; and (c) at least 30 per cent of total beneficiaries and 50 per cent of the irrigation management committee members should be women.

selection of schemes. This laborious process was a cause for discontentedness in those communities that were ultimately not included in the programme.

16. Programme design underestimated the cost of scheme construction, predicting an average of US\$170,000 instead of the actual average cost incurred of US\$380,000. This caused a shortfall in the programme budget, leading to delays in implementation. Eventually, the financing gap was filled by the Government, which provided an additional allocation of US\$2 million as counterpart funding towards the programme.

B. Implementation and outputs

Targeting

17. In all, around 25,400 people benefited from the programme. In most cases, the poverty eligibility criteria (see footnote 11) were applied and the unit of selection was the household or the individual, except in schemes where people had plots along an already existing irrigation canal and thereby automatically became beneficiaries. In such situations, compulsory land redistribution was enforced when plots were larger than two hectare per person.¹²
18. In some cases, poorer segments within selected communities could not participate in the programme because of their inability to contribute the labour required by the programme.¹³ Women were particularly disadvantaged in contributing labour, since they were already overburdened with other priority household work. In six out of seven schemes visited by the evaluation team, the 30 per cent target of women beneficiaries was surpassed. However, the 50 per cent target of beneficiaries living below the poverty line was only met in two out of seven schemes visited.

Irrigation development

19. The planned output was improved water management systems in the programme areas. In general, it is noteworthy that the planned outputs have been achieved and in some cases exceeded. That said, the lowest achievement related to dam construction (50 per cent) and the highest related to the number of beneficiaries reached (187 per cent).
20. Although the programme made due efforts to undertake the required technical analysis in identifying irrigation schemes for development and/or rehabilitation, the basis for decisions was in some cases weak because of the lack of data (especially on hydrology). This led to the selection of some schemes where the available volume of water was insufficient and could not meet the community needs. As such, some schemes did not yield the results anticipated in terms of production over a number of years.
21. The evaluation notes that with approximately ten years of IFAD presence in the country's irrigation subsector, more attention should have been paid to the selection of suitable sites. For instance, although droughts and floods cannot be foreseen, their probable occurrence and consequences should have been more thoroughly factored in during the design process.
22. On another related issue, the tendering process for each scheme was longer than planned, mainly because of the lack of response from contractors. The programme therefore decided to construct some schemes through the use of Government structures. The tendering process led to delays in the construction work and revealed that there were only a few private contractors available to undertake such construction work within the stipulated time frame. In general, the capacity of the contractors was low, inter alia, in terms of technical know-how and resources.

¹² It was proposed during programme appraisal that beneficiaries would be only resource-poor farmers owning less than two hectares. As a result, land redistribution was imposed to cater for previous inequalities in access to land among the beneficiaries.

¹³ In order to promote ownership, beneficiaries were required by the programme to show their participation by contributing labour, local materials or some funds to the programme.

Support to agricultural development

23. The planned outputs were improved agricultural development services and the rehabilitation or building of market access roads in the programme areas. Under this component, a total of 327 km of market access roads were constructed, which is 31 per cent more than envisaged. Extension officers and participating farmers were trained using the farmer field school¹⁴ concept, which led to enhanced knowledge among beneficiaries about improved technologies and varieties. The latter was an important factor in the increases achieved in agricultural production and productivity – for example in paddy – from an average of 0.5 to 2 tonnes per hectare. Increases, however, fell short of expectations at design, partly as a result of the limited availability of irrigation during low rainfall periods in the year.
24. On a less positive note, some of the demonstrations and trial programmes were seriously affected by drought. For similar reasons, the survival rate of trees planted along the roads constructed is only around 10 per cent, which was the result of both drought and animal damage. Tree-planting along irrigation canals was only 20 per cent successful. Finally, the least successful intervention was the construction of pit latrines in the farm areas (5 per cent). The demand for this item may have been overestimated at the time of programme formulation.

Strengthening farmers' organizations and local institutions

25. The planned outputs were improved capacity of local institutions among farmers, districts and the private sector; and the fostering of participation, equity and sustainability. In total, 56 water users' associations were formed (representing an achievement of 108 per cent) and 123,256 participant-training-days were provided, with women constituting 36 per cent of the participants. Moreover, a total of 44 savings and credit cooperatives (85 per cent of target) were established, and these served as the main vehicle for promoting savings and credit. The programme also provided support to private-sector development, for example, in terms of training of local artisans and contractors to construct and maintain or repair roads and physical irrigation structures. However, the identification of potential entrepreneurs to be trained was problematic because few people had the required qualifications.
26. District-level capacity-building focused on training of district staff, and members and leaders of water users' associations in programme implementation and review, labour-saving technologies, scheme operation, water management and other related matters. The evaluation notes that the training imparted was relevant, even though more attention could have been devoted to establishing effective links between district-level and community institutions so as to enable districts to provide technical support to communities.

C. Assessment of programme performance

Relevance

27. The Participatory Irrigation Development Programme responded to the needs of the beneficiaries and was in line with Government's overall efforts to combat rural poverty by enhancing rural and agricultural development. The programme was integral to the Government's endeavours to achieve the Millennium Development Goals, and conformed with the country strategic opportunities papers (prepared by IFAD in 1998 and 2003) for the United Republic of Tanzania by aiming to facilitate the rural poor's access to irrigation in order to enhance incomes and livelihoods. The beneficiaries met by the evaluation team felt that the programme was highly relevant as it aimed to address the problems they were facing in relation to inappropriate physical infrastructure, water management, farming technology, food supply, housing, gender equity, linkages with authorities and the ability to organize themselves. All in all, the evaluation concludes that the programme was highly relevant, with a rating of 6.

¹⁴ This is a mode of promoting knowledge among adults, whereby farmers are taught through experimenting with crops and observing crops on the farm or in the field.

Effectiveness

28. The effectiveness of the programme in meeting objectives varied. Overall, water availability and management have improved in the programme area among most but not all of the target group. Extension services for agricultural development saw general betterment, market access roads have been constructed and are serving their purpose, and the capacities of institutions have been strengthened, even though the sustainability of some are a cause for concern. As such, the evaluation considers the programme moderately effective, with a rating of 4.

Efficiency

29. It is noteworthy that in the earlier stages of implementation, some delays occurred as a result of the lengthy participatory approaches that were being promoted, for example, in the selection of target communities, and the training of water users' associations and savings and credit cooperatives. Also, the tendering procedures for selecting private contractors was time-consuming and the actual construction of the schemes was slower than anticipated largely because of the limited capacity of the contractors selected.
30. Developing sufficient capacity at the district level to fully meet the implementation needs of the programme required more intensive training than originally thought. In particular, the drawn-out tendering procedures and lack of capacity among contractors led to inefficiencies. Moreover, as stated previously, the overall budget was not sufficient to construct all of the planned schemes, mainly because of the underestimation of construction costs at design and unforeseen increases during implementation. In sum, given that certain activities of the programme proceeded fairly swiftly (for example, the construction of rural roads and the establishment of various grass-roots institutions), whereas others (such as the construction of dams) were more laborious, the evaluation rates the programme as moderately efficient, with a score of 4.

D. Evaluation of programme partners

31. **IFAD** was the programme's initiating agency and thus responsible for programme design. Although there were some design weaknesses – such as the underestimation of construction and rehabilitation costs of irrigation schemes – IFAD carried out planning and design in a largely participatory manner and provided rapid implementation support, whenever needed. Moreover, the programme self-assessment, undertaken as an input for this evaluation, found that overall support from IFAD was timely and satisfactory. In sum, the evaluation considers IFAD's performance as satisfactory, with a rating of 5.
32. **UNOPS** – the cooperating institution – provided fully satisfactory supervision through annual missions; undertook loan administration, including disbursements, in an efficient manner; and provided implementation support as required. The performance of UNOPS is rated satisfactory, with a rating of 5.
33. Through its food-for-work activities, the **World Food Programme** has supported the construction of market access roads to an extent that allowed the construction of more roads than planned (an extra 77 km or 31 per cent) and has also provided food items worth US\$883,366 for the excavation of 300 km of irrigation canals. However, initially during implementation, beneficiaries in some schemes confused "food for work" with food aid. Shortage of food supplies and uncertainties about provision of non-food items were also experienced, but these problems were resolved over time. The performance of the World Food Programme is considered moderately satisfactory, with a rating of 4.
34. **Irish Aid** provided substantial financing for the training of water users' associations, savings and credit cooperatives and women's economic groups. The funds were strictly earmarked for training of women, which caused some delays during early implementation until women's groups had been formed under the programme.

Broadly speaking, according to the evaluation, the performance of Irish Aid is satisfactory, with a rating of 5.

35. The **Government** carried out its role of programme partner to the satisfaction of all parties. For example, it allocated additional counterpart funds than initially envisaged under the programme for irrigation scheme development. Sound programme management has also been ensured through the effective performance of the programme coordination unit, which includes an efficient monitoring and evaluation system. At the district level, performance has been dependent on support from the programme (e.g. in terms of training, additional staff and financing). It appears that performance in relation to the implementation of individual schemes has been less satisfactory since the gradual withdrawal of programme support. That is, district programme coordination units financed under the programme have already been phased out and their responsibilities have been taken over by the line departments at the district level, which have not allocated any specific resources for the operation and maintenance of the programme schemes. This raises concerns because several of these schemes are not yet fully operational, and water users' associations still need support and coaching to ensure proper scheme implementation. Funds from the national Agricultural Support Development Programme are expected to fill the gap; however, this has not yet materialized. Despite this issue, the Government's overall performance is considered satisfactory, with a rating of 5, given its overall positive approach to the programme.
36. **Community organizations.** Community-level institutions – especially the water users' associations, and savings and credit cooperatives – have performed their core functions. However, there is some concern about the level of resources invested by the communities in operation and maintenance, which could jeopardize scheme sustainability. The overall performance of the community organizations is satisfactory, with a rating of 5.

III. Programme impacts

A. Rural poverty reduction

37. The programme made a moderately successful impact on rural poverty in the country, earning a score of 4. The impact on social capital and empowerment has been positive and, in general, the communities have a greater role in development planning and implementation. In addition, increases in agricultural production and productivity, and in food security were observed in schemes where irrigation water was permanently available. Better extension services also contributed towards achieving food security. Likewise, the construction and rehabilitation of rural roads facilitated market access for produce and improved the timeliness of input delivery. Transportation costs were also lowered. That said, the impact of tree-planting on the environment has been low, and where land was cleared for cultivation, biodiversity has been lost. Increased irrigation had a somewhat negative impact on health, as the frequency of malaria and bilharzia grew when schemes became operational.

B. Sustainability

38. According to the evaluation, the programme is potentially sustainable, with a rating of 4. At the national level, there is clear evidence of political sustainability given the thorough attention that the Government has devoted to developing irrigation and water-harvesting systems, which is also reflected in its National Irrigation Policy. At the district level, while policy statements support irrigation development, these have yet to be translated into concrete commitments in budgets to ensure that extension agents can continue to provide advice to the community on a wide range of issues, after the phasing out of the programme. At the grass-roots level, the sense of programme ownership is strong, which is essential for sustainability, even though beneficiaries need to invest greater resources in the operation and maintenance of the schemes and the rural infrastructure developed.

C. Innovation promotion

39. The performance of the programme has been satisfactory in promoting innovations that can be replicated and scaled up, and therefore the programme receives a rating of 5. For example, the promotion of participatory irrigation planning approaches ensured that incremental water was available by diverting water from rivers to irrigation fields in order to supplement traditional modes of water-harvesting, and also allowed members of water users' associations to be involved in the tender process for contractors. This and other aspects of the programme were innovative within the irrigation subsector in the United Republic of Tanzania, and given the broadly positive results, are considered by the Government and key partners as features that should be replicated by future irrigation programmes.
40. The table below shows the ratings of the programme for performance, impact and overarching factors against ratings presented in the 2005 annual report on results and impact of IFAD operations (ARRI).

Ratings of the Participatory Irrigation Development Programme compared with ratings from the 2005 ARRI report

	<i>Programme evaluation ratings</i>	<i>ARRI 2005^a</i>
Programme performance		
Relevance	6.0	5.0
Effectiveness	4.0	4.0
Efficiency of implementation	4.0	4.0
Impact (overall)	4.0	4.0
Physical and financial assets	4.0	4.0
Human assets	4.0	4.0
Social capital and empowerment	4.0	4.0
Food security	4.0	4.0
Environment and natural resources	4.0	4.0
Institutions and policies	4.0	4.0
Overarching factors		
Sustainability	4.0	4.0
Innovation promotion	5.0	4.0

^a ARRI report ratings have been rounded to facilitate comparison with the programme's evaluation ratings.

IV. Conclusions and recommendations

A. Conclusions

41. Through the implementation of 56 schemes, the programme has reached more than 25,000 beneficiaries, which is 59 per cent more than expected at appraisal. This also includes reaching a greater number of women than originally targeted, although the programme was unable to involve the poorest to the extent envisaged. Generally speaking, the performance of the programme is impressive because, for example, most of the outputs have been achieved or even exceeded. However, more reliable provision of water has not been fully achieved within some schemes.
42. On another issue, although the demand-driven, participatory approach lengthens the time for productive investments to yield results, the programme has demonstrated that this approach is effective in managing water in small-scale irrigation schemes and can enhance ownership and sustainability.
43. There is evidence that programme interventions have improved the knowledge and skills of beneficiaries, and have had positive impact on physical assets, food security, human assets and empowerment. Some challenges were: the absence of the necessary information to allow for optimum planning and design; lengthy tendering procedures; lack of local contractors; and underestimation of scheme construction cost. Drought has reduced the effectiveness of some of the completed schemes.

44. The evaluation considers overall programme performance to be moderately successful, assigning it a rating of 4 on the 6-point scale (where 6 is the highest score). Significantly, the programme scores were higher than the average scores in the 2005 ARRI report for relevance and innovation promotion, while they were the same as the ARRI report scores for all impact domains and for sustainability (as seen in the table above).
45. The implementation of the Participatory Irrigation Development Programme yielded several lessons. These form the basis of the recommendations below, which are categorized into policy and institutional issues, capacity-building and technological information. First, the Government faces a formidable challenge in striving to reduce poverty in the country, especially in semi-arid and other marginal areas that are characterized by low and unreliable rainfall, seasonal rivers and unpredictable water resources. Although irrigation and/or water-harvesting are among the development options of such regions, it is critical to ensure that the right choices are made, based on an assessment of the technical feasibility of the scheme. Second, owing to the limited availability of water and its various uses in any given area, a holistic approach to developing water resource management is necessary in order to avoid over-optimistic irrigation development plans that may not be sustainable. Further, the demand-driven approach to managing water for irrigation through water users' associations is effective and sustainable. However, these associations need continued technical support from the districts.
46. One of the challenges of the programme was to reach the target proportion of people living below the poverty line. This was problematic because these people either doubted the programme's benefits or could not afford to participate in the required construction work. As a consequence, in order to enhance participation the programme had to accept some delay in the decision by potential members to join, and to manage a trade off between (i) promoting ownership by requesting participants to contribute money and labour; and (ii) risking the exclusion of some of the poorest among the target group, especially women.
47. There is also a need to expand irrigated farming substantially by enhancing water-use efficiency (which is often as low as 30 per cent) through better management of irrigation or water-harvesting systems and through increased productivity. This could be achieved by using the same amount of water to irrigate a larger area, by cultivating more than one crop per year and/or, by growing high-value crops with low water requirements.
48. Participatory approaches, although time-consuming, proved effective in enhancing inclusion of the disadvantaged, but they were not documented. The evaluation also revealed that the participatory approach, the development of water users' associations and the training received in general contributed to building the social capital of the community, which could be useful for other development purposes.
49. The need for capacity-building at various levels cannot be overemphasized. Since the district authorities are expected to implement the irrigation policy within the new decentralized framework, the staff at this level must acquire the necessary skills in participatory planning and implementation of irrigation schemes, irrigation engineering, scheme construction, institution-building, agronomy and scheme management. In addition, resources need to be mobilized to support the requisite training. More training is needed in the sector of irrigated farming and, similarly, the private sector lacks the technical and financial capacity to cope with the contracted works.
50. Finally, the programme lacked necessary data, particularly on hydrology, that should form the basis for decision-making.

B. Recommendations

Policy and institutional issues

51. The National Irrigation Policy currently being developed should emphasize the need to analyse different irrigation/water-harvesting technologies, and crop/agronomy and livestock options in the context of each potential scheme area. In this way, a "one fits all" solution can be avoided and schemes can function more effectively.
52. **Catchment approach.** The Ministry of Agriculture, Food and Cooperatives and other line ministries should continue to develop the policy framework and ensure that the necessary institutions at the national, regional and local levels are in place so that a catchment approach¹⁵ may be followed in water resource management.
53. **Supporting water users' associations.** Greater institutional support should be provided to these associations to help them to mature in their crucial role in irrigation management and perform this role effectively. A study of how water users' associations function should be carried out and the results translated into operational tools for use by the associations.
54. **Targeting the rural poor.** It should be established at the design stage of any irrigation project or scheme that the overall aim is to target the rural poor, while giving due consideration to the economic efficiency of the schemes.
55. **Water use efficiency.** The Ministry of Agriculture, Food and Cooperatives should take measures at the policy level to ensure more efficient use of water. This could take the form of guidelines for optimum use of irrigation water.
56. **Participatory approaches** involving district councils and communities should be adopted as the standard methodology for planning, designing and implementing all future irrigation and water-harvesting programmes.
57. **Exploiting already improved social capital.** In instances where strong social capital – such as women's groups – has been built by the programme but where irrigation systems have been less successful, efforts should be made to use that social capital for other development purposes in the community.

Capacity-building

58. **At the district level.** The human and financial capacity at the district level should be enhanced. In particular, more financial resources should be allocated to irrigation development, and training programmes in various fields should be organized for the district staff, for example in following participatory approaches to development; and training water users' associations in good management practices and in the operation and maintenance of irrigation schemes. This increased capacity is essential for the planned decentralized implementation of the National Irrigation Policy and for attaining the targets with regard to the expansion of irrigated agriculture.
59. **In irrigated farming.** The availability of training in irrigated farming is a prerequisite for the successful implementation of the National Irrigation Policy. The basic functions of the specialized training institution, the Kilimanjaro Agricultural Training Centre, should be maintained through the provision of the appropriate financial and human resources.
60. **Private-sector contractors.** A dialogue should be initiated to identify training programmes for private contractors. Such programmes should also ensure that private contractors are well versed in tendering and procurement rules, regulations and procedures.

¹⁵ This approach aims to ensure that the water resources of a river are managed and used with due consideration for other users in the catchment area.

Technological information

61. **Data collection programme.** A data collection programme should be implemented in the water-harvesting diversion schemes that have already been constructed. This would facilitate the implementation of similar activities in the future. Aspects to be documented should include river flows, flood flows, and rainfall volume and intensity.
62. **Compiling information regarding irrigation and water-harvesting techniques.** Information about the range of available irrigation/water-harvesting technologies should be compiled, drawing on the knowledge and experience that have been gained on this subject in the United Republic of Tanzania.

Part B - Agreement at Completion Point

I. Background

1. In 2006, the International Fund for Agricultural Development's (IFAD) Office of Evaluation (OE) conducted a completion evaluation of the Participatory Irrigation Development Programme in the United Republic of Tanzania. The evaluation mission took place in July/August 2006 and the evaluation report was finalized at the end of October 2006.
2. The Core Learning Partnership (CLP) of the evaluation comprised of representatives from: the Ministry of Finance; Ministry of Planning, Economy and Empowerment; Ministry of Agriculture Food and Cooperatives (MAFC); Prime Minister's Office, Regional Administration and Local Governments, District Councils, Regional Administrative Secretaries, World Food Programme; the office responsible for Irish Development Assistance; members of research institutions and universities; The United Nations Office for Project Services (UNOPS), Nairobi; and the IFAD Division for Eastern and Southern Africa (PF). Other agencies involved in irrigation development such as the Danish International Development Agency (DANIDA) and Japan International Cooperation Agency (JICA) were also part of the CLP.
3. A final workshop was held in Dar es Salaam on 19 October 2006 to discuss the findings and lessons from the evaluation, and to lay the basis of the Agreement at Completion Point (ACP). This ACP reflects an agreement between GOT (represented by the Ministry of Agriculture Food and Cooperatives (MAFC)) and IFAD (represented by the Eastern and Southern Africa Division).

II. The main evaluation findings

4. The PIDP was designed according to IFAD's country strategy for the United Republic of Tanzania, and was in line with the Government's high priority of poverty reduction. The programme considerably attained its objectives by improving overall water availability and agricultural productivity although with varying degrees of effectiveness. PIDP made very good efforts in terms of institutional capacity development, as well as promoted participatory approaches and intensive training. It also significantly achieved most of its outputs and it provided opportunities for the traditionally landless (especially women and youth) to get land.
5. There were several challenges facing PIDP implementation and these include: the low institutional capacity at district level, the limited range of water-harvesting technologies used, the under estimated level of construction costs for individual schemes, the lengthy tendering process and the low capacity of contractors and the unclear land rights of the 'new' land owners among others

III. Recommendations agreed upon by all partners

A. General policy recommendation

6. It was proposed that the recommendations below should be integrated into the National Irrigation Policy under formulation and that MAFC should therefore introduce this ACP to the team drafting the policy. Further, it was agreed that the implementation of the recommendations should be within the context of the Agricultural Sector Development Programme (ASDP) and the respective District Agricultural Development Plans (DADPs).
7. The proposed National Irrigation Policy policy should be comprehensive and robust taking into consideration:

- Different water users
- Competitive water demands
- Sustainability of irrigation development and management
- Targeting the poor (pro-poor)

Time frame: by end of 2006

B. Specific policy and institutional issues

8. **Poverty eradication.** It should be emphasized in the National Irrigation Policy being developed, that different irrigation/water-harvesting technologies be discussed in the context of each potential scheme area, and the range of agronomy options available including selecting the most suitable crops. Livestock development should be considered alongside crop production, to promote a harmonious coexistence of the two, and where possible to integrate them. It is also evident that market access for surplus produce and access to inputs and finance must be integral parts of irrigation schemes and community development.
9. **Catchment approach.** MAFC should ensure that Ministry of Water, and other line ministries in consultation with partners continue their concerted actions to incorporate the catchment approach in the policy and to ensure that the necessary institutions at national, regional and local levels are established to implement it.

Time frame: end of 2006

Supporting water users' associations

10. Districts should provide institutional support to the WUAs to assist them in maturing and performing their very crucial role in irrigation management.

Time frame: by end of 2007

11. The PIDP Programme Coordination Unit (PCU) should conduct a comprehensive study of how WUAs function (what works and what does not work). The study should be formulated and carried out and the results be translated into operational tools regarding the regulatory role of WUAs. Based on the results of the study it should be considered to develop more robust arrangements for legal support to the WUAs.

Time frame: by July 2007

12. **Targeting the rural poor.** MAFC should decide at the design of any irrigation scheme that the overall aim is to target the rural poor while giving due consideration to the economic efficiency of the schemes.

Time frame: after the development of the irrigation policy – by December 2007

13. **Water use efficiency.** MAFC in coordination with relevant ministries (Water, Environment, Energy, Livestock) should therefore develop appropriate strategies that will empower farmers to become aware of and knowledgeable in water management. The District Councils should train WUAs and then WUAs should become accountable to the communities for efficient water use. This requires a participatory approach, training, application and enforcement of regulations and introduction of incentives/disincentives.

Time frame: starting June 2007

14. **Participatory approach.** The participatory approach should be adopted as a standard methodology for the planning, design, implementation, monitoring & evaluation of all future irrigation and water-harvesting programmes. MAFC should ensure that this is adopted in the National Irrigation Policy.
15. PIDP PCU should develop guidelines for participatory approaches for incorporation into DADPs for implementation.

Time frame: by June 2007

16. **Exploiting already improved social capital.** In instances where good social capital has been built, but where irrigation systems have not worked as well, efforts should be made to use the acquired social capital for other community development. The respective districts should identify areas where such social capital exists and incorporate such information in their DADPs for use.

Time frame: Starting January 2007

C. Capacity-building

17. **Capacity-building at district level.** MAFC should ensure that measures are taken nation wide to considerably increase the capacity (human and financial resources) at district level to take responsibility for implementation and follow up of irrigation development programmes. An assessment will need to be urgently made of the bottlenecks to effective implementation and uptake of management responsibilities by district institutions. This should be followed by a clear definition of activities, including timelines, aimed at addressing the identified gaps. This is a condition for the foreseen decentralized implementation of the National Irrigation Policy and attaining the targets set for expanding irrigated agriculture.
18. MAFC in collaboration with Prime Minister's Office-Local governments should ensure that District Councils carry out an assessment of requirements, identify capacity gaps and develop corresponding training programmes. Districts could undertake both training and recruitment of necessary staff in order to fill the existing gaps.

Time frame: starting July 2007

19. **Capacity-building in irrigated farming.** MAFC should ensure, that the necessary training needs are catered for during policy formulation and that District Councils through DADPs make provision for Farmers Field School, supporting Village Extension Officers' (VEO) and core farmers' participation.

Time frame: July 2007

20. **Private sector contractors.** MAFC should open up dialogue with the private sector specifically to identify gaps and develop means and measures to fill the gaps. Training programmes should be developed in cooperation with the sector to improve its capacity. Possibilities for streamlining tendering and procurement rules, regulations and procedures thus facilitating its operations in irrigation scheme construction should be investigated. Measures must be developed to improve the productivity of the sector otherwise a bottleneck for scheme construction will be a serious constraint on the implementation of the National Irrigation Policy.
21. MAFC should in coordination with other relevant ministries establish cooperation with the National Construction Council, Contractors' Registration Board, and Engineers Registration Board in order to implement this recommendation.

Time frame: immediately

D. Technical matters

22. **Data collection programme.** MAFC and the DADPs should ensure that the necessary data are collected to support future works. MAFC in coordination with Ministry of Water and other relevant institutions should immediately establish such data collection stations in cooperation with Zonal Irrigation Units and the District Councils.

Time frame: immediately

23. **Compiling information regarding irrigation and water-harvesting techniques.** The MAFC through the Department of Irrigation and Technical Services should compile information about the range of irrigation/water-harvesting technologies already developed and available and the related advantages and disadvantages. The already existing knowledge and experience in the United

Republic of Tanzania about irrigation and water-harvesting techniques should be made the best possible use of. Where necessary it should be supplemented and updated. Relevant institutions should be assigned the task of compiling the relevant information available nationally and internationally and make it available for the National Irrigation Policy implementation.

Time frame: immediately