

## Attachment 1

## PDM of the Programme E1.1

## (Irrigation Technology Research Center Establishment) under NIMP - Tentative

Project Name: National Irrigation Master Plan Duration: 2003 - 2017 (15 years)

Project Area: Tanzania Target Agency: MAFS Date: July 2002

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumption
<b>Super Goal</b> To stimulate and facilitate agricultural sector growth, and to reduce rural poverty			
<b>Overall Goal</b> To attain the objectives of NIMP through strengthening capability of Tanzanian engineers and/or solving technical problems in irrigation.	a) XX engineers will participate short-training in irrigation technology in the Center  b) Technical solution will be given for the irrigation schemes of XX % of all schemes which face problems in any stages.	Annual report of the Irrigation Technology Research Center	Other related programmes of NIMP are animatedly implemented as scheduled.
<b>Project Purpose</b> An Irrigation Technology Research Center is established in suitable manners.  The Irrigation Technology Research Center starts its operation as required.	a) By 20XX, the Project for establishment of the Center is completed.  b) In 20XX, The Hydraulic Center starts its operation.	Annual report of the Irrigation Technology Research Center	No remarkable obstacles on establishment of the Irrigation Technology Research Center exist or removed.
<b>Outputs</b>  1. Failures and problems in the subject in irrigation technology are identified in the previous irrigation schemes, and technical themes to be strengthened are clarified.  2. Objectives and outlines of establishment of Irrigation Technology Research Center is set up.  3. Feasibility Study for the establishment of Irrigation Technology Research Center is carried out, and a feasible plan is prepared so as to be manageable and sustainable.  4. The Irrigation Technology Research is constructed as planned, and staff and equipment required in the plan is stationed.	XX existing irrigation schemes, which were reported some failures in irrigation technology are investigated those problems.  One workshop is held so as to confirm the plan for establishment of Irrigation Technology Research Center.  By 20XX, the Feasibility Study of Irrigation Technology Research center is completed.  By 20XX, the Irrigation Technology Research Center is instituted physically and institutionally.	Investigation report on the left subjects prepared  Record of workshop  Report on the Feasibility Study of the Center  Report of On-the-spot investigation for the Center	Adequate cooperation of peoples concerned in the selected schemes is given.  Good arrangement and participation to the workshop is given.  Institutional arrangement for the establishment of Irrigation Technology Research Center is successfully given without any delay.  All necessary arrangement for the establishment of Irrigation Technology Research Center is taken on schedule.

Attachment 1

Activities	Inputs	
<p>1-1 Select existing irrigation schemes for the Study, in which some irrigation technology problems inherent.</p> <p>1-2 Investigate present conditions and problems in selected schemes.</p> <p>1-3 Specify points in irrigation technology to be focused in the project.</p> <p>2-1 Refer examples of Irrigation Technology Research Center in other developing countries.</p> <p>2-2 Make alternatives for the Irrigation Technology Research Center which are realistic <i>avoiding institutional and financial constraints.</i></p> <p>2-3 Decide a most <i>recommendable outline for the Irrigation Technology Research Center.</i></p> <p>3. Conduct a feasibility study for the establishment of Irrigation Technology Research Center in line with decided outline of the Center.</p> <p>4-1 Conduct a detailed designing of the project, and formulate implementation plan.</p> <p>4-2 Implement construction work of Irrigation Technology Research Center, and procure necessary equipment.</p> <p>4-3 Prepare guideline for the operation of the Center.</p> <p>4-4 Train assigned staff for the Center</p>	<p><b>Donor</b> Study Team</p> <p>1) Leader 10 months 2) Irrigation 10 months 3) Irrigation facilities 10 months 4) Water management 6 months 5) WUA activities 6 months 6) Training 6 months 7) O&amp;M 3 months</p> <p>Subject specialists (as required)</p> <p><b>Equipment</b> 1) Irrigation equipment L.S. 2) Training equipment L.S. 3) Others L.S.</p> <p><b>Budget</b> Construction of a building occupied by the Center (if necessary)</p> <p>Some part of expenditures of local activities related to the Project.</p> <p>Budget for establishment of Irrigation Technology Research Center</p> <p>Training in other countries</p> <p><b>GOT</b></p> <p><b>Personnel</b> 1) Counterparts in each subject</p> <p><b>Equipment</b> 1) Office (during study) L.S. 2) Furniture and Acces. L.S. 3) Tel. and business eq. L.S.</p> <p><b>Budget</b> 1) Salaries and necessary expenses for counterparts 2) Allowances and expenses of trainees concerning experts' training 3) Necessary expenditures in operation of the Center</p>	<p>Participation of beneficiaries in the selected schemes will be kept.</p> <p>All necessary arrangement for the stationing of the Center will be fulfilled by GOT on schedule.</p> <p><b>Preconditions</b></p> <p>Institutional framework of the proposed Irrigation Technology Research Center is settled. (Private intervention may be required in case. For the case, possibility of private actors' involvement should be searched prior to the commencement of the project.)</p>

## Attachment I

## PDM of the Programme E1.2

## (Perennial Irrigation Development Technology Improvement) under NIMP - Tentative

Project Name: National Irrigation Master Plan Duration: 2003 - 2017 (15 years)

Project Area: Tanzania Target Agency: MAFS Date: June 2002

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumption
<b>Super Goal</b> To stimulate and facilitate agricultural sector growth, and to reduce rural poverty			
<b>Overall Goal</b> To attain the objectives of NIMP by means of promotion for proper perennial irrigation method	By 20XX, gross figure of irrigation efficiency in the country is improved at more than XX % comparing to the figure in 2002.	By a rough estimation based upon total quantity of water taken off and consumptive use for irrigation. (15 - 20 % in 2002)	Other related programmes of NIMP are animatedly implemented as scheduled.
<b>Project Purpose</b> Improving measures for perennial irrigation practice in Tanzania are established on the basis of real hindrances and inconveniences.	The proposed improving measures are certified its practicability by getting a common consent in technical sessions.	Record of the technical sessions on this matter	Irrigation engineers and their organizations function effectively and self-reliably so as to expand the improving measures.
<b>Outputs</b> 1. Points to be improved in perennial irrigation practice in Tanzania are clarified. 2. Improving measures in hardware of irrigation system are prepared. 3. Improving measures in software of irrigation practice are prepared.	The pointed hindrances and inconveniences are verified at the certain sites of existing irrigation schemes. The proposed improving measures are tested by related ZIOs. The proposed improving measures are tested by related ZIOs under proper cooperation and participation of farmers.	Results of the verification study, which are approved by MAFS Report of ZIO on this matter Report of ZIO on this matter	Good cooperation of others actors for this programme implementation is properly given. A series of the technical discussion is held timely and adequately with proper attendance of engineers concerned.
<b>Activities</b> 1-1 Investigate actual hindrances and inconveniences in perennial irrigation practice. 1-2 Verify the causes of hindrances and inconveniences at the selected typical irrigation sites. 2-1 Study methods and modalities of irrigation so as to avoid those problems. 3-1 Study management of irrigation so as to avoid those hazards.	<b>Inputs</b> <b>Donor</b> Study Team 1) Irrigation 1 year 2) Water management 1 year 3) WUA activity 1 year 4) Irrigation facilities 1 year  Supporters 1) Field investigators - 2) Social moderators -  Equipment 1) Vehicles X nos. 2) Irrigation equipment L.S. 3) GIS equipment L.S.	<b>GOT</b> Personnel 1) Counterparts in each subject  Equipment 1) Office L.S. 2) Furniture and Acces. L.S. 3) Tel. and business eq. L.S.  Budget 1) Salaries and necessary expenses for counterparts	Concerned persons and organizations of on-going project in existing irrigation schemes should fully cooperate to this programme.  IS holds adequate power for technical coordination within the concerned other projects.  Participation of beneficiaries in concerned schemes or areas is given.

**Attachment 1**

	<p><b>Budget</b> Some part of expenditures of local activities related to the Programme.</p> <p>Training other countries Training opportunities in abroad for X number of counterparts in related subjects.</p>	<p><b>2) Allowances and expenses of trainees concerning experts' training</b></p>	<p><b>Preconditions</b> MAFS admits the necessity of improvement of present perennial irrigation method, and allows to conduct this programme.</p>
--	---	---	--

## Attachment 1

## PDM of the Programme E1.3

## (Sustainable Flood Irrigation Technology Establishment) under NIMP - Tentative

Project Name: National Irrigation Master Plan Duration: 2003 - 2017 (15 years)

Project Area: Tanzania Target Agency: MAFS Date: June 2002

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumption
<b>Super Goal</b> To stimulate and facilitate agricultural sector growth, and to reduce rural poverty			
<b>Overall Goal</b> To attain the objectives of NIMP in the direction of water harvesting promotion	Production in marginal areas increases at more than XX % comparing to the figure in 2002.	Agricultural statistics which publish agricultural productions by district	Other related programmes of NIMP are animatedly implemented as scheduled.
<b>Project Purpose</b> Sustainable flood irrigation (water harvesting) know-how for marginal areas in Tanzania is established on the bases of the previous failures.  And proper methods of flood irrigation (water harvesting) take the place of improper ones which were practiced so far.	a) XX engineers of central and local authorities are enlightened the sustainable water harvesting know-how.  b) XX existing water harvesting schemes which face problems in its sustainability will be remodeled.  c) XX new water harvesting schemes will be implemented in line with the new sustainable water harvesting know-how.	Number of participants of technical seminars on the sustainable water harvesting (by a record of seminars in IS)  Reports from ZIO, and record in IS	Irrigation engineers and their organizations function effectively and self-reliably as regulated.  Beneficiaries participate project voluntarily with correct understanding of possibility and limitation for natural conditions in marginal areas.
<b>Outputs</b>  1. Failures and troubles are identified in the previous water harvesting practices, and inadequacy and indiscretion for the practices are generalized.  2. Adequate approach of water harvesting is found out by type of situation in the marginal areas.  3. Realistic and sustainable method of water harvesting are developed by type of situation in the marginal areas.  4. Guideline for the new method of water harvesting is completed.  5. The guideline is provided widely and quickly for open use to every parson related to water harvesting practice.	XX existing water harvesting schemes are investigated for its performance and sustainability.  XX pilot schemes in line with the new approach will be started, and monitored continuously.  More than XX times technical discussions are held among engineers concerned.  By 20XX, a guide book will be published.  The guide-book will be provided XX engineers and/or organizations, or circulated to related parsons.	Investigation report on the left subjects prepared by IS  Progress report and monitoring reports for the new pilot schemes  Reports of the technical discussion  Guide-book on the new method of water harvesting  Record of handling of the Guide-book on the new method of water harvesting	There are no obstacles for this programme implementation from other actors who have different interesting.  The pilot schemes should be executed and monitored as scheduled.  A series of the technical discussion is held timely and adequately with proper attendance of engineers concerned.  Handling of the guide-book should be orderly managed by IS.

Attachment 1

Activities	Inputs		
<p>1-1 Investigate river morphologic characteristics and drainage conditions in the marginal areas.</p> <p>1-2 Investigate present performance and problems in selected existing water harvesting schemes.</p> <p>1-3 Specify points for success of water harvesting.</p> <p>2-1 Refer the experiences of water harvesting (flood irrigation) in semi-arid area in West Asia.</p> <p>2-2 Develop new concept of water harvesting in the marginal areas in Tanzania.</p> <p>3. Study on the new method of water harvesting are developed by type of situation in the marginal areas.</p> <p>4. Prepare guideline for the new method of water harvesting.</p> <p>5-1 Create management system of the guideline for the new method of water harvesting.</p> <p>5-2 Manage the guideline for the new method of water harvesting.</p>	<p><b>Donor</b></p> <p>Study Team</p> <p>1) Leader 1 year</p> <p>2) River Morphology 1 year</p> <p>3) Flood irrigation 1 year</p> <p>4) Farmers Participation 1 year</p> <p>Supporters</p> <p>1) Flood irrigation engineer in Pakistan -</p> <p>2) Experienced farmers for flood irrigation in Pakistan -</p> <p>Equipment</p> <p>1) Vehicles X nos.</p> <p>2) Training equipment L.S.</p> <p>3) GIS equipment. L.S.</p> <p>Budget</p> <p>Some part of expenditures of local activities related to the Project.</p> <p>Training in Japan or other countries</p> <p>Training opportunities in abroad for X number of counterparts in related subjects.</p>	<p><b>GOT</b></p> <p>Personnel</p> <p>1) Counterpart 4 engineers in each subject</p> <p>Equipment</p> <p>1) Office L.S.</p> <p>2) Furniture and Acces. L.S.</p> <p>3) Tel. and business eq. L.S.</p> <p>Budget</p> <p>1) Salaries and necessary expenses for counterparts</p> <p>2) Allowances and expenses of trainees concerning experts' training</p>	<p>Concerned persons and organizations of on-going project in water harvesting should fully cooperate to this programme.</p> <p>IS holds adequate power for technical coordination within the concerned projects.</p> <p>Participation of beneficiaries in concerned schemes or areas should continue as same or much active rather than before.</p> <hr/> <p><b>Preconditions</b></p> <p>IS and donors assisted PIDP admit the necessity of <i>improvement of previous</i> water harvesting practices, and allow to conduct this programme.</p> <p>Programme and schedule of PIDP in present and further phases should be adjusted so as not to create any discrepancies with this programme, in case.</p>

## Attachment 1

**PDM of the Programme E1.4**  
**(Small Dam Technology for Irrigation Development Establishment) under NIMP**  
**- Tentative**

Project Name: National Irrigation Master Plan Duration: 2003 - 2017 (15 years)Project Area: Tanzania Target Agency: MAFS Date: June 2002

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumption
<b>Super Goal</b> To stimulate and facilitate agricultural sector growth, and to reduce rural poverty			
<b>Overall Goal</b> To attain the objectives of NIMP in the direction of small dam utilization	a) XX existing small dam schemes which face problems in its sustainability will be remodeled.  b) XX new small dam schemes will be implemented in line with the new adequate small dam technology and know-how.	Agricultural statistics which publish by central government and districts	Other related programmes of NIMP are animatedly implemented as scheduled.
<b>Project Purpose</b> Adequate small dam technology for irrigation development to meet circumstances in Tanzania is established on the bases of the previous lessons.  Proper method of water utilization by small dam is introduced to engineers in irrigation.	a) By 20XX, pilot model schemes of small dam will be ensured its success.  b) XX engineers of central and local authorities are enlightened the small dam technology and its know-how.	Reports from ZIO, and record in IS on the pilot model schemes.  Number of participants of technical seminars on the sustainable water harvesting (by a record of seminars in IS)	Irrigation engineers and their organizations function effectively and self-reliably in handling the new technology.  No remarkable obstacles on expansion of pilot model 's effect of the small dam schemes exist.
<b>Outputs</b>  1. Failures and troubles are identified in the previous small dam schemes, and inadequacy and indiscretion for the previous techniques are generalized.  2. Adequate small dam technology is developed by type of scheme site.  3. Guideline for the new technology of small dam is completed.  4. The guideline is provided widely and quickly for open use to every parson related to small dam development.	XX existing small dam schemes are investigated for its performance and sustainability.  XX pilot schemes in line with the new approach will be started, and monitored continuously.  By 20XX, a guide book will be published.  The guide-book will be provided XX engineers and/or organizations, or circulated to related parsons.	Investigation report on the left subjects prepared by IS  Progress report and monitoring reports for the new pilot schemes  Guide-book on the new technology of small dam (Investigation, Planning, Designing, Construction, O&M)  Record of handling of the Guide-book on the new method of water harvesting	Good technical coordination should be kept between IS and DDCA under the MOW.  The pilot schemes should be executed and monitored as scheduled.  A series of the technical discussion is held timely and adequately with proper attendance of engineers concerned.  Handling of the guide-book should be orderly managed by IS.

## Attachment 1

Activities	Inputs	
<p>1-1 Select existing small dam schemes for the Study.</p> <p>1-2 Investigate present conditions and problems in selected existing small dam schemes.</p> <p>1-3 Specify points in technology for small dam to be considered.</p> <p>2-1 Refer the experiences of small dam construction in semi-arid area in Africa and other areas.</p> <p>2-2 Develop new methodology of small dam in the almost all types of area in Tanzania.</p> <p>2-3 Implement pilot schemes in line with the new technology.</p> <p>2-4 Monitor continuously the pilot schemes.</p> <p>3. Prepare guideline and manuals for the new method of small dam development.</p> <p>4-1 Create management system of the guideline for the technology of small dam.</p> <p>4-2 Manage the guideline for the new technology of small dam.</p>	<p><b>Donor</b></p> <p><b>Study Team</b></p> <p>1) Leader 12 months            2) dam construction 12 mon.            3) Geology 6 months            4) Irrigation 6 months            5) Construction 10 months            6) O&amp;M 6 months            7) Water use 6 months            8) Watershed Mang. 6 months</p> <p><b>Equipment</b></p> <p>1) Vehicles X nos.            2) Training equipment L.S.            3) GIS equipment. L.S.</p> <p><b>Budget</b></p> <p>Some part of expenditures of local activities related to the Project.</p> <p>Budget for implementation and monitoring of pilot model of small dam schemes</p> <p><b>Training in other countries</b></p> <p>Training opportunities in abroad for X number of counterparts in related subjects.</p>	<p><b>GOT</b></p> <p><b>Personnel</b></p> <p>1) Counterpart 8 engineers in each subject</p> <p><b>Equipment</b></p> <p>1) Office L.S.            2) Furniture and Acces. L.S.            3) Tel. and business eq. L.S.</p> <p><b>Budget</b></p> <p>1) Salaries and necessary expenses for counterparts            2) Allowances and expenses of trainees concerning experts' training</p> <p>Concerned parsons and organizations of on-going project in small dams should fully cooperate to this programme.</p> <p>IS holds adequate power for technical coordination within the related projects.</p> <p>Participation of beneficiaries in concerned schemes will be kept.</p> <p><b>Preconditions</b></p> <p>IS and donors assisted projects related to small dam admit the necessity of improvement of previous technique of small dam, and allow to conduct this programme.</p>



## Attachment 1

## PDM of the Programme E1.5

## (Environmental Assessment Study for Irrigation Practice in Tanzania) under NIMP - Tentative

Project Name: National Irrigation Master Plan Duration: 2003 - 2017 (15 years)

Project Area: Tanzania Target Agency: MAFS Date: June 2002

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumption
<b>Super Goal</b> To stimulate and facilitate agricultural sector growth, and to reduce rural poverty			
<b>Overall Goal</b> To attain the objectives of NIMP fulfilling irrigation development as being environmental friendly.	In 20XX, no substantial environmental issues are occurred in existing irrigation schemes.	Result environmental study for existing irrigation schemes in 20XX	Other related programmes of NIMP are animatedly implemented as scheduled.
<b>Project Purpose</b>  Environmental issues affected presently in and by irrigation practice in Tanzania are elucidated.  Measures of avoiding environmental deterioration by irrigation practice are worked out.	Every highlighted irrigated areas having some environmental issues are studied within this Study.	Previous record on environmental issues related to irrigation practice	Stakeholders of irrigated agriculture continuously recognize the importance of consideration in environmental aspect, and carry out their duty properly.
<b>Outputs</b>  1. Environmental issues presented are scientifically analyzed, and causes and mechanism of the issues are found out.  2. Alternatives of improvement measures to the environmental deterioration for which irrigators can deal with, are proposed.  3. The alternatives of improvement measures are finalized so as to be manageable.	The result of the analysis is announced.  Several workshops for irrigators are held. In the workshops, the alternatives of improvement measures are discussed and finalized.	Announcement of the study result  Record of the workshop for irrigators	Good cooperation is given for the implementation of this Study from any concerned agencies.  A series of the technical discussion is held timely and adequately with proper attendance environmentalists concerned.
<b>Activities</b>  1-1 Select study areas where occur substantial environmental issues related to the irrigated agriculture.  1-2 Investigate actual environmental situation of the study areas.  1-3 Investigate effects of	<b>Inputs</b>  <b>Donor</b>  Study Team 1) Leader 1 year 2) Irrigated agriculture 1 year  3) Irrigation water management 1 year 4) Natural environment 1 year 5) Social environment 1 year	<b>GOT</b>  Personnel 1) Counterparts in each subject  Equipment	IS holds adequate power for technical coordination within the concerned environmental studies.  Participation of beneficiaries in concerned schemes or areas should be given.

**Attachment 1**

<p>irrigation practice in environment.</p> <p>1-4 Clarify causes and mechanism of the environmental issues</p> <p>2-1 Make ideas of countermeasures so as to avoid or lighten the environmental hazards.</p> <p>2-2 Devise procedures of the countermeasures as being feasible.</p> <p>3. Formulate improvement measures to the environmental deterioration for which irrigators can deal with.</p>	<p>Supporters</p> <p>1) field investigator -</p> <p>2) farmers moderator -</p> <p>Equipment</p> <p>1) Vehicles X nos.</p> <p>2) Environmental testing equipment L.S.</p> <p>3) GIS equipment. L.S.</p> <p>Budget</p> <p>Some part of expenditures of local activities related to the Project.</p> <p>Training in other countries</p> <p>Training opportunities in abroad for X number of counterparts in related subjects.</p>	<p>1) Office L.S.</p> <p>2) Furniture and Acces. L.S.</p> <p>3) Tel. and business eq. L.S.</p> <p>Budget</p> <p>1) Salaries and necessary expenses for counterparts</p> <p>2) Allowances and expenses of field trips</p>	<p><b>Preconditions</b></p> <p>IS and MAFS admit the necessity of substantial research pursuing actual causes of existing environmental issues in which irrigation is regarded as a major contributor of the issues.</p>
---	--	--	--

## Attachment 1

## PDM of the Programme E1.6

## (Study of River-Basin Approach in Irrigation Development) under NIMP - Tentative

Project Name: National Irrigation Master Plan Duration: 2003 - 2017 (15 years)

Project Area: Tanzania Target Agency: MAFS Date: August 2002

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumption
<b>Super Goal</b> To stimulate and facilitate agricultural sector growth, and to reduce rural poverty			
<b>Overall Goal</b> To attain the objectives of NIMP taking appropriate river-basin approach in irrigation development	In 20XX, conflicts between irrigators and other water users decrease at less than XX % comparing to 2002 in number.	Report about water conflict prepared by water-basin offices.	Other related programmes of NIMP are animatedly implemented as scheduled.
<b>Project Purpose</b> Proper river-basin approach for irrigation sector is established as a form of guideline.  And the proper river-basin approach for irrigation sector is expanded for irrigators.	a) The river-basin approach for irrigation sector is circulated to MOW and related water users .  b) Several times of seminars on the proper river-basin approach are held.	Letter of circulation  Report of the seminars	Irrigation engineers concerned and irrigators will follow the river-basin approach for irrigation sector appropriately.
<b>Outputs</b>  1. Procedures of obtaining and/or renewing water right for irrigation water use are routinized within irrigation sector.  2. Technical skills to make allowable water for irrigation increase are developed.  3. Technical skills to make demanding water for irrigation reduce are developed.  4. Organizational arrangement towards negotiation between water users is proposed.  5. A guideline of river-basin approach for irrigation sector is prepared.	The proposed procedure on water right is confirmed to be consistent with the revised Water Accord.          By 20XX, a guideline will be completed.	Revised Water Accord          Booklet of the guideline	There are no obstacles for this programme implementation from other actors who have different interesting.  A series of the technical discussion is held timely and adequately with proper attendance of engineers concerned.       Handling of the guide-book should be orderly managed by IS.
<b>Activities</b> 1-1 Investigate present situation of water right obtaining for irrigators  1-2 Clarify difficulties and problems for obtaining water right for irrigators  1-3 Devise systematic procedures to handle water right easily for irrigators  2-1 Study technical skills to make allowable water for irrigation	<b>Inputs</b>  <b>Donor</b>  Study Team 1) River basin development 6 months 2) Irrigation 6 months 3) Water management 6 months 4) Legal specialist 6 months  Equipment I) Vehicles X nos.	<b>GOT</b>  Personnel I) Counterparts in each subject  Equipment I) Office L.S.	Concerned persons and organizations in irrigation sector should fully cooperate to this programme.  IS holds adequate power for technical coordination within the concerned organization.

Attachment 1

<p>increase</p> <p>3-1 Study technical skills to make demanding water for irrigation reduce.</p> <p>4-1 Study proper organizational arrangement towards negotiation between water users.</p> <p>5-1 Prepare a guideline of river-basin approach for irrigation sector.</p>	<p>2) Office equipment L.S. 3) GIS equipment. L.S.</p> <p><b>Budget</b> Some part of expenditures of local activities related to the Project.</p>	<p>2) Furniture and Acces. L.S. 3) Tel. and business eq. L.S.</p> <p><b>Budget</b> 1) Salaries and necessary expenses for counterparts 2) Allowances and expenses of field investigations</p>	<p><b>Preconditions</b></p> <p>MAFS admit the necessity of applying river-basin approach in irrigation sector.</p>
--	---	---	--

## Attachment 1

**PDM of the Programme E2**  
**(Hydraulic Experimental Center Establishment) under NIMP - Tentative**

Project Name: National Irrigation Master Plan \_\_\_\_\_ Duration: 2003 - 2017 (15 years) \_\_\_\_\_

Project Area: Tanzania \_\_\_\_\_ Target Agency: MAFS \_\_\_\_\_ Date: July 2002 \_\_\_\_\_

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumption
<b>Super Goal</b> To stimulate and facilitate agricultural sector growth, and to reduce rural poverty			
<b>Overall Goal</b> To attain the objectives of NIMP through strengthening capability of Tanzanian engineers and/or solving hazards in irrigation caused by mistakes in hydraulics	a) XX engineers will participate short-training in hydraulic experiments in the Center  b) Technical solution will be given for the irrigation schemes of XX % of all schemes which face problems in hydraulics.	Annual report of the Hydraulic Experimental Center	Other related programmes of NIMP are animatedly implemented as scheduled.
<b>Project Purpose</b> A Hydraulic Experimental Center is established in suitable manners.  The Hydraulic Experimental Center starts its operation as required.	a) By 20XX, the Project for establishment of the Hydraulic Experimental Center is completed.  b) In 20XX, The Hydraulic Experimental Center starts its operation.	Annual report of the Hydraulics Experimental Center	No remarkable obstacles on establishment of the Hydraulics Experimental Center exist or removed.
<b>Outputs</b>  1. Failures and problems in the subject in hydraulics are identified in the previous irrigation schemes, and hydraulic themes to be strengthened are clarified.  2. Objectives and outlines of establishment of Hydraulic Experimental Center is set up.  3. Feasibility Study for the establishment of Hydraulic Experimental Center is carried out, and a feasible plan is prepared so as to be manageable and sustainable.  4. The Hydraulic Experimental Center is constructed as planned, and staff and equipment required in the plan is stationed.	XX existing irrigation schemes, which were reported some hydraulic failures are investigated those problems.  One workshop is held so as to confirm the plan for establishment of Hydraulic Experimental Center.  By 20XX, the Feasibility Study of Hydraulic Experimental Center is completed.  By 20XX, the Hydraulic Experimental Center is instituted physically and institutionally.	Investigation report on the left subjects prepared  Record of workshop  Report on the Feasibility Study of Hydraulic Experimental Center  Report of On-the-spot investigation for the Hydraulic Experimental Center	Adequate cooperation of peoples concerned in the selected schemes is given.  Good arrangement and participation to the workshop is given.  Institutional arrangement for the establishment of Hydraulic Experimental Center is successfully given without any delay.  All necessary arrangement for the establishment of Hydraulic Experimental Center is taken on schedule.

Attachment 1

Activities	Inputs		
1-1 Select existing irrigation schemes for the Study, in which some hydraulic problems inherent.	<b>Donor</b>	<b>GOT</b>	Participation of beneficiaries in the selected schemes will be kept.
1-2 Investigate present conditions and problems in selected schemes.	Study Team 1) Leader 6 months 2) Hydraulics 6 months 3) Irrigation 6 months 4) Institution 4 months 5) Hydraulics equipment 5 months	Personnel 1) Counterpart 7 engineers in each subject	All necessary arrangement for the stationing of the Center will be fulfilled by GOT on schedule.
1-3 Specify points in hydraulics to be focused in the project.	6) Training 3 months 7) O&M 3 months	Equipment 1) Office L.S. 2) Furniture and Acces. L.S. 3) Tel. and business eq. L.S.	<b>Preconditions</b>
2-1 Refer examples of Hydraulic Experimental Center in other developing countries.	<b>Equipment</b>	<b>Budget</b>	Institutional framework of the proposed Hydraulic Experimental Center is settled. (Private intervention may be required in case. For the case, possibility of private actors' involvement should be searched prior to the commencement of the project.)
2-2 Make alternatives for the Hydraulic Experimental Center which are realistic avoiding institutional and financial constraints.	1) Hydraulics equipment L.S. 2) Training equipment L.S. 3) Others L.S.	1) Salaries and necessary expenses for counterparts 2) Allowances and expenses of trainees concerning experts' training 3) Necessary expenditures in operation of the Center	
2-3 Decide a most recommendable outline for the Hydraulic Experimental Center.	<b>Budget</b> Construction of a building occupied by the Center (if necessary)		
3. Conduct a feasibility study for the establishment of Hydraulic Experimental Center in line with decided outline of the Center.	Some part of expenditures of local activities related to the Project.		
4-1 Conduct a detailed designing of the project, and formulate implementation plan.	Budget for establishment of Hydraulic Experimental Center		
4-2 Implement construction work of Hydraulic Experimental Center, and procure necessary equipment.	Training in other countries		
4-3 Prepare guideline for the operation of the Center.			
4-4 Train assigned staff for the Center			

## Attachment 1

## PDM of the Programme E3

## (IS' Equipment Management Improvement) under NIMP - Tentative

Project Name: National Irrigation Master Plan Duration: 2003 - 2017 (15 years)

Project Area: Tanzania Target Agency: MAFS Date: June 2002

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumption
<b>Super Goal</b> To stimulate and facilitate agricultural sector growth, and to reduce rural poverty			
<b>Overall Goal</b> To attain the objectives of NIMP by means of improving system of management of equipment utilization	a) By 20XX, net working rate of existing equipment is improved at XX % in compared to 2003.  b) The equipment utilize for the purpose of irrigation scheme improvement at more than 80 % of all works utilized.	Base-line survey for workability of existing equipment, and periodic survey for workability of the same  Annual report on utilization of equipment	Other related programmes of NIMP are animatedly implemented as scheduled.
<b>Project Purpose</b> An equipment management system in IS is established in suitable manners.  The equipment management system starts its operation as prescribed.	a) By 20XX, the equipment management system is prepared.  b) In 20XX, The equipment management system is started its operation.	Annual report on the equipment management system	Necessary expendable supplies for the equipment are provided satisfactory, and maintained properly.
<b>Outputs</b>			
1. Actual situation of existing equipment for irrigation development works belonging to MAFS is unveiled.	More than 90 % of existing equipment which were listed in the previous investigation are elucidated those present conditions.	Previous investigation report for equipment belonging to MAFS Result of this investigation	Adequate cooperation of peoples concerned in the selected schemes is given.
2. Realistic and permissible institutional framework for handling management of the equipment is studied taking possibility of private sector's intervention into consideration.	The proposed framework is approved at a joint meeting in which all concerned agencies attend.	Report of discussion of the joint meeting	Good arrangement and participation to the joint meeting is given.
3. Feasibility Study for the establishment of equipment management system is carried out, and a feasible plan is prepared so as to be manageable and sustainable.	By 20XX, the Feasibility Study on the establishment of equipment management system is completed.	Report of the Feasibility Study on the establishment of equipment management system	Institutional arrangement for the establishment of equipment management system is successfully given without any delay.
4. The equipment management system is organized as planned, and staff and equipment required in the plan is stationed.	By 20XX, the equipment management system is instituted physically and institutionally.	Report of establishment of the equipment management system	All necessary arrangement for the establishment of equipment management system is taken on schedule.

Attachment 1

Activities	Inputs		
1-1 Put a question to IZOs and other related agencies to equipment about present situation of handling equipment.	<b>Donor</b>	<b>GOT</b>	<p>All necessary arrangement for the stationing of the system will be fulfilled on schedule by any reliable parties concerned.</p> <p>Providing that it is concluded to establish a agency for the equipment management, the agency shall be established successfully.</p>
1-2 Inspect IZOs and other related agencies in consideration with the result of the questionnaire.	<p><b>Study Team</b></p> <p>1) Leader 3 months</p> <p>2) Mechanical Eng 3 months</p> <p>3) Irrigation 2 months</p> <p>4) Institution 2 months</p> <p>5) Training 3 months</p> <p>6) O&amp;M 3 months</p>	<p><b>Personnel</b></p> <p>1) Counterpart 6 engineers in each subject</p>	
1-3 Make present situation of the existing equipment and those workability clear.	<p><b>Equipment</b></p> <p>1) Equipment for maintenance L.S.</p> <p>2) Training equipment L.S.</p> <p>3) Others L.S.</p>	<p><b>Equipment</b></p> <p>1) Office L.S.</p> <p>2) Others L.S.</p>	
2-1 Study a possibility and limitation for the establishment of equipment management organization within MAFS as a governmental organization.	<p><b>Budget</b></p> <p>Some part of expenditures of local activities related to the Project.</p>	<p><b>Budget</b></p> <p>1) Salaries and necessary expenses for counterparts</p> <p>2) Allowances and expenses of trainees concerning experts' training</p> <p>3) Some portion of the budget for establishment of equipment management system</p> <p>4) Necessary expenditures in operation of the system (There may be a case that private actor will bear all or some of required expenditures.)</p>	<p><b>Preconditions</b></p> <p>Plural number of existing equipment are still workable.</p> <p>It is clearly confirmed the needs of utilization of equipment to local contractors, local government agencies and private groups.</p> <p>It is allowable in government regulation to give privates use of equipment, and collect fees.</p>
2-2 Study a possibility and restriction for the establishment of equipment management organization in line with private sectoral intervention.	<p>Some portion of the budget for establishment of equipment management system (There may be a case that private actor will bear all or some of required expenditures.)</p>		
2-3 Work out a optimum institutional framework for the equipment management system.			
3. Conduct a feasibility study for the establishment of equipment management system in line with decided outline of the system.			
4-1 Rearrange existing equipment in accordance with the organization plan.			
4-2 Build a system, and procure additional necessary equipment.			
4-3 Prepare guideline for the operation of the system.			
4-4 Train assigned staff for the system			



## Attachment 1

## PDM of the Programme E4

## (Irrigation Development Contractors and Consultants' Training ) under NIMP - Tentative

Project Name: National Irrigation Master Plan Duration: 2003 - 2017 (15 years)

Project Area: Tanzania Target Agency: MAFS Date: August 2002

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumption
<b>Super Goal</b> To stimulate and facilitate agricultural sector growth, and to reduce rural poverty			
<b>Overall Goal</b> To attain the objectives of NIMP by means of good performance of contractors	a) By 20XX, number of certified contractor for the work of irrigation development increases at 50 % compared to 2002.  b)Complain for the contractors' performance is decreased. Clients satisfy contractors' performance in more than 80 % of implemented irrigation schemes.	List of contractors for the tender of the works in irrigation development  Reply of clients of implemented irrigation schemes to the question of contractors' performance.	Other related programmes of NIMP are animatedly implemented as scheduled.
<b>Project Purpose</b> Irrigation development contractors and consultants' training system raising their skill for the works in irrigation development is created.  Motivated contractors and consultants are trained on the works in irrigation development.	a) By 20XX, the contractors' training system is prepared.  b) By 20XX, XX contractors who site all over the country take the training course prepared by the system.	Annual report of the training system  Training record	The training system will continue its operation in suitable manner.  Trained contractor will display their improved skill in the works of irrigation development.
<b>Outputs</b>  1. Needs of contractors training is confirmed, and required fields on its training is clarified.  2. Style of organization which is capable for handling the contractors training is hunted out, and operation system of the training is outlined.  3. Plan of contractors training system is formulated.  4. The contractors training system is established  5. The contractors training system starts its operation.	More than 90 % of interviewed contractors will agree the concluded needs of contractors training.  The outline of organization for contractors training is approved at a joint meeting in which all concerned agencies attend.  By 20XX, the Planning Study on the contractors training is completed.  By 20XX, the contactors training system is instituted physically and institutionally.	Result of interview survey to contractors on the needs of contractors training  Report of discussion of the joint meeting  Report of the Planning Study on the contractors training  Report of establishment of the contractors training system	Association of contractors or other reliable organization is capable for their own capacity building to promote this proposed training system operation.  Good arrangement and participation to the joint meeting is given.  Institutional arrangement for the establishment of the contractors training system is successfully given without any delay.  All necessary arrangement for the establishment of the contractors training is taken on schedule.

Attachment 1

Activities	Inputs		
1-1 Put a question to IZOs and other related agencies for contractors' failures in construction works in irrigation development.	<b>Donor</b>	<b>GOT</b>	All necessary arrangement for the stationing of the system will be fulfilled on schedule by any reliable parties concerned.
1-2 Inspect projects' sites having contractors' failures identifying in consideration with the result of the questionnaire.	<b>Study Team</b> 1) Leader 3 months 2) Construction 3 months 3) Irrigation 2 months 4) Institution 2 months 5) Training 3 months	<b>Personnel</b> 1) Counterpart 5 engineers in each subject	Providing that it is concluded to establish a agency for the contractors training, the agency shall be established successfully.
1-3 Conduct problem analysis for problems contractors facing by means of PCM method.	<b>Equipment</b> 1) Vehicles L.S. 2) Training equipment L.S. 3) Others L.S.	<b>Equipment</b> 1) Office L.S. 2) Others L.S.	<b>Preconditions</b>
1-4 Capability and constraints of contractors are investigated.	<b>Budget</b> Some part of expenditures of local activities related to the Project.	<b>Budget</b>	Inventory for the contractors who can engage in irrigation development works, was made.
2-1 Study a possibility and limitation of present public organizations for handling the contractors training.	Some portion of the budget for establishment of local contractors training system (There may be a case that private actor will bear all or some of required expenditures.)	1) Salaries and necessary expenses for counterparts 2) Allowances and expenses of trainees concerning experts' training 3) Some portion of the budget for establishment of contractors training system 4) Necessary expenditures in operation of the system (There may be a case that private actor will bear all or some of required expenditures.)	An association of the contractors exists and functioning substantially.
2-2 Study a possibility and limitation of private organizations for handling the contractors training.			It is clearly confirmed the needs of contractors training to local contractors, local government agencies and private groups.
2-3 Work out an optimum institutional framework for the contractors training operation.			
3. Conduct a planning study for the establishment of contractors training system in line with decided framework.			
4-1 Build a system, and procure additional necessary equipment.			
4-2 Prepare guideline for the training.			
4-3 Train trainers who engage in the training.			
5-1 Ensure financial source for the operation and maintenance.			
5-2 Complete legal grounds of the organization for contractors training.			

## Attachment 1

## PDM of the Programme E5

## (Farmers' Participation Training ) under NIMP - Tentative

Project Name: National Irrigation Master Plan Duration: 2003 - 2017 (15 years)

Project Area: Tanzania Target Agency: MAFS Date: July 2002

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumption
<b>Super Goal</b> To stimulate and facilitate agricultural sector growth, and to reduce rural poverty			
<b>Overall Goal</b> To attain the objectives of NIMP by means of good participation of farmers in irrigated agriculture.	By 20XX, farmers enhance participation in irrigation development at 50 % compared to 2002. (Number of newly implementing irrigation scheme in which farmers participate during implementation and operation stage, increase at more than 50 % compared to the same before).	Progress reports of newly implementing irrigation scheme, and information of the database of existing-scheme monitoring which is proposed in the NIMP	Other related programmes of NIMP are animatedly implemented as scheduled.
<b>Project Purpose</b> Farmers' participation training programme for irrigated agriculture is established.  The farmers' participation training programme is executed.	a) By 20XX, preparation of the farmers' participation training programme is completed.  b) By 20XX, training course of the programme is executed in XX scheme areas which are inventoried in the master plan of NIMP.	Report of the programme  Training record	The training system will continue its operation in suitable manner.  Trained farmers and villages will display their improved capability in the process of irrigation development.
<b>Outputs</b>  1. Curriculum of farmers' participation training in irrigation development is completed.  2. Areas and schedule to be executed the training are decided.  3. Plan of farmers' participation training programme is formulated.  4. Preparation for the implementation of farmers' participation training programme is prepared	The curriculum is confirmed its effectiveness and feasibility.  The areas and schedule for the programme are harmonized with the scheme implementation schedule.  By 20XX, the Plan is completed and approved by MAFS.  By 20XX, the programme is started.	Approved in the professional meeting of specialists in participation  Scheme implementation programme of the NIMP  Report of the Plan of farmers' participation training programme  Progress Report of the Programme	IS and/or districts are capable for the operation of the farmers' participation training programme  Farmers recognize importance of farmers' participation in irrigation development, and are cooperative in the programme execution.

Attachment 1

Activities	Inputs		
<p>1-1 Investigate problems and objectives for the farmers' participation in irrigation development</p> <p>1-2 Establish methods and tools to enhance farmers' participation</p> <p>1-3 Formulate realistic curriculum of farmers training to enhance their participation.</p> <p>2-1 List up possible areas which require the training.</p> <p>2-2 Arrange number and location of the areas to be applied the training taking possibility and limitation into consideration.</p> <p>2-3 Make a schedule of training operation.</p> <p>3. Prepare a plan of farmers' participation training programme.</p> <p>4-1 Take necessary institutional arrangement for the implementation of the plan.</p> <p>4-2 Take necessary financial arrangement for the implementation of the plan.</p>	<p><b>Donor</b></p> <p><b>Study Team</b></p> <p>1) Participation 12 months</p> <p>2) Sociologist 6 months</p> <p>3) Irrigation 12 months</p> <p>4) Farmers training 12 months</p> <p>5) Training operation 6 months</p> <p><b>Equipment</b></p> <p>1) Vehicles L.S.</p> <p>2) Training equipment L.S.</p> <p>3) Others L.S.</p> <p><b>Budget</b></p> <p>Some part of expenditures of local activities related to the Project.</p> <p>Some portion of the budget for the operation of the Programme.</p>	<p><b>GOT</b></p> <p><b>Personnel</b></p> <p>1) Counterparts in each subject</p> <p><b>Equipment</b></p> <p>1) Office L.S.</p> <p>2) Others L.S.</p> <p><b>Budget</b></p> <p>1) Salaries and necessary expenses for counterparts</p> <p>2) Allowances and expenses of trainees concerning trainers' training</p> <p>3) Some portion of the budget for the programme execution</p>	<p>All necessary arrangement for the investigation and study related to the programme will be fulfilled on schedule by any reliable parties concerned.</p> <hr/> <p><b>Preconditions</b></p> <p>It is clearly confirmed the needs of farmers participatory training in irrigation development to the central and local government agencies and farmers themselves.</p>

## Attachment 1

**PDM of the Programme E6.1**  
**(Training for Irrigated Rice Production Increase) linked with NIMP**

Project Name: KATC Phase II Duration: 2002 - 2007 (5 years)

Project Area: Tanzania Target Agency: MAFS Date: June 2002

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumption
<b>Super Goal</b> Living standards of rice farmers in the irrigation scheme are improved			There are no major policy changes.
<b>Overall Goal</b> Productivities of rice increases in the place where the KATC's training has been conducted and its surrounding area.	Average rice yield per unit area of sample farmers in the training conducted sites and its surrounding area increase X % by 2010 compared to 2002.  By 2010, efficiency of the rice production activities is improved in the training conducted sites and its surrounding area.	Base line survey Ex-participants report Monitoring report	Income is used for better living standards.
<b>Project Purpose</b> Productivities of rice increases in the model sites through the KATC's training	Average rice yield per unit area of sample farmers in the model sites increase X % by 2006 compared to 2002.  By 2006, efficiency of the rice production activities is improved in the model sites.	Base line survey Ex-participants report Monitoring report	No agricultural policy changes.

Attachment 1

<p><b>Outputs</b></p> <ol style="list-style-type: none"> <li>1. The concept of and approach to the model sites are established.</li> <li>2. The capacity of the KATC in identifying training needs is improved.</li> <li>3. Technical training programmes on irrigated rice production are strengthened to meet local needs.</li> <li>4. Training programmes for improving institutional framework of irrigation scheme are strengthened.</li> <li>5. The capacity of the KATC in collecting and providing useful irrigated rice cultivation information is improved.</li> <li>6. The concept and approach to mainstream gender into planning, implementing and monitoring technical training on irrigated rice production are established.</li> </ol>	<p>By the end of August 2002, six(6) model sites are selected on the basis of criteria.</p> <p>In the end of every training course, more than 80% of trainees rank 4 out of 5 in the questionnaire.</p> <p>By 2006, 80% of ex-trainees adopt basic field techniques learnt. By 2006, technical standards on rice cultivation are established in all model sites through field trial activities conducted by field personnel and key farmers. The modules for technical training are established.</p> <p>By 2006, farm operation calendars and plans are prepared, carried out and evaluated by managing personnel, key farmers and intermediate farmers in each model sites. By 2006, active membership of farmers' organizations in each model site increase by X% compared to 2002. By 2006, X personnel from local governments participate in seminars and workshops held in each model site. By 2006, attendance rate of participants to seminars and workshops in each model site increase by X% compared to 2002. The modules for training of institutional framework are established.</p> <p>By 2006, amount of access to information from outside increases. By 2006, bi-monthly newsletters are prepared, and progress reports on technical matters are prepared once a year.</p> <p>By 2006, number of women farmers' participation increases X% compared to 2002, by considering gender needs in the model sites. By 2006, number of courses which aim to reduce women farmers' workload increases. By 2006, number of courses which target women farmer specific problems which deteriorating rice productivity increases. By 2006, training culliculum, materials and teaching method are improved by <i>integrating women farmers' contribution</i> to irrigated rice production. By 2006, women farmers' leadership in farmers' organization increases. By 2006, attendance of women farmers and youth to seminars and workshops in each model site increase by X% compared to 2002.</p>	<p>Minutes of Joint Coordinating Committee Criteria</p> <p>Training report Questionnaire</p> <p>Training report Monitoring report Technical standards sumnarized by the Rice Cultivation Section Local consultant survey report</p> <p>Training report Farm operation calendar Evaluation report Interviews Seminar and workshop proceedings Local consultant survey report</p> <p>Utilization list Newsletters, Progress report Web-site Local consultant survey report</p> <p>Baseline survey report Training report Monitoring report Local consultant survey report</p>	<p>The ex-trainees remain in the irrigation scheme.</p> <p>Regional levels recognize the importance of improved rice farming and implement extension.</p>
<p><b>Activities</b></p> <ol style="list-style-type: none"> <li>1-1 Study the situation of selected 40 schemes in order to determine their potential for development.</li> <li>1-2 Conduct group training courses on irrigated rice production techniques for scheme managers, field personnel and key farmers of the selected 40 schemes.</li> </ol>	<p><b>Inputs</b></p> <p><b>Donor (Unspecified)</b></p> <ol style="list-style-type: none"> <li>1. Dispatch of Experts (1) Long-term Experts - Chief Advisor - Coordinator</li> </ol>	<p><b>GOT</b></p> <ol style="list-style-type: none"> <li>1. Assignment of Tanzanian Personnel (1) Project Director (2) Project manager</li> </ol>	

## Attachment 1

<p>1-3 Select model sites based on the agreed criteria.</p> <p>2-1 Conduct surveys to identify the situation and problems and to collect baseline data for monitoring.</p> <p>2-2 Conduct analysis of the information collected.</p> <p>3-1 Prepare the activity plan to improve irrigated rice production techniques in each model site.</p> <p>3-2 Conduct the training courses on irrigated rice production techniques for field personnel and key farmers of the model site at the KATC.</p> <p>3-3 Conduct the field training courses with irrigated rice production skills for field personnel and key farmers in each model site.</p> <p>3-4 Provide technical assistance to the ex-trainees on irrigated rice production at the model sites.</p> <p>3-5 Monitor the activities of ex-trainees in each model site.</p> <p>4-1 Prepare the activity to improve the framework for irrigated rice production for each model site.</p> <p>4-2 Conduct seminars and workshops for farmers, scheme managers, local government personnel, and members of other related organizations.</p> <p>4-3 Conduct field training courses in the model sites on the management of irrigators' association/cooperative societies and other farmers' organizations for scheme managers, field personnel and key farmers.</p> <p>5-1 Establish information management system.</p> <p>5-2 Collect and classify information concerned.</p> <p>5-3 Supply the information to the concerned organizations and individuals.</p> <p>6-1 Identify women's training needs in selected model sites, and integrate them into an action plan.</p> <p>6-2 Plan, conduct and monitor the technical training of irrigated rice production with gender consideration.</p> <p>6-3 Plan, conduct and monitor the institutional framework of irrigated rice production with gender consideration.</p> <p>6-4 Organize gender related information on irrigated rice production.</p>	<p>- Extension and farmers training</p> <p>- Rice cultivation</p> <p>- Irrigation management</p> <p>- Farming management</p> <p>(2) Short-term Experts as required within the Project</p> <p>2. Provision of Machinery and Equipment</p> <p>3. Training of Tanzanian Counterpart Personnel in Japan</p> <p>4. Dispatch of a Survey Team</p>	<p>(3) Counterpart personnel</p> <p>- Extension and farmers training</p> <p>- Irrigation management</p> <p>- Farming management</p> <p>(4) Counterpart personnel for short-term experts</p> <p>(5) Administrative personnel</p> <p>(6) Other necessary personnel mutually agreed upon as necessary</p> <p>2. Local running expenses</p> <p>3. Provision of lands, buildings and other necessary facilities for implementation of the Project.</p>	<p><b>Preconditions</b></p> <p>Rice cultivating farmers in the selected irrigation schemes understand the objectives of the Project, and agree to be taken part in the Project.</p> <p>Security situation of the country remains stable, and safety of property at KATC is assured.</p>
---	---	---	---

PDM of the Project of "JICA-KATC Phase II" is referred.

## Attachment 1

**PDM of the Programme E6.2**  
**(Training for Cash Crops Production Increase) under NIMP - Tentative**

Project Name: National Irrigation Master Plan Duration: 2003 - 2017 (15 years)

Project Area: Tanzania Target Agency: MAFS Date: July 2002

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumption
<p><b>Super Goal</b> To stimulate and facilitate agricultural sector growth, and to reduce rural poverty</p>			
<p><b>Overall Goal</b> Productivities of irrigated cash crops increase in the places where replicate the pilot models' effects giving from this programme</p>	<p>Average cash crop yield per unit area of sample farmers in the training conducted sites and its replicated areas increase X % by 20XX compared to 2002.</p> <p>By 2010, efficiency of activities in the irrigated cash crop production is improved in the training conducted sites and its replicated areas.</p>	<p>Base line survey</p> <p>Ex-participants report</p> <p>Monitoring report</p>	<p>Circumstances surrounding agriculture sector are maintained or become more advantageous.</p>
<p><b>Project Purpose</b> Productivities of irrigated cash crop increase in the model sites through training of the programme.</p>	<p>Average cash crop yield per unit area of sample farmers in the model sites increase X % by 20XX compared to 2002.</p> <p>By 20XX, efficiency of the cash crop production activities is improved in the model sites.</p>	<p>Base line survey</p> <p>Ex-participants report</p> <p>Monitoring report</p>	<p>No agricultural policy changes.</p>
<p><b>Outputs</b></p> <ol style="list-style-type: none"> <li>1. Training system is set up in organizationally.</li> <li>2. Trainers are trained as above required level.</li> <li>3. Technical training programme on irrigated cash crop production increase are prepared so as to meet local needs too.</li> <li>4. Programmed trainings are given to the farmers of the selected model sites and extension staff concerned district.</li> <li>5. Irrigated cash crop production at the model sites is maintained at succeeded level.</li> </ol>	<p>MAFS approves setting up a training system for cash crop production increase by irrigation</p> <p>Training capability of the trainers are certified by a technical committee in MAFS.</p> <p>The technical training programme is examined in a pre-testing for the selected farmers.</p> <p>The training programme are executed as selected XX model sites</p> <p>Model sites are monitored for the manner of irrigated agriculture practice in every 2 years.</p>	<p>Approval document of MAFS</p> <p>Certification issued by the technical committee.</p> <p>Report of the pre-testing</p> <p>Progress report of the training</p> <p>Monitoring report</p>	<p>Sub-sectoral cooperation related to irrigated agriculture are properly given.</p> <p>Adequate activities for backstopping farmers in the model sites are taken when it is required through monitoring.</p>



### Attachment 1

Activities	Inputs		
1-1 Plan a general feature of training performance aiming at this programme	<b>Donor</b>		Farmers and related LGAs' staff hold good understanding and motivation to the training programme.
1-2 Study possible modality of the system for training execution.	<b>GOT</b>		
1-3 Plan institutional framework for the training system of the programme.	Study Team 1) Leader 12 months 2) Irrigation 12 months 3) Irrigated agriculture 12 months 4) Training 12 months 5) Farm management 6 months	Personnel 1) Counterparts in each subject 2) XX Trainers	<b>Preconditions</b>
1-4 Set up organizational body for the training system of the programme.	Equipment 1) Vehicles L.S. 2) Training equipment L.S. 3) Others L.S.	Equipment 1) Office L.S. 2) Training plot L.S. 2) Others L.S.	It is clearly confirmed the needs of training for irrigated cash crop production increase by MAFS.
2-1 Appoint trainers for the programme.	<b>Budget</b>		
2-2 Make a training curriculum for the trainers	Budget Some part of expenditures of local activities related to the Project.	1) Salaries and necessary expenses for counterparts 2) Allowances and expenses of trainers' training 3) Some portion of the budget for establishment of training system 4) Necessary expenditures in operation of the training system	
2-3 Train the trainers as coursed.	Training for the trainers		
3-1 Analyze local demand of cash crop production increase.	Some portion of the budget for establishment of training system		
3-2 Establish training programme and its implementation plan for training execution.			
4-1 Select models site for the training execution.			
4-2 Execute training programme at the model sites staff concerned district.			
5. Monitor the irrigated agriculture of the model sites periodically.			

## Attachment 1

## PDM of the Programme E7

## (Integrated Irrigation Development Model Establishment) under NIMP - Tentative

Project Name: National Irrigation Master Plan Duration: 2003 - 2017 (15 years)

Project Area: Tanzania Target Agency: MAFS Date: July 2002

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumption
<b>Super Goal</b> To stimulate and facilitate agricultural sector growth, and to reduce rural poverty			
<b>Overall Goal</b> To attain the objectives of NIMP through replicating the pilot models' effects giving from this programme to other areas widely.	By 20XX, DALDOs of all districts are informed the outcomes of the integrated irrigation pilot models of this programme.	Record of series of seminar on the integrated irrigation development models	Other related programmes of NIMP are animatedly implemented as scheduled.
<b>Project Purpose</b> Pilot models of integrated irrigation development which is irrigated agricultural development with fulfilling rural development comprehensively, are implemented.  The pilot models sustain outcomes of the development.	a) By 20XX, XX pilot model schemes are completed.  b) The pilot models are monitored periodically conditions of productivity and living standard.	Completion report of Pilot model establishment  Monitoring reports for the pilot models	Good cooperation of the related sub-sectors are given.  IS and MAFS appeals to LGAs about the effect of integrated irrigation development showing outcomes of the pilot models.
<b>Outputs</b>  1. Development concept of integrated irrigation development is clarified.  2. Method and modality for integrated irrigation development are established.  3. Works for pilot model development are implemented at selected sites (villages).  4. A monitoring routine is established, and starts operation.	The concept is agreed with MAFS officially.  The methods are finalized through discussions with other sub-sectors cooperation (road, water supply etc.).  By 20XX, XX pilot models are established.  By 20XX, the monitoring system starts its operation.	Note of agreement issued by MAFS about the concept of integrated irrigation development  Report of the discussion held  Report of pilot model implementation  Monitoring reports	All necessary arrangement for the establishment of pilot model is taken on schedule.  Related sub-sectors hold right understanding for integrated irrigation development.
<b>Activities</b>  1-1 Conceptualize needs and importance of integrated irrigation development in Tanzania  2-1 Study necessity of integrated rural development leading by irrigation development.  2-2 Work out methods and modalities for integrated irrigation development.	<b>Inputs</b>  <b>Donor</b>  Study Team 1) Irrigation 12 months 2) Rural development 12 months 3) Irrigated agriculture 12 months 4) Development innovation 10 months 5) Extension 6 months	<b>GOT</b>  <b>Personnel</b> 1) Counterparts in each subject  <b>Equipment</b> 1) Office L.S. 2) Furniture and Acces. L.S. 3) Tel. and business eq. L.S.	Participation and cooperation of beneficiaries in the pilot model sites will be kept.  Institutional arrangement for the establishment of the pilot model is successfully given without any delay.

Attachment 1

<p>3-1 Make a criteria of model site selection.</p> <p>3-2 Select pilot model sites in consideration with the criteria.</p> <p>3-3 Make implementation plan for the pilot model establishment by the selected sites.</p> <p>3-4 Implement pilot models establishment plan.</p> <p>4-1 Make a plan of monitoring and monitoring system.</p> <p>4-2 Realize the monitoring plan.</p>	<p>Equipment</p> <p>1) Vehicles L.S.</p> <p>2) Office equipment L.S.</p> <p>3) Others L.S.</p> <p>Budget</p> <p>Some part of expenditures of local activities related to the Project.</p> <p>Investigation study of present condition of rural condition</p> <p>Cost of works of the pilot models implementation.</p> <p>Budget</p> <p>1) Salaries and necessary expenses for counterparts</p> <p>2) Allowances and expenses of installation of the monitoring system</p> <p>3) Necessary expenditures in operation of the monitoring system</p>	<p><b>Preconditions</b></p> <p>MAPS properly recognizes the necessity and importance for integrated irrigation development in Tanzania</p>
--	--	--