

## 添付資料

注： JICA 調査団は、国家灌漑庁と協議の上、全国灌漑マスタープラン改訂プロジェクトの成果品である「全国灌漑マスタープラン 2018」の略語を「RNIMP」から「NIMP2018」へ変更した（2018 年 5 月）。これに伴い、本報告書では「NIMP2018」で統一した。但し、調査過程で作成された JCC の議事録は「RNIMP」のままである。

**MINUTES OF THE JOINT COORDINATION COMMITTEE (JCC)  
MEETING  
ON REVIEW OF THE NATIONAL IRRIGATION MASTER PLAN (RNIMP)  
Held at the Ministry of Water and Irrigation Conference Room  
6<sup>th</sup> December 2016**

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Agenda

1. Registration
2. Opening speech
3. Future direction of irrigation development
4. Inception report on the project for revising national irrigation master plan
5. Questions and answers
6. Closing

**1.0 Registration**

The invitees to the workshop were the members of the Joint Coordination Committee of the Revision of the National Irrigation Master Plan who include Directors from different Ministries/Institutions whose activities relate with National Irrigation Commission (NIRC) activities. Other invitees were Directors, Assistant Directors and Zonal Irrigation Engineers from the National Irrigation Commission.

**2.0 Opening Speech**

The Permanent Secretary, Eng. Mbogo Futakamba of the Ministry of Water and Irrigation opened the meeting at 10:12 a.m. by welcoming participants to this important meeting. He appreciated to have an opportunity to officiate the meeting by saying that he is in the fore front with irrigation development in the country. The JCC is a very important organ to give guidance in implementation of this project. He cited an example “In Ethiopia there are occasional hunger and irrigation is a sole solution to the problems”. He further narrated that Tanzania is moving into an industrialized based economy, we therefore need irrigation to support food production and raw materials to support processing industries. The Permanent Secretary further elaborated the purpose of the formulation of the Joint Coordination Commit (JCC) that is to enhance inter-organizational coordination with the specific objectives of approving work plans and reports, reviewing overall progress, and exchanging opinions on major issues that arise during the implementation of the Project.

Finally he thanked the Government of Japan through JICA for the continued cooperation and support especially in the irrigation sub sector and assured them that,

the Government of Tanzania will continue to recognize the efforts of JICA and urged the Study Team to proceed with Revision of the Master Plan through a participatory process such that the outcome will attract sound investments. He also, thanked the JICA Chief Representative and other JICA experts for accepting to participate in the JCC meeting.

On the other hand, the JICA Senior Representative Mr. Kuniaki AMATSU gave an opening remarks by saying a few words. He pointed out on the remarkable achievement of the irrigation sector since the National Irrigation Master Plan of 2002 was formulated. He mentioned some achievements in terms of institutional improvement; National Irrigation Commission has been established under National Irrigation Act. As a guiding principle, Comprehensive Guideline (CGL) of irrigation development was developed. The CGL is the guideline consolidated for all necessary procedures for irrigation development including Planning, Implementation and Management of Irrigation schemes in participatory manner.

On infrastructure development he pointed out that about 460,000 ha was equipped with irrigation infrastructure against 407,000 ha which was set as the target in the 2002 National Irrigation Master Plan to be achieved by 2017. He thanked the Government of Tanzania and Development Partners for the efforts put in irrigation development. He further pointed out that new issues that were not fully considered in the previous National Irrigation Master Plan have been raised, such as cross-sectoral water competition, climate change and more consideration to environmental and social aspects and that these issues will be fully considered in the Revised Master Plan.

Finally, he urged that with the Revised Master Plan, the Tanzanian side will take a strong leadership to implement irrigation development activities according to the outcomes of the Revised Master Plan.

### **3.0 Future Direction of Irrigation Development**

The Director General of the National Irrigation Commission (NIRC) presented the future direction of irrigation development in Tanzania. He presented the background of the Commission that it was established under Section 3 of the National Irrigation Act No. 5 of 2013 as an Independent Department of the Government under the Ministry responsible for irrigation and is designated by Vote 05.

He said out of the total potential area for irrigation, only 461,326 Ha, equivalent to 1.6%, has been put under irrigation by June 2014 and contributes about 24% of National Food Requirement. The target is to increase the area under irrigation from

461,326 Ha up to 1,000,000 Ha by 2020/21, through collaboration with various stakeholders.

He further stressed that, the National Irrigation Policy and its Strategy forms the base framework for implementation of the envisaged Revised National Irrigation Master Plan.

#### **4.0 Presentation of the Inception Report**

The JICA Project Team presented the Inception Report by giving background of the project, Goal and Outputs; Objectives of the RNIMP, Target Area and the Methodology to be used. After presentation the members of the JCC had an opportunity to discuss the inception report and asked questions.

#### **5.0 Questions and Responses**

**Q1.** Technical approach No. 3 use of GIS Technology for data collection: What if you find that, the existing GIS data are outdated, what other methods can the review team consider?.

**Response:** If there will be no reliable source of data for GIS, this is not a research project, if data are not available will reject it. Some GIS data will be updated such as population, road map, Climate change etc. The Permanent Secretary advised that “ data which are not reliable should not be thrown away instead plot them all and draw a line of best fit statistically and come up with a solution. Use all scientific methods available. Questionnaires can also be used but carefulness is required in selection of sample population. Be guided by ground true-thing in some areas. ASDP II Program document is in place, will be mainstreamed into the RNIMP

**Advise:** Referring to approach No. 2 on key performance indicators: Accommodate key performance indicators from developed ASDP II program document.

**Q2.**was on selection procedure for new irrigation schemes: How Zonal Offices will identify new irrigation schemes?

**Response:** How to identify new irrigation schemes: Clarification on, basic data such as water, soils, and agricultural data. New irrigation schemes can be the existing tradition schemes or schemes on a new area which have never been intervened. The RNIMP team was advised to get a good definition of new irrigation from the National Irrigation Policy.

### **Advice on Financial arrangement**

The Development Partners who have plans for supporting irrigation development, should use the information that will be contained in the RNIMP on priority schemes. NIRC was advised to share the outcome of the Revised National Irrigation Master Plan with potential funding agencies including the private sector..

**Q3.**What are the ToRs for the JCC.

**Response:** The roles of JCC were cleanly outlined in the invitation letter to the JCC meeting. These are establishment of an inter-organizational coordination, with specific objectives of approving work plans and reports, reviewing overall progress, and exchange opinions on major issues that arise during the implementation of the Project..

**Q4:**In the presentations it is highlighted that one (1)million hectores will be achieved by 2025 but the Government in its other documents it is indicated that this goal will be achieved by 2020. There should be a consistence in documentation of pans.

**Response:** The RNIMP will observe the Government 5 year development plans.

**Q.5:** Schedule of JCC meeting and timing. Suppose things are not moving well in between, will the JCC wait until such time reach to resolve them?

**Response:** Communication will be there in between. The JCC to meet twice a year is put as a guide but it is further indicated that it can meet sooner than the timing set if there is any need to do so.

**Q6:** Part 3 on the methodology: Irrigation sector is a multi-disciplinary, on the institution development and capacity building, it is indicated as the irrigated area is increased only engineers are involved in capacity building plan, leaving out other disciplines.

**Response:** In order to increase area under irrigation a number of engineers should be increased and also the number of Irrigators Organizations should be increased. This presentation is a preliminary, when it will come to further planning detailed information will be covered involving different staff disciplines.


**Q7:** For the existing master plan. What was achieved in the old NIMP and what were the weaknesses.


**Response:** There were no prioritizations of irrigation schemes in the past NIMP, there were no potential financiers and no awareness to them was made.


**Financing modalities of the RNIMP:** identify the gape, amount of investments required and the available resources. The National Irrigation Act provides for establishment of the Irrigation Development Fund, therefore the provision of establishing an Irrigation Development Fund is there in principle. The Permanent Secretary of the Ministry of Finance and Planning pointed out that the sources of funds which were indicated in the write up were weak. Therefore dialog is going on with the Ministry of Finance and Planning to harmonies on potential sources of Funds for NIRC.

## 6.0 Closing

The JCC meeting was closed at 12: 45 pm and the Chairman urged the members to make the RNIMP to be more popular.

  
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Eng. Mbogo FUTAKAMBA  
Chairperson- PS MoWI

  
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Eng. Seth P. LUSWEMA  
Secretary- Ag. DG-NIRC

  
.....  
Mr. Kuniaki AMATSU  
JICA Senior Representative

  
.....  
Eng. Kenichi SHIBUTA  
T/L - JICA Project Team

Date .. 20/12/2016 ..

## Attachments

- I: Opening Speech by PS MoWI.
- II: Opening Remark by JICA Representative.
- III: Presentation of Inception Report.
- IV. List of Participants.



## THE PROJECT ON THE REVISION OF NATIONAL IRRIGATION MASTER PLAN (RNIMP)

### Minutes of the Second Joint Coordination Committee (JCC) Meeting

Held at Morena Hotel Conference Room- Dodoma  
21<sup>st</sup> September 2017

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- 1.0** Participants: (see attached annex for details)
- 2.0** Introduction
  - 2.1 Arrival and Registration
- 3.0** Opening Remarks
- 4.0** Presentation of Interim Report on the Revision of National Irrigation Master Plan
- 5.0** Closing

### **2.0 Introduction**

The Second Joint Coordination Committee (JCC) Meeting, was held on 21<sup>st</sup> September 2017 at Morena Hotel Conference Room- Dodoma. The purpose of the meeting was to present and discuss the Interim report for RNIMP project.

### **3.0 Opening Remarks**

#### **3.1** Remarks by the Director General.

The meeting commenced with introductions from all participants and the Director General of the National Irrigation Commission (NIRC) Eng. Seth, P. Luswema gave a pre-opening remark, that the National Irrigation Master Plan (NIMP) was prepared in 2002; many changes have taken place and therefore the Government found it expedient to review the NIMP. In this regard the Government of Tanzania requested the Government of Japan through JICA to support the review of NIMP and to that effect the request was accepted.

### 3.2 Opening Remarks by the Chief Guest.

The Permanent Secretary of the Ministry of Water and Irrigation, Prof. Kitila Mkumbo opened the meeting officially at 10:09a.m. by welcoming participants to this important meeting. He appreciated to have an opportunity to officiate the meeting and gave thanks to the organizers for agreeing to reschedule the meeting, a move which enabled him to attend the session. He further thanked the Government of Japan for continued support to the Country not only for irrigation development but also in other sectors and that their assistance does not come with many conditions.

He stressed that Agriculture is very important in our country because it is a primary source of our national food supply and income, in that regard irrigation is one of the supporting aspects. Further agriculture contributes largely to the national GDP, and by national development plans, the Government gives a high priority to irrigation. He underlined the fact that “we have spent more time in promoting irrigation but less time in irrigation advocacy”. In this aspect he pioneered to take a lead role in promoting/advoting for the irrigation sector and especially to the leaders also, he underscored the fact that, the issue of planning is one side but how to implement the plan is another challenge.

In a similar note he empresized that water is not increasing and at the same time irrigation uses a lot of water. Traditionally irrigation uses 70-80% of water in most countries and thus implies that irrigation is a big consumer of water. Therefore we have to advocate and promote irrigation systems that use less water but gives more yields. The question is how we modernize our irrigation systems and move away from flood irrigation. Let us plan for using less water with more yields and in order to achieve that we need to employ new technologies to make sure that irrigation consumes little water but produces high yields.

He further highlighted that, plans are being prepared and reviewed, but most of the plans are implemented before concluding their review. The review of this Master plan will be completed, but the harder part will be its implementation. He mentioned that only 1.6% of the potential area has been developed for irrigation so far, but most of the areas continue to



depend on rainfall. It's high time that we should make advocacy more on irrigation sector development and show that irrigation is an important area in order to attract the Government leadership and other Development Partners. Currently, we are doing less to attract intended parties and therefore we should find a way of engaging the top three Government leaders, business community, citizens and media on irrigation development.

Finally, he thanked the Government of Japan for the continued cooperation and support through JICA especially in the irrigation sector and assured them that, the Government of Tanzania will continue to recognize the efforts of JICA and urged the Study Team to complete the revision of the Master Plan as planned. He also thanked the JICA Senior Representative and other JICA experts for accepting to participate in the second JCC meeting. With those remarks, he declared that the second JCC meeting officially opened at 10.09 am after which he joined the floor to listen to the presentations.

The Director General accorded a vote of thanks to PS on a very precise and informative opening speech after which he invited the Jica Senior Representative for a brief note.

### **3.3 Remarks by the JICA Senior Representative**

The JICA Senior Representative Mr. Kuniaki Amatsu started by recognizing irrigation development, as an effective approach to achieve food security and poverty reduction, because it improves productivities of crops, and assuring stable expansion of agricultural production. He reminded, that JICA has been supporting irrigation infrastructure development since 1980s starting by Lower Moshi Irrigation Scheme, followed by Ndugu in Same, Bagamoyo Irrigation Development Project (BIDP) in Bagamoyo Mwegu in Kilosa, and currently, ODA loan project on "Small Scale Irrigation Development Project" (SSIDP) for supporting rehabilitation of more than 100 irrigation schemes nationwide.

He said, that in order to achieve 1 million ha of irrigated land, which is a target under Five Year Development Plan II, it may require more water allocation from other sectors to irrigation purposes. In addition, finance is another challenge.

He reminded the participants, that there are three purposes in this meeting. The First is to validate planning approach, and the Second is to discuss and confirm framework of master plan such as contents, schedule, organizational arrangement, etc., then The Third is about development target by 2035.

He concluded his remarks by urging that, with the Revised National Irrigation Master Plan (RNIMP), Tanzanian side should take a strong leadership to implement irrigation development activities according to the outcomes of the Revised Master Plan.

#### **4.0 Presentations of the RNIMP interim report.**

The RNIMP Team presented the interim report to JCC members in the presence of the PS. The presentation touched on the following important areas:

- 4.1 Approach to RNIMP
- 4.2 Basic Development Plan
- 4.3 Development Components
- 4.4 Implementation Schedule
- 4.5 Organization Arrangements for Implementation
- 4.6 Possible Financial Arrangements
- 4.7 Environmental and Social Consideration
- 4.8 Discussions (Q&A)

The presentation covered the background of the project, Approach to RNIMP; Basic development plan and the Methodology used.

#### **4.1 Approach to RNIMP**

The presentation clarified that the RNIMP will take into consideration the following approach; Prioritization of irrigation scheme in a scientific manner such as water allocation on monthly basis by 71 sub-basins and updating irrigation database; export-oriented agriculture development ;phasing development plan to enable linkage with value chain development by ASDP-2; Irrigation infrastructure development with locally available water resources; full development of irrigation schemes and strengthening of supporting system for irrigation infrastructure development.

#### **4.2 Basic Development Plan**

The review team presented the Basic Development Plan for implementation of RNIMP that the overall goal will be to contribute to the achievement of KPIs for ASDP2. The objective of the RNIMP is to contribute to national economy and food security by improving agricultural productivity and profitability through irrigation development, consequently reduce rural poverty and strengthen climate change resilience. The implementation plan will targeted for the year 2025 for phase I and year 2035 for phase II. The team also highlight that the target irrigation projects will be selected considering the superiority of market access (domestic distribution and export).

#### **4.3 Development Component**

The Development component of the RNIMP consist of hard component and soft component for which the hard component will focus on irrigation infrastructure development for effective use of water and soft component will include capacity building at all levels and strengthening of coordination, organizational and functional.

#### **4.4 Implementation schedule**

The presentation clarified that Irrigation Infrastructure Development will be implemented with a timeframe of RNIMP of 18 years; defined as Phase-1 for 8 years from 2018 to 2025 and Phase-2 for 10 years from 2026 to 2035 in the same target years as the Integrated Water Resources Management Development Plans (IWRMDPs). The soft components of RNIMP will be

designed so as to support the infrastructure development smoothly and efficiently in the implementation period and beyond.

#### **4.5 Organization Arrangement for implementation**

The review team presented the institution arrangement for implementation of RNIMP that the main executing agency of the RNIMP will be the National Irrigation Commission (NIRC). Since irrigation development is a major component of ASDP-2, in principle, the implementation system of the RNIMP will be in accordance with the implementation system of ASDP-2. In addition, NIRC qualifies as a member of ASDP-2 and will share policies and information by participating in various committees. In the case of a project supported by a development partner, it is proposed to establish a project unit within NIRC (or ZIO) and to establish a system that enables NIRC and the project staff to keep a good communication to each other on a daily basis.

#### **4.6 Possible Financial Arrangement**

The review team presented the revised irrigation master plan that it has a target period of 18years from 2018/19 to 2035/36. The conditions that irrigation development is highly capital intensive, requiring substantial amount of resources and the target period is long to make the financial projection of the plan inherently demanding. Moreover the situation that in the past, significant parts of development activities of the country have been facilitated by Development Partner's financial supports adds further uncertainty to the projection. However the review team gave three development options; option 1 development of 1,000,000 hectares would require US\$ 3,281,800,000; option 2 developments of 850,000 hectares would require US\$ 2,441,800,000 and option 3 developments of 535, 000 hectares would require US\$ 414,400,000. This financial requirement is substantial and therefore need a very concise and focused resources mobilization.

#### **4.7 Environmental and Social Consideration**

The Strategic Environmental Assessment (SEA) study of RNIMP will be designed to comply with all environmental laws of the United Republic of

Tanzania and the Environmental and Social Safeguard Policies of JICA as well as World Bank. Full SEA study shall be conducted based on the Revised Master Plan by the end of June, 2018.

After presentation the members of the JCC had an opportunity to discuss the presented part of the report and asked questions.

## **4.8 DISCUSSIONS**

### **4.8.1 Recommendations from the PS**

The presentation was very good and the quality is very high with a lot of update data that is pleasing, however the team should prepare a brief summary (1-5pages) and share with the Government so that it can be utilized in inter-ministerial meetings for decision making. Also, we should start implementing as we plan without delay.

### **4.8.2 Issue**

- ❖ Some of irrigation schemes are in protected areas like Igomelo irrigation scheme because the GN came later after the irrigation scheme has been developed. On the other hand in some cases the sources of water for irrigation are located in protected areas. Key stakeholders like Livestock, Natural Resources Officers' and Industry and Trade should be invited in the coming JCC. If the scheme is located close to the wildlife, what mitigation measures are provided in the RNIMP?

### **Clarifications**

- ❖ The key mitigation measure is to embrace a participatory planning approach. The REGROW project was cited as an example which is being planned in collaboration with the Ministry of Natural Resources and Tourism. In this manner conflicts over water and land resources will be minimized.

### **4.8.3 Issue**

- ❖ Consider water resources management as a key component for interventions. For example the Great Ruaha water management can affect negatively on irrigation development if the issue of water management is not addressed properly.

### **Clarifications**

- ❖ The review of the NIMP has made reference to various water resources assessment report under IWRMDP, and therefore as much as possible the RNIMP has observed the available water resources in the basin both surface and groundwater.

### **4.8.4 Issue**

- ❖ Climate Change issues are very important to be considered when reviewing the master plan. Adaptive measures should come out clearly in the RNIMP.

### **Clarifications:**

- ❖ Irrigation itself is an in eminent measure against climate change. Irrigation alone cannot address issues of climate change, therefore other ministries will also play big roles, and the important thing is to share the plans with key stakeholders. Also the revised National Irrigation Master Plan will address water storage reservoirs as essential steps in enhancing resilience.

### **4.8.5 Issues:**

- ❖ The ASDPII budget allocated for irrigation is less than compared to the estimated budget indicated in the RNIMP. The question is where the deficit will come from.

### **Clarifications:**

- ❖ The ASDPII time frame is for 10 years while the RNIMP is for 18 years up to 2035. Therefore the budget for RNIMP is higher than the budget estimate in the ASDPII. The RNIMP will have a more focused resources mobilization. The National Irrigation Act also provides for establishment of the Irrigation Development Fund which all together addresses the issue of resource mobilization for implementation of RNIMP.

### **4.8.6 Issues:**

- ❖ Institution set up: We have the District Irrigation Development Plan (DIDP), who will take care of these? Where is the role of PO-RALG mentioned? If not involving the PO-RALG you will experience some problems like the previous implementation of NIMP if not given their mandates. Generally there is no any uniqueness for irrigation to comply with existing institution set up under the President's Office, Regional Administration and Local Government Authorities.

### **Clarifications:**

- ❖ The institutional set up for irrigation development is well defined in the National Irrigation Act No. 5 of 2013 with mandates and functions of different stakeholders well defined including PO-RALG however, the set up entails review of legal requirements as we revise the National Irrigation Master Plan involving key stakeholders

### **4.8.7 Issues:**

- ❖ There is no clear job demarcation between the zonal irrigation officer and regional. Is it easy to establish the irrigation department at the district level?

### **Clarifications**

As stated in above a in depth analysis is required by involving relevant key stakeholder

### **4.8.8 Issues:**

- ❖ Conflicts between livestock and farmers are common in most irrigation schemes because livestock trespass fields after harvesting. The RNIMP should help farmers to harvest by-products of crops for livestock.

Provide water sources for the livestock in irrigation schemes. Aquaculture should also be encouraged in irrigated agriculture.

**Clarifications:**

- ❖ Currently water for livestock is being provided in some irrigation schemes depending on prevailing condition. The National Irrigation Act also has a provision for irrigation for livestock pasture, however it is prohibited to graze in irrigated area because livestock destroy irrigation infrastructure which is being developed at a high cost.

**4.8.9 Comments**

The comment from JICA study team underlined the fact that, implementation of the plan is important, therefore there is a need to commit funds before the plan is approved. Also, dissemination of information to TAMISEMI on the scale of irrigation development and also see possibility of increasing funding from other Development Partners. The last comment come from the hydrologist of the Ministry of Water and Irrigation who pointed out the importance if the market access is a key in prioritization of irrigation schemes, therefore, the Ministry of Industry, Trade and Marketing are important stakeholders in this meeting and needs to be involved in the future JCCs.

The study team were also requested to consider a mechanism of getting fund from different potential sources/people such as to approach LGAs for small scale irrigation scheme and development partners(DPs) for medium and large scale irrigation schemes.

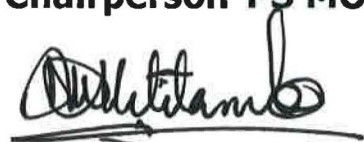
The Master plan should also draw lesson from the National Irrigation Programme of Mozambique which has planned irrigation Development in respect of the basins.



## Closing

The Second JCC meeting was closed at 13:40 p.m. by thanking all members of the JCC for their participation and their comments will which help enrich the document not only having the RNIMP but also the issue of financing.

Prof. Kitila MKUMBO  
**Chairperson-PS MOWI**



Mr. Kuniaki AMATSU  
**JICA Senior Representative**

for 

Date: 2<sup>nd</sup> March 2018

Eng. Seth P.LUSWEMA  
**Secretary-Ag. DG-NIRC**



Eng. Kenichi SHIBUTA  
**T/L-JICA Project Team**



## Attachments

List of Participants  
Presentation of Interim Report



**NIPPON KOEI**



THE PROJECT ON THE REVISION OF NATIONAL IRRIGATION MASTER PLAN  
(RNIMP)

Minutes of the Third Joint Coordination Committee (JCC) Meeting

Held at Royal Village Hotel Conference Room-Dodoma  
4<sup>th</sup> April 2018

- 1.0 Arrival and Registration
- 2.0 Introduction
- 3.0 Opening Remarks
- 4.0 Presentation of Draft Final report on the Revision of National Irrigation Master Plan
- 5.0 Closing

### **1.0 ARRIVAL AND REGISTRATION**

The JCC members and other invited guests started arriving at the venue since 09:30 and registered their names on the registration form.

### **2.0 INTRODUCTION**

The third joint Coordination Committee (JCC) Meeting was held on 4th April 2018 at Royal Village Hotel Conference Room-Dodoma. The purpose of the meeting was to present and discuss the draft final RNIMP document.

### **3.0 OPENING REMARKS**

#### **3.1 Remarks by the Director General**

The meeting commenced with introductions from all participants and the Director General of the National Irrigation Commission (NIRC) Eng. Seth P. Luswema gave a pre-opening remark, that this meeting is very important and crucial, thus your presence is highly appreciated. After that he welcomed the Chief Guest to officiate the meeting.

#### **3.2 Opening Remarks by the Chief Guest**

The Permanent Secretary of the Ministry of Water and Irrigation, Prof. Kitila Mkumbo opened the meeting officially at 10:30a.m. by welcoming participants to this important meeting. He appreciated to be a guest of honor and have an opportunity to officiate the meeting and gave thanks to the organizers for the invitation. He thanked the JICA and the RNIMP team for the support to the Government specifically on Revision of the National Irrigation Master Plane and narrates a well written draft report of the revised master plan received in his office with scientific analysis to meet political expectations. He stressed that for the commission which is mandated on the supervision and promotion of irrigation sector the issue of Staff Acting on managerial position (directors and assistant directors) within the commission for long time pull behind the speed of irrigation development. He promised to make follow up on that matter so that the cycle of management can be completed.

In a similar note he emphasized an importance of agriculture in industrial development and realize irrigation as a heart of agriculture with the slogan of No Agriculture no Industries and no Irrigation no Agriculture. About years now we fail to be a food self-sufficient since we rely on rain fed agriculture and call upon a relook on the way we plan on irrigation development. Therefore, the RNIMP has a role to retool and reposition the irrigation sector for betterment of the National development.

He further highlighted that we as a government, we have never discussed on the huge use of trans-boundaries waters like that of Lake Victoria for irrigation despite our fellows neighboring countries do highly utilize lake waters for irrigation. Therefore, it is high time for the RNIMP to make provision of using Lake Victoria water and other trans-boundaries rivers for irrigation. He also emphasized that water is no longer abundantly available, so much care is needed when planning for irrigation development since irrigation utilize about 80% of water so that the available water can be efficiently utilized. NIRC must plan and develop irrigation infrastructures in line with scientific proof on water availability and try to manage and balance with the political ambitions.

Finally, he thanked the Government of Japan for the continued cooperation and support through JICA especially in the irrigation sector, he also asked Japan to extend their support in the development of Dodoma capital city. He advised the participants to be kin in reading and understanding the document and providing comments before implementation. We should take this exercise seriously to provide input within the document in order to improve it. Having a plan document is less than 30% success, what is really important is to implement the plans/document and now it is the time for NIRC Staff to exercise their professionalism in irrigation development. With those remarks, he declared that the third JCC meeting was officially opened and wished participants to actively participate in the meeting.

### **3.3 Opening Remarks by the JICA Senior Representative**

The JICA Senior Representative Mr. Kentaro AKUTSU started by acknowledging that agriculture continued to support livelihoods of the majority of Tanzanians and provide about 66.9% of the employment, accounting for about 23% of GDP, 30% of export and 65% of industrial input. Abundant agricultural land, water for irrigation, sunlight and rich natural resources show a comparative advantage for agriculture led to economic development as well as poverty reduction. Therefore, irrigation development, is an effective approach to achieve food security and poverty reduction, because it improves productivities of crops, and assuring stable expansion of agricultural production.

He further pointed out that in 2002, JICA assisted Government of Tanzania to prepare National Irrigation Master Plan which had projected to develop 362,000ha of irrigated land by 2017 from 218,000 ha in 2003. With efforts of various actors, the country achieved 461,000ha of irrigated area in 2016 which exceeded the set target. However, 461,000ha is still less than 2% of the 25 million ha of potential farm land in the country. Investment into irrigation development is still indispensable to unlock country's great potential.

He further said that based on its needs, JICA as one of active Development Partners is currently implementing ODA loan project "Small Scale Irrigation Development Project - SSIDP" aiming to add 37,000 ha of irrigated area through upgrading more than 100 schemes. In parallel, capacity building of GoT engineers, IO members and rice growers have been done by several technical cooperation projects so that the infrastructures are fully utilized for agricultural production.

He also underlined the purpose of reviewing the National Irrigation Master Plan is to prepare National Irrigation Master Plan covering 2018 to 2035, with due consideration of alignment with country's development policies, water resource management, scientific-based implementable plan, and combination of hard and soft components. The draft plan proposes the target of 1 million ha irrigated land development by 2035. The cost to achieve 1 million ha is estimated as 3,805 million USD in 18 target years which is equivalent to 8,524 billion TZS. This huge amount should be injected by the Government, Development Partners, or Private Sectors. The team prepared one soft component development program and seven hard component development programs that contain 469 priority irrigation schemes. Having these programs or list of priority irrigation schemes, potential financiers can easily find potential schemes for their investment consideration. He concluded by requesting all participants of the meeting to give thoughtful comments to enrich the master plan to be more implementable one.

#### **4.0 PRESENTATIONS OF THE RNIMP DRAFT FINAL REPORT**

The RNIMP Team Leader presented the draft final report to JCC members in power point form. The presentation touched on the following important areas:

- 4.1 Outlines of the RNIMP (2018-2035) which include
  - 4.1.1 Summary of RNIMP
  - 4.1.2 Water Resources
  - 4.1.3 Land Resources
  - 4.1.4 Agriculture
  - 4.1.5 Irrigation Human Resources
  - 4.1.6 Irrigation Water Balance
  - 4.1.7 Irrigation Scheme Prioritization
  - 4.1.8 Development Scenario
  - 4.1.9 Basic Framework
  - 4.1.10 Development Concept
  - 4.1.11 Approach to RNIMP
  - 4.1.12 Development Plan
  - 4.1.13 Development Components
  - 4.1.14 Implementation Schedule
  - 4.1.15 Organization Arrangement for Implementation
  - 4.1.16 Investment Cost
  - 4.1.17 Project Evaluation
  
- 4.2 Outlines of Development Programs for Phase 1 (2018-2025)
  - 4.2.1 Action Plan1: Hard Components
  - 4.2.2 Action Plans 2 to 4: Soft Components
  - 4.2.3 Development Programs

#### **4.3 Conclusion and Recommendations**

After presentation the Participants had an opportunity to discuss and present comment to the presentation.

## 4.1 DISCUSSION SESSION

After presentation of the draft final RNIMP report, participants were given opportunity to comment on the document followed by questions and answers as follows:

### 4.1.1 Issue

The indicative cost is not divided into components of the master plan, it provides only the total cost for the project without detailed breakdown. The financial arrangement which illustrate who and how much will be contributed by each player (e.g. Government, DPs, and Private sector) is not indicated. The implementation schedule does not show the cross-cutting issues.

#### **Clarifications:**

The detailed cost breakdown for each component is indicated in the main report. Irrigation development has multi financiers not only the government but various development partners are also earmarked for financing irrigation development. The crosscutting issues will be implemented by the responsible sector ministries while NIRC will do the coordination during implementation.

### 4.1.2 Issue

Does the RNIMP assess the previous irrigation potential? How does RNIMP relate with ASDP II? What lessons learnt from the previous NIMP? Are the supervision issues indicated on the implementation plan?

#### **Clarifications:**

The RNIMP considers the allocated water for planning hence targets development of 1 million ha by 2035 according to the water allocated by IWRDP. NIRC is mandated to promote and develop irrigation schemes as well as to play the supervision role.

### 4.1.3 Issue

There is an opportunity to get finance from the root of climate change through Green Climate Fund as irrigation is one of the mitigation measures against climate change effects. Irrigation sector seems to be multisectoral involving Agriculture and Water sectors, were these sectors involved in the preparation of the master plan.

#### **Clarifications:**

Financing opportunity from GCF will be looked at by NIRC. The preparations of RNIMP has involved all sectors.

### 4.1.4 Issue

Does the RNIMP analyze the water resource potential especially ground water potential? RNIMP should indicate how much we will get on the use of water harvesting and groundwater taking into consideration that water harvesting technology in irrigation development is crucial. RNIMP indicate the value chain approach, which value chain do we need to focus? We should refer the ASDP II value chain approach.

#### **Clarifications:**

The review of the NIMP2002 has made reference to various water resources assessment reports under IWRMDP, and therefore as much as possible the RNIMP has observed the available water resources in the basin both surface and groundwater. The RNIMP has already indicated the comparative advantage of investing in crops with the value chain and cost benefit analysis.

#### 4.1.5 Issue

The RNIMP should show relevant institutions for irrigation development, since irrigation sector need many players; the implementation Framework of the master plan should indicate relevant players.

#### **Clarifications:**

The institutional setup for irrigation development is well defined in the National Irrigation Act No.5 of 2013 with mandates and functions of different stakeholders well defined including PO-RALG, However, the set-up entails review of legal requirements as we revise the National Irrigation Master Plan involving key stakeholders. The Implementation Framework will be looked at and shown in the RNIMP.

#### 4.1.6 Issue

The relationship between irrigation master plan and ASDP 2 should be indicated.

#### **Clarifications:**

The RNIMP has been prepared with reference of ASDP2 document, hence irrigation aspects in ASDP2 are reflected in the RNIMP.

#### 4.1.7 Issue

The lesson learned from the implementation of NIMP2002 should be indicated so that the good practices can be replicated during implementation of the RNIMP.

#### **Clarifications:**

A study of implementation of NIMP2002 was made, therefore RNIMP has been prepared with proposals avoiding the past negative implementation aspects and holding on the positive ones.

#### 4.1.8 Issue

The strategies to develop and manage the human resource on the implementation of the master plan should be well elaborated.

#### **Clarifications:**

The RNIMP has indicated the human resource required to implement the plan. This will be done by NIRC in collaboration with PO-RALG.

#### 4.1.9 Issue

The RNIMP should indicate how livestock can benefit from the implementation of irrigation development e.g. provision of using crop residues for livestock feeding, drinking water troughs and irrigation of pasture.

#### **Clarifications:**

Currently water for livestock is being provided in some irrigation schemes depending on prevailing conditions. The National Irrigation Act also has a provision for irrigation of livestock pasture, however it is prohibited to graze in irrigated areas because livestock destroy irrigation infrastructure which is being developed at a high cost.

#### 4.1.10 Issue

To accelerate the implementation of Master Plan, we share the Master Plan with Development Partners to invite them on support irrigation sector. JICA is on the discussion with the government to develop an irrigation project based on the output from the master plan. How do the net return

being calculated? How realistic is it, and is there any condition to achieve the net return? Do you think the net return imply feasibility of irrigation development under PPP arrangement?

**Clarifications:**

JICA is on discussion with the Government to have a project which will pick up schemes from the Revised Master Plan apart from the ongoing SSIDP. Furthermore, it was encouraged that NIRC should make efforts to make relevant information readily available which can be shared to Development Partners willing and interested to support irrigation development in Tanzania.

**4.1.11 Issue**

Has the irrigation research issue been incorporated in the RNIMP? If not, I suggest it to be made out clear in the master plan

**Clarifications:**

The research issue has been considered in the RNIMP.

**4.1.12 Issue**

In the process of making RNIMP to become a public document, a stage of getting it through the Inter-Ministerial Technical Committee (IMTC) should be included, before it is presented to the cabinet secretariat.

**Clarifications:**

The issue was noted, the IMTC will be included in the procedure for the document to get approval before it will become a public document.

**5.0 WAY FORWARD**

The JICA study team presented the way forward towards completion of the RNIMP whereby all steps to follow was presented including finalization of the SEA document.

**5.1 SEA follow-up**

The National Irrigation Commission through the Environment and Social Management Unit will make follow up on completion of SEA by the Consultant.

**5.2 Government procedure for making RNIMP as public document**

The government approval procedure for the RNIMP will follow the following sequence:

1. Organize stakeholders' meetings on the report, inviting relevant Ministries, RSs, LGAs, DPs and PSC.
2. Modify the report based on the comments.
3. DPP of the responsible ministry submits the modified report to IMTC.
4. IMTC reviews the report and submits it to the Cabinet.
5. The Cabinet reviews the report.

Once it is agreed, the report will be inaugurated by responsible Minister, or Vice-president or President

### 5.3 Review the issues on protected area and environmental flow requirement looking toward the future development beyond 2035

The RNIMP sets the final target year of 2035. For the further growth of the agricultural sector, continuous efforts would be placed on developing irrigation schemes after 2035. Here, Points to pay attention in considering irrigation development beyond 2035 have been summarized below.

#### Review of Land Use

Land reform is an urgent task of the government of Tanzania. However latest land use map that is fundamental for designing a comprehensive land use plan is absent. First of all, land use maps should be created. Then, while formulating land use plan, it is necessary to review coverage of protected areas and prohibition of diversion of farmlands for other purposes.

#### Review of Environmental Flow Requirement (EFR)

Water demands in Tanzania will increase with population increase and economic growth continuously even after the year 2035. The Ministry of Water and Irrigation needs to implement the next National Water Resource Master Plan targeting for example the year 2055 at an appropriate timing. A fundamental review of environmental flows would be discussed by that time.

### 6.0 CLOSING

The third JCC meeting was closed at 13:40 p.m. by thanking all members of the JCC for their active participation and their comments will which help enrich the document not only having the RNIMP but also the issue of its implementation.

Prof. Kitila MKUMBO  
Chairperson (PS-MoWI)

Signature: 

Date: 20-11-2018

Eng. Seth P. LUSWEMA  
Secretary (Ag. DG-NIRC)

Signature: 

Date: 12th April 2018

Mr. Kentaro AKUTSU  
JICA Senior Representative

Signature: 

Date: 12 Apr 2018

Eng. Kenichi SHIBUTA  
T/L-JICA Project Team

Signature: 

Date: 12th April 2018

#### Attachments

- List of Participants
- Presentation of Draft Final Report of RNIMP





添付資料-1.7.4 関係者との面談・会議リスト

JICA調査団は全国灌漑マスタープラン2018(NIMP2018)を策定するにあたり、多数の関係者へのインタビューや協議を行った。その面談者リストを以下に示す。

番号	日時	組織	主面談者	参加者	議題
109	18/09/2017	JICAタンザニア事務所	長瀬所長	天津次長、鈴木担当	JCCに向けての事前会議
110	21/09/2017	水・灌漑省、国家灌漑庁	Prof. Kitila Mkumbo 水灌漑省次官	政府関係者	第2回JCCミーティング
111	21/09/2017	国家灌漑庁(NIRC)ゾーン灌漑事務所長	Luswema長官	NIRC関係者	新規有望案件に係るヒアリング
112	27/09/2017	水・灌漑省、国家灌漑庁	Prof. Kitila Mkumbo 水灌漑省次官	開発パートナー、TANESCO、NGO、民間等	第2回SCMSミーティング
113	12/10/2017	JICA本部農村開発部	浅井課長	森田担当	補遺報告
114	08/12/2017	JICAタンザニア事務所	長瀬所長	天津次長、鈴木担当、山田担当	進捗報告及び打合せ
115	15/12/2017	国家灌漑庁(NIRC)	Luswema長官	NIRC幹部10名程度	進捗報告及び打合せ
116	13/12/2017	Mtwara 州政府事務所	Aman Lusaki州政府次官補佐		Mtwara州灌漑開発に関するヒアリング
117	13/12/2017	Mtwara ゾーン灌漑事務所	Philip M. Sumuni 所長	Macklera Mrutu, Juma Bendera	Mtwaraゾーンの灌漑開発に関するヒアリング
118	14/12/2017	Lilido村、Mtwara県	Salum Rashid Ndambalilo 村長		Kitere灌漑スキーム及びNtanda灌漑スキーム視察
119	15/12/2017	Lindi州政府事務所	Majid Myao州政府次官補佐	Benjamin Mwakabala他2名	Kinyope 灌漑スキーム視察
120	12/01/2018	JICA本部農村開発部	浅井課長	森田担当	進捗報告及び打合せ
121	22/02/2018	SEA調査団(FBNE)	Mwanuzi 調査団長	NIRC、水灌漑省、農業省からの参加者30名程	SEAインセプションレポートに係るプレゼンテーション会議
122	08/02/2018	電子政府機関	Omani Kigodi	NIRCからの参加者2名	NIRCのホームページ作成に係る仕様及び費用に関する打合せ
123	09/02/2018	国家灌漑庁(NIRC)	Luswema長官	NIRC幹部10名程度	インテリムレポートへのコメントに対する協議
124	12/02/2018	JICAタンザニア事務所	鈴木担当	天津次長、山田担当	進捗報告及び打合せ
125	22/02/2018	国家灌漑庁(NIRC)	Citutu, Simkanga	NIRC幹部10名程度	優先灌漑スキームに係る協議
126	06/03/2018	国家灌漑庁(NIRC)	Citutu, Simkanga	NIRC幹部10名程度	優先灌漑スキームに係る協議
127	06/03/2018	JICAタンザニア事務所	鈴木担当	阿久津次長、山田担当	ドマ会議のプレゼン資料等
128	07/03/2018	農業省	Simkanga 政策・計画局長	農業省幹部21名	NIMP2018の説明及び協議
129	13/03/2018	大統領府地方自治省	Komba 農業セクター調整局長	大統領府地方自治省幹部6名	NIMP2018の説明及び協議
130	14/03/2018	水灌漑省	Mkumbo 次官	水灌漑省幹部11名	NIMP2018の説明及び協議
131	16/03/2018	SEA調査団(FBNE)	Mwanuzi 調査団長	NIRC Rushomesa, Christa	SEAに係る知見の交換
132	19/03/2018	国家灌漑庁(NIRC)	Luswema長官	NIRC幹部6名程度	優先灌漑スキームに係る協議及びJCC3、SCM3、National Seminar、技術ワークショップに向けての協議
133	20/03/2018	JICA タンザニア事務所	長瀬所長	阿久津次長、鈴木担当、山田担当	JCC3、国内セミナー、SCM3に向けての打合せ
134	22/03/2018	電子政府機関	Omani Kigodi	NIRCからの参加者2名	NIRCのホームページのコンテンツに関する打合せ
135	27/03/2018	国家灌漑庁(NIRC)	NIRC長官代行	NIRC/ZIO 技術者及び県政府灌漑スタッフ	GIS及び灌漑データベースに係る技術研修ワークショップ
136	04/04/2018	水・灌漑省、国家灌漑庁	Kitila Mkumbo 次官	政府関係者	第3回JCC会議
137	05/04/2018	水・灌漑省、国家灌漑庁	Kitila Mkumbo 次官	地方自治省次官代理、州知事、県知事及び政府職員	NIMP2018に係る国内セミナー
138	07/04/2018	水・灌漑省、国家灌漑庁	国会常設委員会議長	水・灌漑省大臣、農業省大臣、国会議員、その他政府職員	国会常設委員会(PSC)でのNIMP2018の発表
139	09/04/2018	水・灌漑省、国家灌漑庁	NIRC長官代行	開発パートナー、NGO、民間等	第3回SCM会議
140	10/04/2018	SEA調査団(FBNE)	Mwanuzi 調査団長	NIRC 環境職員4名	SEA調査の進捗及びスケジュールの確認
141	12/04/2018	電子政府機関	Omani Kigodi	NIRCからの参加者2名	NIRCのホームページのコンテンツに関する打合せ
142	13/04/2018	在タンザニア日本大使館	吉田大使	神谷一等書記官 伴経協担当	表敬及びプロジェクト説明
143	13/04/2018	JICA タンザニア事務所	長瀬所長	阿久津次長、鈴木担当、山田担当	表敬、進捗及び今後の予定に関する協議
144	13/04/2018	国家灌漑庁(NIRC)	Luswema長官	NIRC幹部6名程度	NIMP2018の作業進捗及び今後のフォローアップについての協議

出典: JICA 調査団

添付資料 3.5.1 統合水資源管理開発計画の中で計画されているダムリスト

No.	流域記号	サブ流域名	ダム名称	貯水要領(MCM)	出典	備考	
1	WR	Kinyasungwe	Dabalo	0.91	Final Report, Summary, Table 4.3	Heightening of Existing Dyke	
2			Hombolo	5.7			
3			Buigili	0.15			
4			Ikowa	0.7			
5			Msagali	6.31			
6			Ngipa	2.03			
7			Ngomai	1.02			
8			Farkwa	34.39			
9			Ilonga	1.07			
10		Mkondoa	Wami	42		New Construction	
11			Kisangata	52			
12			Tami	32			
13		Wami	Mvomelo	4.46			
14			Dihinda	3.75			
15		Upper Ruvu	Ruvu Kibungo	28			
16			Mvuha	30			
17			Mungazi	23			
18			Mgeta	28			
19			Kidunda	191			
20		Ngerengere	Mindu	4			Heightening
21			Morogoro	8			New Construction
22	RF	Great Ruaha	Lukosi	-	Final Report, Vol.I, Appendix 1		
23			Ndembera / Lugoda	210			
24			Little Ruaha	-			
25	RV	Lower Middle Ruvuma	Malombe Hills	6.5	Final Report, Comp.4, Table 6.13		
26			Ruanda	33			
27		Lower Ruvuma	Chingulun- gulu	14			
28			Mahinyo Hills	42			
29			Makanyama	4.5			
30			Sindano	3.8			
31		Lukuledi	Mtua	15.2			
32		Mbwenkuru	Nanjirinji	16.7			
33			Mitonono	76.5			
34			Singira	16			
35			Mbondi	27.5			
36		Mavuji	Mbiliwia	24			
37		Matandu	Miguruwe	5.4			
38			Muhinje	44			
39			Mtumbei	6			
40			Liwale 1	7.2			
41			Liwale 2	16			
42	LN	Ruhuhu	Kikonge	6200	PSMP2016, Table 3-5 (1)		
43	LR	Katuma	Sitalike watershed	18	FR, Vol.I, Section 7.3		
44			Usevya watershed (site 23, option 3)	44.3	FR, Vol.II(a), Table 4.4		
45			Katuma Northern watershed	25.1	FR, Vol.I, Section 7.3		
46		Songwe River	Galula watershed (site 31, option 5)	103	FR, Vol.II(b), Table 4.5		
47			Lupa watershed	36.9	FR, Vol.I, Section 7.3		
48			Songwe Eastern watershed (site 2)	31.3	FR, Vol.I, Section 7.3		
49		Momba	Within Momba Sub-basin	2.3	FR, Vol.I, Section 7.3		
50			Out of Momba Sub-basin	454.3	FR, Vol.II(c), Table 4.3		
51		Luiche River	Option 3	39.9	FR, Vol.II(d), Section 4.2.1		
52		Muze	Option 2	7.3	FR, Vol.II(e), Section 4.2.1		
53	ID	Bahi Swamp	Farkwa	195	Final Report, Vol.6, Table 5.4	For Dodoma	
54			Mbwasa	8			
55			Mianji	7			
56			Mponde	25			
57			Dams in south of Bahi Swamp	5			
58		Lake Manyara	Dudumera	225.4	Final Report, Vol.6, Table 5.8	For Lake Manyara, Monduli A, Monduli B, and Masai Steppe	
59			Kolo	18			
60			Makuyuni	25.4			
61			Small dams in Monduli	7			
62		Lake Natron	Pinyini	6.5	Final Report, Vol.6, Table 5.12	For Lake Natron and Namanga	
63			Munik	6.8			
64		Namanga	Namanga	0.358			
65			Namanga small dams	7			
66		Lake Eyasi	Igunga Dams	31	Final Report, Vol.6, Table 5.16	For Lake Eyasi and Olduvai	
67			Nzega Dams	7.4			
68	Shinyanga Dams		38.8				
69	Manonga 1 Dam		30				
70	Manonga 2 Dam		50				

注: Proposed dams are not found from the IWRMDP reports for the Pangani, Tanganyika and Lake Nyasa basins.  
 出典: IWRMDP reports, Power Supply Master Plan (PSMP) 2016

添付資料-7.4.1 (1/2) 修正作物係数の計算例：アルーシャ州

(水稻：改修地区)

P: 田植え, H: 収穫

		9月		10月		11月		12月		1月		2月		3月		4月		5月		6月		7月		8月	
作物体系	現況	=	=	=	=	=	>	H	H	H	P	P	P	=	=	=	>	H	H	H	H	P	P	=	=
	パターン1	=	=	=	=	=	>	H			P	=	=	=	=	=	>	H				P	=	=	=
	パターン2	>	=	=	=	=	=	>	H			P	=	=	=	=	=	>	H				P	=	=
	パターン3												P	=	=	=	=	=	>	H					
作物係数 (Kc)	パターン1	1.20	1.20	1.20	1.20	1.20	0.80	0.80			1.05	1.10	1.10	1.20	1.20	1.20	0.80	0.80				1.05	1.10	1.10	1.20
	パターン2	1.20	1.20	1.20	1.20	1.20	1.20	0.80	0.80			1.05	1.10	1.10	1.20	1.20	1.20	0.80	0.80				1.05	1.10	1.10
	パターン3												1.05	1.10	1.10	1.20	1.20	1.20	0.80	0.80					
	平均 Kc	1.20	1.20	1.20	1.20	1.20	1.00	0.80	0.40	0.00	0.35	0.72	1.08	1.13	1.17	1.20	1.07	0.93	0.53	0.27	0.00	0.53	1.08	1.10	1.15

(水稻：伝統的灌漑地区)

P: Transplanting, H: Harvesting

		9月		10月		11月		12月		1月		2月		3月		4月		5月		6月		7月		8月	
作物体系	現況		P	P	P	=	>	H	H	H	P	P	P	P	P	P	=	=	=	>	H	H	H		
	パターン1		P	=	=	=	>	H			P	=	=	=	=	=	=	=	=	>	H				
	パターン2			P	=	=	=	>	H			P	=	=	=	=	=	=	=	=	>	H			
	パターン3				P	=	=	=	>	H			P	=	=	=	=	=	=	=	=	>	H		
	パターン4													P	=	=	=	=	=	=	>	H			
	パターン5														P	=	=	=	=	=	=	>	H		
	パターン6															P	=	=	=	=	=	>	H		
作物係数 (Kc)	パターン1		1.05	1.1	1.2	1.2	1.2	0.8		1.05	1.1	1.1	1.2	1.2	1.2	1.2	1.2	1.2	1.2	0.8	0.8				
	パターン2			1.05	1.1	1.2	1.2	0.8			1.05	1.1	1.1	1.2	1.2	1.2	1.2	1.2	1.2	0.8	0.8				
	パターン3				1.05	1.1	1.2	1.2	0.8				1.05	1.1	1.1	1.2	1.2	1.2	1.2	0.8	0.8				
	パターン4													1.05	1.1	1.1	1.2	1.2	1.2	0.8	0.8				
	パターン5														1.05	1.1	1.1	1.2	1.2	1.2	0.8	0.8			
	パターン6																1.05	1.1	1.1	1.2	1.2	1.2	0.8	0.8	
	平均 Kc		0.35	0.72	1.12	1.17	1.2	1.07	0.67	0.27	0.21	0.43	0.65	0.89	1.13	1.37	1.4	1.42	1.44	1.28	1.12	0.64	0.32		

(トマト)

		9月		10月		11月		12月		1月		2月		3月		4月		5月		6月		7月		8月		
作物体系	現況	H	H	H	H	H								S	S	S	S	=	=	=	=	=	>	H	H	
	パターン1														S	=	=	=	=	=	>	H				
	パターン2														S	=	=	=	=	=	>	H				
	パターン3															S	=	=	=	=	=	>	H			
	パターン4																S	=	=	=	=	=	>	H		
	パターン5																	S	=	=	=	=	=	>	H	
	パターン6	H																S	=	=	=	=	=	=	>	
作物係数 (Kc)	パターン1														0.60	0.80	0.80	1.15	1.15	1.15	0.70	0.70				
	パターン2															0.60	0.80	0.80	1.15	1.15	1.15	0.70	0.70			
	パターン3																0.60	0.80	0.80	1.15	1.15	1.15	0.70	0.70		
	パターン4																	0.60	0.80	0.80	1.15	1.15	1.15	0.70	0.70	
	パターン5																		0.60	0.80	0.80	1.15	1.15	1.15	0.70	0.70
	パターン6	0.70																		0.60	0.80	0.80	1.15	1.15	1.15	0.70
	平均 Kc	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.23	0.37	0.56	0.75	0.94	0.96	0.94	0.81	0.62	0.43	0.23

出典: JICA 調査団

添付資料-7.4.1 (2/2) 小流域別純用水量の計算例：パヒ・マニヨニ小流域

	9月		10月		11月		12月		1月		2月		3月		4月		5月		6月		7月		8月		
州名及び Kc 値																									
ドドマ	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.35	0.72	1.08	1.13	1.17	1.20	1.07	0.93	0.53	0.27	0.00	0.00	0.00	0.00	0.00	
シンギダ	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.35	0.72	1.08	1.13	1.17	1.20	1.07	0.93	0.53	0.27	0.00	0.00	0.00	0.00	0.00	
マニヤラ	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.35	0.72	1.08	1.13	1.17	1.20	1.20	1.07	0.93	0.80	0.53	0.27	0.00	0.00	0.00	0.00	
<b>Kc (改修地区水稻/雨季)</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.09	0.44	0.77	1.09	1.14	1.17	1.20	1.07	0.93	0.56	0.30	0.03	0.00	0.00	0.00	0.00	
ETo/ETp (mm)	75.30	75.30	83.00	82.90	79.60	79.60	78.00	78.00	76.10	76.10	70.10	70.00	74.00	74.00	65.80	65.90	62.00	62.00	58.50	58.50	61.50	61.50	67.60	67.70	
ETc (mm)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.24	6.51	33.23	53.89	76.35	84.24	86.84	78.96	70.51	57.66	34.85	17.60	1.88	0.00	0.00	0.00	0.00	
降雨 (mm)	0.20	0.30	2.80	2.70	19.00	19.10	67.30	67.30	69.80	69.90	56.50	56.40	59.80	59.90	39.80	39.90	7.70	7.80	1.00	1.10	0.00	0.00	0.00	0.00	
有効雨量 (mm)	0.00	0.00	0.00	0.00	6.40	6.40	41.30	41.30	43.40	43.40	32.70	32.70	35.40	35.40	19.40	19.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
代掻き用水量(mm)									67.00	67.00	67.00														
							67.00	67.00	67.00																
調整済み代掻き用水量 (mm)	0.00	0.00	0.00	0.00	0.00	0.00	7.96	7.96	67.00	59.04	59.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
地下浸透量 (mm)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	48.00	45.00	48.00	45.00	39.00	45.00	48.00	45.00	45.00	45.00	48.00	45.00	45.00	0.00	0.00	0.00	0.00	
単位当 純用水量 (mm/ha)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.90	75.11	96.87	125.23	82.65	93.84	99.44	104.56	96.11	102.66	82.85	62.60	46.88	0.00	0.00	0.00	0.00	
州名及び Kc 値																									
ドドマ	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.35	0.72	1.08	1.13	1.17	1.20	1.07	0.93	0.53	0.27	0.00	0.00	0.00	0.00	0.00	
シンギダ	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.35	0.72	1.08	1.13	1.17	1.20	1.07	0.93	0.53	0.27	0.00	0.00	0.00	0.00	0.00	
マニヤラ	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.35	0.72	1.08	1.13	1.17	1.20	1.20	1.07	0.93	0.80	0.53	0.27	0.00	0.00	0.00	0.00	0.00	
<b>Kc (伝統的灌漑地区水稻)</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.09	0.44	0.77	1.09	1.14	1.17	1.20	1.07	0.93	0.56	0.30	0.03	0.00	0.00	0.00	0.00	
ETo/ETp (mm)	75.30	75.30	83.00	82.90	79.60	79.60	78.00	78.00	76.10	76.10	70.10	70.00	74.00	74.00	65.80	65.90	62.00	62.00	58.50	58.50	61.50	61.50	67.60	67.70	
ETc (mm)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.24	6.51	33.23	53.89	76.35	84.24	86.84	78.96	70.51	57.66	34.85	17.60	1.88	0.00	0.00	0.00	0.00	
降雨 (mm)	0.20	0.30	2.80	2.70	19.00	19.10	67.30	67.30	69.80	69.90	56.50	56.40	59.80	59.90	39.80	39.90	7.70	7.80	1.00	1.10	0.00	0.00	0.00	0.00	
有効雨量 (mm)	0.00	0.00	0.00	0.00	6.40	6.40	41.30	41.30	43.40	43.40	32.70	32.70	35.40	35.40	19.40	19.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
代掻き用水量(mm)									67.00	67.00	67.00														
							67.00	67.00	67.00																
調整済み代掻き用水量 (mm)	0.00	0.00	0.00	0.00	0.00	0.00	7.96	7.96	67.00	59.04	59.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
地下浸透量 (mm)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	48.00	45.00	48.00	45.00	39.00	45.00	48.00	45.00	45.00	45.00	48.00	45.00	45.00	0.00	0.00	0.00	0.00	
単位当 純用水量 (mm/ha)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.90	75.11	96.87	125.23	82.65	93.84	99.44	104.56	96.11	102.66	82.85	62.60	46.88	0.00	0.00	0.00	0.00	
州名及び Kc 値																									
ドドマ	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.23	0.37	0.56	0.75	0.94	0.96	0.94	0.81	0.62	0.43	0.23	
シンギダ	0.70	0.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.30	0.70	0.80	0.98	1.15	1.15	1.15	0.93	0.70	0.70	
マニヤラ	0.23	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.23	0.37	0.56	0.75	0.94	0.96	0.94	0.93	0.73	0.54	0.35	
<b>Kc (トマト/雨季)</b>	0.33	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.15	0.35	0.61	0.77	0.95	1.02	1.01	0.94	0.74	0.54	0.40	
ETo/ETp (mm)	75.30	75.30	83.00	82.90	79.60	79.60	78.00	78.00	76.10	76.10	70.10	70.00	74.00	74.00	65.80	65.90	62.00	62.00	58.50	58.50	61.50	61.50	67.60	67.70	
ETc (mm)	24.92	10.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.88	11.21	22.77	40.05	47.56	59.13	59.95	59.18	57.82	45.44	36.18	27.39	
降雨 (mm)	0.20	0.30	2.80	2.70	19.00	19.10	67.30	67.30	69.80	69.90	56.50	56.40	59.80	59.90	39.80	39.90	7.70	7.80	1.00	1.10	0.00	0.00	0.00	0.00	
有効雨量 (mm)	0.00	0.00	0.00	0.00	6.40	6.40	41.30	41.30	43.40	43.40	32.70	32.70	35.40	35.40	19.40	19.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
単位当 純用水量 (mm/ha)	24.92	10.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.37	20.65	47.56	59.13	59.95	59.18	57.82	45.44	36.18	27.39	

出典: JICA 調査団

## 添付資料 7.5.1 (1/18) フェーズ1優先案件リスト Dodomaゾーン

SN	Name of Scheme	ZIO name	Region Name	District Name	Potential Area (ha)	Designed Area (ha)	Developed Area (ha)	Irrigated Area (Wet) in ha	Irrigated Area (Dry) in ha
<b>Large Scale Scheme</b>									
1	Kisese (dam)	Dodoma	Dodoma	Kondoa	2,000	660	40	40	
2	Kiru Six	Dodoma	Manyara	Babati	2,000			1,500	
3	Ngage	Dodoma	Manyara	Simanjiro	5,000	657	100	525	888
4	Mbwasia	Dodoma	Singida	Manyoni	5,000			5,000	
<b>Medium Scale Scheme</b>									
1	Chinangali II	Dodoma	Dodoma	Chamwino	500	240	120	120	120
2	Huzi	Dodoma	Dodoma	Chamwino	500	80	80	80	80
3	Mvumi Makulu	Dodoma	Dodoma	Chamwino	1,100	130			
4	Mvumi Mission	Dodoma	Dodoma	Chamwino	1,500	160	160		
5	Paranga	Dodoma	Dodoma	Chemba	1,000		100	100	20
6	Munguri	Dodoma	Dodoma	Kondoa TC	1,000	1,000		1,000	8
7	Kizi	Dodoma	Dodoma	Mpwapwa	500		50	120	50
8	Mafene	Dodoma	Dodoma	Mpwapwa	600			400	250
9	Malolo	Dodoma	Dodoma	Mpwapwa	800		70	500	400
10	Mlembule	Dodoma	Dodoma	Mpwapwa	600		190	250	180
11	Msagali	Dodoma	Dodoma	Mpwapwa	800	210	310	160	
12	Mawemairo	Dodoma	Manyara	Babati	628	365	365	365	100
13	Kiruanii	Dodoma	Manyara	Simanjiro	500		20	50	418
14	Lemkuna	Dodoma	Manyara	Simanjiro	800	309	309	120	130
15	Malilla	Dodoma	Manyara	Simanjiro	600	216		80	140
16	Isuna	Dodoma	Singida	Ikungi	500			500	5
17	Msingi	Dodoma	Singida	Mkalama	1,200	200		1,200	
<b>Small Scale Scheme</b>									
1	Mtazamo	Dodoma	Dodoma	Bahi	400	165	165	165	
2	Buigiri	Dodoma	Dodoma	Chamwino	60	32	32	32	15
3	Chalinze	Dodoma	Dodoma	Chamwino	220	96	96	96	24
4	Kidoka Drip	Dodoma	Dodoma	Chemba	200	100		200	5
5	Chihanga	Dodoma	Dodoma	Dodoma MC	100			100	
6	Matumbulu	Dodoma	Dodoma	Dodoma MC	120			120	15
7	Mbabala B-Chiteleche	Dodoma	Dodoma	Dodoma MC	150			50	
8	Mpunguzi Azimio	Dodoma	Dodoma	Dodoma MC	200		40	40	40
9	Vikonje	Dodoma	Dodoma	Dodoma MC	60	48		60	
10	Zepisa	Dodoma	Dodoma	Dodoma MC	240	150		100	
11	Hurui	Dodoma	Dodoma	Kondoa	250	200	150	150	100
12	Kikore	Dodoma	Dodoma	Kondoa	350		150	150	50
13	Kwamadebe	Dodoma	Dodoma	Kondoa	300	200	80	60	20
14	Mnemia	Dodoma	Dodoma	Kondoa	140		80	40	
15	Mseta Bondeni	Dodoma	Dodoma	Kongwa	120	120	64	64	64
16	Kwamshangoo	Dodoma	Dodoma	Mpwapwa	200		40	120	50
17	Lufusi	Dodoma	Dodoma	Mpwapwa	400		20	120	50
18	Endamajek	Dodoma	Manyara	Babati	206	206	206	206	30
19	Gidigwari	Dodoma	Manyara	Babati	250		150	100	80

## 添付資料-7.5.1 (1/18) フェーズ1 優先案件リスト Dodomaゾーン

SN	Name of Scheme	ZIO name	Region Name	District Name	Potential Area (ha)	Designed Area (ha)	Developed Area (ha)	Irrigated Area (Wet) in ha	Irrigated Area (Dry) in ha
20	Kisangaji	Dodoma	Manyara	Babati	450			450	70
21	Matufa	Dodoma	Manyara	Babati	386				
22	Dawar	Dodoma	Manyara	Babati TC	265			265	70
23	Hanadeco	Dodoma	Manyara	Babati TC	350			150	50
24	Endagaw	Dodoma	Manyara	Hanang	276	276	189	180	100
25	Gidahababieg	Dodoma	Manyara	Hanang	60	30		60	50
26	Mara	Dodoma	Manyara	Hanang	290		290	290	30
27	Measkron	Dodoma	Manyara	Hanang	54			54	15
28	Ngipa/Ngonyongonji	Dodoma	Manyara	Kiteto	400	200	100		
29	Mangisa Dam	Dodoma	Manyara	Mbulu	400			220	220
30	Ilawi (dam scheme)	Dodoma	Manyara	Mbulu TC	250	120	120	250	35
31	Kambi Ya Chokaa	Dodoma	Manyara	Simanjiro	400	135		35	35
32	Londoto	Dodoma	Manyara	Simanjiro	400			220	220
33	Msitu Wa Tembo	Dodoma	Manyara	Simanjiro	300			200	200
34	Olbil	Dodoma	Manyara	Simanjiro	110			70	70
35	Mang'onyi	Dodoma	Singida	Ikungi	450	450	50	50	50
36	Itagata	Dodoma	Singida	Itigi	200	180			
37	Chikuyu Nyamagogo	Dodoma	Singida	Manyoni	250	180	180	180	
38	Lusille	Dodoma	Singida	Manyoni	160	160		160	
39	Mtiwe	Dodoma	Singida	Manyoni	200	150		200	
40	Mwangeza	Dodoma	Singida	Mkalama	200	150	150	150	
41	Sagara 1 (dam scheme proposed)	Dodoma	Singida	Singida	300			300	15
42	Kisasida	Dodoma	Singida	Singida MC	150	16	16	16	16

出典: JICA調査団

## 添付資料-7.5.1 (2/18) フェーズ1 優先案件リスト Kilimanjaroゾーン

SN	Name of Scheme	ZIO name	Region Name	District Name	Potential Area (ha)	Designed Area (ha)	Developed Area (ha)	Irrigated Area (Wet) in ha	Irrigated Area (Dry) in ha
<b>Large Scale Scheme</b>									
1	Mapama	Kilimanjaro	Arusha	Meru	4,930			2,430	1,000
2	Maweni	Kilimanjaro	Arusha	Meru	2,000		100	100	50
3	Kimwangamao	Kilimanjaro	Kilimanjaro	Moshi	2,000	1,000	300	250	250
4	Kituani Mwezae	Kilimanjaro	Tanga	Lushoto	2,000			600	
<b>Medium Scale Scheme</b>									
1	Jobaj	Kilimanjaro	Arusha	Karatu	733		600	508	200
2	Maleckchand	Kilimanjaro	Arusha	Karatu	700		650	560	200
3	Kikafu Chini	Kilimanjaro	Kilimanjaro	Hai	600			600	340
4	Mawala	Kilimanjaro	Kilimanjaro	Moshi	1,425	1,425	987	769	680
5	Ushirika	Kilimanjaro	Kilimanjaro	Moshi	520	400	340	340	120
6	Kileo	Kilimanjaro	Kilimanjaro	Mwanga	650		320	230	100
7	Kirya	Kilimanjaro	Kilimanjaro	Mwanga	1,500		680	800	700
8	Kituri	Kilimanjaro	Kilimanjaro	Mwanga	1,600		800	800	200
9	Kivulini	Kilimanjaro	Kilimanjaro	Mwanga	900		410	410	200
10	Shimbi Mashariki	Kilimanjaro	Kilimanjaro	Rombo	700				
11	Mto Washi (rhn)	Kilimanjaro	Kilimanjaro	Same	500		100	80	80
12	Kwasunga	Kilimanjaro	Tanga	Korogwe	500		100	100	40
13	Kwemumbo	Kilimanjaro	Tanga	Korogwe	1,500	1,500	500	600	100
14	Mafuleta	Kilimanjaro	Tanga	Korogwe	900	350	300	350	250
15	Wekeza - Kweisewa	Kilimanjaro	Tanga	Korogwe	1,000	10		10	10
16	Kwemgiriti	Kilimanjaro	Tanga	Lushoto	1,500		200	200	20
<b>Small Scale Scheme</b>									
1	Ilkidinga	Kilimanjaro	Arusha	Arusha	230		68	195	168
2	Kigongoni	Kilimanjaro	Arusha	Arusha	150		75	145	100
3	Kimnyaki	Kilimanjaro	Arusha	Arusha	130		100	95	65
4	Kiranyi	Kilimanjaro	Arusha	Arusha	65		60	60	55
5	Maji Moto	Kilimanjaro	Arusha	Arusha	130		130	130	95
6	Mlangarini	Kilimanjaro	Arusha	Arusha	200		200	200	164
7	Olevolosi	Kilimanjaro	Arusha	Arusha	100		100	100	80
8	Themi Ya Simba	Kilimanjaro	Arusha	Arusha	300		290	280	150
9	Timbolo	Kilimanjaro	Arusha	Arusha	120		120	120	80
10	Timbolo 2/ Shiboro	Kilimanjaro	Arusha	Arusha	150		145	140	100
11	Daraja II	Kilimanjaro	Arusha	Arusha CC	50		40	5	3
12	Lemara I	Kilimanjaro	Arusha	Arusha CC	65		50	45	15
13	Lemara II	Kilimanjaro	Arusha	Arusha CC	58		40	20	12
14	Moshono	Kilimanjaro	Arusha	Arusha CC	115		36	22	10
15	Olasiti	Kilimanjaro	Arusha	Arusha CC	75		45	30	20
16	Sokon I	Kilimanjaro	Arusha	Arusha CC	80		48	16	10
17	Kiseriani	Kilimanjaro	Arusha	Longido	300	100	198	200	100
18	Imbasen	Kilimanjaro	Arusha	Meru	180		90	180	140
19	Mahande	Kilimanjaro	Arusha	Monduli	427	427		115	69
20	Migombani Chini	Kilimanjaro	Arusha	Monduli	80			80	20

## 添付資料-7.5.1 (2/18) フェーズ1 優先案件リスト Kilimanjaroゾーン

SN	Name of Scheme	ZIO name	Region Name	District Name	Potential Area (ha)	Designed Area (ha)	Developed Area (ha)	Irrigated Area (Wet) in ha	Irrigated Area (Dry) in ha
21	Migombani Juu	Kilimanjaro	Arusha	Monduli	200			200	50
22	Migombani Kati	Kilimanjaro	Arusha	Monduli	100			90	25
23	Abdul Fadhil	Kilimanjaro	Kilimanjaro	Hai	70				
24	Chapa Mwaka	Kilimanjaro	Kilimanjaro	Hai	120			90	70
25	Ismaili	Kilimanjaro	Kilimanjaro	Hai	420			300	200
26	Kimashuku	Kilimanjaro	Kilimanjaro	Hai	250			200	120
27	Mapacha	Kilimanjaro	Kilimanjaro	Hai	68				
28	Meleaki	Kilimanjaro	Kilimanjaro	Hai	100				
29	Musa Mwijanga	Kilimanjaro	Kilimanjaro	Hai	450			400	330
30	Nsanya	Kilimanjaro	Kilimanjaro	Hai	170			160	120
31	Nzeganzeza	Kilimanjaro	Kilimanjaro	Hai	60				
32	Semendo	Kilimanjaro	Kilimanjaro	Hai	69				
33	Tolu	Kilimanjaro	Kilimanjaro	Hai	87				
34	Katanini	Kilimanjaro	Kilimanjaro	Moshi	190				
35	Kyoyo B	Kilimanjaro	Kilimanjaro	Moshi	52		39	39	31
36	Lyalenga	Kilimanjaro	Kilimanjaro	Moshi	123	123	107	107	72
37	Soko	Kilimanjaro	Kilimanjaro	Moshi	370		370	250	125
38	Kaloleni	Kilimanjaro	Kilimanjaro	Moshi MC	250	250	118	118	118
39	Msaranga Ng'ambo	Kilimanjaro	Kilimanjaro	Moshi MC	78	78	78	78	36
40	Keryo	Kilimanjaro	Kilimanjaro	Rombo	492	110	15	8	2
41	Mmomwe	Kilimanjaro	Kilimanjaro	Rombo	275	80	80	50	20
42	Mgambo	Kilimanjaro	Kilimanjaro	Same	128		128	114	98
43	Kasaisa	Kilimanjaro	Kilimanjaro	Siha	165		83	83	38
44	Kishisha	Kilimanjaro	Kilimanjaro	Siha	134	134	73	73	20
45	Mowonjamu	Kilimanjaro	Kilimanjaro	Siha	190	180		34	10
46	Oromwi	Kilimanjaro	Kilimanjaro	Siha	180			58	32
47	Jambe	Kilimanjaro	Tanga	Handeni	231			10	10
48	Masatu	Kilimanjaro	Tanga	Handeni	352			48	20
49	Sezakofi	Kilimanjaro	Tanga	Handeni	100			10	4
50	Chekelei	Kilimanjaro	Tanga	Korogwe	300	100	100	200	100
51	Kwedulu	Kilimanjaro	Tanga	Korogwe	200		100	120	100
52	Madala	Kilimanjaro	Tanga	Korogwe	300	200	200	250	100
53	Magoma	Kilimanjaro	Tanga	Korogwe	400		300	300	250
54	Mandera	Kilimanjaro	Tanga	Korogwe	350	250	200	250	200
55	Mbaghai	Kilimanjaro	Tanga	Korogwe	300		200	210	180
56	Moagoma Songea	Kilimanjaro	Tanga	Korogwe	400		200	200	150
57	Kwamngumi	Kilimanjaro	Tanga	Korogwe TC	210	210	60	60	60
58	Mahenge	Kilimanjaro	Tanga	Korogwe TC	480	310	310	400	310
59	Boheloi	Kilimanjaro	Tanga	Lushoto	320		210	100	210
60	Dochi Ng	Kilimanjaro	Tanga	Lushoto	250		100	100	50
61	Goka Kisirui	Kilimanjaro	Tanga	Lushoto	100		20	50	20
62	Kigunga	Kilimanjaro	Tanga	Lushoto	100	80	80	80	80
63	Kilole Kwenkindo A	Kilimanjaro	Tanga	Lushoto	60		60	60	30

## 添付資料-7.5.1 (2/18) フェーズ1 優先案件リスト Kilimanjaroゾーン

SN	Name of Scheme	ZIO name	Region Name	District Name	Potential Area (ha)	Designed Area (ha)	Developed Area (ha)	Irrigated Area (Wet) in ha	Irrigated Area (Dry) in ha
64	Kitopeni Kwapunda	Kilimanjaro	Tanga	Lushoto	80		50	50	30
65	Kohoai	Kilimanjaro	Tanga	Lushoto	60		60	50	40
66	Kwanguruwe	Kilimanjaro	Tanga	Lushoto	200		80	50	80
67	Lwandai Nkindoi	Kilimanjaro	Tanga	Lushoto	70		70	70	70
68	Mbokoi	Kilimanjaro	Tanga	Lushoto	300		200	150	100
69	Misozwe	Kilimanjaro	Tanga	Muheza	100		30	44	24
70	Kipumbwi	Kilimanjaro	Tanga	Pangani	250			50	40
71	Mapojoni	Kilimanjaro	Tanga	Tanga	50			5	
72	Golani Shutashuta	Kilimanjaro	Tanga	Tanga TC	50	17	10	10	

出典: JICA調査団



## 添付資料-7.5.1 (3/18) フェーズ1 優先案件リスト Mbeyaゾーン

SN	Name of Scheme	ZIO name	Region Name	District Name	Potential Area (ha)	Designed Area (ha)	Developed Area (ha)	Irrigated Area (Wet) in ha	Irrigated Area (Dry) in ha
<b>Large Scale Scheme</b>									
1	Mboliboli	Mbeya	Iringa	Iringa	7,000		3,000	2,000	
2	Mgambalenga	Mbeya	Iringa	Kilolo	3,000	2,000	160	30	
3	Gwiri	Mbeya	Mbeya	Mbarali	2,133		500	500	80
4	Naming'ongo	Mbeya	Songwe	Momba	5,000	1,500		3,000	
5	Masimavalafu	Mbeya	Njombe	Ludewa	2,700			40	
6	Mgowelo	Mbeya	Iringa	Kilolo	3,500		63	45	25
7	Mwendamtitu	Mbeya	Mbeya	Mbarali	6,700		3,000	1,500	50
8	Pawaga Mlenge	Mbeya	Iringa	Iringa	8,000		3,170	3,000	
<b>Medium Scale Scheme</b>									
1	Luganga	Mbeya	Iringa	Iringa	700		400	400	200
2	Mkombilenga	Mbeya	Iringa	Iringa	500		300	300	100
3	Mlambalasi	Mbeya	Iringa	Iringa	500		200	200	100
4	Msosa	Mbeya	Iringa	Kilolo	1,200	80	80	59	39
5	Ruaha Mbuyuni	Mbeya	Iringa	Kilolo	903	903	256	256	121
6	Maduma (proposed)	Mbeya	Iringa	Mafinga TC	500				
7	Ikweha	Mbeya	Iringa	Mufindi	560	560	560	560	450
8	Mbaka	Mbeya	Mbeya	Busokelo	600	600	100	100	80
9	Fao Mswiswi	Mbeya	Mbeya	Mbarali	500		300	300	100
10	Uturo	Mbeya	Mbeya	Mbarali	1,220		900	900	
11	Wia Mahango	Mbeya	Mbeya	Mbarali	964		864	864	
12	Idunda	Mbeya	Mbeya	Mbeya	615	300	300	300	260
13	Mpakani	Mbeya	Mbeya	Rungwe	500			150	
14	Manda	Mbeya	Njombe	Ludewa	1,080	800		20	
15	Sasenga (mbebe)	Mbeya	Songwe	Ileje	600	540	475	475	
16	Mkombazi Mponela	Mbeya	Songwe	Mbozi	600	300	150		150
17	Sasenga (msamba I)	Mbeya	Songwe	Mbozi	820	540	270	270	
18	Usoche	Mbeya	Songwe	Momba	500			300	
19	Nanjembo	Mbeya	Songwe	Songwe	1,400				
<b>Small Scale Scheme</b>									
1	Igingilanyi	Mbeya	Iringa	Iringa	40		25	5	5
2	Isaka	Mbeya	Iringa	Iringa	200		40	40	20
3	Mangalali	Mbeya	Iringa	Iringa	150		100	100	90
4	Mkungugu/kigasi	Mbeya	Iringa	Iringa	150				
5	Ulongambi	Mbeya	Iringa	Iringa	150		100	50	50
6	Cherehani Mkoga	Mbeya	Iringa	Iringa MC	350	350	120	120	80
7	Kitwiru	Mbeya	Iringa	Iringa MC	100		40	40	35
8	Magana	Mbeya	Iringa	Kilolo	426	426	206	134	19
9	Mdahila	Mbeya	Iringa	Kilolo	258	258	152	110	5
10	Padep	Mbeya	Iringa	Kilolo	120		56	30	56
11	Nundwe	Mbeya	Iringa	Mufindi	60	60	60	60	35
12	Katela / Ntaba I	Mbeya	Mbeya	Busokelo	250	250	80	80	80
13	Kingiri Kanga	Mbeya	Mbeya	Kyela	300			200	100

## 添付資料-7.5.1 (3/18) フェーズ1 優先案件リスト Mbeyaゾーン

SN	Name of Scheme	ZIO name	Region Name	District Name	Potential Area (ha)	Designed Area (ha)	Developed Area (ha)	Irrigated Area (Wet) in ha	Irrigated Area (Dry) in ha
14	Mabungu	Mbeya	Mbeya	Kyela	200			200	50
15	Igomelo	Mbeya	Mbeya	Mbarali	450		312	162	140
16	Imezu Mjini	Mbeya	Mbeya	Mbeya	80		50	50	45
17	Itewe	Mbeya	Mbeya	Mbeya	400	160	160	160	154
18	Mshewe	Mbeya	Mbeya	Mbeya	350	150	150	120	40
19	Shamwengo-itudwe	Mbeya	Mbeya	Mbeya	300	170	170	170	150
20	Imbega / Iziwa	Mbeya	Mbeya	Mbeya CC	101		101	101	101
21	Ntundu	Mbeya	Mbeya	Mbeya CC	139		139	139	139
22	Lifua	Mbeya	Njombe	Ludewa	80	80	60	60	30
23	Ngaliwipwa	Mbeya	Njombe	Ludewa	150		35	50	35
24	Bwawani	Mbeya	Njombe	Makambako TC	75			15	
25	Manga/Mkolango	Mbeya	Njombe	Makambako TC	200			35	
26	Mtulingala	Mbeya	Njombe	Makambako TC	104			15	
27	Luwumbu	Mbeya	Njombe	Makete	170	68	68	48	38
28	Mfumbi	Mbeya	Njombe	Makete	400		400	149	149
29	Usungilo	Mbeya	Njombe	Makete	100			10	
30	Ikuna	Mbeya	Njombe	Njombe	123		70	70	52
31	Itipingi	Mbeya	Njombe	Njombe	162	60	100	100	60
32	Kivitu	Mbeya	Njombe	Njombe	286		114	114	54
33	Upami	Mbeya	Njombe	Njombe	200		80	80	64
34	Katendo	Mbeya	Songwe	Ileje	250		150	33	
35	Mapogoro	Mbeya	Songwe	Ileje	200	120	120	80	
36	Mbande	Mbeya	Songwe	Ileje	200	176	100	54	
37	Bara	Mbeya	Songwe	Mbozi	112	84	30	40	30
38	Hasamba - Manyala	Mbeya	Songwe	Mbozi	52			52	15
39	Hasamba - Shumba	Mbeya	Songwe	Mbozi	100			52	15
40	Ibembwa Basin	Mbeya	Songwe	Mbozi	220			100	80
41	Idunda	Mbeya	Songwe	Mbozi	197	140		140	80
42	Imalawantu (mahenje)	Mbeya	Songwe	Mbozi	320	320	180		180
43	Ipunga	Mbeya	Songwe	Mbozi	94	60	60	60	49
44	Ipyana	Mbeya	Songwe	Mbozi	120				35
45	Jikomboe	Mbeya	Songwe	Mbozi	200	100	100		150
46	Lesu (ukwile)	Mbeya	Songwe	Mbozi	211	70	70	108	35
47	Mbulumlowo	Mbeya	Songwe	Mbozi	160	88	80	80	40
48	Mkombazi (mponela)	Mbeya	Songwe	Mbozi	416	150		60	
49	Mlangali (mbewe)	Mbeya	Songwe	Mbozi	80				35
50	Misia	Mbeya	Songwe	Mbozi	150				10
51	Shiwanda	Mbeya	Songwe	Mbozi	118		80	40	10
52	Songwe - Mwandeku	Mbeya	Songwe	Mbozi	291			40	10
53	Ulundambulu I	Mbeya	Songwe	Mbozi	160	52	80	70	52
54	Wasa	Mbeya	Songwe	Mbozi	89	50	30		30
55	Welu II (Ruanda)	Mbeya	Songwe	Mbozi	120	40	40	55	40

出典: JICA調査団

## 添付資料-7.5.1 (4/18) フェーズ1 優先案件リスト Morogoroゾーン

SN	Name of Scheme	ZIO name	Region Name	District Name	Potential Area (ha)	Designed Area (ha)	Developed Area (ha)	Irrigated Area (Wet) in ha	Irrigated Area (Dry) in ha
<b>Large Scale Scheme</b>									
1	Kisegese	Morogoro	Morogoro	Kilombero	6,210				
2	Mpanga / Ngaliimila	Morogoro	Morogoro	Kilombero	9,855			300	
3	Kilangali Seed Farm	Morogoro	Morogoro	Kilosa	3,000		600	50	
4	Msimba - Mikumi	Morogoro	Morogoro	Kilosa	2,800		165	165	20
5	Kilosa Mpepo	Morogoro	Morogoro	Malinyi	2,100				
6	Hembeti	Morogoro	Morogoro	Mvomero	3,600		30	30	20
7	Mbogo	Morogoro	Morogoro	Mvomero	2,500	350	350	350	350
8	Lupilo	Morogoro	Morogoro	Ulanga	4,000	4,000	1,006	1,006	250
<b>Medium Scale Scheme</b>									
1	Msolwa Ujamaa	Morogoro	Morogoro	Kilombero	675	675	74	74	24
2	Sonjo	Morogoro	Morogoro	Kilombero	1,300	1,300	300	300	50
3	Udagaji	Morogoro	Morogoro	Kilombero	1,529	1,529	12	12	12
4	Kitete Msindazi	Morogoro	Morogoro	Kilosa	500			60	20
5	Lengewaha	Morogoro	Morogoro	Kilosa	1,000			6	25
6	Rudewa	Morogoro	Morogoro	Kilosa	400			500	100
7	Dala	Morogoro	Morogoro	Morogoro	980				
8	Manza	Morogoro	Morogoro	Morogoro	500			20	
9	Mbalangwe (msonge River)	Morogoro	Morogoro	Morogoro	950		98	120	50
10	Tulo/Kongwa	Morogoro	Morogoro	Morogoro	1,500		600	600	250
11	Dihinda	Morogoro	Morogoro	Mvomero	800			400	400
12	Kigugu	Morogoro	Morogoro	Mvomero	1,500			480	250
13	Komtonga	Morogoro	Morogoro	Mvomero	520			24	
14	Mgongola	Morogoro	Morogoro	Mvomero	620			80	
15	Wami Luhindo	Morogoro	Morogoro	Mvomero	1,000			120	100
16	Minepa	Morogoro	Morogoro	Ulanga	1,800	600	426	387	168
17	Gama	Morogoro	Pwani	Bagamoyo	500		300	300	
18	Makurunge B	Morogoro	Pwani	Bagamoyo	500		120	120	50
19	Kidogozero (potential Area)	Morogoro	Pwani	Chalinze	500	480	20	20	
20	Matipwili	Morogoro	Pwani	Chalinze	500			20	
21	Ruvu Rice Farm	Morogoro	Pwani	Chalinze	1,500		720	720	
22	Mafizi	Morogoro	Pwani	Kisarawe	500			80	
23	Nyani	Morogoro	Pwani	Kisarawe	530				
24	Lower Rufiji Valley	Morogoro	Pwani	Rufiji	500		50	10	10
<b>Small Scale Scheme</b>									
1	Madale	Morogoro	Dar es Salaam	Kinondoni MC	73			4	
2	Chamazi	Morogoro	Dar es Salaam	Temeke MC	250	175	175	175	175
3	Ukwamani	Morogoro	Morogoro	Gairo	300			20	20
4	Maki	Morogoro	Morogoro	Kilombero	300	300		300	60
5	Mkula	Morogoro	Morogoro	Kilombero	255	254	175	254	175
6	Aliqadiniya Salama Children Assoc	Morogoro	Morogoro	Kilosa	200		120	90	
7	Chabima	Morogoro	Morogoro	Kilosa	90			10	
8	Mwega	Morogoro	Morogoro	Kilosa	300			493	290

## 添付資料-7.5.1 (4/18) フェーズ1 優先案件リスト Morogoroゾーン

SN	Name of Scheme	ZIO name	Region Name	District Name	Potential Area (ha)	Designed Area (ha)	Developed Area (ha)	Irrigated Area (Wet) in ha	Irrigated Area (Dry) in ha
9	Euga	Morogoro	Morogoro	Ulanga	440	440			
10	Lukande	Morogoro	Morogoro	Ulanga	400	540			
11	Ruaha	Morogoro	Morogoro	Ulanga	440	100	400		73
12	Bagamoyo (bidp)	Morogoro	Pwani	Bagamoyo	100		72	72	72
13	Kitame	Morogoro	Pwani	Bagamoyo	400		30	30	30
14	Makurunge A	Morogoro	Pwani	Bagamoyo	200		200	200	50
15	Msoga	Morogoro	Pwani	Chalinze	200	150	150		
16	Madimla	Morogoro	Pwani	Kibaha	120				
17	Mongomole	Morogoro	Pwani	Kibaha	300	45	45	60	45
18	Mwanabwito - Kiambaemba	Morogoro	Pwani	Kibaha	100				
19	Ruvu Jkt - Old Rice Scheme	Morogoro	Pwani	Kibaha	52			2	2
20	Lumyozi	Morogoro	Pwani	Kibiti	300	40	40	40	40
21	Mng'aru	Morogoro	Pwani	Kibiti	220				
22	Mtunda	Morogoro	Pwani	Kibiti	250				
23	Ngurakula	Morogoro	Pwani	Kibiti	300				
24	Nyatanga	Morogoro	Pwani	Kibiti	100				
25	Ikwiriri South	Morogoro	Pwani	Rufiji	260		60	60	20
26	Ikwiriri- Vegetable Gardening	Morogoro	Pwani	Rufiji	60		30	30	
27	Ngorongo	Morogoro	Pwani	Rufiji	240		60	60	
28	Nyakitope	Morogoro	Pwani	Rufiji	200		40	40	
29	Nyamwage	Morogoro	Pwani	Rufiji	200		40	40	
30	Nyamweke	Morogoro	Pwani	Rufiji	320	80	80	80	30
31	Ruwe	Morogoro	Pwani	Rufiji	300		70	70	10
32	Segeni	Morogoro	Pwani	Rufiji	120	120	60	60	40
33	Utunge	Morogoro	Pwani	Rufiji	50		10	10	5

出典: JICA調査団

## 添付資料-7.5.1 (5/18) フェーズ1 優先案件リスト Mtwaraゾーン

SN	Name of Scheme	ZIO name	Region Name	District Name	Potential Area (ha)	Designed Area (ha)	Developed Area (ha)	Irrigated Area (Wet) in ha	Irrigated Area (Dry) in ha
<b>Large Scale Scheme</b>									
1	Lituhii	Mtwara	Ruvuma	Nyasa	3,000	3,000	2,710	290	
<b>Medium Scale Scheme</b>									
1	Kinyope	Mtwara	Lindi	Lindi	600				
2	Narunyu	Mtwara	Lindi	Lindi	1,200				
3	Ngongowele	Mtwara	Lindi	Liwale	500	230	230		
4	Kitere	Mtwara	Mtwara	Mtwara	960	250	60	50	30
5	Chikwedu-chicamanda	Mtwara	Mtwara	Newala	1,200	1,200	800	450	350
6	Ng'apa / Mchichira	Mtwara	Mtwara	Tandahimba	1,200	200	200	200	
7	Litumbadyosi	Mtwara	Ruvuma	Mbinga	600	600	204	204	204
8	Chiulu	Mtwara	Ruvuma	Nyasa	800	800	240	70	490
9	Litisha	Mtwara	Ruvuma	Songea	700			17	17
10	Subira	Mtwara	Ruvuma	Songea MC	800	300	100	100	700
11	Kitanda	Mtwara	Ruvuma	Tunduru	600	455	110	80	30
<b>Small Scale Scheme</b>									
1	Matapata	Mtwara	Lindi	Lindi MC	400	400	200	200	
2	Mloweka	Mtwara	Lindi	Lindi MC	100	100		40	
3	Ng'ongo	Mtwara	Lindi	Lindi MC	120			52	
4	Tandangongoro	Mtwara	Lindi	Lindi MC	92	36	36		
5	Mlawango	Mtwara	Lindi	Liwale	230	230	230	230	
6	Mlawatawa	Mtwara	Lindi	Liwale	400	400	200	200	
7	Nanganga	Mtwara	Lindi	Ruangwa	400	144		94	45
8	Mkungu	Mtwara	Mtwara	Masasi	190	190	100	70	30
9	Ndanda	Mtwara	Mtwara	Masasi	350	120	290	86	150
10	Mkonye Drip	Mtwara	Mtwara	Mtwara	200	14			
11	Mmuru	Mtwara	Mtwara	Mtwara	300	300	34	34	
12	Rwelu	Mtwara	Mtwara	Mtwara MC	110	1	24	24	10
13	Gumbiro	Mtwara	Ruvuma	Madaba	250	250			
14	Hanga Ngadinda	Mtwara	Ruvuma	Madaba	250	250	100	100	
15	Luhimba	Mtwara	Ruvuma	Madaba	50	50	20	20	
16	Mbangamawe	Mtwara	Ruvuma	Madaba	300	300	34	34	
17	Likonde	Mtwara	Ruvuma	Mbinga	55		31	28	19
18	Mawasiliano Mkako B	Mtwara	Ruvuma	Mbinga	50		40	40	25
19	Mawasiliano Mkako C	Mtwara	Ruvuma	Mbinga	100		31	31	31
20	Amani	Mtwara	Ruvuma	Namtumbo	90			290	
21	Kitanda A	Mtwara	Ruvuma	Namtumbo	100	60		152	1,026
22	Masuguru	Mtwara	Ruvuma	Namtumbo	150			42	42
23	Msanjesi	Mtwara	Ruvuma	Namtumbo	100		5	88	88
24	Msindo Lumecha	Mtwara	Ruvuma	Namtumbo	150			22	22
25	Mtakuja	Mtwara	Ruvuma	Namtumbo	350	270		96	96
26	Mwangaza	Mtwara	Ruvuma	Namtumbo	250	217		28	28
27	Njomlole	Mtwara	Ruvuma	Namtumbo	100	50		50	50

## 添付資料-7.5.1 (5/18) フェーズ1 優先案件リスト Mtwaraゾーン

SN	Name of Scheme	ZIO name	Region Name	District Name	Potential Area (ha)	Designed Area (ha)	Developed Area (ha)	Irrigated Area (Wet) in ha	Irrigated Area (Dry) in ha
28	Lilapwasi	Mtwara	Ruvuma	Songea	50			28	28
29	Magima	Mtwara	Ruvuma	Songea	150			42	42
30	Morogoro	Mtwara	Ruvuma	Songea	200			11	11
31	Muhukuru Lilahi	Mtwara	Ruvuma	Songea	350	350		22	22
32	Nakahuga	Mtwara	Ruvuma	Songea	270	270		96	96
33	Namatuhi	Mtwara	Ruvuma	Songea	220			128	128
34	Njoka	Mtwara	Ruvuma	Songea	120	33	33	33	18
35	Parangu	Mtwara	Ruvuma	Songea	60			21	21
36	Kihakwa	Mtwara	Ruvuma	Songea MC	170	45	45	45	120
37	Lekindo	Mtwara	Ruvuma	Tunduru	120	90	90	69	45

出典: JICA調査団

## 添付資料-7.5.1 (6/18) フェーズ1 優先案件リスト Mwanzaゾーン

SN	Name of Scheme	ZIO name	Region Name	District Name	Potential Area (ha)	Designed Area (ha)	Developed Area (ha)	Irrigated Area (Wet) in ha	Irrigated Area (Dry) in ha
<b>Large Scale Scheme</b>									
1	Ibanda	Mwanza	Geita	Geita TC	2,000	480		500	
2	Ngono Valley	Mwanza	Kagera	Bukoba	5,200			190	
3	Buligi	Mwanza	Kagera	Muleba	5,000	5,000			
4	Bugwema Giant	Mwanza	Mara	Musoma	4,000				
5	Mara Valley	Mwanza	Mara	Serengeti	8,340			350	
<b>Medium Scale Scheme</b>									
1	Kibumba	Mwanza	Geita	Chato	1,630			750	
2	Makurugusi Valley I	Mwanza	Geita	Chato	800			18	
3	Masasi	Mwanza	Geita	Chato	500			95	
4	Kibale	Mwanza	Kagera	Biharamulo	1,000			350	
5	Karazi	Mwanza	Kagera	Karagwe	800	570			
6	Mwisa	Mwanza	Kagera	Karagwe	1,200	300	300	45	150
7	Buchurago - Kabajuga	Mwanza	Kagera	Missenyi	995	995			
8	Kyamyorwa	Mwanza	Kagera	Muleba	500	120	120	60	60
9	Muhongo	Mwanza	Kagera	Ngara	1,500			90	
10	Maliwanda	Mwanza	Mara	Bunda	1,040	220	220	180	30
11	Tamau	Mwanza	Mara	Bunda TC	1,374	150	60	25	2
12	Igongwa	Mwanza	Mwanza	Misungwi	525	220	220	220	150
13	Lwanhima	Mwanza	Mwanza	Nyamagana	800		100	66	30
14	Katunguru	Mwanza	Mwanza	Sengerema	600	200			
<b>Small Scale Scheme</b>									
1	Bukandwe	Mwanza	Geita	Bukombe	400			100	
2	Mwabasabi	Mwanza	Geita	Chato	450			45	
3	Lwenge	Mwanza	Geita	Geita	130		100	70	
4	Nyamgogwa	Mwanza	Geita	Nyangh'wale	140				
5	Mwiruzi	Mwanza	Kagera	Biharamulo	120			120	
6	Omulwoga	Mwanza	Kagera	Bukoba	172			43	
7	Buhangaza	Mwanza	Kagera	Muleba	200	95	95	60	60
8	Buyaga	Mwanza	Kagera	Muleba	100	80	80	80	60
9	Kyota	Mwanza	Kagera	Muleba	300	120	120	120	60
10	Mpanyula	Mwanza	Kagera	Ngara	430			231	
11	Kalukekele	Mwanza	Mara	Bunda	200		100	15	5
12	Nyatwali	Mwanza	Mara	Bunda TC	210	210	208	40	16
13	Baraki Sisters	Mwanza	Mara	Rorya	150	150	150	150	
14	Chereche	Mwanza	Mara	Rorya	300	300	300	300	
15	Irienyi	Mwanza	Mara	Rorya	350	350	220	250	
16	Ochuna	Mwanza	Mara	Rorya	60	60	60	60	30
17	Rabour	Mwanza	Mara	Rorya	450	450	450	450	
18	Kasela	Mwanza	Mwanza	Buchosa	80	80	80	40	20
19	Nyamadoke	Mwanza	Mwanza	Illemela	250	101		50	12
20	Jojilo (mwamanga)	Mwanza	Mwanza	Kwimba	480				
21	Bugando-chabula	Mwanza	Mwanza	Magu	187			100	80

## 添付資料-7.5.1 (6/18) フェーズ1 優先案件リスト Mwanzaゾーン

SN	Name of Scheme	ZIO name	Region Name	District Name	Potential Area (ha)	Designed Area (ha)	Developed Area (ha)	Irrigated Area (Wet) in ha	Irrigated Area (Dry) in ha
22	Buluga Farm	Mwanza	Mwanza	Magu	350		250	250	3
23	Kitongo	Mwanza	Mwanza	Magu	300		250	250	
24	Sawenge	Mwanza	Mwanza	Magu	200	150		150	
25	Simiyu	Mwanza	Mwanza	Magu	50		10	2	
26	Nyambeho	Mwanza	Mwanza	Misungwi	200	180	180		
27	Kasomeko	Mwanza	Mwanza	Sengerema	80	80	80	40	20

出典: JICA調査団

## 添付資料-7.5.1 (7/18) フェーズ1 優先案件リスト Taboraゾーン

SN	Name of Scheme	ZIO name	Region Name	District Name	Potential Area (ha)	Designed Area (ha)	Developed Area (ha)	Irrigated Area (Wet) in ha	Irrigated Area (Dry) in ha
<b>Large Scale Scheme</b>									
1	Mwamapuli	Tabora	Tabora	Igunga	3,000	630	630	630	
2	Simbo	Tabora	Tabora	Igunga	2,500			1,200	
3	Lyamalgwa (Manonga River)	Tabora	Tabora	Nzega	3,000		100	20	
<b>Medium Scale Scheme</b>									
1	Itilima	Tabora	Shinyanga	Kishapu	700	250	250	560	
2	Nendegese	Tabora	Shinyanga	Kishapu	650				
3	Masengwa	Tabora	Shinyanga	Shinyanga	1,200	333	333	333	
4	Nyida	Tabora	Shinyanga	Shinyanga	800	421	421	421	
5	Changasa 1	Tabora	Simiyu	Busega	518			518	
6	Ilumya	Tabora	Simiyu	Busega	540				
7	Mkula	Tabora	Simiyu	Busega	600	165			
8	Mwamanyili	Tabora	Simiyu	Busega	1,200	819		893	
9	Choma Cha Nkola	Tabora	Tabora	Igunga	1,600	320	320		
10	Kahama Nhalanga	Tabora	Tabora	Nzega	1,000	500			
11	Lusu	Tabora	Tabora	Nzega	600	330	330		
12	Nata	Tabora	Tabora	Nzega	1,200	600	300		
13	Iyombo	Tabora	Tabora	Tabora MC	500				
14	Ussoke Mlimani	Tabora	Tabora	Urambo	500	211			
15	Loya	Tabora	Tabora	Uyui	1,000	500			
<b>Small Scale Scheme</b>									
1	Lunguya	Tabora	Shinyanga	Kishapu	350	300		150	
2	Nyenze	Tabora	Shinyanga	Kishapu	450	222	100	50	10
3	Iwelyangula	Tabora	Shinyanga	Shinyanga MC	300		200	150	
4	Ikungulyambeshi	Tabora	Simiyu	Bariadi	432	100		58	
5	Mwasubuya	Tabora	Simiyu	Bariadi	280	165	165	165	41
6	Sapiwi	Tabora	Simiyu	Bariadi	200				
7	Kalemera	Tabora	Simiyu	Busega	62	10	10	10	
8	Lukungu	Tabora	Simiyu	Busega	350			44	
9	Lutubiga	Tabora	Simiyu	Busega	250	200	200		
10	Nyamikoma	Tabora	Simiyu	Busega	179			179	
11	Shimanilwe 1	Tabora	Simiyu	Busega	132			132	
12	Shimanilwe 2	Tabora	Simiyu	Busega	98			98	
13	Bukangilija	Tabora	Simiyu	Maswa	450	400	400	307	
14	Ngongwa	Tabora	Simiyu	Maswa	250	200	25	5	5
15	Imalalihayo	Tabora	Tabora	Tabora MC	220	82			
16	Inala	Tabora	Tabora	Tabora MC	400	250	250		
17	Kakulungu	Tabora	Tabora	Tabora MC	100				
18	Magoweke	Tabora	Tabora	Tabora MC	150	25	32		
19	Izimbili	Tabora	Tabora	Urambo	100			12	
20	Shitage	Tabora	Tabora	Uyui	375		60	60	20

出典: JICA調査団

## 添付資料-7.5.1 (8/18) フェーズ1 優先案件リスト Kataviゾーン

SN	Name of Scheme	ZIO name	Region Name	District Name	Potential Area (ha)	Designed Area (ha)	Developed Area (ha)	Irrigated Area (Wet) in ha	Irrigated Area (Dry) in ha
<b>Large Scale Scheme</b>									
1	Mwamkulu - Kabage and Kakese	Katavi	Katavi	Mpanda , Mpanda TC	2,775	967	967	938	
2	Mwamapuli	Katavi	Katavi	Mpimbwe	13,605		10,425	10,415	
3	Nyakitonto	Katavi	Kigoma	Kasulu	2,384	106	450	450	120
4	Luiche (Luiche Valley)	Katavi	Kigoma	Kigoma MC	3,000				
5	Katuka	Katavi	Rukwa	Kalambo	2,500	2,500	250	250	250
6	Katongolo	Mbeya	Rukwa	Nkasi	3,200	3,200	100	180	
7	Maleza	Katavi	Rukwa	Sumbawanga	7,500			400	
8	Sakallo	Katavi	Rukwa	Sumbawanga	4,000	650	250	250	200
<b>Medium Scale Scheme</b>									
1	Ipati	Katavi	Katavi	Miele	1,100			80	
2	Mwamkulu - Kakese	Katavi	Katavi	Mpanda MC	1,333	1,333		1,333	2
3	Biharu	Katavi	Kigoma	Buhigwe	600				
4	Titye	Katavi	Kigoma	Kasulu	575	700	575		
5	Nyankara	Katavi	Kigoma	Kigoma	890			60	
6	Kashagulu	Katavi	Kigoma	Uvinza	1,000	400			
7	Mgambazi	Katavi	Kigoma	Uvinza	1,000	750			
8	Singiwe	Katavi	Rukwa	Kalambo	1,000	1,000	400	400	400
9	Ulumi	Katavi	Rukwa	Kalambo	1,000		50	50	50
10	Lwanji	Katavi	Rukwa	Sumbawanga	1,500			450	100
<b>Small Scale Scheme</b>									
1	Shula Basin	Katavi	Katavi	Nsimbo	106				
2	Katengera	Katavi	Kigoma	Kakonko	207		207	207	100
3	Mganza	Katavi	Kigoma	Kakonko	100				
4	Ruhwiti	Katavi	Kigoma	Kakonko	300	140	140		
5	Rungwe Mpya	Katavi	Kigoma	Kasulu	300	250	125	60	56
6	Mgondogondo	Katavi	Kigoma	Kibondo	213	188	188	188	188
7	Nyendara	Katavi	Kigoma	Kibondo	400	124	160	160	160
8	Kidahwe Bwawani Traditional	Katavi	Kigoma	Kigoma	200			100	
9	Muganga	Katavi	Kigoma	Kigoma	200			60	20
10	Nyangova	Katavi	Kigoma	Kigoma	150			5	
11	Nyanganga	Katavi	Kigoma	Uvinza	320				
12	Kalundi	Katavi	Rukwa	Nkasi	154			13	35
13	Lwafi Dam Scheme (lwafi River)	Katavi	Rukwa	Nkasi	480		120	120	
14	Kasekela/msila	Katavi	Rukwa	Sumbawanga	270			270	30
15	Kifinga	Katavi	Rukwa	Sumbawanga	300			150	20
16	Kisa	Katavi	Rukwa	Sumbawanga	400			252	100

出典: JICA調査団

## 添付資料- 7.5.1 (9/18) 灌漑局管轄 灌漑案件リスト

SN	Name of Scheme	ZIO name	Region Name	District Name	Potential Area (ha)	Remarks
1	Participatory Dams Development Program in Semi-Arid Areas of Tanzania (Existing Dams)	Dodoma, Tabora, Mwanza	Manyara, Dodoma, Singida, Mara, Tabora		13,444	A Strategic Action, September 2016
2	Participatory Dams Development Program in Semi-Arid Areas of Tanzania (Proposed Dams)	Dodoma, Tabora, Mwanza	Singida, Manyara, Mwanza, Mara, Geita, Shinyanga, Kigoma, Tabora		97,648	A Strategic Action, September 2016
3	Promotion of Micro Irrigation System for Improved Crop Production for Smallholder Farmers in Tanzania	Dodoma, Morogoro		18 District Councils and 1 Municipality	16,710	Project proposal was prepared in Jun 2016
4	Songwe River Basin Development Project	Mbeya	Mbeya	Kyela	3,005	Lower Songwe River Irrigation Scheme, A F/S level study has conducted.
5	Ruhuhu Irrigation Project	Mbeya, Mtwara	Ruvuma	Nyasa, Ludewa	3,700	Kikonge Dam, Mini-Hydropower Project in the Main Derivery Canal Pre-F/S was prepared in Mar 2014.
6	Ruvuma River Basin Irrigation Developemnt	Mtwara	Ruvuma, Mtwara	Songe, Songea MC, Tunduru, Tandahimba, Namtumbo	26,066	Dvelopment of the Ruvuma River Basin Monograph abd Joint IWRM Strategy Report Potential : 26,066 ha Existing : 6,836 ha

出典：JICA 調査団

添付資料-7.5.1 (10/18) フェーズ1 関連優先ダムリスト

Serial No	Dam Name	Zone Name	Region Name	District Name	Site Name	Dam Type	Gross Storage Capacity (m <sup>3</sup> )	Active Storage Capacity (m <sup>3</sup> )	Commanding Irrigation Scheme	Potential Irrigation Area (ha)	Current Status
1	Buigiri	Dodoma	Dodoma	Chamwino	Buigiri	Earth Fill	730,000	187,500	Buigiri	50	Partially operational
2	Ikwa	Dodoma	Dodoma	Chamwino	Ikwa	Earth Fill	2,100,000	720,000	Chalinze	124	Partially operational
3	Matumbulu	Dodoma	Dodoma	Dodoma MC	Matumbulu					120	Potential (Identified), Minimal irrigation
4	Vikonje	Dodoma	Dodoma	Dodoma MC	Vikonje					60	Design
5	Kisese	Dodoma	Dodoma	Kondo	Mapinduzi	Earth & Rock Fill		2,172,160	Kisese	2,000	Preliminary study done, Partially operational
6	Miembule	Dodoma	Dodoma	Mpwapwa	Miembule					300	
7	Endamajek	Dodoma	Manyara	Babati	Qash					206	Minimal irrigation
8	Kisangaji	Dodoma	Manyara	Babati						1,700	Reconnaissance survey done
9	Endagaw	Dodoma	Manyara	Hanang						260	
10	Gidahababieg	Dodoma	Manyara	Hanang						40	
11	Ngipa /ngonyongoni	Dodoma	Manyara	Kiteto			2,030,000				Reconnaissance survey done
12	Mangisa	Dodoma	Manyara	Mbulu			450		Mangisa	750	in Operation
13	Tiawi	Dodoma	Manyara	Mbulu TC	Tiawi	Earth & Rock Fill	257,534	181,521	Tiawi, Boboa, Gumeneda, Jarania Isuna A, Isuna B, Nongosole, Nkhui, Manjalo	250	Preliminary study done, Partially operational
14	Isuna	Dodoma	Singida	Ikungi	Isuna	Earth Fill	250			3,500	Partially operational
15	Mang'onyi	Dodoma	Singida	Ikungi	Mang'onyi				Mang'onyi	400	F/S and D/D completed
16	Itagata	Dodoma	Singida	Itigi							Tender documents in place
17	Mbwas	Dodoma	Singida	Manyoni	Mbwas	Earth & Rock Fill	8,000,000		Mbwas, Chikuyu, Kiwe, Mweboo	1,835	F/S and D/D completed
18	Msingi	Dodoma	Singida	Mkalama	Msingi	Earth Fill			Msingi, Ishinsi, Ndala	1,200	Construction, Not operational
19	Mwangeza	Dodoma	Singida	Mkalama	Mwangeza	Earth Fill			Mwangeza, Kinyambuli, Dominiki	3,000	Not operational, Breached dam embankment, tender documents in place
20	Sagara - 1	Dodoma	Singida	Singida	Sagara					300	Existing
21	Mwamapuli	Katavi	Katavi	Mpimbwe	Mwamapuli	Earth Fill				13,605	Partially operational
22	Mganza	Katavi	Kigoma	Kakonko	Kanyonza					100	Potential (Identified)
23	Nyendara	Katavi	Kigoma	Kibondo	Twabagondozi					400	Partially operational
24	Katuka	Katavi	Rukwa	Kalambo	Katuka		418,350			2,500	
25	Lwafi (lwafi River)	Katavi	Rukwa	Nkasi	Masolo				Lwafi (420ha, 1050person), Katongolo (3200 ha, 8000person)	3,620	Study / Feasibility
26	Luiche Valley	Kigoma	Kigoma	Kigoma MC		Earth Fill					
27	Kiseriani	Kilimanjaro	Arusha	Longido	Kiseriani	Concrete Gravity					Not operational
28	Mapangoni	Kilimanjaro	Tanga	Korogwe	Mayuyu	Earth Fill			Mapangoni, Mahenge	300	
29	Misozwe	Kilimanjaro	Tanga	Muheza						100	Potential (Identified), Study / Feasibility Study, Design, Construction, Operational
30	Isaka	Mbeya	Iringa	Iringa	Nyakavangala				Isaka	500	Reconnaissance survey done
31	Ulongambi	Mbeya	Iringa	Iringa	Uwachanya					100	
32	Magana	Mbeya	Iringa	Kilolo	Magana						
33	Mdahila	Mbeya	Iringa	Kilolo	Mdahila						
34	Mgambalanga	Mbeya	Iringa	Kilolo	Kitonga						
35	Mgowelo	Mbeya	Iringa	Kilolo	Mgowelo						
36	Manda	Mbeya	Njombe	Ludewa							
37	Mkombozi	Mbeya	Songwe	Mbozi	Mponela					416	
38	Msia	Mbeya	Songwe	Mbozi					Msia	150	Preliminary study and design done
39	Ulundambulu I	Mbeya	Songwe	Mbozi	Kimani and Mabadaga					160	Operational
40	Usoche	Mbeya	Songwe	Momba	Usoche					500	Not Operational
41	Mbalangwe (msonge River)	Morogoro	Morogoro	Morogoro	Msonge, Mbalangwa					950	Operational
42	Lupiro	Morogoro	Morogoro	Ulanga	Lupiro, Nakafuku, Igota					200	Preliminary study and design done
43	Msoga	Morogoro	Pwani	Chalinze	Msoga		970,480			200	Upgrading
44	Ikwiriri South	Morogoro	Pwani	Rufiji	Mtanange					260	Potential (Identified)
45	Ruwe	Morogoro	Pwani	Rufiji	Ruwe					300	Potential (Identified)
46	Utunge	Morogoro	Pwani	Rufiji	Utunge					50	Operational
47	Nanganga	Mtwara	Lindi	Ruangwa	Nanganga and Nyangao				Nanganga, Nyangao	1,600	Reconnaissance survey done
48	Mkungu	Mtwara	Mtwara	Masasi	Mkungu					190	Construction, Operational
49	Kitere	Mtwara	Mtwara	Mtwara	Chemchemilido And Nakada					1,540	Partially operation /Also under construction
50	Chikwedu-chipamanda	Mtwara	Mtwara	Newala	Chikwedu					1,200	Operational
51	Litumbandyosi/Sangamabuni	Mtwara	Ruvuma	Mbinga	Litumbandyosi/ Sangamabuni					350	Pre F/S for irrigation scheme
52	Nakahuga	Mtwara	Ruvuma	Songea	Nakahuga					150	Reconnaissance survey done

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添付資料-7.5.1 (10/18) フェーズ1 関連優先ダムリスト

Serial No	Dam Name	Zone Name	Region Name	District Name	Site Name	Dam Type	Gross Storage Capacity (m <sup>3</sup> )	Active Storage Capacity (m <sup>3</sup> )	Commanding Irrigation Scheme	Potential Irrigation Area (ha)	Current Status
53	Lekindo	Mtwara	Ruvuma	Tunduru	Lelolelo					120	Potential (Identified), Study / Feasibility Study, Design, Construction, Operational, Minimal irrigation
54	Kibumba	Mwanza	Geta	Chato						10,000	
55	Lwenge	Mwanza	Geta	Geta	Lwenge					130	
56	Ibanda	Mwanza	Geta	Geta TC	Ibanda	Earth Fill	4,000,000			800	Preliminary study and design done
57	Ngono	Mwanza	Kagera	Misenyi	Ngono				Ngono	13,680	Feasibility studies done under NELSAP and Detail design is currently going on
58	Buigi	Mwanza	Kagera	Muleba	Buigi					5,000	Preliminary study and design done
59	Mpanyula	Mwanza	Kagera	Ngara	Kashinga	Earth Fill, Earth & Rock Fill				430	Preliminary study and design done
60	Maliwanda	Mwanza	Mara	Bunda	Maliwanda	Earth Fill	1,105,580	668,075	Maliwanda	1,040	in Operation
61	Baraki	Mwanza	Mara	Rorya	Baraki					100	
62	Baraki Sisters	Mwanza	Mara	Rorya	Baraki	Earth Fill	950,000	780,000		150	in Operation
63	Chereche	Mwanza	Mara	Rorya	Chereche	Earth Fill	650,000	520,000		300	Not operational
64	Ochuna	Mwanza	Mara	Rorya	Ochuna	Earth Fill	560,000	440,000		150	in Operation
65	Rabour	Mwanza	Mara	Rorya	Rabour	Earth Fill	740,000	600,000		450	Not operational
66	Mara Valley	Mwanza	Mara	Serengeti	Mara Valley					6,340	Feasibility studies done under NELSAP and Detail design is currently going on
67	Nyamadoke	Mwanza	Mwanza	Ilemela	Nyamadoke					250	Design completed
68	Kasela	Mwanza	Mwanza	Sengerema	Kasela	Earth Fill				80	Partially operational
69	Katunguru	Mwanza	Mwanza	Sengerema	Katunguru	Earth Fill	3,400,000	3,400,000		600	Dam embankment not completed
70	Nendegese	Tabora	Shinyanga	Kishapu	Nendegese	Earth & Rock Fill				600	Potential, Operational but not improved
71	Masengwa	Tabora	Shinyanga	Shinyanga	Masengwa	Earth Fill			Masengwa	450	Dam embankment not completed
72	Nyida	Tabora	Shinyanga	Shinyanga						1,000	
73	Sapiwi	Tabora	Simiyu	Bariadi	Sapiwi					200	Potential (Identified)
74	Lutubiga	Tabora	Simiyu	Busega	Lutubiga					250	Not operational
75	Mkula	Tabora	Simiyu	Busega	Mkula					600	Potential (Identified), Study / Feasibility Study, Design
76	Choma Cha Nkola	Tabora	Tabora	Igunga	Choma Cha N	Earth Fill				600	Preliminary study done
77	Simbo	Tabora	Tabora	Igunga	Simbo	Earth Fill				25,000	Design completed
78	Kahama Nhalanga	Tabora	Tabora	Nzega						1,000	Under Construction, partially operational
79	Lusu	Tabora	Tabora	Nzega	Lusu	Earth Fill					
80	Lyamalagwa	Tabora	Tabora	Nzega	Lyamalagwa				Lyamalagwa	600	Preliminary study done
81	Imalahayo	Tabora	Tabora	Tabora MC	Imalahayo					220	Potential (Identified), partially operational, pre-feasibility Studies done
82	Inala	Tabora	Tabora	Tabora MC	Inala	Earth Fill		1,376,000		400	in Operation
83	Iyombo	Tabora	Tabora	Tabora MC	Iyombo	Earth Fill			Iyombo	500	Preliminary study done
84	Kakulungu	Tabora	Tabora	Tabora MC						100	Potential (Identified)
85	Magoweke	Tabora	Tabora	Tabora MC	Magoweke	Earth Fill		318,971		47	in Operation
86	Izimbili	Tabora	Tabora	Urambo	Izimbili				Izimbili	1,000	Preliminary study done
87	Usoke Mimi	Tabora	Tabora	Urambo	Usoke Mimi					500	Partially operational
88	Loya	Tabora	Tabora	Uyui	Loya	Earth Fill			Loya	1,000	Preliminary study done

出典:JICA 調査団



## 添付資料-7.5.1 (11/18) フェーズ2 優先案件リスト Dodomaゾーン

SN	Name of Scheme	ZIO name	Region Name	District Name	Potential Area (ha)	Designed Area (ha)	Developed Area (ha)	Irrigated Area (Wet) in ha	Irrigated Area (Dry) in ha
<b>Large Scale Schemes</b>									
1	Ndoroboni	Dodoma	Dodoma	Chemba	3,000		100	100	20
2	Mkoyo	Dodoma	Dodoma	Dodoma MC	3,000	0			0
3	Mongoroma/Serya	Dodoma	Dodoma	Kondoa TC	2,000	2,000		2,000	3
4	Mugungira	Dodoma	Singida	Ikungi	5,000			30	30
5	Wembere	Dodoma	Singida	Iramba	2,000				
<b>Medium Scale Schemes</b>									
1	Kongogo	Dodoma	Dodoma	Bahi	1,000	220			
2	Chali	Dodoma	Dodoma	Bahi	1,200	242	106	42	
3	Manda	Dodoma	Dodoma	Chamwino	600			20	5
4	Suli	Dodoma	Dodoma	Chamwino	620	40	40		
5	Kelema Balai	Dodoma	Dodoma	Chemba	500	0	0	300	40
6	Idodoma	Dodoma	Dodoma	Mpwapwa	600	Not designed		200	120
7	Izonvu	Dodoma	Dodoma	Mpwapwa	500			300	20
8	Nduga	Dodoma	Dodoma	Mpwapwa	700		250	300	200
9	Wazaganza / Chabi	Dodoma	Dodoma	Mpwapwa	1,100		200	300	50
10	Inzomvu	Dodoma	Dodoma	Mpwapwa	500			300	
11	Seluka	Dodoma	Dodoma	Mpwapwa	700			40	
12	Wiyenzele	Dodoma	Dodoma	Mpwapwa	600			5	
13	Takanya	Dodoma	Dodoma	Mpwapwa	700		200	200	10
14	Madunga	Dodoma	Manyara	Babati	800	0		400	300
15	Laiseri	Dodoma	Manyara	Kiteto	600				
16	Kimana	Dodoma	Manyara	Kiteto	800				
17	Dongobesh	Dodoma	Manyara	Mbulu	625	0	236		140
18	Ruvu Remit	Dodoma	Manyara	Simanjiro	700	176			50
19	Masimba	Dodoma	Singida	Iramba	1,470		750	750	
20	Tyeme / Masagi	Dodoma	Singida	Iramba	1,177		177	177	
21	Mlandala	Dodoma	Singida	Iramba	1,350		300	300	
22	Lugongo	Dodoma	Singida	Mkalama	1,050			1,050	
23	Tatazi	Dodoma	Singida	Mkalama	1,500			1,500	
24	Gumanga	Dodoma	Singida	Mkalama	1,750		230	230	230
25	Dominiki	Dodoma	Singida	Mkalama	800			800	
26	Mkiko	Dodoma	Singida	Mkalama	1,800			1,800	
27	Msange Drip	Dodoma	Singida	Singida	1,000	560	10	10	10
28	Msange / Suke	Dodoma	Singida	Singida	1,000			1,000	15
<b>Small Scale Schemes</b>									
1	Dabalo	Dodoma	Dodoma	Chamwino	360	120		30	8
2	Mpwayungu	Dodoma	Dodoma	Chamwino	447	140		18	
3	Haneti	Dodoma	Dodoma	Chamwino	70			11	4
4	Fufu	Dodoma	Dodoma	Chamwino	56	40			
5	Chiboli	Dodoma	Dodoma	Chamwino	442	40			
6	Babayu	Dodoma	Dodoma	Chemba	200			10	5
7	Jogolo	Dodoma	Dodoma	Chemba	450	0	30	30	15
8	Hombolo	Dodoma	Dodoma	Dodoma MC	300	300	120	120	60
9	Gawaye	Dodoma	Dodoma	Dodoma MC	300	40	40	300	40

## 添付資料-7.5.1 (11/18) フェーズ2 優先案件リスト Dodomaゾーン

SN	Name of Scheme	ZIO name	Region Name	District Name	Potential Area (ha)	Designed Area (ha)	Developed Area (ha)	Irrigated Area (Wet) in ha	Irrigated Area (Dry) in ha
10	Nzuguni	Dodoma	Dodoma	Dodoma MC	240	0	100	0	0
11	Michese - Mkalama	Dodoma	Dodoma	Dodoma MC	150	0	0	150	0
12	Mahoma Makulu	Dodoma	Dodoma	Dodoma MC	50	0		30	3
13	Chididimo - Bihawana	Dodoma	Dodoma	Dodoma MC	135	0		135	0
14	Madege	Dodoma	Dodoma	Kondoa	250		60	50	50
15	Mkurumuzi	Dodoma	Dodoma	Kondoa	100		62	62	30
16	Itaswi Chubi	Dodoma	Dodoma	Kondoa	120		30	30	
17	Chamkoroma	Dodoma	Dodoma	Kongwa	126		30	30	30
18	Tubugwe Juu	Dodoma	Dodoma	Kongwa	150	150	120	120	120
19	Banyibanyi	Dodoma	Dodoma	Kongwa	161	161	40	40	40
20	Tubugwe Kibaoni	Dodoma	Dodoma	Kongwa	105		54	54	54
21	Mwenzele	Dodoma	Dodoma	Mpwapwa	200		20	105	70
22	Ipera - Kinusi	Dodoma	Dodoma	Mpwapwa	69		69	69	30
23	Tambi	Dodoma	Dodoma	Mpwapwa	90		90	90	40
24	Kitati	Dodoma	Dodoma	Mpwapwa	300		35	200	140
25	Mbori	Dodoma	Dodoma	Mpwapwa	160			160	
26	Makose	Dodoma	Dodoma	Mpwapwa	300			35	10
27	Winza	Dodoma	Dodoma	Mpwapwa	400			30	5
28	Mwanawotta	Dodoma	Dodoma	Mpwapwa	100		25	70	30
29	Gaigali	Dodoma	Dodoma	Mpwapwa	130			48	13
30	Lumuma - Masememe	Dodoma	Dodoma	Mpwapwa	140			45	
31	Matonya	Dodoma	Dodoma	Mpwapwa	110			65	35
32	Iyuhwa	Dodoma	Dodoma	Mpwapwa	150		50	50	
33	Msagali Block Farm	Dodoma	Dodoma	Mpwapwa	200	100	60	60	
34	Isinghu	Dodoma	Dodoma	Mpwapwa	450			270	15
35	Nzugilo	Dodoma	Dodoma	Mpwapwa	200			45	4
36	Godegode	Dodoma	Dodoma	Mpwapwa	150			32	
37	Ruhundwa	Dodoma	Dodoma	Mpwapwa	200			20	
38	Mzogole	Dodoma	Dodoma	Mpwapwa	200			30	
39	Wiyenzele	Dodoma	Dodoma	Mpwapwa	400				
40	Lyuha - Chipogolo	Dodoma	Dodoma	Mpwapwa	150		50	50	
41	Hidet/Mara	Dodoma	Manyara	Hanang	100		100	100	24
42	Endasworld	Dodoma	Manyara	Hanang	100		100	100	60
43	Magungu	Dodoma	Manyara	Kiteto	200				
44	Guwangw	Dodoma	Manyara	Mbulu TC	250	110	110	250	25
45	Mangisa	Dodoma	Manyara	Mbulu	398	250	306	306	306
46	Mongahay	Dodoma	Manyara	Mbulu	300	0	0	200	200
47	Tumati	Dodoma	Manyara	Mbulu	270		190		
48	Arri	Dodoma	Manyara	Mbulu	259		168		
49	Harsha	Dodoma	Manyara	Mbulu	346		266	266	190
50	Diyomat	Dodoma	Manyara	Mbulu	375		250	250	237
51	Dirim dam	Dodoma	Manyara	Mbulu	335		150	150	78
52	Songoyo	Dodoma	Manyara	Simanjiro	320			40	40
53	Zaire	Dodoma	Manyara	Simanjiro	450			180	180
54	Gunge	Dodoma	Manyara	Simanjiro	300			150	150

## 添付資料-7.5.1 (11/18) フェーズ2 優先案件リスト Dodomaゾーン

SN	Name of Scheme	ZIO name	Region Name	District Name	Potential Area (ha)	Designed Area (ha)	Developed Area (ha)	Irrigated Area (Wet) in ha	Irrigated Area (Dry) in ha
55	Shambarai	Dodoma	Manyara	Simanjiro	470			225	225
56	Kairo	Dodoma	Manyara	Simanjiro	350			140	140
57	Kilombero	Dodoma	Manyara	Simanjiro	170			90	90
58	Kituntu Valley	Dodoma	Singida	Ikungi	400			400	
59	Unyangwe	Dodoma	Singida	Ikungi	100			100	10
60	Saranda	Dodoma	Singida	Manyoni	200	60		60	
61	Udimaa	Dodoma	Singida	Manyoni	200	200	150	200	
62	Msemembo	Dodoma	Singida	Manyoni	300	250		300	
63	Ngaiti	Dodoma	Singida	Manyoni	150			80	
64	Maweni	Dodoma	Singida	Manyoni	300			300	
65	Kitalalo	Dodoma	Singida	Manyoni	80			80	
66	Mng'anda	Dodoma	Singida	Mkalama	80			80	10
67	Miganga	Dodoma	Singida	Mkalama	127		32	24	24
68	Mwanga	Dodoma	Singida	Mkalama	200			40	40
69	Ilunda	Dodoma	Singida	Mkalama	250			115	5
70	Marera	Dodoma	Singida	Mkalama	175			175	
71	Kidarafa	Dodoma	Singida	Mkalama	210		210	120	
72	Kisuluiga	Dodoma	Singida	Mkalama	140		40	40	20
73	Ikhanoda - Deep Well (proposed)	Dodoma	Singida	Singida	200			200	50

出典: JICA調査団

## 添付資料- 7.5.1 (12/18) フェーズ2 優先案件リスト Kilimanjaroゾーン

SN	Name of Scheme	ZIO name	Region Name	District Name	Potential Area (ha)	Designed Area (ha)	Developed Area (ha)	Irrigated Area (Wet) in ha	Irrigated Area (Dry) in ha
<b>Large Scale Schemes</b>									
1	Ntalanda	Kilimanjaro	Kilimanjaro	Same	2,000		1,000	800	650
<b>Medium Scale Schemes</b>									
1	Mang'ola Barazan	Kilimanjaro	Arusha	Karatu	880		750	715	300
2	Pinyinyi	Kilimanjaro	Arusha	Ngorongoro	680			400	106
3	Oldonyo Sambu	Kilimanjaro	Arusha	Ngorongoro	550			300	200
4	Kikongo	Kilimanjaro	Kilimanjaro	Same	545		545	545	205
5	Kadando/rushoto	Kilimanjaro	Kilimanjaro	Same	585		585	585	200
6	Ranzi Dam Scheme	Kilimanjaro	Kilimanjaro	Same	1,500		800	420	340
7	Ndungu	Kilimanjaro	Kilimanjaro	Same	1,500		680	680	300
8	Mvungwe	Kilimanjaro	Kilimanjaro	Same	580		200	150	130
9	Makokane	Kilimanjaro	Kilimanjaro	Same	1,200		480	330	150
10	Chajula	Kilimanjaro	Tanga	Kilindi	500	100	30	50	20
11	Msiri	Kilimanjaro	Tanga	Kilindi	700			80	30
12	Mkomazi	Kilimanjaro	Tanga	Korogwe	536	200	300	500	120
13	Mwakijembe	Kilimanjaro	Tanga	Mkinga	1,450	1,450	100	20	30
<b>Small Scale Schemes</b>									
1	Meshorori	Kilimanjaro	Arusha	Arusha	110		110	110	76
2	Manyire	Kilimanjaro	Arusha	Arusha	300		230	300	220
3	Sasi	Kilimanjaro	Arusha	Arusha	110		105	100	80
4	Bangata	Kilimanjaro	Arusha	Arusha	150		75	120	92
5	Chemchem	Kilimanjaro	Arusha	Karatu	98		80	78	28
6	Majengo Juu	Kilimanjaro	Arusha	Monduli	200			200	50
7	Kabambe	Kilimanjaro	Arusha	Monduli	350			250	50
8	Kabambe Selela	Kilimanjaro	Arusha	Monduli	350			250	50
9	Block Farm	Kilimanjaro	Arusha	Monduli	150		140	120	20
10	Miwaleni	Kilimanjaro	Arusha	Monduli	328			328	32
11	Mungere	Kilimanjaro	Arusha	Monduli	62			35	5
12	Nadosoito	Kilimanjaro	Arusha	Monduli	100			50	35
13	Jangwani	Kilimanjaro	Arusha	Monduli	188			87	40
14	Kisangiro	Kilimanjaro	Arusha	Ngorongoro	450			350	315
15	Digidigo	Kilimanjaro	Arusha	Ngorongoro	400			200	130
16	Tinaga	Kilimanjaro	Arusha	Ngorongoro	90			70	20
17	Moniki	Kilimanjaro	Arusha	Ngorongoro	150			60	40
18	Eyasi Mdito	Kilimanjaro	Arusha	Ngorongoro	50			30	15
19	Sale	Kilimanjaro	Arusha	Ngorongoro	250			100	50
20	Samunge	Kilimanjaro	Arusha	Ngorongoro	200			180	175
21	Muhoio	Kilimanjaro	Arusha	Ngorongoro	450				300
22	Kwa Sekati/kwakoa	Kilimanjaro	Kilimanjaro	Mwanga	250		150	210	50
23	Mgigili/kwakoa	Kilimanjaro	Kilimanjaro	Mwanga	250		150	210	50
24	Kwa Sekah/kwakoa	Kilimanjaro	Kilimanjaro	Mwanga	250		150	210	50
25	Mbakwe	Kilimanjaro	Kilimanjaro	Mwanga	75			20	10
26	Ikuini	Kilimanjaro	Kilimanjaro	Rombo	400	100	300	60	40
27	Miembeni Micro Dam Scheme	Kilimanjaro	Kilimanjaro	Same	50		50	50	38
28	Kalemani	Kilimanjaro	Kilimanjaro	Same	320		320	320	150

## 添付資料-7.5.1 (12/18) フェーズ2 優先案件リスト Kilimanjaroゾーン

SN	Name of Scheme	ZIO name	Region Name	District Name	Potential Area (ha)	Designed Area (ha)	Developed Area (ha)	Irrigated Area (Wet) in ha	Irrigated Area (Dry) in ha
29	Maore/ Kalinga	Kilimanjaro	Kilimanjaro	Same	405		405	405	320
30	Chemchem	Kilimanjaro	Kilimanjaro	Same	200			150	100
31	Mramba	Kilimanjaro	Kilimanjaro	Same	95		95	85	72
32	Wariro Goma	Kilimanjaro	Kilimanjaro	Same	64		64	64	48
33	Chamma	Kilimanjaro	Kilimanjaro	Same	150		100	100	80
34	Fidia	Kilimanjaro	Kilimanjaro	Same	120		120	50	30
35	Makafara Micro Dam Scheme	Kilimanjaro	Kilimanjaro	Same	120		60	60	45
36	Shakaka	Kilimanjaro	Kilimanjaro	Same	340		255	150	100
37	Masae	Kilimanjaro	Kilimanjaro	Same	98		98	98	35
38	Chamamba	Kilimanjaro	Kilimanjaro	Same	200			200	
39	Maghaani Micro Dam Scheme	Kilimanjaro	Kilimanjaro	Same	78		78	78	50
40	Mataka	Kilimanjaro	Kilimanjaro	Same	130		130	130	50
41	Mbula	Kilimanjaro	Kilimanjaro	Same	190		165	165	122
42	Milala	Kilimanjaro	Kilimanjaro	Same	80			50	30
43	Gongo Juu	Kilimanjaro	Kilimanjaro	Same	100		80	80	40
44	Gamo Chini	Kilimanjaro	Kilimanjaro	Same	106			95	50
45	Gamo Juu	Kilimanjaro	Kilimanjaro	Same	160		100	60	40
46	Mombo	Kilimanjaro	Kilimanjaro	Same	120		120	120	50
47	Tangani	Kilimanjaro	Kilimanjaro	Same	330		190	120	108
48	Vumba	Kilimanjaro	Kilimanjaro	Same	120		120	120	98
49	Ibis	Kilimanjaro	Kilimanjaro	Same	222	222	46	46	38
50	Malila	Kilimanjaro	Kilimanjaro	Same	150		130	90	50
51	Mkanyeni	Kilimanjaro	Kilimanjaro	Same	220		210	190	150
52	Dimbwi	Kilimanjaro	Kilimanjaro	Same	320		120	120	80
53	Kankoro Micro Dam Scheme	Kilimanjaro	Kilimanjaro	Same	50		10	10	4
54	Gunge	Kilimanjaro	Kilimanjaro	Same	206		180	180	80
55	Kalemawe Dam Scheme	Kilimanjaro	Kilimanjaro	Same	380		380	380	380
56	Mbuyuni	Kilimanjaro	Kilimanjaro	Same	200		100	100	50
57	Kwanambache/nkungwini	Kilimanjaro	Kilimanjaro	Same	68		45	45	26
58	Munze/kampanga	Kilimanjaro	Kilimanjaro	Same	120		120	120	70
59	Majengo	Kilimanjaro	Kilimanjaro	Same	50		50	50	30
60	Maendeleo	Kilimanjaro	Kilimanjaro	Same	300		300	300	120
61	Makalivati	Kilimanjaro	Kilimanjaro	Same	200		200	200	120
62	Madege	Kilimanjaro	Kilimanjaro	Same	150		150	150	100
63	Njira	Kilimanjaro	Kilimanjaro	Same	70		50		
64	Rosylene	Kilimanjaro	Kilimanjaro	Siha	100			45	18
65	Mosiny	Kilimanjaro	Kilimanjaro	Siha	182			95	10
66	Kisangara	Kilimanjaro	Kilimanjaro	Siha	250			75	15
67	Kwadundwa	Kilimanjaro	Tanga	Kilindi	250	120		60	40
68	Nkobe	Kilimanjaro	Tanga	Kilindi	350			30	15
69	Lusanga	Kilimanjaro	Tanga	Korogwe	100	100	80	80	30
70	Gombero	Kilimanjaro	Tanga	Korogwe	50	50	25	30	25
71	Sekioga Mkwajuni	Kilimanjaro	Tanga	Korogwe	150		80	100	50
72	Mswaha - Tabora	Kilimanjaro	Tanga	Korogwe	200		20	30	10

## 添付資料-7.5.1 (12/18) フェーズ2 優先案件リスト Kilimanjaroゾーン

SN	Name of Scheme	ZIO name	Region Name	District Name	Potential Area (ha)	Designed Area (ha)	Developed Area (ha)	Irrigated Area (Wet) in ha	Irrigated Area (Dry) in ha
73	Mswaha Darajani	Kilimanjaro	Tanga	Korogwe	50	50	30	30	20
74	Mapangoni	Kilimanjaro	Tanga	Korogwe	200	200	50	30	20
75	Kitivo	Kilimanjaro	Tanga	Lushoto	420		420	300	60
76	Magwekuo	Kilimanjaro	Tanga	Lushoto	50		30	30	20
77	Wanga Ukolongwe	Kilimanjaro	Tanga	Lushoto	60		50		30
78	Mkumbara Zimbiri	Kilimanjaro	Tanga	Lushoto	120		100	60	30
79	Manzashai Kwemng'ong'o	Kilimanjaro	Tanga	Lushoto	200		100	90	50
80	Kwenkani	Kilimanjaro	Tanga	Lushoto	150		70	70	40
81	Mambo Kwem.	Kilimanjaro	Tanga	Lushoto	60		40	50	40
82	Ngaradai Zeta	Kilimanjaro	Tanga	Lushoto	240		100	50	100
83	Mdando	Kilimanjaro	Tanga	Lushoto	150		80	80	20
84	Nkukai Dindira	Kilimanjaro	Tanga	Lushoto	60		40	40	30
85	Mazia	Kilimanjaro	Tanga	Lushoto	100		60	60	40
86	Mavumo	Kilimanjaro	Tanga	Lushoto	100			60	
87	Ndelemai Magila	Kilimanjaro	Tanga	Lushoto	80		80	80	60
88	Churwa	Kilimanjaro	Tanga	Mkinga	400		15	15	15
89	Ndondondo (potwe)	Kilimanjaro	Tanga	Muheza	100		20	55	30
90	Kigurusimba Dam Scheme	Kilimanjaro	Tanga	Pangani	280				
91	Mafuriko	Kilimanjaro	Tanga	Tanga TC	90			10	

出典: JICA調査団

## 添付資料-7.5.1 (13/18) フェーズ2 優先案件リスト Mbeyaゾーン

SN	Name of Scheme	ZIO name	Region Name	District Name	Potential Area (ha)	Designed Area (ha)	Developed Area (ha)	Irrigated Area (Wet) in ha	Irrigated Area (Dry) in ha
<b>Large Scale Schemes</b>									
1	Mkombozi	Mbeya	Iringa	Iringa	3,050		1,000	3,200	34
2	Nyanzwa	Mbeya	Iringa	Kilolo	3,000		950		66
3	Songwe River Basin Development Project	Mbeya	Mbeya	Kyela	3,150				
4	Msesule	Mbeya	Mbeya	Mbarali	2,500		525	525	
5	Mbuyuni Kimani	Mbeya	Mbeya	Mbarali	3,000		1,500	1,500	
6	Lyanyula	Mbeya	Mbeya	Mbarali	2,000		768	768	8
7	Msangano	Mbeya	Songwe	Momba	3,000			500	
8	Kasinde	Mbeya	Songwe	Momba	8,000			2,000	
9	Iyendwe	Mbeya	Songwe	Momba	3,000			1,200	
<b>Medium Scale Schemes</b>									
1	Idodi	Mbeya	Iringa	Iringa	1,000		250	250	10
2	Magozi	Mbeya	Iringa	Iringa	1,300		400	600	50
3	Idodi Mbuyuni	Mbeya	Iringa	Iringa	1,000		250	250	10
4	Mafuruto	Mbeya	Iringa	Iringa	500		100	100	50
5	Kaning'ombe	Mbeya	Iringa	Iringa	588		388	388	50
6	Tungamalenga	Mbeya	Iringa	Iringa	500		300	300	100
7	Lwanga	Mbeya	Iringa	Iringa	1,000		164	164	64
8	Kiwere	Mbeya	Iringa	Iringa	600		300	300	300
9	Idodi Mpya	Mbeya	Iringa	Iringa	1,000		250	250	10
10	Mgololo	Mbeya	Iringa	Mufindi	1,000	700	80	80	580
11	Ifumbo	Mbeya	Mbeya	Chunya	600	200	151	200	151
12	Tenende	Mbeya	Mbeya	Kyela	500		160	30	10
13	Ngana	Mbeya	Mbeya	Kyela	600		209	200	60
14	Ikama	Mbeya	Mbeya	Kyela	600		325	300	100
15	Njombe	Mbeya	Mbeya	Mbarali	600		519	519	
16	Igumbilo Isitu	Mbeya	Mbeya	Mbarali	500		475	475	
17	Ipatagwa	Mbeya	Mbeya	Mbarali	1,240		550	550	50
18	Motombaya	Mbeya	Mbeya	Mbarali	800		600	600	
19	Isenyela	Mbeya	Mbeya	Mbarali	1,040		600	600	
20	Lwanyoe	Mbeya	Mbeya	Mbarali	1,000	1,000	1,000	1,000	400
21	Kapyo	Mbeya	Mbeya	Mbarali	600		329	329	100
22	Matebete	Mbeya	Mbeya	Mbarali	570		470	470	120
23	Mbalino	Mbeya	Mbeya	Mbarali	1,500				
24	Majengo	Mbeya	Mbeya	Mbarali	1,300		550	550	
25	Maendeleo	Mbeya	Mbeya	Mbarali	1,255		795	795	120
26	Mashala	Mbeya	Mbeya	Mbarali	500		400	400	
27	Manienga A	Mbeya	Mbeya	Mbarali	1,000			289	80
28	Lihamiile Ukwavila	Mbeya	Mbeya	Mbarali	1,000		400	600	100
29	Njalalila	Mbeya	Mbeya	Mbarali	800		320	320	80
30	Kapunga Small Holder	Mbeya	Mbeya	Mbarali	875	875	800	800	
31	Kilocha	Mbeya	Njombe	Njombe TC	595		310	310	310
32	Yakobi	Mbeya	Njombe	Njombe TC	575		3	81	3
33	Ikombe (ilulu)	Mbeya	Songwe	Ileje	650	600	600	240	30
<b>Small Scale Schemes</b>									
1	Mapogoro 1	Mbeya	Iringa	Iringa	400		350	200	50

## 添付資料-7.5.1 (13/18) フェーズ2 優先案件リスト Mbeyaゾーン

SN	Name of Scheme	ZIO name	Region Name	District Name	Potential Area (ha)	Designed Area (ha)	Developed Area (ha)	Irrigated Area (Wet) in ha	Irrigated Area (Dry) in ha
2	Ipwasi Ndorobo	Mbeya	Iringa	Iringa	300		100	100	100
3	Nyamahana	Mbeya	Iringa	Iringa	150		109	100	50
4	Mapogoro 2	Mbeya	Iringa	Iringa	400		350	200	50
5	Makifu	Mbeya	Iringa	Iringa	300		20	20	5
6	Kalenga	Mbeya	Iringa	Iringa	300		225	225	100
7	Makuka	Mbeya	Iringa	Iringa	200		120	120	56
8	Kibebe	Mbeya	Iringa	Iringa	75		25	75	35
9	Ulete	Mbeya	Iringa	Iringa	200		134	134	
10	Ifunda	Mbeya	Iringa	Iringa	62		12	12	5
11	Ulongambi 1	Mbeya	Iringa	Iringa	150		100	50	50
12	Ulongambi 2	Mbeya	Iringa	Iringa	150		100	50	50
13	Pawaga Prizon Farm	Mbeya	Iringa	Iringa	160		45	38	5
14	Kitanewa Parish/mapogoro	Mbeya	Iringa	Iringa	400		350	200	50
15	Magubike	Mbeya	Iringa	Iringa	300		100	100	30
16	Kibena	Mbeya	Iringa	Iringa	82		10	8	2
17	Magunga	Mbeya	Iringa	Iringa	120		18	2	18
18	Kikiombwe	Mbeya	Iringa	Iringa	240		40	40	10
19	Wangama	Mbeya	Iringa	Iringa	150		25	25	25
20	Tanangozi Drip	Mbeya	Iringa	Iringa	100		25	25	25
21	Makongati	Mbeya	Iringa	Iringa	200			26	
22	Lupembelwasenga	Mbeya	Iringa	Iringa	110			48	
23	Malinzanga	Mbeya	Iringa	Iringa	400		200	200	
24	Mbaramo Mgama	Mbeya	Iringa	Iringa	300		50	10	10
25	Weru	Mbeya	Iringa	Iringa	100		72	72	35
26	Kitete	Mbeya	Iringa	Kilolo	120		30	8	12
27	Ihongole	Mbeya	Iringa	Kilolo	80		12	12	12
28	Ikula	Mbeya	Iringa	Kilolo	120	80	80	34	22
29	Mtula	Mbeya	Iringa	Mafinga TC	75	75	75	25	45
30	Igomaa	Mbeya	Iringa	Mufindi	100	100	100	100	60
31	Sele	Mbeya	Mbeya	Chunya	76			76	28
32	Mbuyuni	Mbeya	Mbeya	Chunya	478			371	97
33	Makwale 1	Mbeya	Mbeya	Kyela	200			200	120
34	Makwale 2	Mbeya	Mbeya	Kyela	200			200	120
35	Ikumbilo	Mbeya	Mbeya	Kyela	200		100	100	15
36	Katumba - Songwe	Mbeya	Mbeya	Kyela	300		480	200	50
37	Ruanda Majenje	Mbeya	Mbeya	Mbarali	371		371	370	30
38	Kongolo Mswisi	Mbeya	Mbeya	Mbarali	320		329	329	100
39	Mtemela	Mbeya	Mbeya	Mbarali	350		230	230	
40	Chang'ombe	Mbeya	Mbeya	Mbarali	300		160	160	20
41	Magombole	Mbeya	Mbeya	Mbarali	282			120	
42	Shamwengo-mkoji	Mbeya	Mbeya	Mbeya	380	100	100	100	80
43	Imezu Mkombozi	Mbeya	Mbeya	Mbeya	90	50	50	50	46
44	Inyala A	Mbeya	Mbeya	Mbeya	200	150	150	150	130
45	Inyala B	Mbeya	Mbeya	Mbeya	153	120	120	120	112
46	Iyawayia	Mbeya	Mbeya	Mbeya	175	73	73	73	68
47	Ithombe	Mbeya	Mbeya	Mbeya	205	98	98	98	92

## 添付資料7.5.1 (13/18) フェーズ2 優先案件リスト Mbeyaゾーン

SN	Name of Scheme	ZIO name	Region Name	District Name	Potential Area (ha)	Designed Area (ha)	Developed Area (ha)	Irrigated Area (Wet) in ha	Irrigated Area (Dry) in ha
48	Kasyabone	Mbeya	Mbeya	Busokelo	150	150	100	120	150
49	Kisegese	Mbeya	Mbeya	Busokelo	320	320	320	320	150
50	Mbambo	Mbeya	Mbeya	Busokelo	150	150	100	150	100
51	Kifunda I	Mbeya	Mbeya	Busokelo	140	140	140	140	80
52	Kifunda II	Mbeya	Mbeya	Busokelo	140	140	140	140	80
53	Kilugu	Mbeya	Mbeya	Busokelo	180	180			
54	Katungila	Mbeya	Mbeya	Busokelo	235	235			
55	Ndola	Mbeya	Mbeya	Busokelo	360	360			
56	Lusungo	Mbeya	Mbeya	Busokelo	105				
57	Mwabuke	Mbeya	Mbeya	Busokelo	175				
58	Ipyana	Mbeya	Mbeya	Busokelo	135				
59	Mkiu	Mbeya	Njombe	Ludewa	140	20	20		
60	Matenga	Mbeya	Njombe	Makete	400	150	400	149	149
61	Makoga	Mbeya	Njombe	Makete	50		5	5	5
62	Welela 1	Mbeya	Njombe	Njombe	66		50	50	42
63	Ibumila	Mbeya	Njombe	Njombe	108		60	60	42
64	Ibiki	Mbeya	Njombe	Njombe	105		60	60	52
65	Welela 2	Mbeya	Njombe	Njombe	56		48	48	37
66	Ninga	Mbeya	Njombe	Njombe	80		64	64	20
67	Lima	Mbeya	Njombe	Njombe	92		57	57	47
68	Manima	Mbeya	Njombe	Njombe TC	74		3	39	3
69	Igola	Mbeya	Njombe	Njombe TC	143		64	91	64
70	Ngalanga	Mbeya	Njombe	Njombe TC	406		91	123	91
71	Mgala	Mbeya	Njombe	Njombe TC	451		8	84	8
72	Ng'elamo	Mbeya	Njombe	Njombe TC	151		111	111	111
73	Iboya	Mbeya	Njombe	Njombe TC	156		12	34	12
74	Boimanda	Mbeya	Njombe	Njombe TC	164	164	37	37	37
75	Miva	Mbeya	Njombe	Njombe TC	482		68	98	68
76	Lukumburu	Mbeya	Njombe	Njombe TC	345		4	67	4
77	Utengule A	Mbeya	Njombe	Njombe TC	356		59	59	59
78	Mmamongolo	Mbeya	Njombe	Njombe TC	331		86	104	86
79	Liwengi	Mbeya	Njombe	Njombe TC	185		43	74	43
80	Mikongo	Mbeya	Njombe	Njombe TC	59		4	53	4
81	Utengule B	Mbeya	Njombe	Njombe TC	96		7	7	7
82	Makanjaula	Mbeya	Njombe	Njombe TC	178		26	58	26
83	Nundu	Mbeya	Njombe	Njombe TC	84		47	47	47
84	Jikomboe (Ikumbilo - Chitete)	Mbeya	Songwe	Ileje	420	420	200	100	259
85	Senga	Mbeya	Songwe	Ileje	220	158	120	106	15
86	Iyula	Mbeya	Songwe	Mbozi	250	180	60	180	60
87	Nambinzo	Mbeya	Songwe	Mbozi	90				12

出典: JICA調査団

## 添付資料-7.5.1 (14/18) フェーズ2 優先案件リスト Morogoroゾーン

SN	Name of Scheme	ZIO name	Region Name	District Name	Potential Area (ha)	Designed Area (ha)	Developed Area (ha)	Irrigated Area (Wet) in ha	Irrigated Area (Dry) in ha
<b>Large Scale Schemes</b>									
1	Mgugwe	Morogoro	Morogoro	Kilombero	3,701	2,270		20	10
2	Likeya Traditional Irr. Scheme	Morogoro	Morogoro	Malinyi	3,070				68
3	Usangule Traditional Scheme	Morogoro	Morogoro	Malinyi	2,075				
4	Kilangali Smallholder	Morogoro	Morogoro	Kilosa	2,000			520	
5	Iyogwe/dibwige Valley	Morogoro	Morogoro	Kilosa	3,600			1,480	480
6	Bwage	Morogoro	Morogoro	Morogoro	3,600			30	30
7	Mngazi	Morogoro	Morogoro	Morogoro	3,000				
8	Lukenge	Morogoro	Morogoro	Mvomero	5,292		715	715	
9	Kisere	Morogoro	Pwani	Mkuranga	14,000		200		
10	Lukulilo	Morogoro	Pwani	Rufiji	5,000		100	100	
11	Muhoro	Morogoro	Pwani	Rufiji	5,000				
<b>Medium Scale Schemes</b>									
1	Mvumi	Morogoro	Morogoro	Kilosa	720		293	293	134
2	Ilonga	Morogoro	Morogoro	Kilosa	640	330		330	140
3	Chanzuru	Morogoro	Morogoro	Kilosa	680	240	240	240	10
4	Chabi Juu	Morogoro	Morogoro	Kilosa	1,190		700	300	
5	Ulaya	Morogoro	Morogoro	Kilosa	692			4	
6	Kihondo	Morogoro	Morogoro	Kilosa	500			10	
7	Mkobwe - Msowero	Morogoro	Morogoro	Kilosa	800			10	
8	Kidogobasi/kimamba	Morogoro	Morogoro	Kilosa	1,400		25	250	
9	Chabi - Itipi	Morogoro	Morogoro	Kilosa	1,190			700	
10	Kilombero Sugar (K2)	Morogoro	Morogoro	Kilosa	560		500	60	500
11	Usungura	Morogoro	Morogoro	Morogoro	500		200	500	100
12	Bwakira Chini	Morogoro	Morogoro	Morogoro	650			45	45
13	Gomero	Morogoro	Morogoro	Morogoro	500			34	34
14	Mbalangwe	Morogoro	Morogoro	Morogoro	1,000	230	200	200	200
15	Mkulazi	Morogoro	Morogoro	Morogoro	1,500				
16	Msufini	Morogoro	Morogoro	Mvomero	1,000			200	20
17	Lungo	Morogoro	Morogoro	Mvomero	1,500		15	15	
18	Lupiro 1 (luri River)	Morogoro	Morogoro	Ulanga	1,200		108	80	60
19	Luhomberi	Morogoro	Morogoro	Ulanga	840	840			
20	Lupiro 2 (luri River)	Morogoro	Morogoro	Ulanga	890		108	80	60
21	Lupiro 3 (luri River)	Morogoro	Morogoro	Ulanga	1,100		108	80	60
22	Mbuga	Morogoro	Morogoro	Ulanga	540	540			
23	Ilonga - Ulanga	Morogoro	Morogoro	Ulanga	840				
24	Mkoko (potential Area)	Morogoro	Pwani	Chalinze	500			10	
25	Mkongo	Morogoro	Pwani	Rufiji	500				
<b>Small Scale Schemes</b>									
1	Kawe	Morogoro	Dar es Salaam	Kinondoni MC	81			60	15
2	Nyange	Morogoro	Dar es Salaam	Kigamboni MC	200	32	32	32	
3	Chanjale/lukande	Morogoro	Morogoro	Gairo	250		160	80	80
4	Njage	Morogoro	Morogoro	Kilombero	325	325	175	175	100
5	Ibingu	Morogoro	Morogoro	Kilosa	110		50	15	15
6	Mzinga Rice Farm	Morogoro	Morogoro	Morogoro	200		12	12	

## 添付資料-7.5.1 (14/18) フェーズ2 優先案件リスト Morogoroゾーン

SN	Name of Scheme	ZIO name	Region Name	District Name	Potential Area (ha)	Designed Area (ha)	Developed Area (ha)	Irrigated Area (Wet) in ha	Irrigated Area (Dry) in ha
7	Kibwaya	Morogoro	Morogoro	Morogoro	400			35	35
8	Msonge	Morogoro	Morogoro	Morogoro	150			120	50
9	Nakafulu Vegetable Gardening	Morogoro	Morogoro	Ulanga	50		10	10	3
10	Kichangani A -Veg Garden	Morogoro	Morogoro	Ulanga	160		12	12	10
11	Kigongoni Prison Farm	Morogoro	Pwani	Bagamoyo	200		200	200	200
12	Marui - Mipera (mtuna Bwawani)	Morogoro	Pwani	Kisarawe	120		70	70	25
13	Marui - Ngwata (kisoti Bwawani)	Morogoro	Pwani	Kisarawe	120		70	70	25
14	Marui - Mipera (mkongoroni)	Morogoro	Pwani	Kisarawe	120		70	70	25
15	Rubada - Mkongo	Morogoro	Pwani	Rufiji	60	20	20	20	20
16	Tawi/utunge	Morogoro	Pwani	Rufiji	50		10	10	5

出典:JICA調査団

## 添付資料-7.5.1 (15/18) フェーズ2 優先案件リスト Mtwaraゾーン

SN	Name of Scheme	ZIO name	Region Name	District Name	Potential Area (ha)	Designed Area (ha)	Developed Area (ha)	Irrigated Area (Wet) in ha	Irrigated Area (Dry) in ha
<b>Large Scale Schemes</b>									
1	Mbwemkulu	Mtwara	Lindi	Kilwa	2,800			200	20
2	Lukuledi Irrigation Project	Mtwara	Lindi	Lindi	4,680				
3	Mokondeko	Mtwara	Mtwara	Newala	2,000			120	
4	Mahurunga	Mtwara	Mtwara	Mtwara	3,200		0	100	100
5	Mokondeko	Mtwara	Mtwara	Newala	2,000			120	
6	Liganga Aviv	Mtwara	Ruvuma	Songea	3,000	270	270	278	270
7	Nambendo Missionary land	Mtwara	Ruvuma	Songea	10,000				
<b>Medium Scale Schemes</b>									
1	Mavuji Drip Irr.	Mtwara	Lindi	Kilwa	500		-	250	200
2	Mkwaya	Mtwara	Lindi	Lindi MC	500			150	
3	Mangirikiti	Mtwara	Lindi	Liwale	500	230	230		
4	Mapalagwe	Mtwara	Mtwara	Masasi	1,200	1,200	800	450	350
5	Chikwedu-chipamanda	Mtwara	Mtwara	Newala	1,200	1,200	800	450	350
6	Nacha	Mtwara	Mtwara	Tandahimba	1,120	980	980	980	200
7	Luhagara	Mtwara	Ruvuma	Mbinga	800	800	240	70	490
8	Ndongosi	Mtwara	Ruvuma	Songea	1,200	217		28	28
<b>Small Scale Schemes</b>									
1	Makangaga	Mtwara	Lindi	Kilwa	250		250	250	80
2	Mpindiro	Mtwara	Lindi	Kilwa	200			70	15
3	Mtualonga	Mtwara	Lindi	Lindi	300				
4	Mtama	Mtwara	Lindi	Lindi	400				
5	Matapata	Mtwara	Lindi	Lindi MC	400	400	200	200	
6	Kipule	Mtwara	Lindi	Liwale	200			40	
7	Mlembwe	Mtwara	Lindi	Liwale	150				
8	Tandamanga	Mtwara	Lindi	Liwale	300	150	75	90	20
9	Nduruka	Mtwara	Lindi	Liwale	200		10		
10	Mpengere	Mtwara	Lindi	Liwale	120				
11	Liwale	Mtwara	Lindi	Liwale	300		275	275	
12	Ntila	Mtwara	Lindi	Nachingwea	350	120	290	86	150
13	Ilolo	Mtwara	Lindi	Nachingwea	340	340		136	36
14	Mitumbati	Mtwara	Lindi	Nachingwea	120		100	34	
15	Matekwe	Mtwara	Lindi	Nachingwea	480		100	20	
16	Mkowe	Mtwara	Lindi	Ruangwa	340	340		136	36
17	Chikoko	Mtwara	Lindi	Ruangwa	400	48	48	30	0
18	Lipeleng'enye	Mtwara	Mtwara	Newala	190	190	100	70	30
19	Chikalule	Mtwara	Mtwara	Newala	180	180	150	45	105
20	Chilangala	Mtwara	Mtwara	Newala	58	58	9	3	6
21	Lukuledi Missionary	Mtwara	Mtwara	Masasi	100				
22	Lipeleng'enye	Mtwara	Mtwara	Newala	190	190	100	70	30
23	Chikalule	Mtwara	Mtwara	Newala	180	180	150	45	105
24	Litehu	Mtwara	Mtwara	Tandahimba	300	44	30	30	
25	Lipalwe	Mtwara	Mtwara	Tandahimba	450				

## 添付資料-7.5.1 (15/18) フェーズ2 優先案件リスト Mtwaraゾーン

SN	Name of Scheme	ZIO name	Region Name	District Name	Potential Area (ha)	Designed Area (ha)	Developed Area (ha)	Irrigated Area (Wet) in ha	Irrigated Area (Dry) in ha
26	Sangamabuni	Mtwara	Ruvuma	Mbinga	200	124	100	100	100
27	Mkungwe	Mtwara	Ruvuma	Mbinga	150	60	25	15	15
28	Nyamakula	Mtwara	Ruvuma	Mbinga	64		34	34	30
29	Nyamilola	Mtwara	Ruvuma	Mbinga	206		68	68	68
30	Nyati	Mtwara	Ruvuma	Mbinga	68		54	54	54
31	Sanga Luhagara	Mtwara	Ruvuma	Mbinga	150		18	18	18
32	Juhudi Nakalola	Mtwara	Ruvuma	Mbinga	60		48	48	30
33	Litorongi	Mtwara	Ruvuma	Mbinga	101	101	54	32	15
34	Mkako	Mtwara	Ruvuma	Mbinga	150	150	20	20	
35	Masepe	Mtwara	Ruvuma	Mbinga	61	61	33	33	
36	Namahoka	Mtwara	Ruvuma	Namtumbo	120			21	21
37	Mtonya	Mtwara	Ruvuma	Namtumbo	120			128	128
38	Namawala	Mtwara	Ruvuma	Namtumbo	61			100	100
39	Liyuni	Mtwara	Ruvuma	Namtumbo	400	270	270	278	270
40	Mchomoro	Mtwara	Ruvuma	Namtumbo	60			22	6
41	Magazini	Mtwara	Ruvuma	Namtumbo	150			17	17
42	Milonji	Mtwara	Ruvuma	Namtumbo	56			11	11
43	Likuyu Seka	Mtwara	Ruvuma	Namtumbo	55	40	22	11	7
44	Mkongogulioni	Mtwara	Ruvuma	Namtumbo	300	90	90	69	45
45	Luhimbalilo	Mtwara	Ruvuma	Namtumbo	50			28	28
46	Kimpuna	Mtwara	Ruvuma	Namtumbo	120			80	30
47	Naikesi	Mtwara	Ruvuma	Namtumbo	120	100	100	100	700
48	Kitanda B	Mtwara	Ruvuma	Namtumbo	100	100	81	81	
49	Mpitimbi B	Mtwara	Ruvuma	Songea	200		5	88	88
50	Likuyufusi	Mtwara	Ruvuma	Songea	50				
51	Mpitimbi A	Mtwara	Ruvuma	Songea	200				
52	Magagura	Mtwara	Ruvuma	Songea	60				
53	Chinunje	Mtwara	Ruvuma	Tunduru	374			50	10
54	Mbati	Mtwara	Ruvuma	Tunduru	100			50	30
55	Legezamwendo	Mtwara	Ruvuma	Tunduru	240	150	150	100	45
56	Madaba 1	Mtwara	Ruvuma	Tunduru	150	150	150	70	40
57	Madaba 2	Mtwara	Ruvuma	Tunduru	100	100	100	60	20
58	Masonya	Mtwara	Ruvuma	Tunduru	200			50	35
59	Mkolamo	Mtwara	Ruvuma	Tunduru	422			100	40
60	Wenje	Mtwara	Ruvuma	Tunduru	300	96		50	30
61	Misyaje	Mtwara	Ruvuma	Tunduru	280	120	120	80	45
62	Nasya	Mtwara	Ruvuma	Tunduru	218			40	20
63	Namasalau	Mtwara	Ruvuma	Tunduru	200			50	20

出典: JICA調査団



## 添付資料-7.5.1 (16/18) フェーズ2 優先案件リスト Mwanzaゾーン

SN	Name of Scheme	ZIO name	Region Name	District Name	Potential Area (ha)	Designed Area (ha)	Developed Area (ha)	Irrigated Area (Wet) in ha	Irrigated Area (Dry) in ha
<b>Large Scale Schemes</b>									
1	Kijijongo-nyakigando (Ngono Project)	Mwanza	Kagera	Bukoba	2,035	0	0	60	0
2	Buligi Plains	Mwanza	Kagera	Muleba	5,000	5,000			
3	Biswari	Mwanza	Mara	Tarime	2,000	40	0	87	0
<b>Medium Scale Schemes</b>									
1	Makurugusi Valley	Mwanza	Geita	Chato	1,500	0	0	600	0
2	Ichwankima	Mwanza	Geita	Chato	650	0	0	210	0
3	Luhuha/inyala	Mwanza	Geita	Geita	1,200	0	0	120	0
4	Nyarubanga East	Mwanza	Geita	Geita	500	0	0	100	0
5	Kanegele	Mwanza	Geita	Nyangh'wale	720		0	0	0
6	Migango	Mwanza	Kagera	Biharamulo	1,400	0	0	450	0
7	Kaniha	Mwanza	Kagera	Biharamulo	1,300	0	0	160	0
8	Mugozi	Mwanza	Kagera	Ngara	540	0	0	100	0
9	Suguti/kataryo	Mwanza	Mara	Musoma	600	200	40	40	0
10	Mahiga	Mwanza	Mwanza	Kwimba	800	400	300	242	75
11	Kimiza	Mwanza	Mwanza	Kwimba	600				0
12	Nyashidala	Mwanza	Mwanza	Misungwi	1,500	320	245	220	0
13	Isole /kishinda (Proposed)	Mwanza	Mwanza	Sengerema	1,000	600	0	0	0
<b>Small Scale Schemes</b>									
1	Bugelenga	Mwanza	Geita	Bukombe	96			150	0
2	Kalebezo	Mwanza	Geita	Chato	200			100	0
3	Buziba	Mwanza	Geita	Geita	111	0	0	50	0
4	Imalanguzu	Mwanza	Geita	Geita	200	0	0	120	0
5	Nyarubanga West	Mwanza	Geita	Geita	200	0	0	85	0
6	Mugelele	Mwanza	Geita	Mbogwe	400	350			0
7	Nyakasaluma	Mwanza	Geita	Mbogwe	200	0	0	40	0
8	Mimbili	Mwanza	Geita	Nyangh'wale	100	0	0	0	0
9	Lushimba	Mwanza	Geita	Nyangh'wale	280	0	0	0	0
10	Izunya	Mwanza	Geita	Nyangh'wale	78	0	0	0	0
11	Busolwa	Mwanza	Geita	Nyangh'wale	168	0	0	0	0
12	Kagera Tea Estate (Maruku)	Mwanza	Kagera	Bukoba	200	300			0
13	Kazinga (Ngono Project)	Mwanza	Kagera	Bukoba	64	0	0	15	0
14	Ikimba (Ngono project)	Mwanza	Kagera	Bukoba	300	0	0	50	0
15	Ngarama (Ngono Project)	Mwanza	Kagera	Bukoba	435	0	0	17	0
16	Buturage (Ngono project)	Mwanza	Kagera	Missenyi	453	141	0	0	0
17	Buchurago 1 (Ngono Project)	Mwanza	Kagera	Missenyi	269	179	0	0	0
18	Kafunzo (Ngono project)	Mwanza	Kagera	Missenyi	240	240			0
19	Kyakakera (Ngono project)	Mwanza	Kagera	Missenyi	405	405	48	48	0
20	Ngono (Mamba) (Ngono project)	Mwanza	Kagera	Missenyi	135	135	0	0	0
21	Bulembo North (Ngono project)	Mwanza	Kagera	Missenyi	214	214	0	0	0

## 添付資料-7.5.1 (16/18) フェーズ2 優先案件リスト Mwanzaゾーン

SN	Name of Scheme	ZIO name	Region Name	District Name	Potential Area (ha)	Designed Area (ha)	Developed Area (ha)	Irrigated Area (Wet) in ha	Irrigated Area (Dry) in ha
22	Bulembo South (Ngono Project)	Mwanza	Kagera	Missenyi	235	235	0	0	0
23	Nyakabango	Mwanza	Kagera	Muleba	100	0	0	10	10
24	Bigombo	Mwanza	Kagera	Ngara	110	0	0	80	0
25	Mpanyula	Mwanza	Kagera	Ngara	450	231	0	231	0
26	Kisangwa	Mwanza	Mara	Bunda TC	124	124	78	40	10
27	Namhula	Mwanza	Mara	Bunda	150	100	40	40	
28	Nansimo	Mwanza	Mara	Bunda	160	80	120	50	
29	Balili	Mwanza	Mara	Bunda TC	80	40	40	40	0
30	Rubana Farm	Mwanza	Mara	Bunda TC	400		100	50	20
31	Kibara Busambara	Mwanza	Mara	Bunda	150	0	50	10	7
32	Buswahili	Mwanza	Mara	Butiama	50		50	50	0
33	Bugwema Solar	Mwanza	Mara	Musoma	100			0	0
34	Rwang'enyi	Mwanza	Mara	Rorya	350			100	0
35	Nyamilita	Mwanza	Mara	Serengeti	150	100	92	92	50
36	Mesaga	Mwanza	Mara	Serengeti	300	200	0	100	0
37	Bugelela Farm Project	Mwanza	Mara	Serengeti	200	80	20	40	
38	Malya	Mwanza	Mwanza	Kwimba	300	200	200	200	0
39	Luhala	Mwanza	Mwanza	Kwimba	200			80	0
40	Goloma	Mwanza	Mwanza	Kwimba	420	0	0	0	0
41	Shilanona	Mwanza	Mwanza	Kwimba	250				
42	Shilanona I	Mwanza	Mwanza	Kwimba	250			201	100
43	Ngula	Mwanza	Mwanza	Kwimba	300	0	0	0	0
44	Shilanona II	Mwanza	Mwanza	Kwimba	200				100
45	Nyamatala I	Mwanza	Mwanza	Kwimba	380	0	0	0	0
46	Nyamatala II	Mwanza	Mwanza	Kwimba	350	0	0	0	0
47	Mwitambu	Mwanza	Mwanza	Kwimba	420	0	0	0	0
48	Mwankulwe	Mwanza	Mwanza	Kwimba	350	0	0	0	0
49	Chabula	Mwanza	Mwanza	Magu	216			50	
50	Igenge	Mwanza	Mwanza	Misungwi	116	53	53	30	
51	Ilujamate	Mwanza	Mwanza	Misungwi	365	185	185	185	0
52	Mbarika	Mwanza	Mwanza	Misungwi	200	100	100		0
53	Nyang'homango	Mwanza	Mwanza	Misungwi	250	195	120	75	0
54	Sukuma	Mwanza	Mwanza	Buchosa	200	200			0
55	Sukuma	Mwanza	Mwanza	Sengerema	200	200			0
56	Kafunzo	Mwanza	Mwanza	Buchosa	300	200	0	0	0
57	Kalebezo/magulu kenda	Mwanza	Mwanza	Buchosa	200	200	0	0	0
58	Bugorola	Mwanza	Mwanza	Ukerewe	200	200	74		0
59	Miyogwezi	Mwanza	Mwanza	Ukerewe	120	120	40	40	0

出典: JICA調査団

## 添付資料-7.5.1 (17/18) フェーズ2 優先案件リスト Taboraゾーン

SN	Name of Scheme	ZIO name	Region Name	District Name	Potential Area (ha)	Designed Area (ha)	Developed Area (ha)	Irrigated Area (Wet) in ha	Irrigated Area (Dry) in ha
<b>Large Scale Schemes</b>									
1	Nyamlangano	Tabora	Shinyanga	Ushetu	3,500	0	0	0	0
2	Amani	Tabora	Shinyanga	Shinyanga	6,000	1,000	0	0	0
3	Mwalunili	Tabora	Tabora	Igunga	2,000				
4	Ifumba	Tabora	Tabora	Nzega	2,200		600		
<b>Medium Scale Schemes</b>									
1	Chela	Tabora	Shinyanga	Msalala	1,000	354	100	100	400
2	Kahanga	Tabora	Shinyanga	Kahama TC	600	450	450	450	
3	Mwajiginya B	Tabora	Shinyanga	Kishapu	600				
4	Mihama	Tabora	Shinyanga	Kishapu	600	0	0	0	0
5	Mwajidalala	Tabora	Shinyanga	Kishapu	1,000	0	0	0	0
6	Nduguti	Tabora	Shinyanga	Shinyanga	1,300	420	420	420	0
7	Kasoli	Tabora	Simiyu	Bariadi	670	480	0	200	0
8	Lutubiga	Tabora	Simiyu	Busega	738	120	50	50	0
9	Bukigi	Tabora	Simiyu	Maswa	700	500	500	319	0
10	Ijinga	Tabora	Simiyu	Maswa	700	500	500	410	0
11	Pandagi	Tabora	Simiyu	Maswa	650	501	501	471	0
12	Kinamwigulu	Tabora	Simiyu	Maswa	500	100	200	65	0
13	Buyubi	Tabora	Simiyu	Maswa	650	501	501	471	0
14	Igurubi (Dam Scheme)	Tabora	Tabora	Igunga	1,500	334	334		
15	Makomelo	Tabora	Tabora	Igunga	1,500				
16	Mwashiku	Tabora	Tabora	Igunga	800	300			
17	Buhekela	Tabora	Tabora	Igunga	800	400	400		
18	Mnange	Tabora	Tabora	Kaliua	500				
19	Ikindwa (dam scheme)	Tabora	Tabora	Nzega	700	100	100		
20	Budushi	Tabora	Tabora	Nzega	500		250	400	
21	Sigili	Tabora	Tabora	Nzega	600		153	153	
22	Ulyanyama	Tabora	Tabora	Sikonge	500	300	200		
23	Mibono	Tabora	Tabora	Sikonge	650	400			
<b>Small Scale Schemes</b>									
1	Isagehe	Tabora	Shinyanga	Kahama TC	100	40	40	40	10
2	Mwagwila	Tabora	Simiyu	Meatu	250	120	30		0
3	Itumba	Tabora	Tabora	Igunga	200	158	158	158	
4	Igombe	Tabora	Tabora	Kaliua	300				
5	Ichemba B	Tabora	Tabora	Kaliua	150				
6	Ichemba A	Tabora	Tabora	Kaliua	200				
7	Makao	Tabora	Tabora	Kaliua	300				
8	Igwisi Mlimani	Tabora	Tabora	Kaliua	450				
9	Igwisi	Tabora	Tabora	Kaliua	350				
10	Mpakani Mwa Makazi	Tabora	Tabora	Kaliua	250				
11	Barabara Ya 60	Tabora	Tabora	Kaliua	300				
12	Imara	Tabora	Tabora	Kaliua	250				
13	Malolo A (dam scheme)	Tabora	Tabora	Nzega	203	170	120	83	
14	Mwasala	Tabora	Tabora	Nzega	300		226	226	
15	Lakuyi	Tabora	Tabora	Nzega	150		60	93	20

## 添付資料-7.5.1 (17/18) フェーズ2 優先案件リスト Taboraゾーン

SN	Name of Scheme	ZIO name	Region Name	District Name	Potential Area (ha)	Designed Area (ha)	Developed Area (ha)	Irrigated Area (Wet) in ha	Irrigated Area (Dry) in ha
16	Mambali (dam scheme)	Tabora	Tabora	Nzega	300		50	50	20
17	Chamipulu	Tabora	Tabora	Nzega	400		329	329	
18	Nindo	Tabora	Tabora	Nzega	150				
19	Igigwa Irrigation Scheme	Tabora	Tabora	Sikonge	150	75	75	50	25
20	Gowekeo	Tabora	Tabora	Uyui	300			50	16
21	Miswaki	Tabora	Tabora	Uyui	225				

出典: JICA調査団

## 添付資料-7.5.1 (18/18) フェーズ2 優先案件リスト Kataviゾーン

SN	Name of Scheme	ZIO name	Region Name	District Name	Potential Area (ha)	Designed Area (ha)	Developed Area (ha)	Irrigated Area (Wet) in ha	Irrigated Area (Dry) in ha
<b>Large Scale Schemes</b>									
1	Kilida	Katavi	Katavi	Mpimbwe	3,500	2,000	212	212	212
2	Ilalangulu Dam Scheme	Katavi	Katavi	Mpimbwe	13,000				
3	Itenka	Katavi	Katavi	Nsimbo	3,546				
4	Karema Dam Scheme	Katavi	Katavi	Mpanda	3,000	2,721	1,000	1,323	
5	Mnyagara	Katavi	Katavi	Mpanda	2,400				
6	Malagarasi	Katavi	Kigoma	Uvinza	6,000				
<b>Medium Scale Schemes</b>									
1	Mamba	Katavi	Katavi	Mpimbwe	1,000				
2	Ugalla	Katavi	Katavi	Nsimbo	520	225	225	225	225
3	Iloba (nkungwi)	Katavi	Katavi	Mpanda	1,540	1,540	0	738	4
4	Mnyamasi	Katavi	Katavi	Mpanda	1,200				
5	Mugera	Katavi	Kigoma	Buhigwe	600	120			
6	Murumba	Katavi	Kigoma	Kasulu	820	106			
7	Malalo	Katavi	Kigoma	Kasulu	500				
8	Asante Nyerere	Katavi	Kigoma	Kasulu	1,500				
9	Ilagala	Katavi	Kigoma	Uvinza	1,000				
10	Lufubu (valley)	Katavi	Kigoma	Uvinza	800				
11	Katuka Dam Scheme	Katavi	Katavi	Kalambo	500				
12	Kate Basin	Katavi	Rukwa	Nkasi	1,200			30	3
13	Masolo	Katavi	Rukwa	Nkasi	590			180	
<b>Small Scale Schemes</b>									
1	Msadya	Katavi	Katavi	Mpimbwe	275		120	137	
2	Ilalangulu/mirumba	Katavi	Katavi	Mpimbwe	150		100	100	
3	Ilunde Proposed Scheme	Katavi	Katavi	Mlele	388			62	
4	Masigo Proposed Scheme	Katavi	Katavi	Mlele	330				76
5	Ikondamoyo	Katavi	Katavi	Nsimbo	212				
6	Kambuzi Halt	Katavi	Katavi	Nsimbo	125				
7	Uruwira	Katavi	Katavi	Nsimbo	350	350	252	252	252
8	Usense	Katavi	Katavi	Nsimbo	106				
9	Kibaoni	Katavi	Katavi	Mpimbwe	50				
10	Lugonesi	Katavi	Katavi	Mpanda	96	96		76	8
11	Nsambara	Katavi	Katavi	Mpanda	136			115	
12	Kalege	Katavi	Kigoma	Buhigwe	300				
13	Gwanumpu	Katavi	Kigoma	Kakonko	200				
14	Msambara	Katavi	Kigoma	Kasulu	90		90	90	
15	Nyamnyusi	Katavi	Kigoma	Kasulu	400				
16	Kahambwe	Katavi	Kigoma	Kibondo	145	145	145	145	145
17	Kigina	Katavi	Kigoma	Kibondo	120	120	120	120	120
18	Lumpungu	Katavi	Kigoma	Kibondo	206	206	206	206	
19	Kibumba	Katavi	Kigoma	Kigoma	80			5	
20	Mkuti	Katavi	Kigoma	Kigoma	120	120	95	95	69
21	Nyabikele	Katavi	Kigoma	Kigoma	80			40	
22	Mtentema	Katavi	Kigoma	Kigoma	80			40	20
23	Lukaranga	Katavi	Kigoma	Kigoma	80			40	20

## 添付資料-7.5.1 (18/18) フェーズ2 優先案件リスト Kataviゾーン

SN	Name of Scheme	ZIO name	Region Name	District Name	Potential Area (ha)	Designed Area (ha)	Developed Area (ha)	Irrigated Area (Wet) in ha	Irrigated Area (Dry) in ha
24	Kalya	Katavi	Kigoma	Uvinza	300				
25	Singiwe Dam Scheme	Katavi	Katavi	Kalambo	400				
26	Ulumi Dam Scheme	Katavi	Katavi	Kalambo	350				
27	Namansi	Katavi	Rukwa	Nkasi	450		200	20	
28	China	Katavi	Rukwa	Nkasi	50			37	6
29	Kizusi Basin	Katavi	Rukwa	Nkasi	50			40	15
30	Mpenge	Katavi	Rukwa	Nkasi	480			80	
31	Cherenganya	Katavi	Rukwa	Sumbawanga MC	150			45	15

出典:JICA調査団

添付資料-9.7.1 灌漑インフラ開発費用(建設費+技術サービス費)

フェーズ1

工事タイプ	単価 (USD)	開発面積 (ha)	建設費用 (USD)	F/S費用 (USD)	D/D費用 (USD)	SV費用 (USD)	技術サービス費 (USD)	建設費+ES費 (USD)	建設費+ES費 (TZS mil)
新規重力式(完結型)	6,608	133,258	880,568,864	35,222,755	52,834,132	105,668,264	193,725,150	1,074,294,014	2,406,419
新規加圧式(完結型)	17,700	3,670	64,959,000	2,598,360	3,897,540	7,795,080	14,290,980	79,249,980	177,520
拡張	3,540	111,193	393,623,220	15,744,929	23,617,393	47,234,786	86,597,108	480,220,328	1,075,694
改修	3,540	96,278	340,824,120	10,224,724	13,632,965	27,265,930	51,123,618	391,947,738	877,963
合計		344,399	1,679,975,204	63,790,767	93,982,030	187,964,060	345,736,856	2,025,712,060	4,537,595

フェーズ2

工事タイプ	単価 (USD)	開発面積 (ha)	建設費用 (USD)	F/S費用 (USD)	D/D費用 (USD)	SV費用 (USD)	技術サービス費 (USD)	建設費+ES費 (USD)	建設費+ES費 (TZS mil)
新規重力式(完結型)	6,608	166,233	1,098,467,664	43,938,707	65,908,060	131,816,120	241,662,886	1,340,130,550	3,001,892
新規加圧式(完結型)	17,700	4,165	73,720,500	2,948,820	4,423,230	8,846,460	16,218,510	89,939,010	201,463
拡張	3,540	141,711	501,656,940	20,066,278	30,099,416	60,198,833	110,364,527	612,021,467	1,370,928
改修	3,540	93,549	331,163,460	9,934,904	13,246,538	26,493,077	49,674,519	380,837,979	853,077
合計		405,658	2,005,008,564	76,888,708	113,677,245	227,354,489	417,920,442	2,422,929,006	5,427,361

全体(フェーズ1+フェーズ2)

工事タイプ	単価 (USD)	開発面積 (ha)	建設費用 (USD)	F/S費用 (USD)	D/D費用 (USD)	SV費用 (USD)	技術サービス費 (USD)	建設費+ES費 (USD)	建設費+ES費 (TZS mil)
新規重力式(完結型)	6,608	299,491	1,979,036,528	79,161,461	118,742,192	237,484,383	435,388,036	2,414,424,564	5,408,311
新規加圧式(完結型)	17,700	7,835	138,679,500	5,547,180	8,320,770	16,641,540	30,509,490	169,188,990	378,983
拡張	3,540	252,904	895,280,160	35,811,206	53,716,810	107,433,619	196,961,635	1,092,241,795	2,446,622
改修	3,540	189,827	671,987,580	20,159,627	26,879,503	53,759,006	100,798,137	772,785,717	1,731,040
合計		750,057	3,684,983,768	140,679,475	207,659,274	415,318,549	763,657,298	4,448,641,066	9,964,956

注: 表中の費用にはVAT (18%)を含む。

出典: JICA 調査団

1USD= 2,240 TZS

(単位: USD)

	活動	フェーズ1 (2018-2025)			フェーズ2(2026-2035)		
		単価	数量	費用合計	単価	数量	費用合計
AP 2	<b>(1) RIOの新設及び県灌漑開発チーム(DIDT)/県灌漑局(DID)の強化</b>						
	[1-1] RIO set-up						
	1) Office	446,428	6 offices	2,678,568	446,428	12 offices	5,357,136
	2) Office and survey equipment	43,125	6 sets	258,750	43,125	12 sets	517,500
	3) Vehicle	42,410	12 vehicles	508,920	42,410	24 vehicles	1,017,840
	[1-2] Awareness raising on DID/DIDT roles and functions						
	1) Workshop for LGA staff	33,928	3 times	101,784	33,928	4 times	135,712
	<b>(2) NIR機能の改善(人的資源、機材・設備)</b>						
	[2-1] Establishment of new headquarters in Dodoma	5,032,188	1 lumpsum	5,032,188			
	<b>(3) 灌漑組合(IO)の登録</b>						
	[3-1] Awareness raising on IO registration						
	1) Workshop for LGA staff	33,928	3 times	101,784	33,928	4 times	135,712
	<b>(4) 事業モニタリング・評価システムの導入</b>						
	[4-1] Annual performance review						
1) Workshop on data collection for LGA staff	33,928	8 times	271,424	33,928	10 times	339,280	
[4-2] Mid-and final evaluation of NIMP2018							
1) Field visit for data collection	11,400	3 times	34,200	11,400	3 times	34,200	
[4-3] Formulation of irrigation development beyond 2035							
1) Commission for the study				333,120	1 contract	333,120	
<b>(5) 広報部門の活動強化</b>							
[5-1] Website development							
1) Website development	3,125	1 time	3,125				
2) Annual maintenance	223	7 years	1,561	223	10 years	2,230	
<b>(6) 灌漑をテーマとした研究開発</b>							
[6-1] Research activities							
1) Commission for individual studies	261,453	5 studies	1,307,265	261,453	5 studies	1,307,265	
[6-2] Establishment of NIRC research and training center							
1) Project for establishment of NIRTC	13,643,500	1 project	13,643,500				
小計			23,943,069			9,179,995	
AP 3	<b>(1)-(3) 能力強化研修 (Level 1-3)</b>						
	[1-1] Training for NIRC HQ and ZIO/RIO technical staff (Level 1)						
	1) Training on technical standards, project management and CGL	34,375	4 times	137,500	34,375	5 times	171,875
	[1-2] CGL Training for LGA (Level 2)						
	1) Training on technical standards and CGL for LGA technical staff	47,321	3 times	141,963	47,321	4 times	189,284
	[1-3] Comprehensive CGL Training for LGA and IO (Level 2 and 3)						
	1) Formulation	12,857	60 schemes	771,420	12,857	98 schemes	1,259,986
	2) Implementation	10,714	60 schemes	642,840	10,714	98 schemes	1,049,972
	3) O&M	4,361	60 schemes	261,660	4,361	98 schemes	427,378
	[1-4] Production/ Subject-matter Training (Level 3)						
	1) Production	16,017	60 schemes	961,020	16,017	98 schemes	1,569,666
	2) Organizational Strengthening	467	60 schemes	28,020	467	98 schemes	45,766
	3) Marketing	621	60 schemes	37,260	621	98 schemes	60,858
	4) Gender	1,000	60 schemes	60,000	1,000	98 schemes	98,000
<b>(4) 灌漑技術マニュアル/チェックリストの開発</b>							
[4-1] Development of technical manuals and checklists							
1) Commission for the work	119,700	1 contract	119,700	119,700	1 contract	119,700	
[4-2] Dissemination of technical manuals and checklists							
1) Workshop	27,232	3 times	81,696	27,232	3 times	81,696	
<b>(5) 灌漑開発のための研修カリキュラム作成</b>							
[5-1] Development and review of training modules							
1) Commission for the work	43,167	1 times	43,167	43,167	1 times	43,167	
[5-2] Provision of manuals							
1) Training materials	22	1,000 copies	22,000	22	1,000 copies	22,000	
<b>(6) 民間コントラクター育成と技術力向上</b>							
[6-1] Seminar for private service providers							
1) Seminar	7,142	4 times	28,568	7,142	5 times	35,710	
小計			3,336,814			5,175,058	
AP 4	<b>(1) 民間部門との連携による灌漑投資促進</b>						
	[1-1] Stakeholder workshop						
	1) Workshop	7,142	4 times	28,568	7,142	5 times	35,710
	<b>(2) セクター横断的な課題に対する関係者間の連携強化</b>						
[2-1] Stakeholder workshop							
1) Workshop	5,357	4 times	21,428	5,357	5 times	26,785	
小計			49,996			62,495	
			<b>フェーズ1 合計</b>			<b>フェーズ2 合計</b>	
			27,329,879			14,417,548	

注:表中の費用にはVAT (18%)を含む。  
出典: JICA調査団

添付資料-9.9.1 (1/3) 費用(財務価格・経済価格)計算詳細

費用(経済価格)

TZS換算

費用(経済価格)合計(VAT抜き) (単位: 百万 TZS) 【TZS 2,240/ USD】

コンポーネント	フェーズ1(2018 - 2025)	フェーズ2(2026 - 2035)	合計 (2018 - 2035)
1 ハードコンポーネント	3,594,281	4,315,203	7,909,484
2 ソフトコンポーネント	44,983	21,975	66,959
<b>合計</b>	<b>3,639,264</b>	<b>4,337,178</b>	<b>7,976,442</b>

USD換算

費用(経済価格)合計(VAT抜き) (単位: 百万 USD)

コンポーネント	フェーズ1(2018 - 2025)	フェーズ2(2026 - 2035)	合計 (2018 - 2035)
1 ハードコンポーネント	1,513	1,812	3,325
2 ソフトコンポーネント	20	10	30
<b>合計</b>	<b>1,533</b>	<b>1,822</b>	<b>3,355</b>

費用(財務価格)

TZS換算

費用(財務価格)合計(VAT込) (単位: 百万 TZS) 【TZS 2,240/ USD】

コンポーネント	フェーズ1(2018 - 2025)	フェーズ2(2026 - 2035)	合計 (2018 - 2035)
1 ハードコンポーネント	4,498,132	5,396,629	9,894,761
2 ソフトコンポーネント	61,219	32,295	93,514
<b>合計</b>	<b>4,559,350</b>	<b>5,428,925</b>	<b>9,988,275</b>

USD換算

費用(財務価格)合計(VAT込) (単位: 百万 USD)

コンポーネント	フェーズ1(2018 - 2025)	フェーズ2(2026 - 2035)	合計 (2018 - 2035)
1 ハードコンポーネント	2,008	2,409	4,417
2 ソフトコンポーネント	27	14	42
<b>合計</b>	<b>2,035</b>	<b>2,424</b>	<b>4,459</b>

1. ハードコンポーネント(HC)費用(建設費用)

建設(VAT込)費用単価(財務価格・経済価格)

灌漑タイプ	費目	単価合計 (USD/ ha) (費用(財務価格))	単価合計 (USD/ ha) (費用(経済価格))
1 新規重力式(完結型)	エンジニアリング費用	1,232	1,232
	建設費用	5,600	5,183
	合計	<b>6,832</b>	<b>6,415</b>
	合計(VAT込)	<b>8,062</b>	n.a.
2 新規加圧式(完結型)	エンジニアリング費用	3,300	3,300
	建設費用	15,000	13,808
	合計	<b>18,300</b>	<b>17,108</b>
	合計(VAT込)	<b>21,594</b>	n.a.
3 拡張	エンジニアリング費用	660	660
	建設費用	3,000	2,777
	合計	<b>3,660</b>	<b>3,437</b>
	合計(VAT込)	<b>4,319</b>	n.a.
4 改修	エンジニアリング費用	450	450
	建設費用	3,000	2,777
	合計	<b>3,450</b>	<b>3,227</b>
	合計(VAT込)	<b>4,071</b>	n.a.

添付資料-9.9.1 (2/3) 費用(財務価格・経済価格)計算詳細

ハードコンポーネント費用(財務価格)(VAT込)【TZS換算】 換算レート: TZS / USD = 2,240

灌漑タイプ	季節	HC単位費用合計 (USD / ha)	HC単位費用合計 (TZS/ ha)	フェーズ1 (2018 - 2025)		フェーズ2 (2018 - 2025)		合計(フェーズ1+2): 2018 - 2035)	
				開発面積 (ha)	灌漑開発コスト (百万TZS)	開発面積 (ha)	灌漑開発コスト (百万TZS)	開発面積 (ha)	灌漑開発コスト (百万TZS)
1 新規重力式(完結型)	雨期	8,062	18,058,342	102,795	1,856,315	126,731	2,288,555	229,527	4,144,870
	乾期	8,062	18,058,342	31,003	559,855	39,502	713,337	70,504	1,273,192
2 新規加圧式(完結型)	雨期	18,300	40,992,000	2,405	98,575	3,175	130,161	5,580	228,736
	乾期	18,300	40,992,000	725	29,730	990	40,571	1,715	70,301
3 拡張	雨期	4,319	9,674,112	85,428	826,443	108,036	1,045,156	193,465	1,871,598
	乾期	4,319	9,674,112	25,765	249,251	33,675	325,773	59,439	575,023
4 改修	雨期	4,071	9,119,040	73,969	674,529	71,319	650,361	145,288	1,324,890
	乾期	4,071	9,119,040	22,309	203,434	22,230	202,716	44,539	406,150
				<b>344,399</b>	<b>4,498,132</b>	<b>405,658</b>	<b>5,396,629</b>	<b>750,057</b>	<b>9,894,761</b>

ハードコンポーネント費用(財務価格)(VAT込)【USD換算】 換算レート: TZS / USD = 2,240

灌漑タイプ	季節	HC単位費用合計 (USD / ha)	HC単位費用合計 (TZS/ ha)	フェーズ1 (2018 - 2025)		フェーズ2 (2018 - 2025)		合計(フェーズ1+2): 2018 - 2035)	
				開発面積 (ha)	灌漑開発コスト (百万TZS)	開発面積 (ha)	灌漑開発コスト (百万TZS)	開発面積 (ha)	灌漑開発コスト (百万TZS)
1 新規重力式(完結型)	雨期	8,062	18,058,342	102,795	829	126,731	1,022	229,527	1,850
	乾期	8,062	18,058,342	31,003	250	39,502	318	70,504	568
2 新規加圧式(完結型)	雨期	18,300	40,992,000	2,405	44	3,175	58	5,580	102
	乾期	18,300	40,992,000	725	13	990	18	1,715	31
3 拡張	雨期	4,319	9,674,112	85,428	369	108,036	467	193,465	836
	乾期	4,319	9,674,112	25,765	111	33,675	145	59,439	257
4 改修	雨期	4,071	9,119,040	73,969	301	71,319	290	145,288	591
	乾期	4,071	9,119,040	22,309	91	22,230	90	44,539	181
				<b>344,399</b>	<b>2,008</b>	<b>405,658</b>	<b>2,409</b>	<b>750,057</b>	<b>4,417</b>

ハードコンポーネント費用(経済価格)(VAT抜き)【TZS換算】 換算レート: TZS / USD = 2,240

灌漑タイプ	季節	HC単位費用合計 (USD / ha)	HC単位費用合計 (TZS/ ha)	フェーズ1 (2018 - 2025)		フェーズ2 (2018 - 2025)		合計(フェーズ1+2): 2018 - 2035)	
				開発面積 (ha)	灌漑開発コスト (百万TZS)	開発面積 (ha)	灌漑開発コスト (百万TZS)	開発面積 (ha)	灌漑開発コスト (百万TZS)
1 新規重力式(完結型)	雨期	6,415	14,369,152	102,795	1,477,083	126,731	1,821,020	229,527	3,298,103
	乾期	6,415	14,369,152	31,003	445,481	39,502	567,608	70,504	1,013,088
2 新規加圧式(完結型)	雨期	17,108	38,320,800	2,405	92,152	3,175	121,679	5,580	213,831
	乾期	17,108	38,320,800	725	27,792	990	37,927	1,715	65,720
3 拡張	雨期	3,437	7,697,760	85,428	657,606	108,036	831,638	193,465	1,489,244
	乾期	3,437	7,697,760	25,765	198,331	33,675	259,220	59,439	457,550
4 改修	雨期	3,227	7,227,360	73,969	534,602	71,319	515,448	145,288	1,050,051
	乾期	3,227	7,227,360	22,309	161,233	22,230	160,664	44,539	321,897
				<b>344,399</b>	<b>3,594,281</b>	<b>405,658</b>	<b>4,315,203</b>	<b>750,057</b>	<b>7,909,484</b>

ハードコンポーネント費用(経済価格)(VAT抜き)【USD換算】 換算レート: TZS / USD = 2,240

灌漑タイプ	季節	HC単位費用合計 (USD / ha)	HC単位費用合計 (TZS/ ha)	フェーズ1 (2018 - 2025)		フェーズ2 (2018 - 2025)		合計(フェーズ1+2): 2018 - 2035)	
				開発面積 (ha)	灌漑開発コスト (百万TZS)	開発面積 (ha)	灌漑開発コスト (百万TZS)	開発面積 (ha)	灌漑開発コスト (百万TZS)
1 新規重力式(完結型)	雨期	6,415	14,369,152	102,795	659	126,731	813	229,527	1,472
	乾期	6,415	14,369,152	31,003	199	39,502	253	70,504	452
2 新規加圧式(完結型)	雨期	17,108	38,320,800	2,405	41	3,175	54	5,580	95
	乾期	17,108	38,320,800	725	12	990	17	1,715	29
3 拡張	雨期	3,437	7,697,760	85,428	294	108,036	371	193,465	665
	乾期	3,437	7,697,760	25,765	89	33,675	116	59,439	204
4 改修	雨期	3,227	7,227,360	73,969	239	71,319	230	145,288	469
	乾期	3,227	7,227,360	22,309	72	22,230	72	44,539	144
				<b>344,399</b>	<b>1,605</b>	<b>405,658</b>	<b>1,926</b>	<b>750,057</b>	<b>3,531</b>

添付資料-9.9.1 (3/3) 費用(財務価格・経済価格)計算詳細

2. ソフトコンポーネント費用(トレーニング、ワークショップ、調査)

TZS換算 換算レート: TZS / USD = 2,240

ソフトコンポーネント費用 (財務価格) (VAT込) (単位:百万TZS)

コンポーネント	フェーズ1 (2018 - 2025)	フェーズ2 (2026 - 2035)	合計 (2018 - 2035)
1 Action Plan 2	53,632	20,563	74,196
2 Action Plan 3	7,474	11,592	19,067
3 Action Plan 4	112	140	252
<b>合計</b>	<b>61,219</b>	<b>32,295</b>	<b>93,514</b>

換算レート: TZS / USD = 2,240

ソフトコンポーネント費用 (経済価格) (VAT抜き) (単位:百万TZS)

コンポーネント	フェーズ1 (2018 - 2025)	フェーズ2 (2026 - 2035)	合計 (2018 - 2035)
1 Action Plan 2	40,835	15,617	56,453
2 Action Plan 3	4,089	6,283	10,372
3 Action Plan 4	60	75	134
<b>合計</b>	<b>44,983</b>	<b>21,975</b>	<b>66,959</b>

USD換算 換算レート: TZS / USD = 2,240

ソフトコンポーネント費用 (財務価格) (VAT込) (単位:USD)

コンポーネント	フェーズ1 (2018 - 2025)	フェーズ2 (2026 - 2035)	合計 (2018 - 2035)
1 Action Plan 2	23,943,069	9,179,995	33,123,064
2 Action Plan 3	3,336,814	5,175,058	8,511,872
3 Action Plan 4	49,996	62,495	112,491
<b>合計</b>	<b>27,329,879</b>	<b>14,417,548</b>	<b>41,747,427</b>

換算レート: TZS / USD = 2,240

ソフトコンポーネント費用 (経済価格) (VAT抜き) (単位:USD)

コンポーネント	フェーズ1 (2018 - 2025)	フェーズ2 (2026 - 2035)	合計 (2018 - 2035)
1 Action Plan 2	18,229,970	6,972,060	25,202,030
2 Action Plan 3	1,825,265	2,805,049	4,630,313
3 Action Plan 4	26,648	33,310	59,958
<b>合計</b>	<b>20,081,882</b>	<b>9,810,418</b>	<b>29,892,301</b>

出典: JICA調査団



添付資料-9.9.2 (1/6) 作物収支(財務価格)

雨期 安値の時期

コメ 条件:【単価を2017年単価に合うように調整】

【流通経費率:1.2(ダルエスサラーム卸市場の調査に基づく。)]

【粳-精米比率を1:0.65と設定した。】

注)流通経費率:流通経費(運搬コスト、市場参加費用、保管費用など)の合計の比率。

(1)【現在:天水 → 将来:天水(プロジェクト無)】

(2)【現在:灌漑 → 将来:灌漑(プロジェクト無)】

既設の灌漑施設があるが、改修により単収が増加すると想定(2.5 ton/ ha → 5.0 ton/ ha((3)参照))。

建設単価の「改修」に対応。

(3)【現在:天水→将来:灌漑 又は 現在:灌漑 → 将来:灌漑(プロジェクト有)】

現在、何もない、あるいは伝統灌漑を行っている地域。NIMP2018実施により単収が増加すると想定(1.85 ton/ ha((1)参照)。) → 5.0 ton/ ha)。

建設単価の「新規重力式(完結型)」「新規加圧式(完結型)」「拡張」に対応。

項目	単位	単価 (TZS)	数量	合計 (TZS)
<b>I 総便益</b>				
Yield	kg/ha		1,850	
Farmgate Price	TZS/kg	686		
Gross Return	TZS/ha			<b>1,269,100</b>
<b>II 生産費用</b>				
<b>1. 投入</b>				
Seed	kg/ha	670	75	50,250
Fertilizer (Urea)	kg/ha			
Urea	kg/ha	1,000	100	100,000
Agro-chemical (Pesticide)	kg/ha			
Pesticide	kg/ha	12,000	0.5	6,000
Packing Material (Bags (70kg))	nos/ha	700	50	35,000
<b>小計</b>				<b>191,250</b>
<b>2. 労働コスト</b>				
Land prep., Puddle and Bund	man/day	10,000	20	200,000
Nursery	man/day	10,000	2	20,000
Plant/Transplanting	man/day	10,000	25	250,000
Weeding and Fertilizer	man/day	5,000	50	250,000
Bird Scaring	man/day	660	30	19,800
Harvesting	man/day	6,000	40	240,000
Transport Marketing	man/day	5,000	7	35,000
Irrigation, etc	man/day		0	0
Threshing/Winnowing	man/day	4,400	30	132,000
<b>小計</b>				<b>1,146,800</b>
<b>3. 機械・役畜</b>				
Tractor	LS	60,000	1	60,000
Hand Tractor	LS			-
Draught Animal	LS			-
<b>小計</b>				<b>60,000</b>
<b>4. 雑費(費用の5%)</b>				<b>69,903</b>
<b>費用合計</b>				<b>1,467,953</b>
<b>III 純便益</b>				
				<b>-198,853</b>

出典: JICA調査団

項目	単位	単価 (TZS)	数量	合計 (TZS)
<b>I 総便益</b>				
Yield	kg/ha		2,500	
Farmgate Price	TZS/kg	686		
Gross Return	TZS/ha			<b>1,715,000</b>
<b>II 生産費用</b>				
<b>1. 投入</b>				
Seed	kg/ha	550	50	27,500
Fertilizer (Urea)	kg/ha			
Urea	kg/ha	1,000	125	125,000
DAP	kg/ha	1,200	100	120,000
Agro-chemical (Pesticide)	kg/ha			
Pesticide	kg/ha	12,000	0.5	6,000
Herbicide	kg/ha	15,000	2.5	37,500
Packing Material (Bags (100kg))	nos/ha	1,000	75	75,000
<b>小計</b>				<b>391,000</b>
<b>2. 労働コスト</b>				
Land prep., Puddle and Bund	man/day	7,000	15	105,000
Nursery	man/day	2,000	6	12,000
Plant/Transplanting	man/day	8,000	22	176,000
Weeding and Fertilizer	man/day	10,000	16	160,000
Bird Scaring	man/day	10,000	21	210,000
Harvesting	man/day	10,000	15	150,000
Transport Marketing	man/day	15,000	10	150,000
Irrigation, etc	man/day	12,500	10	125,000
Threshing/Winnowing	man/day	10,000	10	100,000
<b>小計</b>				<b>1,188,000</b>
<b>3. 機械・役畜</b>				
Tractor	LS			-
Hand Tractor	LS	120,000	1	120,000
Draught Animal	LS			-
<b>小計</b>				<b>120,000</b>
<b>4. 雑費(費用の5%)</b>				<b>84,950</b>
<b>費用合計</b>				<b>1,783,950</b>
<b>III 純便益</b>				
				<b>-68,950</b>

項目	単位	単価 (TZS)	数量	合計 (TZS)
<b>I 総便益</b>				
Yield	kg/ha		5,000	
Farmgate Price	TZS/kg	686		
Gross Return	TZS/ha			<b>3,430,000</b>
<b>II 生産費用</b>				
<b>1. 投入</b>				
Seed	kg/ha	550	50	27,500
Fertilizer (Urea)	kg/ha			
Urea	kg/ha	1,000	125	125,000
DAP	kg/ha	1,200	100	120,000
Agro-chemical (Pesticide)	kg/ha			
Pesticide	kg/ha	12,000	0.5	6,000
Herbicide	kg/ha	15,000	2.5	37,500
Packing Material (Bags (100kg))	nos/ha	1,000	75	75,000
<b>小計</b>				<b>391,000</b>
<b>2. 労働コスト</b>				
Land prep., Puddle and Bund	man/day	7,000	15	105,000
Nursery	man/day	2,000	6	12,000
Plant/Transplanting	man/day	8,000	22	176,000
Weeding and Fertilizer	man/day	10,000	16	160,000
Bird Scaring	man/day	10,000	21	210,000
Harvesting	man/day	10,000	15	150,000
Transport Marketing	man/day	15,000	10	150,000
Irrigation, etc	man/day	12,500	10	125,000
Threshing/Winnowing	man/day	10,000	10	100,000
<b>小計</b>				<b>1,188,000</b>
<b>3. 機械・役畜</b>				
Tractor	LS			-
Hand Tractor	LS	120,000	1	120,000
Draught Animal	LS			-
<b>小計</b>				<b>120,000</b>
<b>4. 雑費(費用の5%)</b>				<b>84,950</b>
<b>費用合計</b>				<b>1,783,950</b>
<b>III 純便益</b>				
				<b>1,646,050</b>

添付資料-9.9.2 (2/6) 作物収支(財務価格)

雨期 安値の時期

トマト 条件:【単価は2007-2016年平均値とする。】

【将来+灌漑の単収: 40 ton/ha】

【流通経費率: 1.8】

【灌漑農業の方が投入が増えるため、生産コストを、天水条件では10%程度下げ、灌漑条件では10%程度上げると想定。】

【注】流通経費率: 流通経費(運搬コスト、市場参加費用、保管費用など)の合計の比率。

(1)【現在: 天水 → 将来: 天水(プロジェクト無)】

(2)【現在: 灌漑 → 将来: 灌漑(プロジェクト無)】

既設の灌漑施設があるが、改修により単収が増加すると想定(20.0 ton/ha → 40.0 ton/ha(3)参照)。

建設単価の「改修」に対応。

(3)【現在: 天水→将来: 灌漑 又は 現在: 灌漑 → 将来: 灌漑(プロジェクト有)】

現在、何も無い、あるいは伝統灌漑を行っている地域。NIMP2018実施により単収が増加すると想定(5.0 ton/ha(1)参照) → 40.0 ton/ha)。

建設単価の「新規重力式(完結型)」「新規加圧式(完結型)」「拡張」に対応。

項目	単位	単価 (TZS)	数量	合計 (TZS)
<b>I 総便益</b>				
Yield	kg/ha		5,000	
Farmgate Price	TZS/kg	624		
Gross Return	TZS/ha			<b>3,120,000</b>
<b>II 生産費用</b>				
<b>1. 投入</b>				
Seed	kg/ha	1,000,000	0.50	500,000
Fertilizer				
Vig Max	kg/ha	8,000	10	80,000
DAP	kg/ha	1,300	100	130,000
NPK Winner	kg/ha	1,300	100	130,000
CAN	kg/ha	900	100	90,000
Booster	lit/ha	10,000	0	-
Agro-chemical (Pestic, Fungc)				
Pesticide (wiltigo, profecron, Ninja)	lit/ha	20,000	3	60,000
Herbicide	lit/ha	0	0	-
Fungicide defender, mupafidan)	lit/ha	30,000	3	90,000
Packing Material (Wdn Crt 45kg)	nos/ha	1,000	500	500,000
<b>小計</b>				<b>1,580,000</b>
<b>2. 労働コスト</b>				
Land prep., Puddle and Bund	man/day	10,000	15	150,000
Nursery	man/day	3,000	20	60,000
Plant/Transplanting	man/day	10,000	10	100,000
Weeding and Fertilizer	man/day	10,000	15	150,000
Bird Scaring & plant upkeeping	man/day	10,000	20	200,000
Harvesting	man/day	15,000	15	225,000
Transport Marketing	man/day	10,000	5	50,000
Irrigation, etc	man/day		0	-
Threshing/Winnowing	man/day	8,000	10	80,000
<b>小計</b>				<b>1,015,000</b>
<b>3. 機械・役畜</b>				
Tractor	LS	125,000	0	-
Hand Tractor	LS			-
Draught Animal	LS			-
<b>小計</b>				<b>0</b>
<b>4. 雑費(費用の5%)</b>				
				<b>129,750</b>
<b>費用合計</b>				<b>2,724,750</b>
<b>III 純便益</b>				
				<b>395,250</b>

出典: JICA調査団

項目	単位	単価 (TZS)	数量	合計 (TZS)
<b>I 総便益</b>				
Yield	kg/ha		20,000	
Farmgate Price	TZS/kg	624		
Gross Return	TZS/ha			<b>12,480,000</b>
<b>II 生産費用</b>				
<b>1. 投入</b>				
Seed	kg/ha	1,000,000	1.00	1,000,000
Fertilizer (Urea, DAP, CAN)				
Vig Max	kg/ha	8,000	20	160,000
DAP	kg/ha	1,300	150	195,000
NPK Winner	kg/ha	1,300	150	195,000
CAN	kg/ha	900	150	135,000
Booster	lit/ha	10,000	15	150,000
Agro-chemical (Pestic, Fungc)				
Pesticide (wiltigo, profecron, Ninja)	lit/ha	20,000	10	200,000
Herbicide	lit/ha	0	0	-
Fungicide defender, mupafidan)	lit/ha	50,000	1	50,000
Packing Material (Wdn Crt)	nos/ha	1,000	1000	1,000,000
<b>小計</b>				<b>3,085,000</b>
<b>2. 労働コスト</b>				
Land prep., Puddle and Bund	man/day	10,000	15	150,000
Nursery	man/day	5,000	40	200,000
Plant/Transplanting	man/day	10,000	20	200,000
Weeding and Fertilizer	man/day	10,000	20	200,000
Bird Scaring & plant upkeeping	man/day	13,000	30	390,000
Harvesting	man/day	5,000	180	900,000
Transport Marketing	man/day	12,500	30	375,000
Irrigation, etc	man/day	10,000	20	200,000
Threshing/Winnowing	man/day	4,412	35	154,420
<b>小計</b>				<b>2,769,420</b>
<b>3. 機械・役畜</b>				
Tractor	LS	150,000	1	150,000
Hand Tractor	LS			-
Draught Animal	LS			-
<b>小計</b>				<b>150,000</b>
<b>4. 雑費(費用の5%)</b>				
				<b>300,221</b>
<b>費用合計</b>				<b>6,304,641</b>
<b>III 純便益</b>				
				<b>6,175,359</b>

項目	単位	単価 (TZS)	数量	合計 (TZS)
<b>I 総便益</b>				
Yield	kg/ha		40,000	
Farmgate Price	TZS/kg	624		
Gross Return	TZS/ha			<b>24,960,000</b>
<b>II 生産費用</b>				
<b>1. 投入</b>				
Seed	kg/ha	1,000,000	1.00	1,000,000
Fertilizer (Urea, DAP, CAN)				
Vig Max	kg/ha	8,000	20	160,000
DAP	kg/ha	1,300	150	195,000
NPK Winner	kg/ha	1,300	150	195,000
CAN	kg/ha	900	150	135,000
Booster	lit/ha	10,000	15	150,000
Agro-chemical (Pestic, Fungc)				
Pesticide (wiltigo, profecron, Ninja)	lit/ha	20,000	10	200,000
Herbicide	lit/ha	0	0	-
Fungicide defender, mupafidan)	lit/ha	50,000	1	50,000
Packing Material (Wdn Crt)	nos/ha	1,000	1000	1,000,000
<b>小計</b>				<b>3,085,000</b>
<b>2. 労働コスト</b>				
Land prep., Puddle and Bund	man/day	10,000	15	150,000
Nursery	man/day	5,000	40	200,000
Plant/Transplanting	man/day	10,000	20	200,000
Weeding and Fertilizer	man/day	10,000	20	200,000
Bird Scaring & plant upkeeping	man/day	13,000	30	390,000
Harvesting	man/day	5,000	180	900,000
Transport Marketing	man/day	12,500	30	375,000
Irrigation, etc	man/day	10,000	20	200,000
Threshing/Winnowing	man/day	4,412	35	154,420
<b>小計</b>				<b>2,769,420</b>
<b>3. 機械・役畜</b>				
Tractor	LS	150,000	1	150,000
Hand Tractor	LS			-
Draught Animal	LS			-
<b>小計</b>				<b>150,000</b>
<b>4. 雑費(費用の5%)</b>				
				<b>300,221</b>
<b>費用合計</b>				<b>6,304,641</b>
<b>III 純便益</b>				
				<b>18,655,359</b>

添付資料-9.9.2 (3/6) 作物収支(財務価格)

雨期 安値の時期

タマネギ 条件:【単価を2007-2016年平均値とする。】

【流通経費率:1.7】

【灌漑農業の方が投入が増えるため、生産コストを、天水条件では10%程度下げ、灌漑条件では10%程度上げると想定。】

注)流通経費率:流通経費(運搬コスト、市場参加費用、保管費用など)の合計の比率。

(1)【現在:天水 → 将来:天水(プロジェクト無)】

(2)【現在:灌漑 → 将来:灌漑(プロジェクト無)】

既設の灌漑施設があるが、改修により単収が増加すると想定(7.0 ton/ ha → 10.0 ton/ ha((3)参照))。

建設単価の「改修」に対応。

(3)【現在:天水→将来:灌漑 又は 現在:灌漑 → 将来:灌漑(プロジェクト有)】

現在、何も無い、あるいは伝統灌漑を行っている地域。NIMP2018実施により単収が増加すると想定(2.0 ton/ ha ((1)参照) → 10.0 ton/ ha)。

建設単価の「新規重力式(完結型)」「新規加圧式(完結型)」「拡張」に対応。

項目	単位	単価 (TZS)	数量	合計 (TZS)
Yield	kg/ha		2,000	
Farmgate Price	TZS/kg	571		
Gross Return	TZS/ha			1,142,000
II 生産費用				
1. 投入				
Seed	kg/ha	40,000	3	120,000
Fertilizer (Urea, DAP, CAN)				
Urea (46% N)	kg/ha	1,200	200	240,000
CAN	kg/ha	1,000	200	200,000
DAP	kg/ha	0	0	-
NPK	kg/ha	0	0	-
Manure	ton/ha		0	-
Agro-chemical (Pestic, Herbc, Fungc)				
Pesticide (Ninja)	lit/ha	20,000	3	60,000
Herbicide	lit/ha	39,000	1	39,000
Fungicide (Ivory 72)	lit/ha	50,000	1	50,000
Packing Material (Bag 100kg)	nos/ha	1,000	100	100,000
小計				809,000
2. 労働コスト				
Land prep., Puddle and Bund	man/day	15,000	5	75,000
Nursery	man/day	3,300	15	49,500
Plant/Transplanting	man/day	6,600	25	165,000
Weeding and Fertilizer	man/day	25,000	4	100,000
Animals Scaring	man/day	0	0	-
Harvesting	man/day	13,300	15	199,500
Transport Marketing	man/day	10,500	10	105,000
Irrigation, etc	man/day	0	0	-
Threshing/Winnowing	man/day	7,000	5	35,000
小計				729,000
3. 機械・役畜				
Tractor	LS	125,000	1	125,000
Hand Tractor	LS			-
Draught Animal	LS			-
小計				125,000
4. 雑費(費用の5%)				
				83,150
費用合計				1,746,150
III 純便益				-604,150

項目	単位	単価 (TZS)	数量	合計 (TZS)
Yield	kg/ha		7,000	
Farmgate Price	TZS/kg	571		
Gross Return	TZS/ha			3,997,000
II 生産費用				
1. 投入				
Seed	kg/ha	40,000	10	400,000
Fertilizer (Urea, DAP, V Max, Bstr)				-
Urea (46% N)	kg/ha	1,000	150	150,000
DAP	kg/ha	1,300	150	195,000
Vig Max	kg/ha	8,000	20	160,000
Booster	kg/ha	5,000	10	50,000
				-
Agro-chemical (Pestic, Fungc)				-
Pesticide (Ninja)	lit/ha	20,000	10	200,000
Herbicide	lit/ha	39,000	5	195,000
Fungicide (Ivory 72)	lit/ha	50,000	1	50,000
Packing Material (Bag 100kg)	nos/ha	1,000	150	150,000
小計				1,550,000
2. 労働コスト				
Land prep., Puddle and Bund	man/day	12,000	30	360,000
Nursery	man/day	3,000	40	120,000
Plant/Transplanting	man/day	12,000	20	240,000
Weeding and Fertilizer	man/day	10,000	40	400,000
Animals Scaring	man/day	0	0	-
Harvesting	man/day	10,000	20	200,000
Transport Marketing	man/day	16,000	10	160,000
Irrigation, etc	man/day	10,000	20	200,000
Threshing/Winnowing	man/day	7,000	10	70,000
小計				1,750,000
3. 機械・役畜				
Tractor	LS	125,000	1	125,000
Hand Tractor	LS			-
Draught Animal	LS			-
小計				125,000
4. 雑費(費用の5%)				
				171,250
費用合計				3,596,250
III 純便益				400,750

項目	単位	単価 (TZS)	数量	合計 (TZS)
Yield	kg/ha		10,000	
Farmgate Price	TZS/kg	571		
Gross Return	TZS/ha			5,710,000
II 生産費用				
1. 投入				
Seed	kg/ha	40,000	10	400,000
Fertilizer (Urea, DAP, V Max, Bstr)				-
Urea (46% N)	kg/ha	1,000	150	150,000
DAP	kg/ha	1,300	150	195,000
Vig Max	kg/ha	8,000	20	160,000
Booster	kg/ha	5,000	10	50,000
				-
Agro-chemical (Pestic, Fungc)				-
Pesticide (Ninja)	lit/ha	20,000	10	200,000
Herbicide	lit/ha	39,000	5	195,000
Fungicide (Ivory 72)	lit/ha	50,000	1	50,000
Packing Material (Bag 100kg)	nos/ha	1,000	150	150,000
小計				1,550,000
2. 労働コスト				
Land prep., Puddle and Bund	man/day	12,000	30	360,000
Nursery	man/day	3,000	40	120,000
Plant/Transplanting	man/day	12,000	20	240,000
Weeding and Fertilizer	man/day	10,000	40	400,000
Animals Scaring	man/day	0	0	-
Harvesting	man/day	10,000	20	200,000
Transport Marketing	man/day	16,000	10	160,000
Irrigation, etc	man/day	10,000	20	200,000
Threshing/Winnowing	man/day	7,000	10	70,000
小計				1,750,000
3. 機械・役畜				
Tractor	LS	125,000	1	125,000
Hand Tractor	LS			-
Draught Animal	LS			-
小計				125,000
4. 雑費(費用の5%)				
				171,250
費用合計				3,596,250
III 純便益				2,113,750

添付資料-9.9.2 (4/6) 作物収支(財務価格)

乾期 高値の時期

コメ 条件:【単価を2017年単価に合うように調整。】  
 【流通経費率:1.2(ダルエスサラーム卸市場の調査に基づく。)]  
 【粳-精米比率を1:0.65と設定した。】

注)流通経費率:流通経費(運搬コスト、市場参加費用、保管費用など)の合計の比率。

(1)【現在:天水 → 将来:天水(プロジェクト無)】

(2)【現在:灌漑 → 将来:灌漑(プロジェクト無)】

既設の灌漑施設があるが、改修により単収が増加すると想定(2.5 ton/ ha → 5.0 ton/ ha(3)参照)。

建設単価の「改修」に対応。

(3)【現在:天水→将来:灌漑 又は 現在:灌漑 → 将来:灌漑(プロジェクト有)】

現在、何も無い、あるいは伝統灌漑を行っている地域。NIMP2018実施により単収が増加すると想定(1.85 ton/ ha((1)参照) → 5.0 ton/ ha)。

建設単価の「新規重力式(完結型)」「新規加圧式(完結型)」「拡張」に対応。

項目	単位	単価 (TZS)	数量	合計 (TZS)
<b>I 総便益</b>				
Yield	kg/ha		1,850	
Farmgate Price	TZS/kg	788		
Gross Return	TZS/ha			<b>1,457,800</b>
<b>II 生産費用</b>				
<b>1. 投入</b>				
Seed	kg/ha	670	75	50,250
Fertilizer (Urea)	kg/ha			
Urea	kg/ha	1,000	100	100,000
Agro-chemical (Pesticide)	kg/ha			
Pesticide	kg/ha	12,000	0.5	6,000
Packing Material (Bags (70kg))	nos/ha	700	50	35,000
	<b>小計</b>			<b>191,250</b>
<b>2. 労働コスト</b>				
Land prep., Puddle and Bund	man/day	10,000	20	200,000
Nursery	man/day	10,000	2	20,000
Plant/Transplanting	man/day	10,000	25	250,000
Weeding and Fertilizer	man/day	5,000	50	250,000
Bird Scaring	man/day	660	30	19,800
Harvesting	man/day	6,000	40	240,000
Transport Marketing	man/day	5,000	7	35,000
Irrigation, etc	man/day		0	0
Threshing/Winnowing	man/day	4,400	30	132,000
	<b>小計</b>			<b>1,146,800</b>
<b>3. 機械・役畜</b>				
Tractor	LS	60,000	1	60,000
Hand Tractor	LS			-
Draught Animal	LS			-
	<b>小計</b>			<b>60,000</b>
<b>4. 雑費(費用の5%)</b>				
				<b>69,903</b>
	<b>費用合計</b>			<b>1,467,953</b>
<b>III 純便益</b>				
				<b>-10,153</b>

出典: JICA調査団

項目	単位	単価 (TZS)	数量	合計 (TZS)
<b>I 総便益</b>				
Yield	kg/ha		2,500	
Farmgate Price	TZS/kg	788		
Gross Return	TZS/ha			<b>1,970,000</b>
<b>II 生産費用</b>				
<b>1. 投入</b>				
Seed	kg/ha	550	50	27,500
Fertilizer (Urea)	kg/ha			
Urea	kg/ha	1,000	125	125,000
DAP	kg/ha	1,200	100	120,000
Agro-chemical (Pesticide)	kg/ha			
Pesticide	kg/ha	12,000	0.5	6,000
Herbicide	kg/ha	15,000	2.5	37,500
Packing Material (Bags (100kg))	nos/ha	1,000	75	75,000
	<b>小計</b>			<b>391,000</b>
<b>2. 労働コスト</b>				
Land prep., Puddle and Bund	man/day	7,000	15	105,000
Nursery	man/day	2,000	6	12,000
Plant/Transplanting	man/day	8,000	22	176,000
Weeding and Fertilizer	man/day	10,000	16	160,000
Bird Scaring	man/day	10,000	21	210,000
Harvesting	man/day	10,000	15	150,000
Transport Marketing	man/day	15,000	10	150,000
Irrigation, etc	man/day	12,500	10	125,000
Threshing/Winnowing	man/day	10,000	10	100,000
	<b>小計</b>			<b>1,188,000</b>
<b>3. 機械・役畜</b>				
Tractor	LS			-
Hand Tractor	LS	120,000	1	120,000
Draught Animal	LS			-
	<b>小計</b>			<b>120,000</b>
<b>4. 雑費(費用の5%)</b>				
				<b>84,950</b>
	<b>費用合計</b>			<b>1,783,950</b>
<b>III 純便益</b>				
				<b>186,050</b>

項目	単位	単価 (TZS)	数量	合計 (TZS)
<b>I 総便益</b>				
Yield	kg/ha		5,000	
Farmgate Price	TZS/kg	788		
Gross Return	TZS/ha			<b>3,940,000</b>
<b>II 生産費用</b>				
<b>1. 投入</b>				
Seed	kg/ha	550	50	27,500
Fertilizer (Urea)	kg/ha			
Urea	kg/ha	1,000	125	125,000
DAP	kg/ha	1,200	100	120,000
Agro-chemical (Pesticide)	kg/ha			
Pesticide	kg/ha	12,000	0.5	6,000
Herbicide	kg/ha	15,000	2.5	37,500
Packing Material (Bags (100kg))	nos/ha	1,000	75	75,000
	<b>小計</b>			<b>391,000</b>
<b>2. 労働コスト</b>				
Land prep., Puddle and Bund	man/day	7,000	15	105,000
Nursery	man/day	2,000	6	12,000
Plant/Transplanting	man/day	8,000	22	176,000
Weeding and Fertilizer	man/day	10,000	16	160,000
Bird Scaring	man/day	10,000	21	210,000
Harvesting	man/day	10,000	15	150,000
Transport Marketing	man/day	15,000	10	150,000
Irrigation, etc	man/day	12,500	10	125,000
Threshing/Winnowing	man/day	10,000	10	100,000
	<b>小計</b>			<b>1,188,000</b>
<b>3. 機械・役畜</b>				
Tractor	LS			-
Hand Tractor	LS	120,000	1	120,000
Draught Animal	LS			-
	<b>小計</b>			<b>120,000</b>
<b>4. 雑費(費用の5%)</b>				
				<b>84,950</b>
	<b>費用合計</b>			<b>1,783,950</b>
<b>III 純便益</b>				
				<b>2,156,050</b>

添付資料-9.9.2 (5/6) 作物収支(財務価格)

乾期 高値の時期

トマト 条件:【単価を2017年単価に合うように調整。】  
 【流通経費率:1.2(ダルエスサラーム卸市場の調査に基づく。)]  
 【粗-精米比率を1:0.65と設定した。】

注)流通経費率:流通経費(運搬コスト、市場参加費用、保管費用など)の合計の比率。

(1)【現在:天水 → 将来:天水(プロジェクト無)】

(2)【現在:灌漑 → 将来:灌漑(プロジェクト無)】

既設の灌漑施設があるが、改修により単収が増加すると想定(20.0 ton/ ha → 40.0 ton/ ha(3)参照)。

建設単価の「改修」に対応。

(3)【現在:天水→将来:灌漑 又は 現在:灌漑 → 将来:灌漑(プロジェクト有)】

現在、何も無い、あるいは伝統灌漑を行っている地域。NIMP2018実施により単収が増加すると想定(5.0 ton/ ha(1)参照) → 40.0 ton/ ha)。

建設単価の「新規重力式(完結型)」「新規加圧式(完結型)」「拡張」に対応。

項目	単位	単価 (TZS)	数量	合計 (TZS)
<b>I 総便益</b>				
Yield	kg/ha		5,000	
Farmgate Price	TZS/kg	859		
Gross Return	TZS/ha			<b>4,295,000</b>
<b>II 生産費用</b>				
<b>1. 投入</b>				
Seed	kg/ha	1,000,000	0.50	500,000
Fertilizer				
Vig Max	kg/ha	8,000	10	80,000
DAP	kg/ha	1,300	100	130,000
NPK Winner	kg/ha	1,300	100	130,000
CAN	kg/ha	900	100	90,000
Booster	lit/ha	10,000	0	-
Agro-chemical (Pestic, Fungc)				
Pesticide (wiltigo, profecron, Ninja)	lit/ha	20,000	3	60,000
Herbicide	lit/ha	0	0	-
Fungicide defender, mupafidan)	lit/ha	30,000	3	90,000
Packing Material (Wdn Crt 45kg)	nos/ha	1,000	500	500,000
	<b>小計</b>			<b>1,580,000</b>
<b>2. 労働コスト</b>				
Land prep., Puddle and Bund	man/dav	10,000	15	150,000
Nursery	man/dav	3,000	20	60,000
Plant/Transplanting	man/dav	10,000	10	100,000
Weeding and Fertilizer	man/dav	10,000	15	150,000
Bird Scaring & plant upkeeping	man/dav	10,000	20	200,000
Harvesting	man/dav	15,000	15	225,000
Transport Marketing	man/dav	10,000	5	50,000
Irrigation, etc	man/dav		0	-
Threshing/Winnowing	man/dav	8,000	10	80,000
	<b>小計</b>			<b>1,015,000</b>
<b>3. 機械・役畜</b>				
Tractor	LS	125,000	0	-
Hand Tractor	LS			-
Draught Animal	LS			-
	<b>小計</b>			<b>0</b>
<b>4. 雑費(費用の5%)</b>				
				<b>129,750</b>
	<b>費用合計</b>			<b>2,724,750</b>
<b>III 純便益</b>				
				<b>1,570,250</b>

出典: JICA調査団

項目	単位	単価 (TZS)	数量	合計 (TZS)
<b>I 総便益</b>				
Yield	kg/ha		20,000	
Farmgate Price	TZS/kg	859		
Gross Return	TZS/ha			<b>17,180,000</b>
<b>II 生産費用</b>				
<b>1. 投入</b>				
Seed	kg/ha	1,000,000	1.00	1,000,000
Fertilizer (Urea, DAP, CAN)				
Vig Max	kg/ha	8,000	20	160,000
DAP	kg/ha	1,300	150	195,000
NPK Winner	kg/ha	1,300	150	195,000
CAN	kg/ha	900	150	135,000
Booster	lit/ha	10,000	15	150,000
Agro-chemical (Pestic, Fungc)				
Pesticide (wiltigo, profecron, Ninja)	lit/ha	20,000	10	200,000
Herbicide	lit/ha	0	0	-
Fungicide defender, mupafidan)	lit/ha	50,000	1	50,000
Packing Material (Wdn Crt)	nos/ha	1,000	1000	1,000,000
	<b>小計</b>			<b>3,085,000</b>
<b>2. 労働コスト</b>				
Land prep., Puddle and Bund	man/dav	10,000	15	150,000
Nursery	man/dav	5,000	40	200,000
Plant/Transplanting	man/dav	10,000	20	200,000
Weeding and Fertilizer	man/dav	10,000	20	200,000
Bird Scaring & plant upkeeping	man/dav	13,000	30	390,000
Harvesting	man/dav	5,000	180	900,000
Transport Marketing	man/dav	12,500	30	375,000
Irrigation, etc	man/dav	10,000	20	200,000
Threshing/Winnowing	man/dav	4,412	35	154,420
	<b>小計</b>			<b>2,769,420</b>
<b>3. 機械・役畜</b>				
Tractor	LS	150,000	1	150,000
Hand Tractor	LS			-
Draught Animal	LS			-
	<b>小計</b>			<b>150,000</b>
<b>4. 雑費(費用の5%)</b>				
				<b>300,221</b>
	<b>費用合計</b>			<b>6,304,641</b>
<b>III 純便益</b>				
				<b>10,875,359</b>

項目	単位	単価 (TZS)	数量	合計 (TZS)
<b>I 総便益</b>				
Yield	kg/ha		40,000	
Farmgate Price	TZS/kg	859		
Gross Return	TZS/ha			<b>34,360,000</b>
<b>II 生産費用</b>				
<b>1. 投入</b>				
Seed	kg/ha	1,000,000	1.00	1,000,000
Fertilizer (Urea, DAP, CAN)				
Vig Max	kg/ha	8,000	20	160,000
DAP	kg/ha	1,300	150	195,000
NPK Winner	kg/ha	1,300	150	195,000
CAN	kg/ha	900	150	135,000
Booster	lit/ha	10,000	15	150,000
Agro-chemical (Pestic, Fungc)				
Pesticide (wiltigo, profecron, Ninja)	lit/ha	20,000	10	200,000
Herbicide	lit/ha	0	0	-
Fungicide defender, mupafidan)	lit/ha	50,000	1	50,000
Packing Material (Wdn Crt)	nos/ha	1,000	1000	1,000,000
	<b>小計</b>			<b>3,085,000</b>
<b>2. 労働コスト</b>				
Land prep., Puddle and Bund	man/dav	10,000	15	150,000
Nursery	man/dav	5,000	40	200,000
Plant/Transplanting	man/dav	10,000	20	200,000
Weeding and Fertilizer	man/dav	10,000	20	200,000
Bird Scaring & plant upkeeping	man/dav	13,000	30	390,000
Harvesting	man/dav	5,000	180	900,000
Transport Marketing	man/dav	12,500	30	375,000
Irrigation, etc	man/dav	10,000	20	200,000
Threshing/Winnowing	man/dav	4,412	35	154,420
	<b>小計</b>			<b>2,769,420</b>
<b>3. 機械・役畜</b>				
Tractor	LS	150,000	1	150,000
Hand Tractor	LS			-
Draught Animal	LS			-
	<b>小計</b>			<b>150,000</b>
<b>4. 雑費(費用の5%)</b>				
				<b>300,221</b>
	<b>費用合計</b>			<b>6,304,641</b>
<b>III 純便益</b>				
				<b>28,055,359</b>

添付資料-9.9.2 (6/6) 作物収支(財務価格)

乾期 高値の時期

タマネギ 条件:【単価を2017年単価に合うように調整】

【流通経費率:1.7】

【粗-精米比率を1:0.65と設定した。】

注)流通経費率:流通経費(運搬コスト、市場参加費用、保管費用など)の合計の比率。

(1)【現在:天水 → 将来:天水(プロジェクト無)】

(2)【現在:灌漑 → 将来:灌漑(プロジェクト無)】

既設の灌漑施設があるが、改修により単収が増加すると想定(7.0 ton/ ha → 10.0 ton/ ha(3)参照)。

建設単価の「改修」に対応。

(3)【現在:天水→将来:灌漑 又は 現在:灌漑 → 将来:灌漑(プロジェクト有)】

現在、何もない、あるいは伝統灌漑を行っている地域。NIMP2018実施により単収が増加すると想定(2.0 ton/ ha(1)参照) → 10.0 ton/ ha)。

建設単価の「新規重力式(完結型)」「新規加圧式(完結型)」「拡張」に対応。

項目	単位	単価 (TZS)	数量	合計 (TZS)
<b>I 総便益</b>				
Yield	kg/ha		2,000	
Farmgate Price	TZS/kg	785		
Gross Return	TZS/ha			<b>1,570,000</b>
<b>II 生産費用</b>				
<b>1. 投入</b>				
Seed	kg/ha	40,000	3	120,000
Fertilizer (Urea, DAP, CAN)				
Urea (46% N)	kg/ha	1,200	200	240,000
CAN	kg/ha	1,000	200	200,000
DAP	kg/ha	0	0	-
NPK	kg/ha	0	0	-
Manure	ton/ha		0	-
Agro-chemical (Pestic, Herbc, Fungc)				
Pesticide (Ninja)	lit/ha	20,000	3	60,000
Herbicide	lit/ha	39,000	1	39,000
Fungicide (Ivory 72)	lit/ha	50,000	1	50,000
Packing Material (Baq 100kg)	nos/ha	1,000	100	100,000
<b>小計</b>				<b>809,000</b>
<b>2. 労働コスト</b>				
Land prep., Puddle and Bund	man/day	15,000	5	75,000
Nursery	man/day	3,300	15	49,500
Plant/Transplanting	man/day	6,600	25	165,000
Weeding and Fertilizer	man/day	25,000	4	100,000
Animals Scaring	man/day	0	0	-
Harvesting	man/day	13,300	15	199,500
Transport Marketing	man/day	10,500	10	105,000
Irrigation, etc	man/day	0	0	-
Threshing/Winnowing	man/day	7,000	5	35,000
<b>小計</b>				<b>729,000</b>
<b>3. 機械・役畜</b>				
Tractor	LS	125,000	1	125,000
Hand Tractor	LS			-
Draught Animal	LS			-
<b>小計</b>				<b>125,000</b>
<b>4. 雑費(費用の5%)</b>				
				<b>83,150</b>
<b>費用合計</b>				<b>1,746,150</b>
<b>III 純便益</b>				
				<b>-176,150</b>

出典: JICA調査団

項目	単位	単価 (TZS)	数量	合計 (TZS)
<b>I 総便益</b>				
Yield	kg/ha		7,000	
Farmgate Price	TZS/kg	785		
Gross Return	TZS/ha			<b>5,495,000</b>
<b>II 生産費用</b>				
<b>1. 投入</b>				
Seed	kg/ha	40,000	10	400,000
Fertilizer (Urea, DAP, V Max, Bstr)				-
Urea (46% N)	kg/ha	1,000	150	150,000
DAP	kg/ha	1,300	150	195,000
Vig Max	kg/ha	8,000	20	160,000
Booster	kg/ha	5,000	10	50,000
Agro-chemical (Pestic, Fungc)				-
Pesticide (Ninja)	lit/ha	20,000	10	200,000
Herbicide	lit/ha	39,000	5	195,000
Fungicide (Ivory 72)	lit/ha	50,000	1	50,000
Packing Material (Baq 100kg)	nos/ha	1,000	150	150,000
<b>小計</b>				<b>1,550,000</b>
<b>2. 労働コスト</b>				
Land prep., Puddle and Bund	man/day	12,000	30	360,000
Nursery	man/day	3,000	40	120,000
Plant/Transplanting	man/day	12,000	20	240,000
Weeding and Fertilizer	man/day	10,000	40	400,000
Animals Scaring	man/day	0	0	0
Harvesting	man/day	10,000	20	200,000
Transport Marketing	man/day	16,000	10	160,000
Irrigation, etc	man/day	10,000	20	200,000
Threshing/Winnowing	man/day	7,000	10	70,000
<b>小計</b>				<b>1,750,000</b>
<b>3. 機械・役畜</b>				
Tractor	LS	125,000	1	125,000
Hand Tractor	LS			-
Draught Animal	LS			-
<b>小計</b>				<b>125,000</b>
<b>4. 雑費(費用の5%)</b>				
				<b>171,250</b>
<b>費用合計</b>				<b>3,596,250</b>
<b>III 純便益</b>				
				<b>1,898,750</b>

項目	単位	単価 (TZS)	数量	合計 (TZS)
<b>I 総便益</b>				
Yield	kg/ha		10,000	
Farmgate Price	TZS/kg	785		
Gross Return	TZS/ha			<b>7,850,000</b>
<b>II 生産費用</b>				
<b>1. 投入</b>				
Seed	kg/ha	40,000	10	400,000
Fertilizer (Urea, DAP, V Max, Bstr)				-
Urea (46% N)	kg/ha	1,000	150	150,000
DAP	kg/ha	1,300	150	195,000
Vig Max	kg/ha	8,000	20	160,000
Booster	kg/ha	5,000	10	50,000
Agro-chemical (Pestic, Fungc)				-
Pesticide (Ninja)	lit/ha	20,000	10	200,000
Herbicide	lit/ha	39,000	5	195,000
Fungicide (Ivory 72)	lit/ha	50,000	1	50,000
Packing Material (Baq 100kg)	nos/ha	1,000	150	150,000
<b>小計</b>				<b>1,550,000</b>
<b>2. 労働コスト</b>				
Land prep., Puddle and Bund	man/day	12,000	30	360,000
Nursery	man/day	3,000	40	120,000
Plant/Transplanting	man/day	12,000	20	240,000
Weeding and Fertilizer	man/day	10,000	40	400,000
Animals Scaring	man/day	0	0	-
Harvesting	man/day	10,000	20	200,000
Transport Marketing	man/day	16,000	10	160,000
Irrigation, etc	man/day	10,000	20	200,000
Threshing/Winnowing	man/day	7,000	10	70,000
<b>小計</b>				<b>1,750,000</b>
<b>3. 機械・役畜</b>				
Tractor	LS	125,000	1	125,000
Hand Tractor	LS			-
Draught Animal	LS			-
<b>小計</b>				<b>125,000</b>
<b>4. 雑費(費用の5%)</b>				
				<b>171,250</b>
<b>費用合計</b>				<b>3,596,250</b>
<b>III 純便益</b>				
				<b>4,253,750</b>

添付資料-9.9.3 農業収支(財務価格)

便益(財務価格)

1.haあたり便益(財務価格)

TZS換算			
プロジェクトによる純便益(財務価格)合計(TZS) (単位:百万TZS) [TZS 2,240 / USD]			
便益(財務価格)	フェーズ1 (2018 - 2025)	フェーズ2 (2026 - 2035)	合計(2018 - 2035)
1) 純便益	1,036,936	1,240,925	2,277,862

USD換算			
換算レート 2,240 TZS/ USD			
プロジェクトによる純便益(財務価格)合計(USD) (単位:百万USD)			
便益(財務価格)	フェーズ1 (2018 - 2025)	フェーズ2 (2026 - 2035)	合計(2018 - 2035)
1) 純便益	463	554	1,017

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★ 作物: コメ及び野菜(トマト・タマネギ)

★ 作付パターン

	コメ	トマト	タマネギ
作付面積比率	0.60	0.20	0.20

上記作付面積比率は国全体で一様と仮定。

★ 作付率

NIMP2018では、灌漑地区に雨期・乾期両方が来ることを想定していることから、作付率から便益を求めるのではなく、実際の作付面積を求め、その数値をもとに便益を求めた。

★ 作物生産による純便益と灌漑施設改修による便益増分

コメ

純便益(TZS/ha)

	現在のまま(天水)	現在のまま(灌漑)	将来(灌漑)
収量(kg/ha)	1,850	2,500	5,000
鮮先価格(雨期)(TZS/kg)	686	686	686
鮮先価格(乾期)(TZS/kg)	788	788	788
純便益(雨期)(TZS)	-198,853	-68,950	1,646,050
純便益(乾期)(TZS)	-10,153	186,050	2,156,050
純便益増分(天水→灌漑)		雨期	1,844,903
		乾期	2,166,203
純便益増分(灌漑→灌漑)		雨期	1,715,000
		乾期	1,970,000

トマト

純便益(TZS/ha)

	現在のまま(天水)	現在のまま(灌漑)	将来(灌漑)
収量(kg/ha)	5,000	20,000	40,000
鮮先価格(雨期)(TZS/kg)	624	624	624
鮮先価格(乾期)(TZS/kg)	859	859	859
純便益(雨期)(TZS)	395,250	6,175,359	18,655,359
純便益(乾期)(TZS)	1,570,250	10,875,359	28,055,359
純便益増分(天水→灌漑)		雨期	18,260,109
		乾期	26,485,109
純便益増分(灌漑→灌漑)		雨期	12,480,000
		乾期	17,180,000

タマネギ

純便益(TZS/ha)

	現在のまま(天水)	現在のまま(灌漑)	将来(灌漑)
収量(kg/ha)	2,000	7,000	10,000
鮮先価格(雨期)(TZS/kg)	571	571	571
鮮先価格(乾期)(TZS/kg)	785	785	785
純便益(雨期)(TZS)	-604,150	400,750	2,113,750
純便益(乾期)(TZS)	-176,150	1,898,750	4,253,750
純便益増分(天水→灌漑)		雨期	2,717,900
		乾期	4,429,900
純便益増分(灌漑→灌漑)		雨期	1,719,000
		乾期	2,356,000

★ 灌漑開発による純便益増分合計

	純便益増分合計
純便益増分(天水→灌漑)	2,971,212
純便益増分(灌漑→灌漑)	4,174,442
	2,252,550
	2,865,250

注)各作物の純便益増分に各作付率を掛け、合計した便益増分を上表に示す。

2. 各灌漑タイプにおける便益(財務価格)

灌漑タイプ	収量の変化(kg/ha)	季節	純便益増分(TZS/ha)	フェーズ1(2018-2025)		フェーズ2(2026-2035)		合計(フェーズ1+2:2018-2035)	
				開発面積(ha)	便益(百万TZS)	開発面積(ha)	便益(百万TZS)	開発面積(ha)	便益(百万TZS)
1) 新規重力式(完結型)	コメ(2,500→5,000)	雨期	2,971,212	102,381	304,194	126,731	376,545	229,112	680,740
		乾期	4,174,442	30,877	128,896	39,502	164,898	703,792,546	293,794
2) 新規加圧式(完結型)	コメ(2,500→5,000)	雨期	2,971,212	2,820	8,378	9,434	5994,892371	17,812	
		乾期	4,174,442	850	3,550	990	4,132	1840,107629	7,681
3) 拡張	コメ(2,500→5,000)	雨期	2,971,212	85,428	253,826	108,036	320,999	193464,6077	574,824
		乾期	4,174,442	25,765	107,553	33,675	140,573	59439,39231	248,126
4) 改修	コメ(2,500→5,000)	雨期	2,252,550	73,969	166,619	71,319	160,650	145288,2845	327,269
		乾期	2,865,250	22,309	63,920	22,230	63,694	44538,71547	127,615
				344,399	1,036,936	405,658	1,240,925	750,057	2,277,862

	トマトの収量変化	タマネギの収量変化
1)	5,000 → 40,000	2,000 → 15,000
2)	5,000 → 40,000	2,000 → 15,000
3)	5,000 → 40,000	2,000 → 15,000
4)	20,000 → 40,000	7,000 → 15,000

★ コメ・トマト・タマネギ合成のha当り純便益(財務価格)

合成純便益(TZS/ha)

雨期: 乾季 = 1.000 0.302  
 コメ: トマト: タマネギ = 0.600 0.050 0.350

ha当りの作物合成 年純便益	現在のまま(天水)	現在のまま(灌漑)	将来(灌漑)
	-307,754	805,754	3,922,448

農家あたり面積全国平均= 1.6 ha

4,230,202 ← 純便益(天水から灌漑)/ha  
 3,116,695 ← 純便益(灌漑から灌漑)/ha  
 6,768,323 ← 純便益(天水から灌漑)/農家  
 4,986,711 ← 純便益(灌漑から灌漑)/農家

農家当りの作物合成 年純便益 (ha当りx1.6ha)	現在のまま(天水)	現在のまま(灌漑)	将来(灌漑)
	-492,406	1,289,206	6,275,917

出典: JICA調査団

添付資料-9.9.4 全国灌漑マスタープラン2018におけるキャッシュフロー(財務価格)

(単位: 百万TZS)

現在価値

(単位: 百万TZS)

年	コスト			コスト合計	農業生産による 便益	その他便益	便益合計	純便益	コスト合計	便益合計	純便益	
	建設費	ソフトコンポーネント	O&M									
1	2018	136,180	9,201	0	145,382	0	0	0	-145,382	129,805	0	-129,805
2	2019	364,479	9,037	0	373,515	0	0	0	-373,515	297,764	0	-297,764
3	2020	623,536	9,695	11,242	644,473	0	0	0	-644,473	458,723	0	-458,723
4	2021	940,410	12,166	20,646	973,222	31,120	0	31,120	-942,102	618,500	19,777	-598,723
5	2022	1,076,136	7,065	31,407	1,114,609	114,411	0	114,411	-1,000,198	632,459	64,920	-567,539
6	2023	789,789	3,866	39,305	832,961	256,902	0	256,902	-576,058	422,004	130,155	-291,849
7	2024	371,235	5,391	43,018	419,644	477,893	0	477,893	58,250	189,826	216,175	26,349
8	2025	235,829	4,798	45,376	286,003	717,726	0	717,726	431,723	115,512	289,877	174,366
9	2026	56,191	2,902	45,938	105,031	898,209	0	898,209	793,178	37,875	323,903	286,028
10	2027	357,848	5,188	544,680	907,715	983,045	0	983,045	75,329	292,260	316,514	24,254
11	2028	427,335	3,296	53,790	484,420	1,036,936	0	1,036,936	552,516	139,259	298,094	158,835
12	2029	707,773	4,593	60,867	773,233	1,049,784	0	1,049,784	276,551	198,470	269,453	70,984
13	2030	952,164	4,836	70,389	1,027,389	1,131,603	0	1,131,603	104,214	235,451	259,334	23,883
14	2031	1,017,142	3,475	80,560	1,101,178	1,229,310	0	1,229,310	128,132	225,323	251,541	26,218
15	2032	862,976	1,891	89,190	954,056	1,391,137	0	1,391,137	437,081	174,303	254,156	79,853
16	2033	553,565	1,641	94,726	649,932	1,608,842	0	1,608,842	958,910	106,018	262,437	156,419
17	2034	256,446	2,705	97,290	356,441	1,841,404	0	1,841,404	1,484,963	51,914	268,190	216,276
18	2035	235,922	1,768	99,650	337,340	2,038,717	0	2,038,717	1,701,377	43,868	265,114	221,246
19	2036	0	0	99,650	99,650	2,165,285	0	2,165,285	2,065,636	11,570	251,404	239,834
20	2037	0	0	1,096,145	1,096,145	2,223,920	0	2,223,920	1,127,775	113,634	230,547	116,913
21	2038	0	0	99,650	99,650	2,277,862	0	2,277,862	2,178,212	9,224	210,838	201,614
22	2039	0	0	99,650	99,650	2,277,862	0	2,277,862	2,178,212	8,235	188,248	180,013
23	2040	0	0	99,650	99,650	2,277,862	0	2,277,862	2,178,212	7,353	168,079	160,726
24	2041	0	0	99,650	99,650	2,277,862	0	2,277,862	2,178,212	6,565	150,070	143,505
25	2042	0	0	99,650	99,650	2,277,862	0	2,277,862	2,178,212	5,862	133,991	128,130
26	2043	0	0	99,650	99,650	2,277,862	0	2,277,862	2,178,212	5,234	119,635	114,401
27	2044	0	0	99,650	99,650	2,277,862	0	2,277,862	2,178,212	4,673	106,817	102,144
28	2045	0	0	99,650	99,650	2,277,862	0	2,277,862	2,178,212	4,172	95,372	91,200
29	2046	0	0	99,650	99,650	2,277,862	0	2,277,862	2,178,212	3,725	85,154	81,429
30	2047	0	0	3,089,136	3,089,136	2,277,862	0	2,277,862	-811,275	103,109	76,030	-27,079
31	2048	0	0	99,650	99,650	2,277,862	0	2,277,862	2,178,212	2,970	67,884	64,914
32	2049	0	0	99,650	99,650	2,277,862	0	2,277,862	2,178,212	2,652	60,611	57,959
33	2050	0	0	99,650	99,650	2,277,862	0	2,277,862	2,178,212	2,367	54,117	51,749
34	2051	0	0	99,650	99,650	2,277,862	0	2,277,862	2,178,212	2,114	48,319	46,205
35	2052	0	0	99,650	99,650	2,277,862	0	2,277,862	2,178,212	1,887	43,142	41,254
36	2053	0	0	99,650	99,650	2,277,862	0	2,277,862	2,178,212	1,685	38,519	36,834
37	2054	0	0	99,650	99,650	2,277,862	0	2,277,862	2,178,212	1,505	34,392	32,888
38	2055	0	0	99,650	99,650	2,277,862	0	2,277,862	2,178,212	1,343	30,707	29,364
39	2056	0	0	99,650	99,650	2,277,862	0	2,277,862	2,178,212	1,199	27,417	26,218
40	2057	0	0	1,096,145	1,096,145	2,277,862	0	2,277,862	1,181,716	11,780	24,480	12,700
41	2058	0	0	99,650	99,650	2,277,862	0	2,277,862	2,178,212	956	21,857	20,901
42	2059	0	0	99,650	99,650	2,277,862	0	2,277,862	2,178,212	854	19,515	18,661
43	2060	0	0	99,650	99,650	2,277,862	0	2,277,862	2,178,212	762	17,424	16,662
44	2061	0	0	99,650	99,650	2,277,862	0	2,277,862	2,178,212	681	15,557	14,877
45	2062	0	0	99,650	99,650	2,277,862	0	2,277,862	2,178,212	608	13,890	13,283
46	2063	0	0	99,650	99,650	2,277,862	0	2,277,862	2,178,212	543	12,402	11,860
47	2064	0	0	99,650	99,650	2,277,862	0	2,277,862	2,178,212	484	11,073	10,589
48	2065	0	0	99,650	99,650	2,277,862	0	2,277,862	2,178,212	433	9,887	9,454
									4,687,510	5,857,022	1,169,512	



添付資料-9.9.5 (1/6) 作物収支(経済価格)

雨期 安値の時期

コメ 条件:【単価は2017年単価に合わせた】  
 【流通経費率:1.2(この数値はダレスサラーム卸市場の調査に基づく。)】  
 【籾-精米比率を1:0.65に減少、単価減】  
 【Farmgate price = 国際価格から推定、Wet/Dryの区別なし、Production costs = SW、SCFで換算】  
 注)流通経費率:流通経費(運搬コスト、市場参加費用、保管費用など)の合計の比率。

(1)【現在:天水 → 将来:天水(プロジェクト無)】

(2)【現在:灌漑 → 将来:灌漑(プロジェクト無)】

既設の灌漑施設があるが、改修により単収が増加すると想定(2.5 ton/ ha → 5.0 ton/ ha(3)参照)。

建設単価の「改修」に対応。

(3)【現在:天水→将来:灌漑 又は 現在:灌漑 → 将来:灌漑(プロジェクト有)】

現在、何もない、あるいは伝統灌漑を行っている地域。NIMP2018実施により単収が増加すると想定(1.85 ton/ ha ((1)参照) → 5.0 ton/ ha)。

建設単価の「新規重力式(完結型)」「新規加圧式(完結型)」「拡張」に対応。

項目	単位	単価 (TZS)	数量	合計 (TZS)
<b>I 総便益</b>				
Yield	kg/ha		1,850	
Farmgate Price	TZS/kg	422		
Gross Return	TZS/ha			<b>780,671</b>
<b>II 生産費用</b>				
<b>1. 投入</b>				
Seed	kg/ha	670	75	50,250
Fertilizer (Urea)	kg/ha			
Urea	kg/ha	1,000	100	100,000
Agro-chemical (Pesticide)	kg/ha			
Pesticide	kg/ha	12,000	0.5	6,000
Packing Material (Bags (70kg))	nos/ha	700	50	35,000
	<b>小計</b>			<b>191,250</b>
<b>2. 労働コスト</b>				
Land prep., Puddle and Bund	man/day	10,000	20	200,000
Nursery	man/day	10,000	2	20,000
Plant/Transplanting	man/day	10,000	25	250,000
Weeding and Fertilizer	man/day	5,000	50	250,000
Bird Scaring	man/day	660	30	19,800
Harvesting	man/day	6,000	40	240,000
Transport Marketing	man/day	5,000	7	35,000
Irrigation, etc	man/day		0	0
Threshing/Winning	man/day	4,400	30	132,000
	<b>小計</b>			<b>1,146,800</b>
<b>3. 機械・役畜</b>				
Tractor	LS	60,000	1	60,000
Hand Tractor	LS			-
Draught Animal	LS			-
	<b>小計</b>			<b>60,000</b>
<b>4. 雑費(費用の5%)</b>				
				<b>69,903</b>
	<b>費用合計</b>			<b>1,080,254</b>
<b>III 純便益</b>				
				<b>-299,582</b>

出典: JICA調査団

項目	単位	単価 (TZS)	数量	合計 (TZS)
<b>I 総便益</b>				
Yield	kg/ha		2,500	
Farmgate Price	TZS/kg	422		
Gross Return	TZS/ha			<b>1,054,961</b>
<b>II 生産費用</b>				
<b>1. 投入</b>				
Seed	kg/ha	550	50	27,500
Fertilizer (Urea)	kg/ha			
Urea	kg/ha	1,000	125	125,000
DAP	kg/ha	1,200	100	120,000
Agro-chemical (Pesticide)	kg/ha			
Pesticide	kg/ha	12,000	0.5	6,000
Herbicide	kg/ha	15,000	2.5	37,500
Packing Material (Bags (100kg))	nos/ha	1,000	75	75,000
	<b>小計</b>			<b>391,000</b>
<b>2. 労働コスト</b>				
Land prep., Puddle and Bund	man/day	7,000	15	105,000
Nursery	man/day	2,000	6	12,000
Plant/Transplanting	man/day	8,000	22	176,000
Weeding and Fertilizer	man/day	10,000	16	160,000
Bird Scaring	man/day	10,000	21	210,000
Harvesting	man/day	10,000	15	150,000
Transport Marketing	man/day	15,000	10	150,000
Irrigation, etc	man/day	12,500	10	125,000
Threshing/Winning	man/day	10,000	10	100,000
	<b>小計</b>			<b>1,188,000</b>
<b>3. 機械・役畜</b>				
Tractor	LS			-
Hand Tractor	LS	120,000	1	120,000
Draught Animal	LS			-
	<b>小計</b>			<b>120,000</b>
<b>4. 雑費(費用の5%)</b>				
				<b>84,950</b>
	<b>費用合計</b>			<b>1,387,793</b>
<b>III 純便益</b>				
				<b>-332,832</b>

項目	単位	単価 (TZS)	数量	合計 (TZS)
<b>I 総便益</b>				
Yield	kg/ha		5,000	
Farmgate Price	TZS/kg	422		
Gross Return	TZS/ha			<b>2,109,923</b>
<b>II 生産費用</b>				
<b>1. 投入</b>				
Seed	kg/ha	550	50	27,500
Fertilizer (Urea)	kg/ha			
Urea	kg/ha	1,000	125	125,000
DAP	kg/ha	1,200	100	120,000
Agro-chemical (Pesticide)	kg/ha			
Pesticide	kg/ha	12,000	0.5	6,000
Herbicide	kg/ha	15,000	2.5	37,500
Packing Material (Bags (100kg))	nos/ha	1,000	75	75,000
	<b>小計</b>			<b>391,000</b>
<b>2. 労働コスト</b>				
Land prep., Puddle and Bund	man/day	7,000	15	105,000
Nursery	man/day	2,000	6	12,000
Plant/Transplanting	man/day	8,000	22	176,000
Weeding and Fertilizer	man/day	10,000	16	160,000
Bird Scaring	man/day	10,000	21	210,000
Harvesting	man/day	10,000	15	150,000
Transport Marketing	man/day	15,000	10	150,000
Irrigation, etc	man/day	12,500	10	125,000
Threshing/Winning	man/day	10,000	10	100,000
	<b>小計</b>			<b>1,188,000</b>
<b>3. 機械・役畜</b>				
Tractor	LS			-
Hand Tractor	LS	120,000	1	120,000
Draught Animal	LS			-
	<b>小計</b>			<b>120,000</b>
<b>4. 雑費(費用の5%)</b>				
				<b>84,950</b>
	<b>費用合計</b>			<b>1,387,793</b>
<b>III 純便益</b>				
				<b>722,130</b>

添付資料-9.9.5 (2/6) 作物収支(経済価格)

雨期 安値の時期

トマト 条件:【単価は2007-2016年平均値】

【流通経費率:1.8】

【灌漑農業の方が投入が増えるため、生産コストを、天水条件では10%程度下げ、灌漑条件では10%程度上げると想定。】

【Farmgate price = 効率的市場との想定から、市場価格そのまま、Production costs = SW, SCFで換算】

注)流通経費率:流通経費(運搬コスト、市場参加費用、保管費用など)の合計の比率。

(1)【現在:天水 → 将来:天水(プロジェクト無)】

(2)【現在:灌漑 → 将来:灌漑(プロジェクト無)】

既設の灌漑施設があるが、改修により単収が増加すると想定(20.0 ton/ ha → 40.0 ton/ ha(3)参照)。

建設単価の「改修」に対応。

(3)【現在:天水→将来:灌漑 又は 現在:灌漑 → 将来:灌漑(プロジェクト有)】

現在、何もない、あるいは伝統灌漑を行っている地域。NIMP2018実施により単収が増加すると想定(5.0 ton/ ha((1)参照)→ 40.0 ton/ ha)。

建設単価の「新規重力式(完結型)」「新規加圧式(完結型)」「拡張」に対応。

項目	単位	単価 (TZS)	数量	合計 (TZS)
<b>I 総便益</b>				
Yield	kg/ha		5,000	
Farmgate Price	TZS/kg	624		
Gross Return	TZS/ha			<b>3,120,000</b>
<b>II 生産費用</b>				
<b>1. 投入</b>				
Seed	kg/ha	1,000,000	0.50	500,000
Fertilizer				
Vig Max	kg/ha	8,000	10	80,000
DAP	kg/ha	1,300	100	130,000
NPK Winner	kg/ha	1,300	100	130,000
CAN	kg/ha	900	100	90,000
Booster	lit/ha	10,000	0	-
Agro-chemical (Pestic, Fungc)				
Pesticide (wiltigo, profecron, Ninja)	lit/ha	20,000	3	60,000
Herbicide	lit/ha	0	0	-
Fungicide defender, mupafidan)	lit/ha	30,000	3	90,000
Packing Material (Wdn Crt 45kg)	nos/ha	1,000	500	500,000
<b>小計</b>				<b>1,580,000</b>
<b>2. 労働コスト</b>				
Land prep., Puddle and Bund	man/dav	10,000	15	150,000
Nursery	man/dav	3,000	20	60,000
Plant/Transplanting	man/dav	10,000	10	100,000
Weeding and Fertilizer	man/dav	10,000	15	150,000
Bird Scaring & plant upkeeping	man/dav	10,000	20	200,000
Harvesting	man/dav	15,000	15	225,000
Transport Marketing	man/dav	10,000	5	50,000
Irrigation, etc	man/dav		0	-
Threshing/Winnowing	man/dav	8,000	10	80,000
<b>小計</b>				<b>1,015,000</b>
<b>3. 機械・役畜</b>				
Tractor	LS	125,000	0	-
Hand Tractor	LS			-
Draught Animal	LS			-
<b>小計</b>				<b>0</b>
<b>4. 雑費(費用の5%)</b>				
				<b>129,750</b>
<b>費用合計</b>				<b>2,384,621</b>
<b>III 純便益</b>				
				<b>735,379</b>

項目	単位	単価 (TZS)	数量	合計 (TZS)
<b>I 総便益</b>				
Yield	kg/ha		20,000	
Farmgate Price	TZS/kg	624		
Gross Return	TZS/ha			<b>12,480,000</b>
<b>II 生産費用</b>				
<b>1. 投入</b>				
Seed	kg/ha	1,000,000	1.00	1,000,000
Fertilizer (Urea, DAP, CAN)				
Vig Max	kg/ha	8,000	20	160,000
DAP	kg/ha	1,300	150	195,000
NPK Winner	kg/ha	1,300	150	195,000
CAN	kg/ha	900	150	135,000
Booster	lit/ha	10,000	15	150,000
Agro-chemical (Pestic, Fungc)				
Pesticide (wiltigo, profecron, Ninja)	lit/ha	20,000	10	200,000
Herbicide	lit/ha	0	0	-
Fungicide defender, mupafidan)	lit/ha	50,000	1	50,000
Packing Material (Wdn Crt)	nos/ha	1,000	1000	1,000,000
<b>小計</b>				<b>3,085,000</b>
<b>2. 労働コスト</b>				
Land prep., Puddle and Bund	man/dav	10,000	15	150,000
Nursery	man/dav	5,000	40	200,000
Plant/Transplanting	man/dav	10,000	20	200,000
Weeding and Fertilizer	man/dav	10,000	20	200,000
Bird Scaring & plant upkeeping	man/dav	13,000	30	390,000
Harvesting	man/dav	5,000	180	900,000
Transport Marketing	man/dav	12,500	30	375,000
Irrigation, etc	man/dav	10,000	20	200,000
Threshing/Winnowing	man/dav	4,412	35	154,420
<b>小計</b>				<b>2,769,420</b>
<b>3. 機械・役畜</b>				
Tractor	LS	150,000	1	150,000
Hand Tractor	LS			-
Draught Animal	LS			-
<b>小計</b>				<b>150,000</b>
<b>4. 雑費(費用の5%)</b>				
				<b>300,221</b>
<b>費用合計</b>				<b>3,880,989</b>
<b>III 純便益</b>				
				<b>8,599,011</b>

項目	単位	単価 (TZS)	数量	合計 (TZS)
<b>I 総便益</b>				
Yield	kg/ha		40,000	
Farmgate Price	TZS/kg	624		
Gross Return	TZS/ha			<b>24,960,000</b>
<b>II 生産費用</b>				
<b>1. 投入</b>				
Seed	kg/ha	1,000,000	1.00	1,000,000
Fertilizer (Urea, DAP, CAN)				
Vig Max	kg/ha	8,000	20	160,000
DAP	kg/ha	1,300	150	195,000
NPK Winner	kg/ha	1,300	150	195,000
CAN	kg/ha	900	150	135,000
Booster	lit/ha	10,000	15	150,000
Agro-chemical (Pestic, Fungc)				
Pesticide (wiltigo, profecron, Ninja)	lit/ha	20,000	10	200,000
Herbicide	lit/ha	0	0	-
Fungicide defender, mupafidan)	lit/ha	50,000	1	50,000
Packing Material (Wdn Crt)	nos/ha	1,000	1000	1,000,000
<b>小計</b>				<b>3,085,000</b>
<b>2. 労働コスト</b>				
Land prep., Puddle and Bund	man/dav	10,000	15	150,000
Nursery	man/dav	5,000	40	200,000
Plant/Transplanting	man/dav	10,000	20	200,000
Weeding and Fertilizer	man/dav	10,000	20	200,000
Bird Scaring & plant upkeeping	man/dav	13,000	30	390,000
Harvesting	man/dav	5,000	180	900,000
Transport Marketing	man/dav	12,500	30	375,000
Irrigation, etc	man/dav	10,000	20	200,000
Threshing/Winnowing	man/dav	4,412	35	154,420
<b>小計</b>				<b>2,769,420</b>
<b>3. 機械・役畜</b>				
Tractor	LS	150,000	1	150,000
Hand Tractor	LS			-
Draught Animal	LS			-
<b>小計</b>				<b>150,000</b>
<b>4. 雑費(費用の5%)</b>				
				<b>300,221</b>
<b>費用合計</b>				<b>3,880,989</b>
<b>III 純便益</b>				
				<b>21,079,011</b>

添付資料-9.9.5 (3/6) 作物収支(経済価格)

雨期 安値の時期

タマネギ

条件:【単価は2007-2016年平均値とする。】

【流通経費率:1.7】

【灌漑農業の方が投入が増えるため、生産コストを、天水条件では10%程度下げ、灌漑条件では10%程度上げると想定。】

【Farmgate price = 効率的市場との想定から、市場価格そのまま、Production costs = SW, SCFで換算】

注)流通経費率:流通経費(運搬コスト、市場参加費用、保管費用など)の合計の比率。

(1)【現在:天水 → 将来:天水(プロジェクト無)】

(2)【現在:灌漑 → 将来:灌漑(プロジェクト無)】

既設の灌漑施設があるが、改修により単収が増加すると想定(7.0 ton/ ha → 10.0 ton/ ha((3)参照))。

建設単価の「改修」に対応。

(3)【現在:天水→将来:灌漑 又は 現在:灌漑 → 将来:灌漑(プロジェクト有)】

現在、何もない、あるいは伝統灌漑を行っている地域。NIMP2018実施により単収が増加すると想定(2.0 ton/ ha((1)参照) → 10.0 ton/ ha)。

建設単価の「新規重力式(完結型)」「新規加圧式(完結型)」「拡張」に対応。

項目	単位	単価 (TZS)	数量	合計 (TZS)
<b>I 総便益</b>				
Yield	kg/ha		2,000	
Farmgate Price	TZS/kg	571		
Gross Return	TZS/ha			<b>1,142,000</b>
<b>II 生産費用</b>				
<b>1. 投入</b>				
Seed	kg/ha	40,000	3	120,000
Fertilizer (Urea, DAP, CAN)				
Urea (46% N)	kg/ha	1,200	200	240,000
CAN	kg/ha	1,000	200	200,000
DAP	kg/ha	0	0	-
NPK	kg/ha	0	0	-
Manure	ton/ha	0	0	-
Agro-chemical (Pestic, Herbc, Fungc)				
Pesticide (Ninja)	lit/ha	20,000	3	60,000
Herbicide	lit/ha	39,000	1	39,000
Fungicide (Ivory 72)	lit/ha	50,000	1	50,000
Packing Material (Bag 100kg)	nos/ha	1,000	100	100,000
	<b>小計</b>			<b>809,000</b>
<b>2. 労働コスト</b>				
Land prep., Puddle and Bund	man/day	15,000	5	75,000
Nursery	man/day	3,300	15	49,500
Plant/Transplanting	man/day	6,600	25	165,000
Weeding and Fertilizer	man/day	25,000	4	100,000
Animals Scaring	man/day	0	0	-
Harvesting	man/day	13,300	15	199,500
Transport Marketing	man/day	10,500	10	105,000
Irrigation, etc	man/day	0	0	-
Threshing/Winning	man/day	7,000	5	35,000
	<b>小計</b>			<b>729,000</b>
<b>3. 機械・役畜</b>				
Tractor	LS	125,000	1	125,000
Hand Tractor	LS			-
Draught Animal	LS			-
	<b>小計</b>			<b>125,000</b>
<b>4. 雑費(費用の5%)</b>				
				<b>83,150</b>
	<b>費用合計</b>			<b>1,531,843</b>
<b>III 純便益</b>				
				<b>-389,843</b>

出典: JICA調査団

項目	単位	単価 (TZS)	数量	合計 (TZS)
<b>I 総便益</b>				
Yield	kg/ha		7,000	
Farmgate Price	TZS/kg	571		
Gross Return	TZS/ha			<b>3,997,000</b>
<b>II 生産費用</b>				
<b>1. 投入</b>				
Seed	kg/ha	40,000	10	400,000
Fertilizer (Urea, DAP, V Max, Bstr)				-
Urea (46% N)	kg/ha	1,000	150	150,000
DAP	kg/ha	1,300	150	195,000
Vig Max	kg/ha	8,000	20	160,000
Booster	kg/ha	5,000	10	50,000
Agro-chemical (Pestic, Fungc)				-
Pesticide (Ninja)	lit/ha	20,000	10	200,000
Herbicide	lit/ha	39,000	5	195,000
Fungicide (Ivory 72)	lit/ha	50,000	1	50,000
Packing Material (Bag 100kg)	nos/ha	1,000	150	150,000
	<b>小計</b>			<b>1,550,000</b>
<b>2. 労働コスト</b>				
Land prep., Puddle and Bund	man/day	12,000	30	360,000
Nursery	man/day	3,000	40	120,000
Plant/Transplanting	man/day	12,000	20	240,000
Weeding and Fertilizer	man/day	10,000	40	400,000
Animals Scaring	man/day	0	0	-
Harvesting	man/day	10,000	20	200,000
Transport Marketing	man/day	16,000	10	160,000
Irrigation, etc	man/day	10,000	20	200,000
Threshing/Winning	man/day	7,000	10	70,000
	<b>小計</b>			<b>1,750,000</b>
<b>3. 機械・役畜</b>				
Tractor	LS	125,000	1	125,000
Hand Tractor	LS			-
Draught Animal	LS			-
	<b>小計</b>			<b>125,000</b>
<b>4. 雑費(費用の5%)</b>				
				<b>171,250</b>
	<b>費用合計</b>			<b>3,049,534</b>
<b>III 純便益</b>				
				<b>947,466</b>

項目	単位	単価 (TZS)	数量	合計 (TZS)
<b>I 総便益</b>				
Yield	kg/ha		10,000	
Farmgate Price	TZS/kg	571		
Gross Return	TZS/ha			<b>5,710,000</b>
<b>II 生産費用</b>				
<b>1. 投入</b>				
Seed	kg/ha	40,000	10	400,000
Fertilizer (Urea, DAP, V Max, Bstr)				-
Urea (46% N)	kg/ha	1,000	150	150,000
DAP	kg/ha	1,300	150	195,000
Vig Max	kg/ha	8,000	20	160,000
Booster	kg/ha	5,000	10	50,000
Agro-chemical (Pestic, Fungc)				-
Pesticide (Ninja)	lit/ha	20,000	10	200,000
Herbicide	lit/ha	39,000	5	195,000
Fungicide (Ivory 72)	lit/ha	50,000	1	50,000
Packing Material (Bag 100kg)	nos/ha	1,000	150	150,000
	<b>小計</b>			<b>1,550,000</b>
<b>2. 労働コスト</b>				
Land prep., Puddle and Bund	man/day	12,000	30	360,000
Nursery	man/day	3,000	40	120,000
Plant/Transplanting	man/day	12,000	20	240,000
Weeding and Fertilizer	man/day	10,000	40	400,000
Animals Scaring	man/day	0	0	-
Harvesting	man/day	10,000	20	200,000
Transport Marketing	man/day	16,000	10	160,000
Irrigation, etc	man/day	10,000	20	200,000
Threshing/Winning	man/day	7,000	10	70,000
	<b>小計</b>			<b>1,750,000</b>
<b>3. 機械・役畜</b>				
Tractor	LS	125,000	1	125,000
Hand Tractor	LS			-
Draught Animal	LS			-
	<b>小計</b>			<b>125,000</b>
<b>4. 雑費(費用の5%)</b>				
				<b>171,250</b>
	<b>費用合計</b>			<b>3,049,534</b>
<b>III 純便益</b>				
				<b>2,660,466</b>

添付資料-9.9.5 (4/6) 作物収支(経済価格)

乾期 高値の時期

コメ 条件:【単価は2017年単価に合わせた】  
 【流通経費率:1.2(この数値はダレスサラーム卸市場の調査に基づく。)】  
 【籾-精米比率を1:0.65に減少、単価減】  
 【Farmgate price = 国際価格から推定、Wet/Dryの区別なし、Production costs = SW, SCFで換算】  
 注)流通経費率:流通経費(運搬コスト、市場参加費用、保管費用など)の合計の比率。

(1)【現在:天水 → 将来:天水(プロジェクト無)】

(2)【現在:灌漑 → 将来:灌漑(プロジェクト無)】

(3)【現在:天水→将来:灌漑 又は 現在:灌漑 → 将来:灌漑(プロジェクト有)】

既設の灌漑施設があるが、改修により単収が増加すると想定(2.5 ton/ ha → 5.0 ton/ ha((3)参照。))。

現在、何も無い、あるいは伝統灌漑を行っている地域。NIMP2018実施により単収が増加すると想定(1.85 ton/ ha ((1)参照。)) → 5.0 ton/ ha)。

建設単価の「改修」に対応。

建設単価の「新規重力式(完結型)」「新規加圧式(完結型)」「拡張」に対応。

項目	単位	単価 (TZS)	数量	合計 (TZS)
<b>I 総便益</b>				
Yield	kg/ha		1,850	
Farmgate Price	TZS/kg	422		
Gross Return	TZS/ha			<b>780,671</b>
<b>II 生産費用</b>				
1. 投入				
Seed	kg/ha	670	75	50,250
Fertilizer (Urea)	kg/ha			
Urea	kg/ha	1,000	100	100,000
Agro-chemical (Pesticide)	kg/ha			
Pesticide	kg/ha	12,000	0.5	6,000
Packing Material (Bags (70kg))	nos/ha	700	50	35,000
	<b>小計</b>			<b>191,250</b>
2. 労働コスト				
Land prep., Puddle and Bund	man/day	10,000	20	200,000
Nursery	man/day	10,000	2	20,000
Plant/Transplanting	man/day	10,000	25	250,000
Weeding and Fertilizer	man/day	5,000	50	250,000
Bird Scaring	man/day	660	30	19,800
Harvesting	man/day	6,000	40	240,000
Transport Marketing	man/day	5,000	7	35,000
Irrigation, etc	man/day		0	0
Threshing/Winnowing	man/day	4,400	30	132,000
	<b>小計</b>			<b>1,146,800</b>
3. 機械・役畜				
Tractor	LS	60,000	1	60,000
Hand Tractor	LS			-
Draught Animal	LS			-
	<b>小計</b>			<b>60,000</b>
4. 雑費(費用の5%)				
				<b>69,903</b>
	<b>費用合計</b>			<b>1,080,254</b>
<b>III 純便益</b>				
				<b>-299,582</b>

項目	単位	単価 (TZS)	数量	合計 (TZS)
<b>I 総便益</b>				
Yield	kg/ha		2,500	
Farmgate Price	TZS/kg	422		
Gross Return	TZS/ha			<b>1,054,961</b>
<b>II 生産費用</b>				
1. 投入				
Seed	kg/ha	550	50	27,500
Fertilizer (Urea)	kg/ha			
Urea	kg/ha	1,000	125	125,000
DAP	kg/ha	1,200	100	120,000
Agro-chemical (Pesticide)	kg/ha			
Pesticide	kg/ha	12,000	0.5	6,000
Herbicide	kg/ha	15,000	2.5	37,500
Packing Material (Bags (100kg))	nos/ha	1,000	75	75,000
	<b>小計</b>			<b>391,000</b>
2. 労働コスト				
Land prep., Puddle and Bund	man/day	7,000	15	105,000
Nursery	man/day	2,000	6	12,000
Plant/Transplanting	man/day	8,000	22	176,000
Weeding and Fertilizer	man/day	10,000	16	160,000
Bird Scaring	man/day	10,000	21	210,000
Harvesting	man/day	10,000	15	150,000
Transport Marketing	man/day	15,000	10	150,000
Irrigation, etc	man/day	12,500	10	125,000
Threshing/Winnowing	man/day	10,000	10	100,000
	<b>小計</b>			<b>1,188,000</b>
3. 機械・役畜				
Tractor	LS			-
Hand Tractor	LS	120,000	1	120,000
Draught Animal	LS			-
	<b>小計</b>			<b>120,000</b>
4. 雑費(費用の5%)				
				<b>84,950</b>
	<b>費用合計</b>			<b>1,387,793</b>
<b>III 純便益</b>				
				<b>-332,832</b>

項目	単位	単価 (TZS)	数量	合計 (TZS)
<b>I 総便益</b>				
Yield	kg/ha		5,000	
Farmgate Price	TZS/kg	422		
Gross Return	TZS/ha			<b>2,109,923</b>
<b>II 生産費用</b>				
1. 投入				
Seed	kg/ha	550	50	27,500
Fertilizer (Urea)	kg/ha			
Urea	kg/ha	1,000	125	125,000
DAP	kg/ha	1,200	100	120,000
Agro-chemical (Pesticide)	kg/ha			
Pesticide	kg/ha	12,000	0.5	6,000
Herbicide	kg/ha	15,000	2.5	37,500
Packing Material (Bags (100kg))	nos/ha	1,000	75	75,000
	<b>小計</b>			<b>391,000</b>
2. 労働コスト				
Land prep., Puddle and Bund	man/day	7,000	15	105,000
Nursery	man/day	2,000	6	12,000
Plant/Transplanting	man/day	8,000	22	176,000
Weeding and Fertilizer	man/day	10,000	16	160,000
Bird Scaring	man/day	10,000	21	210,000
Harvesting	man/day	10,000	15	150,000
Transport Marketing	man/day	15,000	10	150,000
Irrigation, etc	man/day	12,500	10	125,000
Threshing/Winnowing	man/day	10,000	10	100,000
	<b>小計</b>			<b>1,188,000</b>
3. 機械・役畜				
Tractor	LS			-
Hand Tractor	LS	120,000	1	120,000
Draught Animal	LS			-
	<b>小計</b>			<b>120,000</b>
4. 雑費(費用の5%)				
				<b>84,950</b>
	<b>費用合計</b>			<b>1,387,793</b>
<b>III 純便益</b>				
				<b>722,130</b>

添付資料-9.9.5 (5/6) 作物収支(経済価格)

乾期 高値の時期

トマト 条件:【単価は2007-2016年平均価】  
 【流通経費率:2.0】  
 【Farmgate price = 物率的市場との想定から、市場価格そのまま、Production costs = SW, SCFで換算】  
 注)流通経費率:流通経費(運搬コスト、市場参加費用、保管費用など)の合計の比率。

(1)【現在:天水 → 将来:天水(プロジェクト無)】

項目	単位	単価 (TZS)	数量	合計 (TZS)
<b>I 総便益</b>				
Yield	kg/ha		5,000	
Farmgate Price	TZS/kg	859		
Gross Return	TZS/ha			<b>4,295,000</b>
<b>II 生産費用</b>				
<b>1. 投入</b>				
Seed	kg/ha	1,000,000	0.50	500,000
Fertilizer				
Viq Max	kg/ha	8,000	10	80,000
DAP	kg/ha	1,300	100	130,000
NPK Winner	kg/ha	1,300	100	130,000
CAN	kg/ha	900	100	90,000
Booster	lit/ha	10,000	0	-
Agro-chemical (Pestc, Fungc)				
Pesticide (wiltigo, profecron, Ninja)	lit/ha	20,000	3	60,000
Herbicide	lit/ha	0	0	-
Fungicide defender, mupafidan)	lit/ha	30,000	3	90,000
Packing Material (Wdn Crt 45kg)	nos/ha	1,000	500	500,000
	<b>小計</b>			<b>1,580,000</b>
<b>2. 労働コスト</b>				
Land prep., Puddle and Bund	man/day	10,000	15	150,000
Nursery	man/day	3,000	20	60,000
Plant/Transplanting	man/day	10,000	10	100,000
Weeding and Fertilizer	man/day	10,000	15	150,000
Bird Scaring & plant upkeeping	man/day	10,000	20	200,000
Harvesting	man/day	15,000	15	225,000
Transport Marketing	man/day	10,000	5	50,000
Irrigation, etc	man/day		0	-
Threshing/Winnowing	man/day	8,000	10	80,000
	<b>小計</b>			<b>1,015,000</b>
<b>3. 機械・役畜</b>				
Tractor	LS	125,000	0	-
Hand Tractor	LS			-
Draught Animal	LS			-
	<b>小計</b>			<b>0</b>
<b>4. 雑費(費用の5%)</b>				
				<b>129,750</b>
	<b>費用合計</b>			<b>2,384,621</b>
<b>III 純便益</b>				
				<b>1,910,379</b>

出典: JICA調査団

(2)【現在:灌漑 → 将来:灌漑(プロジェクト無)】

既設の灌漑施設があるが、改修により単収が増加すると想定(20.0 ton/ ha → 40.0 ton/ ha ((3)参照。))。

建設単価の「改修」に対応。

項目	単位	単価 (TZS)	数量	合計 (TZS)
<b>I 総便益</b>				
Yield	kg/ha		20,000	
Farmgate Price	TZS/kg	859		
Gross Return	TZS/ha			<b>17,180,000</b>
<b>II 生産費用</b>				
<b>1. 投入</b>				
Seed	kg/ha	1,000,000	1.00	1,000,000
Fertilizer (Urea, DAP, CAN)				
Viq Max	kg/ha	8,000	20	160,000
DAP	kg/ha	1,300	150	195,000
NPK Winner	kg/ha	1,300	150	195,000
CAN	kg/ha	900	150	135,000
Booster	lit/ha	10,000	15	150,000
Agro-chemical (Pestc, Fungc)				
Pesticide (wiltigo, profecron, Ninja)	lit/ha	20,000	10	200,000
Herbicide	lit/ha	0	0	-
Fungicide defender, mupafidan)	lit/ha	50,000	1	50,000
Packing Material (Wdn Crt)	nos/ha	1,000	1000	1,000,000
	<b>小計</b>			<b>3,085,000</b>
<b>2. 労働コスト</b>				
Land prep., Puddle and Bund	man/day	10,000	15	150,000
Nursery	man/day	5,000	40	200,000
Plant/Transplanting	man/day	10,000	20	200,000
Weeding and Fertilizer	man/day	10,000	20	200,000
Bird Scaring & plant upkeeping	man/day	13,000	30	390,000
Harvesting	man/day	5,000	180	900,000
Transport Marketing	man/day	12,500	30	375,000
Irrigation, etc	man/day	10,000	20	200,000
Threshing/Winnowing	man/day	4,412	35	154,420
	<b>小計</b>			<b>2,769,420</b>
<b>3. 機械・役畜</b>				
Tractor	LS	150,000	1	150,000
Hand Tractor	LS			-
Draught Animal	LS			-
	<b>小計</b>			<b>150,000</b>
<b>4. 雑費(費用の5%)</b>				
				<b>300,221</b>
	<b>費用合計</b>			<b>3,880,989</b>
<b>III 純便益</b>				
				<b>13,299,011</b>

(3)【現在:天水→将来:灌漑 又は 現在:灌漑 → 将来:灌漑(プロジェクト有)】

現在、何もない、あるいは伝統灌漑を行っている地域。NIMP2018実施により単収が増加すると想定(5.0 ton/ ha ((1)参照。))→ 40.0 ton/ ha)。

建設単価の「新規重力式(完結型)」「新規加圧式(完結型)」「拡張」に対応。

項目	単位	単価 (TZS)	数量	合計 (TZS)
<b>I 総便益</b>				
Yield	kg/ha		40,000	
Farmgate Price	TZS/kg	859		
Gross Return	TZS/ha			<b>34,360,000</b>
<b>II 生産費用</b>				
<b>1. 投入</b>				
Seed	kg/ha	1,000,000	1.00	1,000,000
Fertilizer (Urea, DAP, CAN)				
Viq Max	kg/ha	8,000	20	160,000
DAP	kg/ha	1,300	150	195,000
NPK Winner	kg/ha	1,300	150	195,000
CAN	kg/ha	900	150	135,000
Booster	lit/ha	10,000	15	150,000
Agro-chemical (Pestc, Fungc)				
Pesticide (wiltigo, profecron, Ninja)	lit/ha	20,000	10	200,000
Herbicide	lit/ha	0	0	-
Fungicide defender, mupafidan)	lit/ha	50,000	1	50,000
Packing Material (Wdn Crt)	nos/ha	1,000	1000	1,000,000
	<b>小計</b>			<b>3,085,000</b>
<b>2. 労働コスト</b>				
Land prep., Puddle and Bund	man/day	10,000	15	150,000
Nursery	man/day	5,000	40	200,000
Plant/Transplanting	man/day	10,000	20	200,000
Weeding and Fertilizer	man/day	10,000	20	200,000
Bird Scaring & plant upkeeping	man/day	13,000	30	390,000
Harvesting	man/day	5,000	180	900,000
Transport Marketing	man/day	12,500	30	375,000
Irrigation, etc	man/day	10,000	20	200,000
Threshing/Winnowing	man/day	4,412	35	154,420
	<b>小計</b>			<b>2,769,420</b>
<b>3. 機械・役畜</b>				
Tractor	LS	150,000	1	150,000
Hand Tractor	LS			-
Draught Animal	LS			-
	<b>小計</b>			<b>150,000</b>
<b>4. 雑費(費用の5%)</b>				
				<b>300,221</b>
	<b>費用合計</b>			<b>3,880,989</b>
<b>III 純便益</b>				
				<b>30,479,011</b>

添付資料-9.9.5 (6/6) 作物収支(経済価格)

乾期 高値の時期

タマネギ

条件:【単価は2007-2016年平均値とする。】

【流通経費率:1.7】

【Farmgate price = 効率的市場との想定から、市場価格そのまま、Production costs = SW, SCFで換算】

注)流通経費率:流通経費(運搬コスト、市場参加費用、保管費用など)の合計の比率。

(1)【現在:天水 → 将来:天水(プロジェクト無)】

(2)【現在:灌漑 → 将来:灌漑(プロジェクト無)】

既設の灌漑施設があるが、改修により単収が増加すると想定(7.0 ton/ ha → 10.0 ton/ ha(3)参照。))。

(3)【現在:天水→将来:灌漑 又は 現在:灌漑 → 将来:灌漑(プロジェクト有)】

現在、何もない、あるいは伝統灌漑を行っている地域。NIMP2018実施により単収が増加すると想定(2.0 ton/ ha(1)参照。) → 10.0 ton/ ha)。

建設単価の「改修」に対応。

建設単価の「新規重力式(完結型)」「新規加圧式(完結型)」「拡張」に対応。

項目	単位	単価 (TZS)	数量	合計 (TZS)
<b>I 総便益</b>				
Yield	kg/ha		2,000	
Farmgate Price	TZS/kg	785		
Gross Return	TZS/ha			<b>1,570,000</b>
<b>II 生産費用</b>				
<b>1. 投入</b>				
Seed	kg/ha	40,000	3	120,000
Fertilizer (Urea, DAP, CAN)				
Urea (46% N)	kg/ha	1,200	200	240,000
CAN	kg/ha	1,000	200	200,000
DAP	kg/ha	0	0	-
NPK	kg/ha	0	0	-
Manure	ton/ha		0	-
Agro-chemical (Pestc, Herbc, Fungc)				
Pesticide (Ninja)	lit/ha	20,000	3	60,000
Herbicide	lit/ha	39,000	1	39,000
Fungicide (Ivory 72)	lit/ha	50,000	1	50,000
Packing Material (Bag 100kg)	nos/ha	1,000	100	100,000
<b>小計</b>				<b>809,000</b>
<b>2. 労働コスト</b>				
Land prep., Puddle and Bund	man/day	15,000	5	75,000
Nursery	man/day	3,300	15	49,500
Plant/Transplanting	man/day	6,600	25	165,000
Weeding and Fertilizer	man/day	25,000	4	100,000
Animals Scaring	man/day	0	0	-
Harvesting	man/day	13,300	15	199,500
Transport Marketing	man/day	10,500	10	105,000
Irrigation, etc	man/day	0	0	-
Threshing/Winnowing	man/day	7,000	5	35,000
<b>小計</b>				<b>729,000</b>
<b>3. 機械・役畜</b>				
Tractor	LS	125,000	1	125,000
Hand Tractor	LS			-
Draught Animal	LS			-
<b>小計</b>				<b>125,000</b>
<b>4. 雑費(費用の5%)</b>				
				<b>83,150</b>
<b>費用合計</b>				<b>1,531,843</b>
<b>III 純便益</b>				
				<b>38,157</b>

出典: JICA調査団

項目	単位	単価 (TZS)	数量	合計 (TZS)
<b>I 総便益</b>				
Yield	kg/ha		7,000	
Farmgate Price	TZS/kg	785		
Gross Return	TZS/ha			<b>5,495,000</b>
<b>II 生産費用</b>				
<b>1. 投入</b>				
Seed	kg/ha	40,000	10	400,000
Fertilizer (Urea, DAP, V Max, Bstr)				-
Urea (46% N)	kg/ha	1,000	150	150,000
DAP	kg/ha	1,300	150	195,000
Vig Max	kg/ha	8,000	20	160,000
Booster	kg/ha	5,000	10	50,000
Agro-chemical (Pestc, Fungc)				-
Pesticide (Ninja)	lit/ha	20,000	10	200,000
Herbicide	lit/ha	39,000	5	195,000
Fungicide (Ivory 72)	lit/ha	50,000	1	50,000
Packing Material (Bag 100kg)	nos/ha	1,000	150	150,000
<b>小計</b>				<b>1,550,000</b>
<b>2. 労働コスト</b>				
Land prep., Puddle and Bund	man/day	12,000	30	360,000
Nursery	man/day	3,000	40	120,000
Plant/Transplanting	man/day	12,000	20	240,000
Weeding and Fertilizer	man/day	10,000	40	400,000
Animals Scaring	man/day	0	0	-
Harvesting	man/day	10,000	20	200,000
Transport Marketing	man/day	16,000	10	160,000
Irrigation, etc	man/day	10,000	20	200,000
Threshing/Winnowing	man/day	7,000	10	70,000
<b>小計</b>				<b>1,750,000</b>
<b>3. 機械・役畜</b>				
Tractor	LS	125,000	1	125,000
Hand Tractor	LS			-
Draught Animal	LS			-
<b>小計</b>				<b>125,000</b>
<b>4. 雑費(費用の5%)</b>				
				<b>171,250</b>
<b>費用合計</b>				<b>3,049,534</b>
<b>III 純便益</b>				
				<b>2,445,466</b>

項目	単位	単価 (TZS)	数量	合計 (TZS)
<b>I 総便益</b>				
Yield	kg/ha		10,000	
Farmgate Price	TZS/kg	785		
Gross Return	TZS/ha			<b>7,850,000</b>
<b>II 生産費用</b>				
<b>1. 投入</b>				
Seed	kg/ha	40,000	10	400,000
Fertilizer (Urea, DAP, V Max, Bstr)				-
Urea (46% N)	kg/ha	1,000	150	150,000
DAP	kg/ha	1,300	150	195,000
Vig Max	kg/ha	8,000	20	160,000
Booster	kg/ha	5,000	10	50,000
Agro-chemical (Pestc, Fungc)				-
Pesticide (Ninja)	lit/ha	20,000	10	200,000
Herbicide	lit/ha	39,000	5	195,000
Fungicide (Ivory 72)	lit/ha	50,000	1	50,000
Packing Material (Bag 100kg)	nos/ha	1,000	150	150,000
<b>小計</b>				<b>1,550,000</b>
<b>2. 労働コスト</b>				
Land prep., Puddle and Bund	man/day	12,000	30	360,000
Nursery	man/day	3,000	40	120,000
Plant/Transplanting	man/day	12,000	20	240,000
Weeding and Fertilizer	man/day	10,000	40	400,000
Animals Scaring	man/day	0	0	0
Harvesting	man/day	10,000	20	200,000
Transport Marketing	man/day	16,000	10	160,000
Irrigation, etc	man/day	10,000	20	200,000
Threshing/Winnowing	man/day	7,000	10	70,000
<b>小計</b>				<b>1,750,000</b>
<b>3. 機械・役畜</b>				
Tractor	LS	125,000	1	125,000
Hand Tractor	LS			-
Draught Animal	LS			-
<b>小計</b>				<b>125,000</b>
<b>4. 雑費(費用の5%)</b>				
				<b>171,250</b>
<b>費用合計</b>				<b>3,049,534</b>
<b>III 純便益</b>				
				<b>4,800,466</b>

添付資料-9.9.6 農業収支(経済価格)

便益(経済価格)

1. haあたり便益(経済価格)

TZS換算			
プロジェクトによる純便益(経済価格)(TZS) (単位:百万TZS) [TZS 2,240 / USD]			
便益(経済価格)	フェーズ1(2018-2025)	フェーズ2(2026-2035)	合計(2018-2035)
1) 純便益	916,476	1,100,850	2,017,326

USD換算			
プロジェクトによる純便益(経済価格)合計(USD) (単位:百万USD)			
便益(経済価格)	フェーズ1(2018-2025)	フェーズ2(2026-2035)	合計(2018-2035)
1) 純便益	409	491	901

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★ 作物: コメ及び野菜(トマト・タマネギ)

★ 作付パターン

	コメ	トマト	タマネギ
作付面積比率	0.60	0.05	0.35

上記作付面積比率は国全体で一様と仮定。

★ 作付率

NIMP2018では、灌漑地区に雨期・乾期両方が来ることを想定していることから、作付率から便益を求めるのではなく、実際の作付面積を求め、その数値をもとに便益を求めた。

★ 作物生産による純便益と灌漑施設改修による便益増分

コメ

純便益(TZS/ha) 軒先経済価格は1年を通じて変動しないと仮定する。

	現在のまま(天水)	現在のまま(灌漑)	将来(灌漑)
収量(kg/ha)	1,850	2,500	5,000
軒先価格(雨期)(TZS/kg)	422	422	422
軒先価格(乾期)(TZS/kg)	422	422	422
純便益(雨期)(TZS)	-299,582	-332,832	722,130
純便益(乾期)(TZS)	-299,582	-332,832	722,130
純便益増分(天水→灌漑)		雨期	1,021,712
純便益増分(灌漑→灌漑)		乾期	1,021,712
		乾期	1,054,961
		乾期	1,054,961

トマト

純便益(TZS/ha)

	現在のまま(天水)	現在のまま(灌漑)	将来(灌漑)
収量(kg/ha)	5,000	20,000	40,000
軒先価格(雨期)(TZS/kg)	624	624	624
軒先価格(乾期)(TZS/kg)	859	859	859
純便益(雨期)(TZS)	735,379	8,599,011	21,079,011
純便益(乾期)(TZS)	1,910,379	13,299,011	30,479,011
純便益増分(天水→灌漑)		乾期	20,343,632
純便益増分(灌漑→灌漑)		乾期	28,568,632
		乾期	12,480,000
		乾期	17,180,000

タマネギ

純便益(TZS/ha)

	現在のまま(天水)	現在のまま(灌漑)	将来(灌漑)
収量(kg/ha)	2,000	7,000	10,000
軒先価格(雨期)(TZS/kg)	571	571	571
軒先価格(乾期)(TZS/kg)	785	785	785
純便益(雨期)(TZS)	-389,843	947,466	2,660,466
純便益(乾期)(TZS)	38,157	2,445,466	4,800,466
純便益増分(天水→灌漑)		雨期	3,050,309
純便益増分(灌漑→灌漑)		乾期	4,762,309
		乾期	1,713,000
		乾期	2,355,000

★ 灌漑開発による純便益増分合計

	純便益増分合計
純便益増分(天水→灌漑)	雨期 2,697,817
純便益増分(灌漑→灌漑)	乾期 3,708,267
	雨期 1,856,527
	乾期 2,316,227

注)各作物の純便益増分に各作付率を掛け、合計した便益増分を上表に示す。

2. 各灌漑タイプにおける便益(経済価格)

灌漑タイプ	収量の変化(kg/ha)	季節	純便益増分(TZS/ha)	フェーズ1(2018-2025)		フェーズ2(2026-2035)		合計(フェーズ1+2:2018-2035)	
				開発面積(ha)	便益(百万TZS)	開発面積(ha)	便益(百万TZS)	開発面積(ha)	便益(百万TZS)
1) 新規重力式(完結型)	1,850 → 5,000	雨期	2,697,817	102,795	277,323	126,731	341,898	229,527	619,221
		乾期	3,708,267	31,003	114,966	39,502	146,483	70,504	261,449
2) 新規加圧式(完結型)	1,850 → 5,000	雨期	2,697,817	2,405	6,488	3,175	8,566	5,580	15,054
		乾期	3,708,267	725	2,689	990	3,670	1,715	6,360
3) 拡張	1,850 → 5,000	雨期	2,697,817	85,428	230,470	108,036	291,462	193,465	521,932
		乾期	3,708,267	25,765	95,542	33,675	124,875	59,439	220,417
4) 改修	2,500 → 5,000	雨期	1,856,527	73,969	137,326	71,319	132,406	145,288	269,732
		乾期	2,316,227	22,309	51,672	22,230	51,490	44,539	103,162
				<b>344,399</b>	<b>916,476</b>	<b>405,658</b>	<b>1,100,850</b>	<b>750,057</b>	<b>2,017,326</b>

トマトの収量変化 タマネギの収量変化  
 1) 5,000 → 40,000 2,000 → 15,000  
 2) 5,000 → 40,000 2,000 → 15,000  
 3) 5,000 → 40,000 2,000 → 15,000  
 4) 20,000 → 40,000 7,000 → 15,000

★ コメ・トマト・タマネギ合成のha当り純便益(経済価格)

合成純便益(TZS/ha)

雨期: 純便益 = 1,000 0.302  
 コメ・トマト・タマネギ = 0.600 0.050 0.350

	現在のまま(天水)	現在のまま(灌漑)	将来(灌漑)
ha当りの作物合成 年純便益	-300,801	960,321	3,515,410

農家あたり面積全国平均 = 1.6 ha

	現在のまま(天水)	現在のまま(灌漑)	将来(灌漑)
農家当りの作物合成 年純便益 (ha当りx 1.6 ha)	-481,282	1,536,514	5,624,656

出典: JICA調査団

3,816,212 ← 純便益(天水から灌漑)/ha  
 2,555,089 ← 純便益(灌漑から灌漑)/ha

6,105,938 ← 純便益(天水から灌漑)/農家  
 4,088,142 ← 純便益(灌漑から灌漑)/農家

添付資料-9.9.7 全国灌漑マスタープラン2018におけるキャッシュフロー(経済価格)

(単位:百万TZS)

年	コスト			コスト合計	農業生産による便益	その他便益	便益合計	純便益			
	建設費	ソフトコンポーネント	O&M								
1	2018	107,870	6,761	114,631	0	0	0	-114,631			
2	2019	288,708	6,640	295,348	0	0	0	-295,348			
3	2020	493,910	7,124	500,939	0	0	0	-500,939			
4	2021	744,910	8,939	770,203	27,505	0	27,505	-742,698			
5	2022	852,420	5,192	882,489	101,120	0	101,120	-781,369			
6	2023	625,601	2,841	659,576	227,058	0	227,058	-432,518			
7	2024	294,060	3,961	340,996	422,377	0	422,377	90,281			
8	2025	186,803	3,525	36,803	226,271	634,348	0	634,348	408,077		
9	2026	44,677	1,975	36,390	83,041	793,865	0	793,865	710,824		
10	2027	284,519	3,530	431,582	719,631	868,845	0	868,845	149,214		
11	2028	339,767	2,243	42,632	384,642	916,476	0	916,476	531,835		
12	2029	562,738	3,125	48,260	614,123	927,874	0	927,874	313,751		
13	2030	757,049	3,291	55,830	816,171	1,000,457	0	1,000,457	184,287		
14	2031	808,712	2,365	63,917	874,994	1,087,135	0	1,087,135	212,141		
15	2032	686,137	1,287	70,779	758,203	1,230,695	0	1,230,695	472,492		
16	2033	440,131	1,117	75,180	516,427	1,423,826	0	1,423,826	907,398		
17	2034	203,896	1,840	77,219	282,955	1,630,136	0	1,630,136	1,347,181		
18	2035	187,578	1,203	79,095	267,876	1,805,176	0	1,805,176	1,537,300		
19	2036	0	0	79,095	79,095	1,917,457	0	1,917,457	1,838,363		
20	2037	0	0	870,043	870,043	1,969,473	0	1,969,473	1,099,430		
21	2038	0	0	79,095	79,095	2,017,326	0	2,017,326	1,938,231		
22	2039	0	0	79,095	79,095	2,017,326	0	2,017,326	1,938,231		
23	2040	0	0	79,095	79,095	2,017,326	0	2,017,326	1,938,231		
24	2041	0	0	79,095	79,095	2,017,326	0	2,017,326	1,938,231		
25	2042	0	0	79,095	79,095	2,017,326	0	2,017,326	1,938,231		
26	2043	0	0	79,095	79,095	2,017,326	0	2,017,326	1,938,231		
27	2044	0	0	79,095	79,095	2,017,326	0	2,017,326	1,938,231		
28	2045	0	0	79,095	79,095	2,017,326	0	2,017,326	1,938,231		
29	2046	0	0	79,095	79,095	2,017,326	0	2,017,326	1,938,231		
30	2047	0	0	2,451,940	2,451,940	2,017,326	0	2,017,326	-434,614		
31	2048	0	0	79,095	79,095	2,017,326	0	2,017,326	1,938,231		
32	2049	0	0	79,095	79,095	2,017,326	0	2,017,326	1,938,231		
33	2050	0	0	79,095	79,095	2,017,326	0	2,017,326	1,938,231		
34	2051	0	0	79,095	79,095	2,017,326	0	2,017,326	1,938,231		
35	2052	0	0	79,095	79,095	2,017,326	0	2,017,326	1,938,231		
36	2053	0	0	79,095	79,095	2,017,326	0	2,017,326	1,938,231		
37	2054	0	0	79,095	79,095	2,017,326	0	2,017,326	1,938,231		
38	2055	0	0	79,095	79,095	2,017,326	0	2,017,326	1,938,231		
39	2056	0	0	79,095	79,095	2,017,326	0	2,017,326	1,938,231		
40	2057	0	0	870,043	870,043	2,017,326	0	2,017,326	1,147,283		
41	2058	0	0	79,095	79,095	2,017,326	0	2,017,326	1,938,231		
42	2059	0	0	79,095	79,095	2,017,326	0	2,017,326	1,938,231		
43	2060	0	0	79,095	79,095	2,017,326	0	2,017,326	1,938,231		
44	2061	0	0	79,095	79,095	2,017,326	0	2,017,326	1,938,231		
45	2062	0	0	79,095	79,095	2,017,326	0	2,017,326	1,938,231		
46	2063	0	0	79,095	79,095	2,017,326	0	2,017,326	1,938,231		
47	2064	0	0	79,095	79,095	2,017,326	0	2,017,326	1,938,231		
48	2065	0	0	79,095	79,095	2,017,326	0	2,017,326	1,938,231		
									<b>3,714,054</b>	<b>5,182,377</b>	<b>1,468,323</b>

現在価値

(単位:百万TZS)

コスト合計	便益合計	純便益
102,349	0	-102,349
235,449	0	-235,449
362,964	0	-362,964
489,478	17,480	-471,998
500,748	57,378	-443,370
334,162	115,035	-219,127
150,223	191,062	40,839
91,387	256,203	164,816
29,945	286,276	256,330
231,702	279,745	48,043
110,575	263,465	152,890
157,630	238,162	80,532
187,045	229,279	42,234
179,041	222,449	43,408
138,521	224,843	86,323
84,240	232,257	148,016
41,211	237,420	196,209
34,834	234,744	199,910
9,183	222,630	213,446
90,195	204,169	113,974
7,321	186,723	179,402
6,537	166,717	160,180
5,836	148,854	143,018
5,211	132,906	127,695
4,653	118,666	114,013
4,154	105,952	101,797
3,709	94,600	90,891
3,312	84,464	81,152
2,957	75,414	72,457
81,841	67,334	-14,507
2,357	60,120	57,763
2,105	53,678	51,574
1,879	47,927	46,048
1,678	42,792	41,114
1,498	38,207	36,709
1,338	34,114	32,776
1,194	30,459	29,264
1,066	27,195	26,129
952	24,281	23,329
9,350	21,680	12,330
759	19,357	18,598
678	17,283	16,605
605	15,431	14,826
540	13,778	13,238
482	12,302	11,819
431	10,984	10,553
385	9,807	9,422
343	8,756	8,413
<b>3,714,054</b>	<b>5,182,377</b>	<b>1,468,323</b>

経済価値指標

(単位:百万TZS)

正味現在価値 (NPV)	1,468,323
費用便益比 (B/C)	1.40
経済的内部収益率 (EIRR)	16.4%
<b>感度分析 (EIRR)</b>	
便益	コスト
	Base +5% +10%
Base	16.4% 15.7% 15.1%
-5%	15.7% 15.0% 14.4%
-10%	14.9% 14.3% 13.7%



# 添付資料-9.10.1 全国灌漑マスタープラン2018のプログラム・デザイン・マトリックス(PDM)案

プロジェクトタイトル: 全国灌漑マスタープラン改訂プロジェクト

プロジェクト期間: 2018-2035

プロジェクトサイト: タンザニア国本土



実施機関: 国家灌漑庁

ターゲットグループ: 灌漑対象地区の灌漑組合

プロジェクトの要約	指標	指標の入手手段	外部条件
<b>【上位目標】</b> ASDP2の重要達成指標(KPI)である農業GDP成長率(%）、農村貧困率の削減(%）、食糧貧困率の削減(%）が達成される。	a. 対象地域において農業GDP成長率年率6%が達成される b. 対象地域において農村貧困率24%が達成される c. 対象地域において食糧貧困率5%が達成される	a. 政府統計資料(NBS) b. 政府統計資料(HBS) c. 政府統計資料(HBS)	
<b>【プロジェクト目標】</b> 灌漑対象地域において、灌漑面積(ha)、裨益農家数、作物単位収量(ton/ha)、農業所得増(TZS/ha/year)が達成される。	a. 灌漑開発面積が100万haへ増大する b. 灌漑裨益農家数が60万へ増大する c. 灌漑作物の単位収量は、コメが5 ton/ha、トマトが40 ton/ha、タマネギが10 ton/haへ増大する。 d. 灌漑農家の年間純農業所得がTZS3~4百万増加する	a. 農業統計(ARDS, AASS, NSCA) b. 農業統計(ARDS, AASS, NSCA) c. 農業統計(ARDS, AASS, NSCA) d. 農業統計(ARDS, AASS, NSCA) e. 農業統計(ARDS, AASS, NSCA)	- 中央政府および県政府の開発政策に大幅な変更がない
<b>【成果】</b> 1. 灌漑施設が整備される  2. 灌漑組織及びその機能が強化される  3. 灌漑職員及び灌漑組合(農家を含む)の能力が強化される  4. 灌漑に関連する組織・団体との連携が強化される	a. Dodoma ゾーン灌漑開発計画 (57,361 ha) b. Kilimanjaro ゾーン灌漑開発計画 (36,376 ha) c. Mbeya ゾーン灌漑開発計画 (89,095 ha) d. Morogoro ゾーン灌漑開発計画 (120,674 ha) e. Mtwara ゾーン灌漑開発計画 (54,682 ha) f. Mwanza ゾーン灌漑開発計画 (68,320 ha) g. Tabora ゾーン灌漑開発計画 (52,390 ha) h. Katavi ゾーン灌漑開発計画 (81,333 ha) i. 大規模民間灌漑開発計画 (220,000 ha)  a. RIOs が新設される(合計18箇所) b. 灌漑職員が増員される(合計218人) c. 灌漑組合が登録される(合計1,112箇所) d. 年次活動報告書が作成される(合計18回) e. NIRCのホームページが更新される(合計17回) f. 灌漑をテーマとした研究開発調査が実施される(合計10件)  a. 灌漑設計用マニュアル及びチェックリストが整備される(合計一式) b. 灌漑研修用モジュールが整備される(合計一式) c. ZIOs/RIOsの灌漑スタッフに対する能力強化研修が実施される(合計9回) d. LGAsの灌漑スタッフに対する能力強化研修が実施される(合計182回) e. 灌漑組合に対する能力強化研修が実施される(合計182回) f. 民間の工事業者やコンサルタントの技術力強化研修が実施される(合計9回)  a. 民間灌漑投資促進に係る会議が実施される(合計9回) b. セクター横断的な課題に対する連携強化に係る会議が実施される(合計9件)	NIRCの年次活動報告書(計画と実績)に加えて a. 事業進捗報告書/事業完了報告書(個別案件) b. 事業進捗報告書/事業完了報告書(個別案件) c. 事業進捗報告書/事業完了報告書(個別案件) d. 事業進捗報告書/事業完了報告書(個別案件) e. 事業進捗報告書/事業完了報告書(個別案件)  a. NIRCの年次活動報告書(計画と実績) b. NIRCの年次活動報告書(計画と実績) c. NIRCの年次活動報告書(計画と実績) d. NIRCの年次活動報告書(計画と実績) e. NIRCの年次活動報告書(計画と実績) f. NIRCの年次活動報告書(計画と実績) g. NIRCの年次活動報告書(計画と実績)  a. NIRCの年次活動報告書(計画と実績) b. NIRCの年次活動報告書(計画と実績) c. NIRCの年次活動報告書(計画と実績) d. NIRCの年次活動報告書(計画と実績) e. NIRCの年次活動報告書(計画と実績) f. NIRCの年次活動報告書(計画と実績) g. NIRCの年次活動報告書(計画と実績)	- 農業投入資材及び農産物の価格が大幅に変動しない - 農業生産に極端な悪影響を及ぼすような天候不順が発生しない
<b>活動</b>	<b>投入</b>		
<b>&lt;成果1に係る活動&gt;</b> 1-1 Dodoma ゾーンの灌漑開発 1-2 Kilimanjaro ゾーンの灌漑開発 1-3 Mbeya ゾーンの灌漑開発 1-4 Morogoro ゾーンの灌漑開発 1-5 Mtwara ゾーンの灌漑開発 1-6 Mwanza ゾーンの灌漑開発 1-7 Tabora ゾーンの灌漑開発 1-8 Katavi ゾーンの灌漑開発 1-9 大型民間灌漑開発 <b>&lt;成果2に係る活動&gt;</b> 2-1 RIOs の新設とDIDの強化 2-2 NIRC機能の改善(人材、資機材) 2-3 灌漑組合の登録支援 2-4 プロセス管理・効果モニタリングシステムの確立 2-5 広報部門の活動強化 2-6 灌漑をテーマとした研究開発 <b>&lt;成果3に係る活動&gt;</b> 3-1 ZIOs/RIOsの灌漑スタッフに対する能力強化研修(レベル1) 3-2 LGAsの灌漑スタッフに対する能力強化研修(レベル2) 3-3 灌漑組合に対する能力強化研修(レベル3) 3-4 灌漑設計用マニュアル及びチェックリストの作成 3-5 灌漑開発用トレーニングモジュールの作成 3-6 民間の工事業者やコンサルタントの技術力強化支援 <b>&lt;成果4に係る活動&gt;</b> 4-1 民間部門との連携強化による灌漑投資促進 4-2 セクター横断的な課題に対する連携強化	<b>【タンザニア側】</b> 1 中央政府/NIRCによる資金負担 a. 経常費用(人件費、一般管理費、その他経費) b. 開発資金(灌漑インフラ整備費の80%) c. 調査・設計・入札 d. 資機材の調達 e. 灌漑人材(NIRC/ZIO、District等) f. 研修活動(NIRC/ZIO、District等) g. 灌漑施設O&Mに関する技術指導 h. 事業進捗のモニタリング i. 中央レベルでの関連セクターとの連携  2 県政府 a. CGLに基づく案件形成 b. 灌漑組織に対する技術指導 c. 運用・効果指標(1次データ)のモニタリング d. 県レベルでの関連セクターとの連携  3 灌漑組合及び組合員 a. 案件形成への参加 b. 灌漑インフラ整備費の一部費用負担(総建設費の20%) c. 請負業者の工事パフォーマンスの監視 d. 灌漑施設の運用維持管理費の徴収(ISF:平均収量の5%) e. 灌漑施設の運用維持管理	<b>【開発パートナー側】</b> 4 灌漑開発に対する資金協力・技術協力 a. 調査・設計・入札支援 b. 灌漑インフラ整備 c. 組織・制度整備支援 d. 資機材 e. 灌漑人材(コンサルタント、NGO等) f. 研修活動支援(コンサルタント、NGO等)	- 外貨の換算レートが安定していること - 研修を受けた職員が継続して業務に従事すること - IWRMDPが計画通り実施されること - ASDP2が計画通り実施されること  <b>【前提条件】</b> - 全国灌漑マスタープラン2018が政府承認され、予定通り実施されること - 対象地域の治安が安定していること - 対象地域の農民が灌漑農業に意欲を有すること

出典: JICA調査団

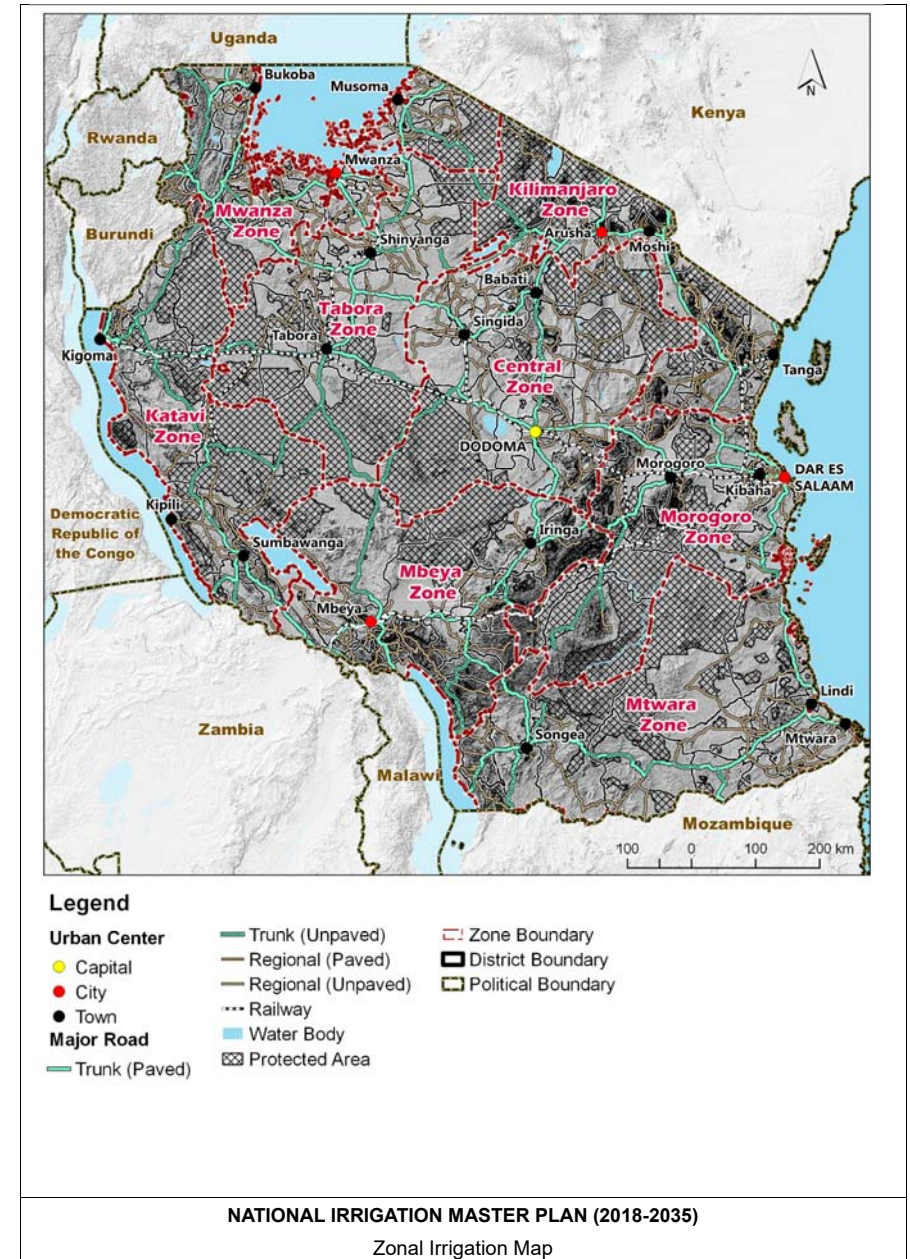
添付資料-11.4.1 (1/9) 開発プログラム概要書  
00 NIRC開発プログラム (フェーズ1)

	<p><b>THE UNITED REPUBLIC OF TANZANIA</b> <b>MINISTRY OF WATER AND IRRIGATION</b></p>	
<p><b>NATIONAL IRRIGATION COMMISSION</b></p>		
Telephone: 022 2450838/40-41 Fascimile: 022 2450533426 Email: <a href="mailto:psmw@maji.go.tz">psmw@maji.go.tz</a>	National Irrigation Commission Kilimo House, Kilimo Road P.O. Box 6668, 14473 Dar es Salaam	



\*\*\*\*\* DEVELOPMENT PROGRAM SUMMARY \*\*\*\*\*

Program Name	00 NIRC Development Program (Phase-1)
Location	Mainland of Tanzania Number of Region: 26 Number of District: 185
Objective	Institutional Development and Capacity Building of NIRC Headquarter
Organizational and Functional Strengthening (SC2)	(1) Establishment of RIOs and strengthening of DIDs/DIDs (2) Improvement of NIRC function (HR, equipment, facilities) (3) IO registration (4) Establishment of project performance monitoring and evaluation system (5) Establishment of public relations system (6) Research and development for irrigation
Capacity Building (SC3)	(1) Capacity development training to irrigation staff in ZIOs/RIOs (2) Establishment of design standards for irrigation in Tanzania (3) Establishment of training modules for irrigation development (4) Promotion of private contractors and enhancement of their engineering ability
Strengthening of Coordination (SC4)	(1) Coordination with private sector for irrigation investment (2) Coordination with relevant institutions for crosscutting issues (water and land conflict, etc.)
Program Period	2018 to 2025
Investment Cost	USD 5.5 million (with VAT18%)
Office Address:	NIRC Headquarter Kilimo House, Kilimo Road, P.O. Box 6668, 14473 Dar es Salaam, Tanzania
Contact Persons:	DG/NIRC

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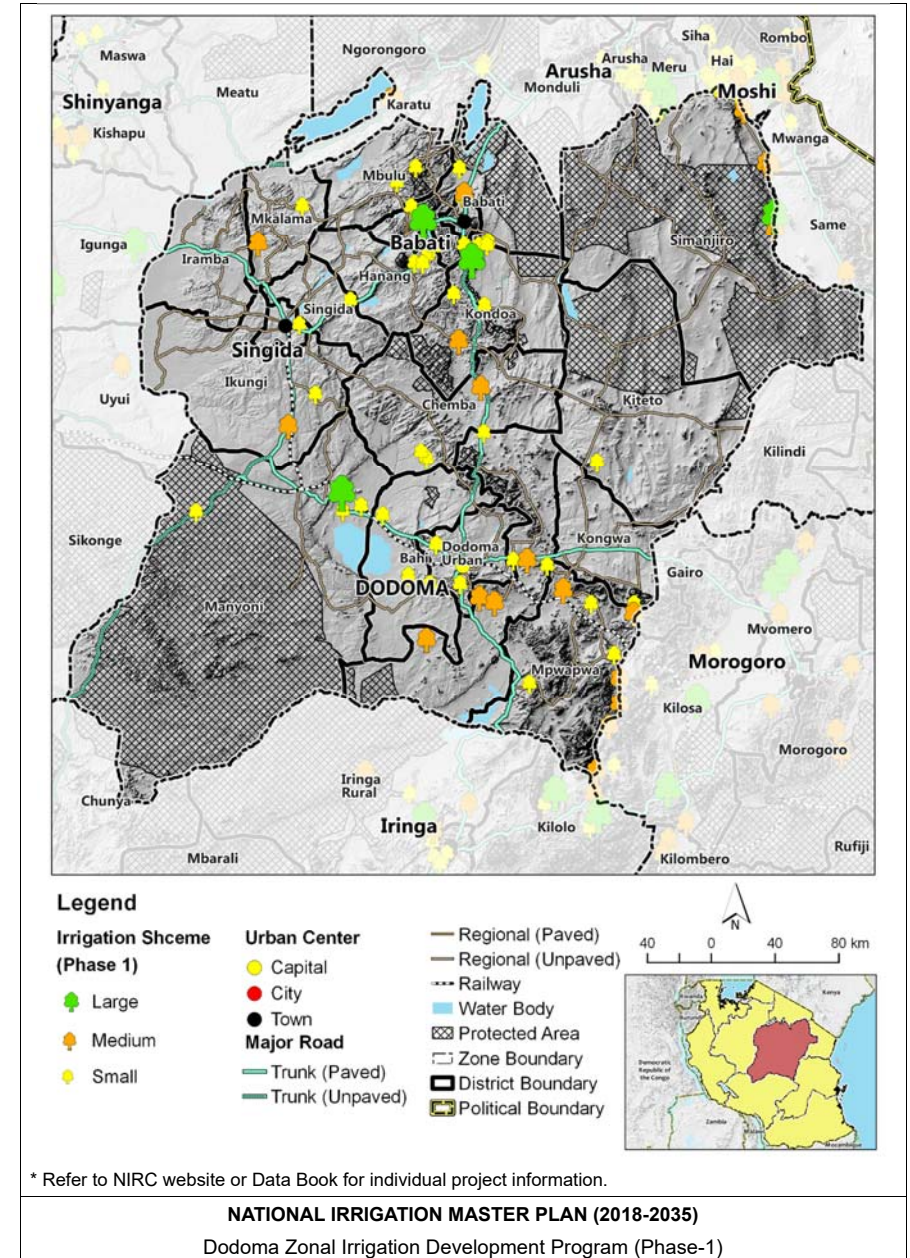
添付資料-11.4.1 (2/9) 開発プログラム概要書  
01 Dodomaゾーン開発プログラム (フェーズ1)

 <b>THE UNITED REPUBLIC OF TANZANIA</b> <b>MINISTRY OF WATER AND IRRIGATION</b> <b>NATIONAL IRRIGATION COMMISSION</b>	 National Irrigation Commission Kilimo House, Kilimo Road P.O. Box 6668, 14473 Dar es Salaam
Telephone: 022 2450838/40-41 Fascimile: 022 2450533426 Email: <a href="mailto:psmw@maji.go.tz">psmw@maji.go.tz</a>	



\*\*\*\*\* DEVELOPMENT PROGRAM SUMMARY \*\*\*\*\*

Program Name	01 Dodoma Zonal Irrigation Development Program (Phase-1)
Location	Dodoma Irrigation Zone Region Name: Dodoma (8), Singida (7), Manyara (7) Note: No. of District in parenthesis
Hard Component	To develop 37,395 ha of irrigation area by 2025
Target Development Area by Size of Irrigation Scheme	<ul style="list-style-type: none"> <li>• Small Scale: 10,267 ha (42 schemes)</li> <li>• Medium Scale: 13,128 ha (17 schemes)</li> <li>• Large Scale: 14,000 ha (4 schemes)</li> <li>• Total: 37,395 (63 schemes)</li> </ul>
Target Development Area by Type of Works	<ul style="list-style-type: none"> <li>• Improvement: 17,583 ha</li> <li>• Expansion: 13,875 ha</li> <li>• New Development: 5,937 ha</li> </ul>
Target Development Area by Type of Irrigation Scheme	<ul style="list-style-type: none"> <li>• Weir Irrigation: 17,503 ha</li> <li>• Pump Irrigation: 600 ha</li> <li>• Dam and Pond Irrigation: 15,142 ha</li> <li>• Groundwater Irrigation: 4,150 ha</li> </ul>
Soft Component	<ul style="list-style-type: none"> <li>• Institutional and Functional Strengthening</li> <li>• Capacity Building</li> <li>• Strengthening of Coordination</li> </ul>
Program Period	2018 to 2025
Investment Cost	USD 209.3 million (with VAT18%)
Target Crops and Yield	<ul style="list-style-type: none"> <li>• Paddy: 5.0 ton/ha</li> <li>• Tomato: 40 ton/ha, Onion: 10 ton/ha</li> </ul>
Financial and Economic Performance Indicators	Net return per ha: TZS 3.2 million/year EIRR: 16.7%
Office Address:	Dodoma Zonal Irrigation Office
Contact Persons:	ZIE

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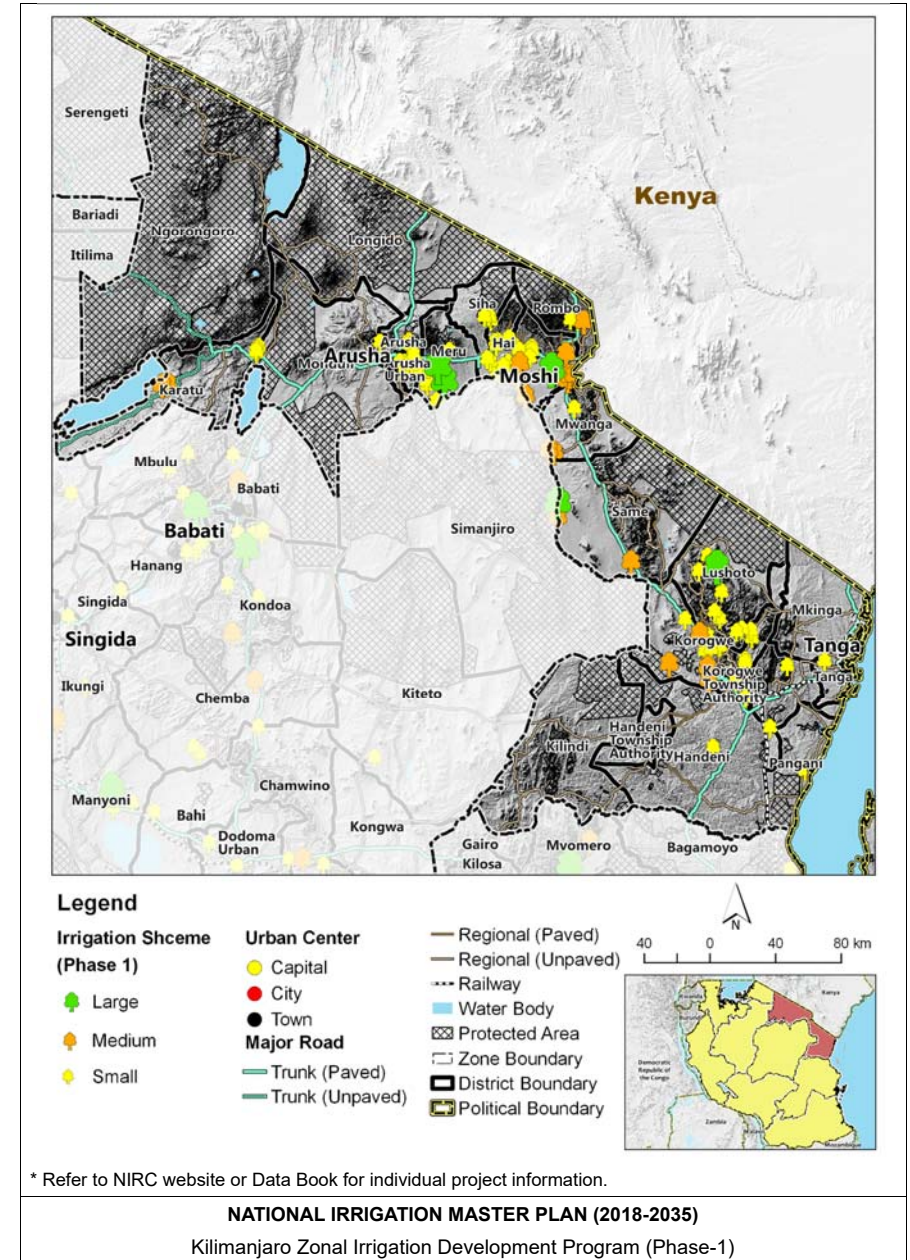
添付資料-11.4.1 (3/9) 開発プログラム概要書  
02 Kilimanjaroゾーン開発プログラム (フェーズ1)

	<p><b>THE UNITED REPUBLIC OF TANZANIA</b> <b>MINISTRY OF WATER AND IRRIGATION</b></p>	
<p><b>NATIONAL IRRIGATION COMMISSION</b></p>		
Telephone: 022 2450838/40-41 Fascimile: 022 2450533426 Email: <a href="mailto:psmw@maji.go.tz">psmw@maji.go.tz</a>	National Irrigation Commission Kilimo House, Kilimo Road P.O. Box 6668, 14473 Dar es Salaam	



\*\*\*\*\* DEVELOPMENT PROGRAM SUMMARY \*\*\*\*\*

Program Name	02 Kilimanjaro Zonal Irrigation Development Program (Phase-1)
Location	Kilimanjaro Irrigation Zone Region Name: Arusha (7), Kilimanjaro (7), Tanga (11) Note: No. of District in parenthesis
Hard Component	To develop 39,567 ha of irrigation area by 2025
Target Development Area by Size of Irrigation Scheme	<ul style="list-style-type: none"> <li>• Small Scale: 13,409 ha (72 schemes)</li> <li>• Medium Scale: 15,228 ha (16 schemes)</li> <li>• Large Scale: 10,930 ha (4 schemes)</li> <li>• Total: 39,567 ha (92 schemes)</li> </ul>
Target Development Area by Type of Works	<ul style="list-style-type: none"> <li>• Improvement: 17,293 ha</li> <li>• Expansion: 6,132 ha</li> <li>• New Development: 16,142 ha</li> </ul>
Target Development Area by Type of Irrigation Scheme	<ul style="list-style-type: none"> <li>• Weir Irrigation: 36,504 ha</li> <li>• Pump Irrigation: 1,633 ha</li> <li>• Dam and Pond Irrigation: 450 ha</li> <li>• Unknown: 980 ha</li> </ul>
Soft Component	<ul style="list-style-type: none"> <li>• Institutional and Functional Strengthening</li> <li>• Capacity Building</li> <li>• Strengthening of Coordination</li> </ul>
Program Period	2018 to 2025
Investment Cost	USD 229.5 million (with VAT18%)
Target Crops and Yield	<ul style="list-style-type: none"> <li>• Paddy: 5.0 ton/ha</li> <li>• Tomato: 40 ton/ha, Onion: 10 ton/ha</li> </ul>
Financial and Economic Performance Indicators	Net return per ha: TZS 4.0 million/year EIRR: 15.4%
Office Address:	Kilimanjaro Zonal Irrigation Office
Contact Persons:	ZIE

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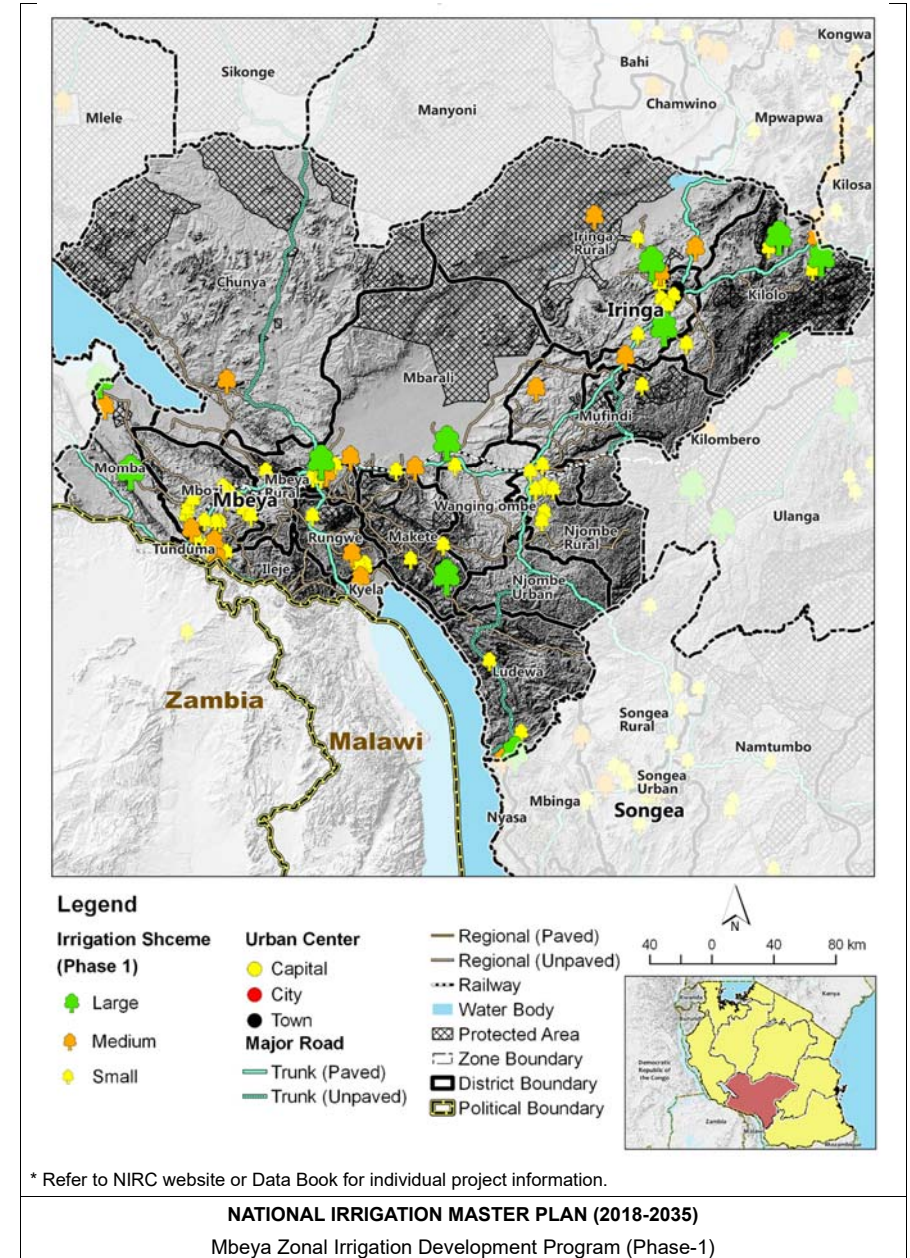
添付資料-11.4.1 (4/9) 開発プログラム概要書  
03 Mbeyaゾーン開発プログラム (フェーズ1)

 <p><b>THE UNITED REPUBLIC OF TANZANIA</b> <b>MINISTRY OF WATER AND IRRIGATION</b></p> <p>Telephone: 022 2450838/40-41 Fascimile: 022 2450533426 Email: <a href="mailto:psmw@maji.go.tz">psmw@maji.go.tz</a></p>	 <p><b>NATIONAL IRRIGATION COMMISSION</b></p> <p>National Irrigation Commission Kilimo House, Kilimo Road P.O. Box 6668, 14473 Dar es Salaam</p>
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\*\*\*\*\* DEVELOPMENT PROGRAM SUMMARY \*\*\*\*\*

Program Name	03 Mbeya Zonal Irrigation Development Program (Phase-1)
Location	Mbeya Irrigation Zone Region Name: Iringa (5), Mbeya (7), Songwe (5), Njombe (6) Note: No. of District in parenthesis
Hard Component	To develop 62,779 ha of irrigation area by 2025
Target Development Area by Type of Works	<ul style="list-style-type: none"> <li>Improvement: 19,450 ha</li> <li>Expansion: 29,948 ha</li> <li>New Development: 13,381 ha</li> <li>Total: 62,779 ha</li> </ul>
Target Development Area by Size of Irrigation Scheme	<ul style="list-style-type: none"> <li>Small Scale: 10,484 ha</li> <li>Medium Scale: 14,262 ha</li> <li>Large Scale: 38,033 ha</li> </ul>
Target Development Area by Type of Irrigation Scheme	<ul style="list-style-type: none"> <li>Weir Irrigation: 45,761 ha</li> <li>Pump Irrigation: 118 ha</li> <li>Dam and Pond Irrigation: 6,340 ha</li> <li>Groundwater Irrigation: 220 ha</li> <li>Unknown: 10,340 ha</li> </ul>
Soft Component	<ul style="list-style-type: none"> <li>Institutional and Functional Strengthening</li> <li>Capacity Building</li> <li>Strengthening of Coordination</li> </ul>
Program Period	2018 to 2025
Investment Cost	USD 320.4 million (with VAT18%)
Target Crops and Yield	<ul style="list-style-type: none"> <li>Paddy: 5.0 ton/ha</li> <li>Tomato: 40 ton/ha, Onion: 10 ton/ha</li> </ul>
Financial and Economic Performance Indicators	Net return per ha: TZS 2.9 million/year EIRR: 16.0%
Office Address:	Mbeya Zonal Irrigation Office
Contact Persons:	ZIE

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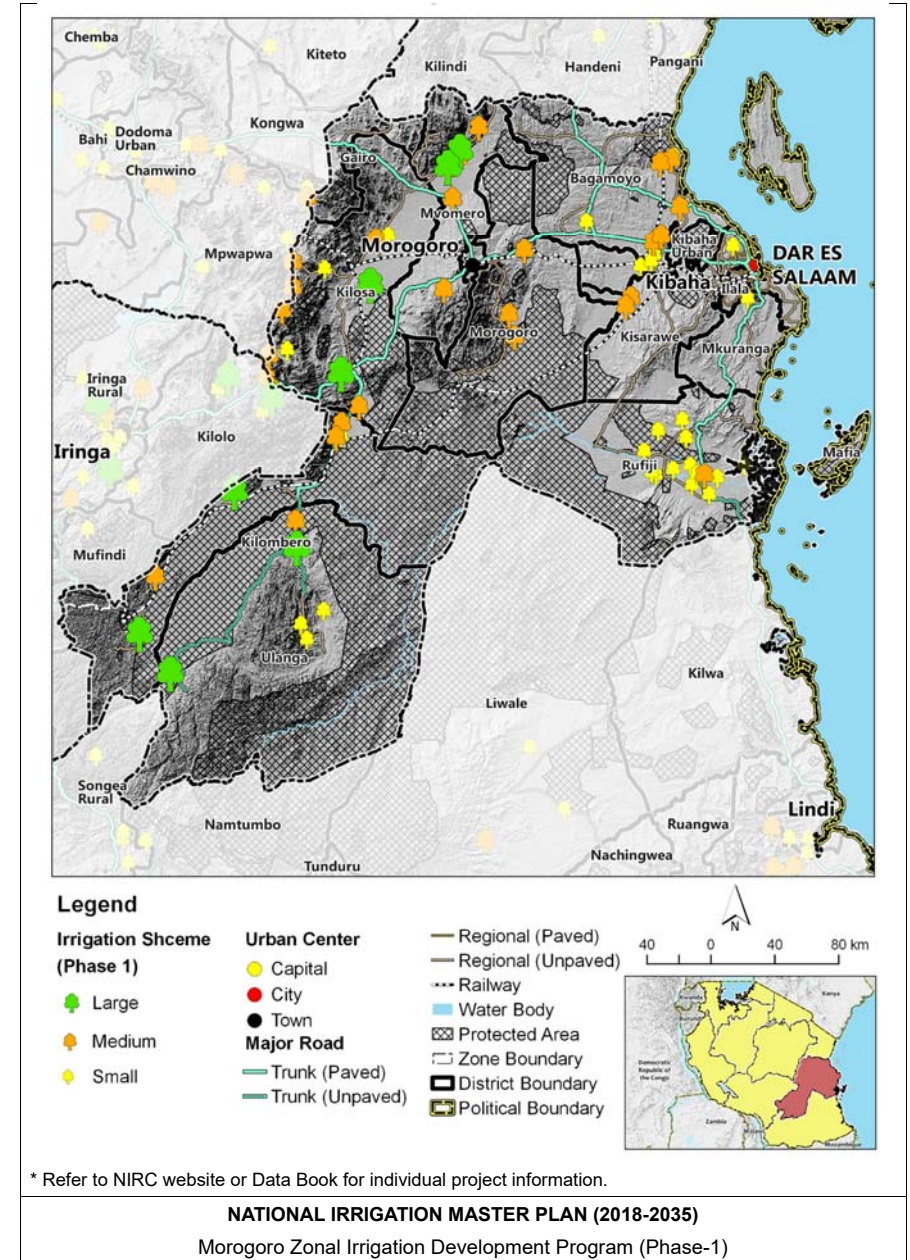


添付資料-11.4.1 (5/9) 開発プログラム概要書  
04 Morogoroゾーン開発プログラム (フェーズ1)


 <p><b>THE UNITED REPUBLIC OF TANZANIA</b> <b>MINISTRY OF WATER AND IRRIGATION</b></p> <p>Telephone: 022 2450838/40-41 Fascimile: 022 2450533426 Email: <a href="mailto:psmw@maji.go.tz">psmw@maji.go.tz</a></p>	 <p><b>NATIONAL IRRIGATION COMMISSION</b></p> <p>National Irrigation Commission Kilimo House, Kilimo Road P.O. Box 6668, 14473 Dar es Salaam</p>
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\*\*\*\*\* DEVELOPMENT PROGRAM SUMMARY \*\*\*\*\*

Program Name	04 Morogoro Zonal Irrigation Development Program (Phase-1)
Location	Morogoro Irrigation Zone Region Name: Morogoro (9), Pwani (9), DSM (6) Note: No. of District in parenthesis
Hard Component	To develop 62,109 ha of irrigation area by 2025
Target Development Area by Size of Irrigation Scheme	<ul style="list-style-type: none"> <li>Small Scale: 7,440 ha (33 schemes)</li> <li>Medium Scale: 20,604 ha (24 schemes)</li> <li>Large Scale: 34,065 ha (8 schemes)</li> <li>Total: 62,109 (65 schemes)</li> </ul>
Target Development Area by Type of Works	<ul style="list-style-type: none"> <li>Improvement: 8,504 ha</li> <li>Expansion: 17,231 ha</li> <li>New Development: 36,374 ha</li> </ul>
Target Development Area by Type of Irrigation Scheme	<ul style="list-style-type: none"> <li>Weir Irrigation: 4,089 ha</li> <li>Pump Irrigation: 5,260 ha</li> <li>Dam and Pond Irrigation: 5,760 ha</li> <li>Lake Water Irrigation: 620 ha</li> <li>Groundwater Irrigation: 100 ha</li> <li>Unknown: 3,980 ha</li> </ul>
Soft Component	<ul style="list-style-type: none"> <li>Institutional and Functional Strengthening</li> <li>Capacity Building</li> <li>Strengthening of Coordination</li> </ul>
Program Period	2018 to 2025
Investment Cost	USD 406.2 million (with VAT18%)
Target Crops and Yield	<ul style="list-style-type: none"> <li>Paddy: 5.0 ton/ha</li> <li>Tomato: 40 ton/ha, Onion: 10 ton/ha</li> </ul>
Financial and Economic Performance Indicators	Net return per ha: TZS 3.6 million/year EIRR: 18.3%
Office Address:	Morogoro Zonal Irrigation Office
Contact Persons:	ZIE




添付資料-11.4.1 (6/9) 開発プログラム概要書  
05 Mtwaraゾーン開発プログラム (フェーズ1)



**THE UNITED REPUBLIC OF TANZANIA**  
**MINISTRY OF WATER AND IRRIGATION**

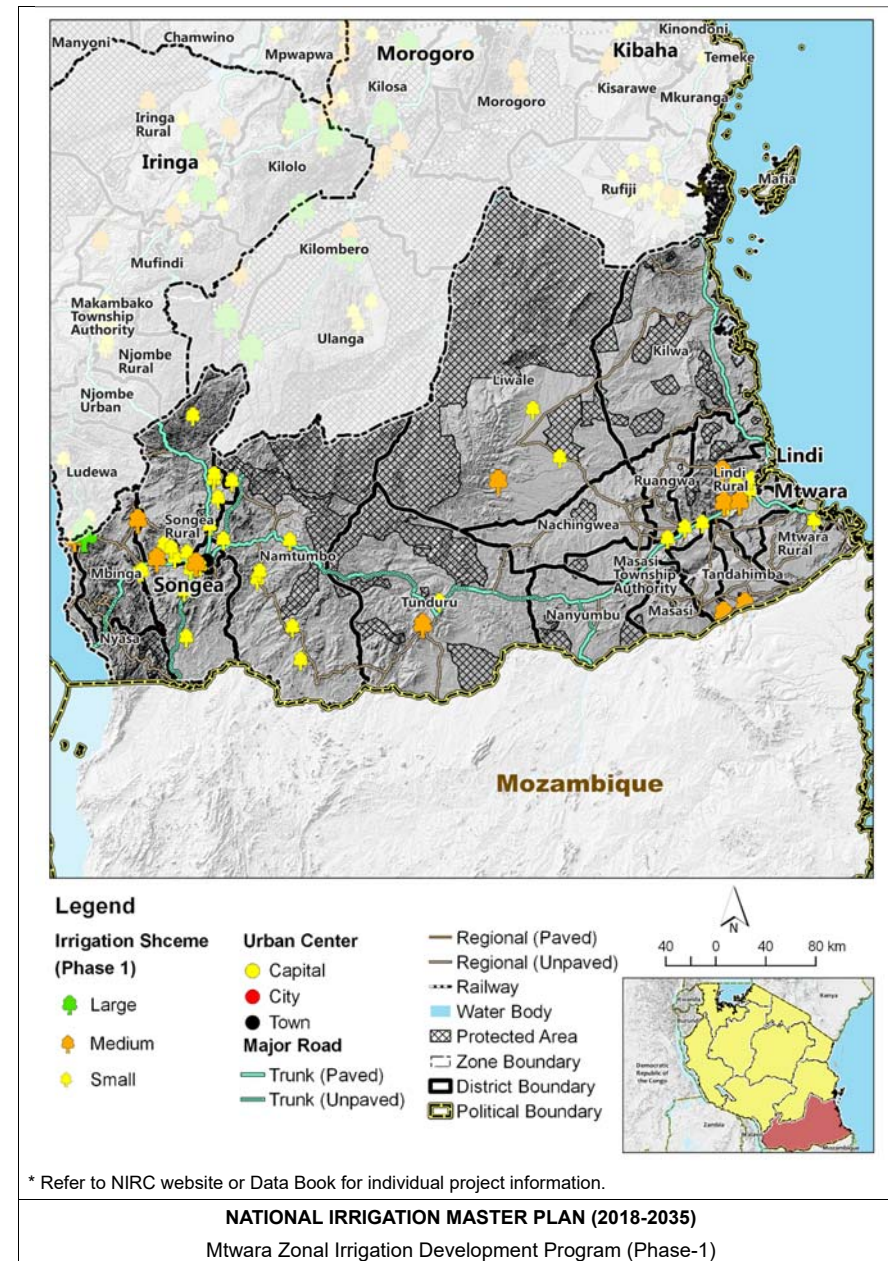
**NATIONAL IRRIGATION COMMISSION**

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Email: [psmw@maji.go.tz](mailto:psmw@maji.go.tz)





\*\*\*\*\* **DEVELOPMENT PROGRAM SUMMARY** \*\*\*\*\*

Program Name	05 Mtwara Zonal Irrigation Development Program (Phase-1)
Location	Mtwara Irrigation Zone Region Name: Lindi (6), Mtwara (9), Ruvuma (8) Note: No. of District in parenthesis
Hard Component	To develop 19,107 ha of irrigation area by 2025
Target Development Area by Size of Irrigation Scheme	<ul style="list-style-type: none"> <li>• Small Scale: 4,401 ha (37 schemes)</li> <li>• Medium Scale: 7,339 ha (11 schemes)</li> <li>• Large Scale: 2,710 ha (1 scheme)</li> <li>• Total: 19,107 ha (49 schemes)</li> </ul>
Target Development Area by Type of Works	<ul style="list-style-type: none"> <li>• Improvement: 4,657 ha</li> <li>• Expansion: 7,650 ha</li> <li>• New Development: 6,800 ha</li> </ul>
Target Development Area by Type of Irrigation Scheme	<ul style="list-style-type: none"> <li>• Weir Irrigation: 13,257 ha</li> <li>• Dam and Pond Irrigation: 3,740 ha</li> <li>• Lake Water Irrigation: 200 ha</li> <li>• Groundwater Irrigation: 100 ha</li> <li>• Unknown: 1,800 ha</li> </ul>
Soft Component	<ul style="list-style-type: none"> <li>• Institutional and Functional Strengthening</li> <li>• Capacity Building</li> <li>• Strengthening of Coordination</li> </ul>
Program Period	2018 to 2025
Investment Cost	USD 110.7 million (with VAT18%)
Target Crops and Yield	<ul style="list-style-type: none"> <li>• Paddy: 5.0 ton/ha</li> <li>• Tomato: 40 ton/ha, Onion: 10 ton/ha</li> </ul>
Financial and Economic Performance Indicators	Net return per ha: TZS 5.4 million/year EIRR: 18.3%
Office Address:	Mtwara Zonal Irrigation Office
Contact Persons:	ZIE



ATT-78

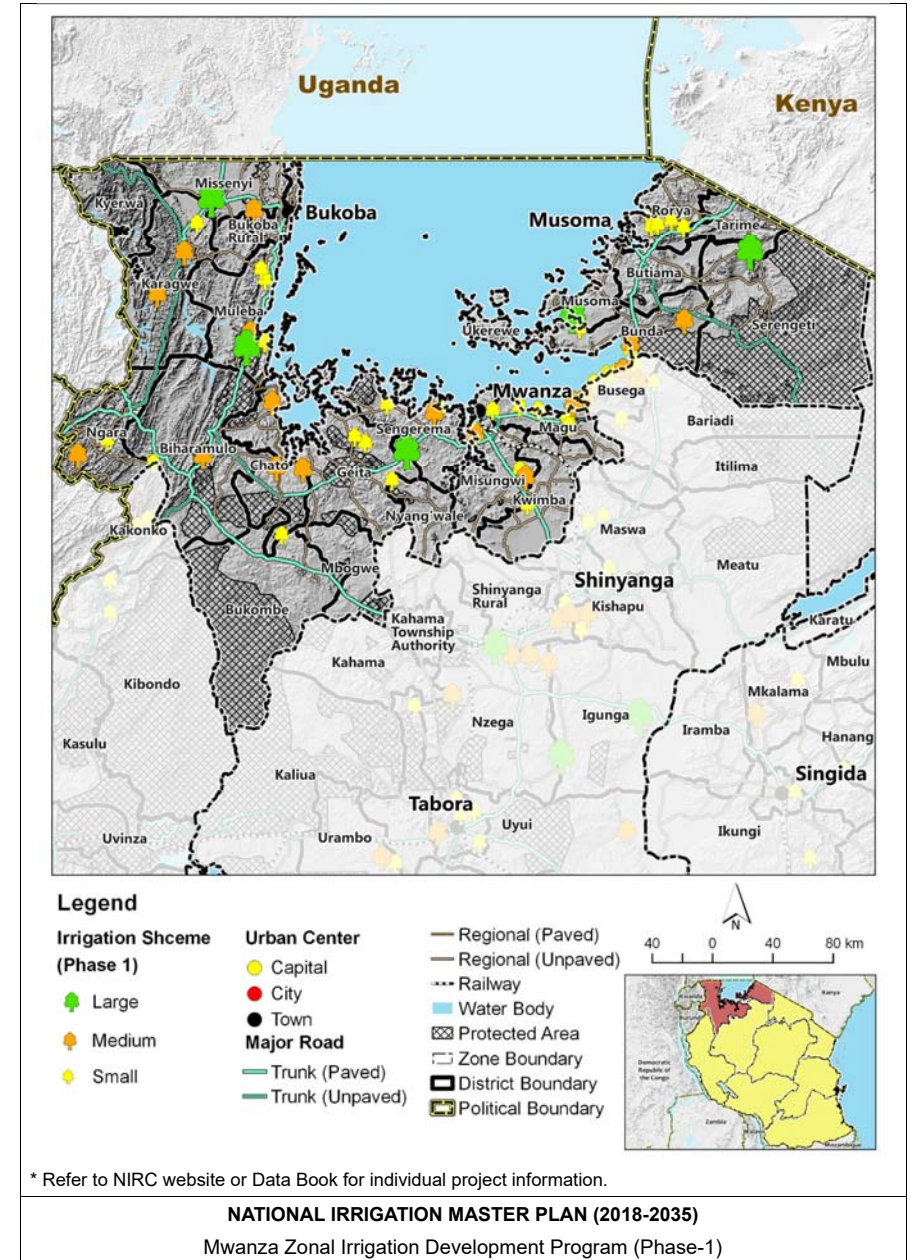
添付資料-11.4.1 (7/9) 開発プログラム概要書  
06 Mwanzaゾーン開発プログラム (フェーズ1)

	<p><b>THE UNITED REPUBLIC OF TANZANIA</b> <b>MINISTRY OF WATER AND IRRIGATION</b></p>	
Telephone: 022 2450838/40-41 Fascimile: 022 2450533426 Email: <a href="mailto:psmw@maji.go.tz">psmw@maji.go.tz</a>	National Irrigation Commission Kilimo House, Kilimo Road P.O. Box 6668, 14473 Dar es Salaam	

\*\*\*\*\* DEVELOPMENT PROGRAM SUMMARY \*\*\*\*\*


Program Name	06 Mwanza Zonal Irrigation Development Program (Phase-1)
Location	Mwanza Irrigation Zone Region Name: Kagera (8), Geita (6), Mwanza (8), Mara (9) Note: No. of District in parenthesis
Hard Component	To develop 44,144 ha of irrigation area by 2025
Target Development Area by Size of Irrigation Scheme	<ul style="list-style-type: none"> <li>• Small Scale: 6,339 ha (27 schemes)</li> <li>• Medium Scale: 13,265 ha (14 schemes)</li> <li>• Large Scale: 24,540 ha (5 schemes)</li> <li>• Total: 44,144 ha (46 schemes)</li> </ul>
Target Development Area by Type of Works	<ul style="list-style-type: none"> <li>• Improvement: 5,955 ha</li> <li>• Expansion: 9,522 ha</li> <li>• New Development: 28,667 ha</li> </ul>
Target Development Area by Type of Irrigation Scheme	<ul style="list-style-type: none"> <li>• Weir Irrigation: 9,015 ha</li> <li>• Pump Irrigation: 1,395 ha</li> <li>• Dam and Pond Irrigation: 26,930 ha</li> <li>• Lake Water Irrigation: 5,864 ha</li> <li>• Groundwater Irrigation: 140 ha</li> <li>• Unknown: 44,141 ha</li> </ul>
Soft Component	<ul style="list-style-type: none"> <li>• Institutional and Functional Strengthening</li> <li>• Capacity Building</li> <li>• Strengthening of Coordination</li> </ul>
Program Period	2018 to 2025
Investment Cost	USD 302.3 million (with VAT18%)
Target Crops and Yield	<ul style="list-style-type: none"> <li>• Paddy: 5.0 ton/ha</li> <li>• Tomato: 40 ton/ha, Onion: 10 ton/ha</li> </ul>
Financial and Economic Performance Indicators	Net return per ha: TZS 2.9 million/year EIRR: 18.0%
Office Address:	Mwanza Zonal Irrigation Office
Contact Persons:	ZIE

ATT-7/9






添付資料-11.4.1 (8/9) 開発プログラム概要書  
07 Taboraゾーン開発プログラム (フェーズ1)



**THE UNITED REPUBLIC OF TANZANIA**  
**MINISTRY OF WATER AND IRRIGATION**

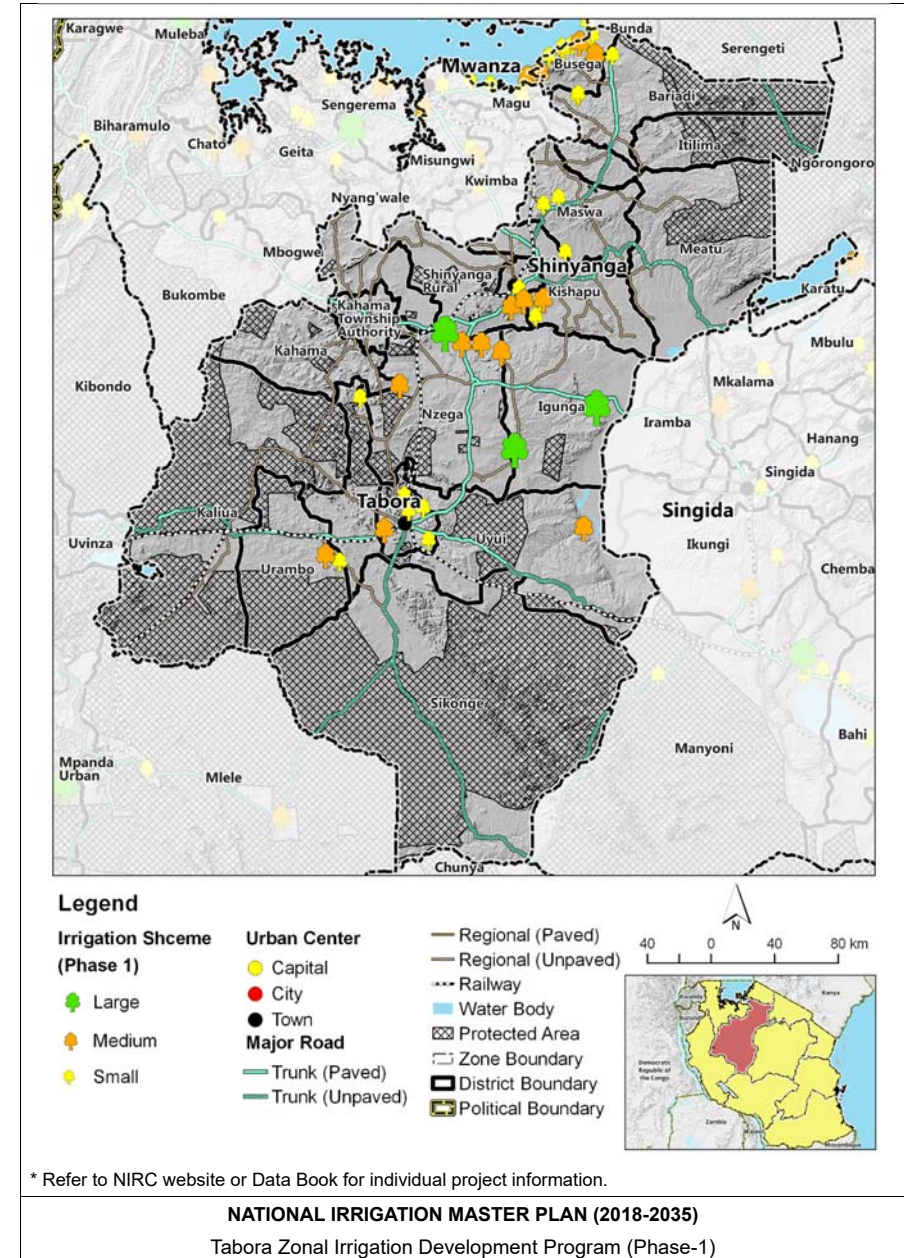
**NATIONAL IRRIGATION COMMISSION**

Telephone: 022 2450838/40-41  
Fascimile: 022 2450533426  
Email: [psmw@maji.go.tz](mailto:psmw@maji.go.tz)





\*\*\*\*\* **DEVELOPMENT PROGRAM SUMMARY** \*\*\*\*\*

Program Name	07 Tabora Zonal Irrigation Development Program (Phase-1)
Location	Tabora Irrigation Zone Region Name: Tabora (8), Shinyanga (6), Simiyu (6) Note: No. of District in parenthesis
Hard Component	To develop 26,236 ha of irrigation area by 2025
Target Development Area by Size of Irrigation Scheme	<ul style="list-style-type: none"> <li>Small Scale: 5,128 ha (20 schemes)</li> <li>Medium Scale: 12,608 ha (15 schemes)</li> <li>Large Scale: 8,500 ha (3 schemes)</li> <li>Total: 26,236 ha (38 schemes)</li> </ul>
Target Development Area by Type of Works	<ul style="list-style-type: none"> <li>Improvement: 5,995 ha</li> <li>Expansion: 9,754 ha</li> <li>New Development: 10,487 ha</li> </ul>
Target Development Area by Type of Irrigation Scheme	<ul style="list-style-type: none"> <li>Weir Irrigation: 7,607 ha</li> <li>Pump Irrigation: 450 ha</li> <li>Dam and Pond Irrigation: 14,850 ha</li> <li>Lake Water Irrigation: 3,079 ha</li> <li>Groundwater Irrigation: 250 ha</li> </ul>
Soft Component	<ul style="list-style-type: none"> <li>Institutional and Functional Strengthening</li> <li>Capacity Building</li> <li>Strengthening of Coordination</li> </ul>
Program Period	2018 to 2025
Investment Cost	USD 169.0 million (with VAT18%)
Target Crops and Yield	<ul style="list-style-type: none"> <li>Paddy: 5.0 ton/ha</li> <li>Tomato: 40 ton/ha, Onion: 10 ton/ha</li> </ul>
Financial and Economic Performance Indicators	Net return per ha: TZS 2.2 million/year EIRR: 15.0%
Office Address:	Tabora Zonal Irrigation Office
Contact Persons:	ZIE



08-LIV

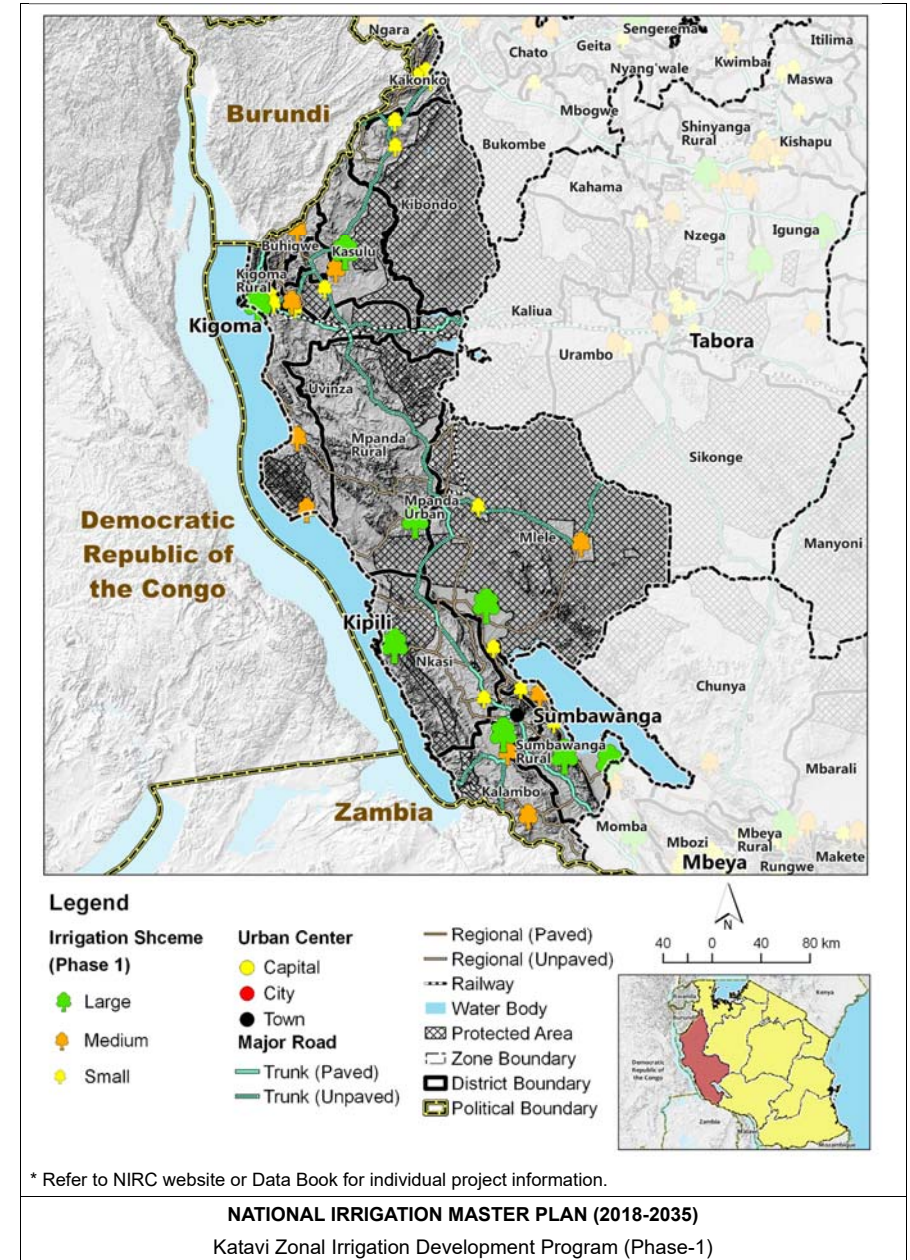
添付資料-11.4.1 (9/9) 開発プログラム概要書  
08 Kataviゾーン開発プログラム (フェーズ1)

 <b>THE UNITED REPUBLIC OF TANZANIA</b> <b>MINISTRY OF WATER AND IRRIGATION</b>	 <b>NATIONAL IRRIGATION COMMISSION</b>
Telephone: 022 2450838/40-41 Fascimile: 022 2450533426 Email: <a href="mailto:psmw@maji.go.tz">psmw@maji.go.tz</a>	National Irrigation Commission Kilimo House, Kilimo Road P.O. Box 6668, 14473 Dar es Salaam

\*\*\*\*\* DEVELOPMENT PROGRAM SUMMARY \*\*\*\*\*

Program Name	08 Katavi Zonal Irrigation Development Program (Phase-1)
Location	Katavi Irrigation Zone Region Name: Katavi (5), Kigoma (8), Rukwa (4) Note: No. of District in parenthesis
Hard Component	To develop 53,062 ha of irrigation area by 2025
Target Development Area by Size of Irrigation Scheme	<ul style="list-style-type: none"> <li>• Small Scale: 4,100 ha (16 schemes)</li> <li>• Medium Scale: 9,998 ha (10 schemes)</li> <li>• Large Scale: 38,964 ha (8 Schemes)</li> <li>• Total: 53,062 (34 schemes)</li> </ul>
Target Development Area by Type of Works	<ul style="list-style-type: none"> <li>• Improvement: 16,811 ha</li> <li>• Expansion: 17,081 ha</li> <li>• New Development: 19,140 ha</li> </ul>
Target Development Area by Type of Irrigation Scheme	<ul style="list-style-type: none"> <li>• Weir Irrigation: 30,877 ha</li> <li>• Dam and Pond Irrigation: 20,085 ha</li> <li>• Groundwater Irrigation: 1,100 ha</li> <li>• Unknown: 1,000 ha</li> </ul>
Soft Component	<ul style="list-style-type: none"> <li>• Institutional and Functional Strengthening</li> <li>• Capacity Building</li> <li>• Strengthening of Coordination</li> </ul>
Program Period	2018 to 2025
Investment Cost	USD 300.0 million (with VAT18%)
Target Crops and Yield	<ul style="list-style-type: none"> <li>• Paddy: 5.0 ton/ha</li> <li>• Tomato: 40 ton/ha, Onion: 10 ton/ha</li> </ul>
Financial and Economic Performance Indicators	Net return per ha: TZS 2.5 million/year EIRR: 15.2%
Office Address:	Katavi Zonal Irrigation Office
Contact Persons:	ZIE

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**Dodoma**

工事タイプ	単価 (USD)	開発面積 (ha)	建設費用 (USD)	F/S費用 (USD)	D/D費用 (USD)	SV費用 (USD)	技術サービス費 (USD)	建設費+ES費 (USD)	建設費+ES費 (TZS mil)
新規重力式(完結型)	6,608	3,897	25,751,376	1,030,055	1,545,083	3,090,165	5,665,303	31,416,679	70,373
新規加圧式(完結型)	17,700	2,040	36,108,000	1,444,320	2,166,480	4,332,960	7,943,760	44,051,760	98,676
拡張	3,540	13,875	49,117,500	1,964,700	2,947,050	5,894,100	10,805,850	59,923,350	134,228
改修	3,540	17,583	62,243,820	1,867,315	2,489,753	4,979,506	9,336,573	71,580,393	160,340
合計		37,395	173,220,696	6,306,390	9,148,365	18,296,731	33,751,486	206,972,182	463,618

**Kilimanjaro**

工事タイプ	単価 (USD)	開発面積 (ha)	建設費用 (USD)	F/S費用 (USD)	D/D費用 (USD)	SV費用 (USD)	技術サービス費 (USD)	建設費+ES費 (USD)	建設費+ES費 (TZS mil)
新規重力式(完結型)	6,608	16,142	106,666,336	4,266,653	6,399,980	12,799,960	23,466,594	130,132,930	291,498
新規加圧式(完結型)	17,700	0	0	0	0	0	0	0	0
拡張	3,540	6,132	21,707,280	868,291	1,302,437	2,604,874	4,775,602	26,482,882	59,322
改修	3,540	17,293	61,217,220	1,836,517	2,448,689	4,897,378	9,182,583	70,399,803	157,696
合計		39,567	189,590,836	6,971,461	10,151,106	20,302,212	37,424,779	227,015,615	508,515

**Mbeya**

工事タイプ	単価 (USD)	開発面積 (ha)	建設費用 (USD)	F/S費用 (USD)	D/D費用 (USD)	SV費用 (USD)	技術サービス費 (USD)	建設費+ES費 (USD)	建設費+ES費 (TZS mil)
新規重力式(完結型)	6,608	13,381	88,421,648	3,536,866	5,305,299	10,610,598	19,452,763	107,874,411	241,639
新規加圧式(完結型)	17,700	0	0	0	0	0	0	0	0
拡張	3,540	29,948	106,015,920	4,240,637	6,360,955	12,721,910	23,323,502	129,339,422	289,720
改修	3,540	19,450	68,853,000	2,065,590	2,754,120	5,508,240	10,327,950	79,180,950	177,365
合計		62,779	263,290,568	9,843,093	14,420,374	28,840,748	53,104,215	316,394,783	708,724

**Morogoro**

工事タイプ	単価 (USD)	開発面積 (ha)	建設費用 (USD)	F/S費用 (USD)	D/D費用 (USD)	SV費用 (USD)	技術サービス費 (USD)	建設費+ES費 (USD)	建設費+ES費 (TZS mil)
新規重力式(完結型)	6,608	36,374	240,359,392	9,614,376	14,421,564	28,843,127	52,879,066	293,238,458	656,854
新規加圧式(完結型)	17,700	0	0	0	0	0	0	0	0
拡張	3,540	17,231	60,997,740	2,439,910	3,659,864	7,319,729	13,419,503	74,417,243	166,695
改修	3,540	8,504	30,104,160	903,125	1,204,166	2,408,333	4,515,624	34,619,784	77,548
合計		62,109	331,461,292	12,957,410	19,285,594	38,571,189	70,814,193	402,275,485	901,097

**Mtwara**

工事タイプ	単価 (USD)	開発面積 (ha)	建設費用 (USD)	F/S費用 (USD)	D/D費用 (USD)	SV費用 (USD)	技術サービス費 (USD)	建設費+ES費 (USD)	建設費+ES費 (TZS mil)
新規重力式(完結型)	6,608	6,600	43,612,800	1,744,512	2,616,768	5,233,536	9,594,816	53,207,616	119,185
新規加圧式(完結型)	17,700	200	3,540,000	141,600	212,400	424,800	778,800	4,318,800	9,674
拡張	3,540	7,650	27,081,000	1,083,240	1,624,860	3,249,720	5,957,820	33,038,820	74,007
改修	3,540	4,657	16,485,780	494,573	659,431	1,318,862	2,472,667	18,958,647	42,467
合計		19,107	90,719,580	3,463,925	5,113,459	10,226,918	18,804,303	109,523,883	245,333

**Mwanza**

工事タイプ	単価 (USD)	開発面積 (ha)	建設費用 (USD)	F/S費用 (USD)	D/D費用 (USD)	SV費用 (USD)	技術サービス費 (USD)	建設費+ES費 (USD)	建設費+ES費 (TZS mil)
新規重力式(完結型)	6,608	28,442	187,944,736	7,517,789	11,276,684	22,553,368	41,347,842	229,292,578	513,615
新規加圧式(完結型)	17,700	225	3,982,500	159,300	238,950	477,900	876,150	4,858,650	10,883
拡張	3,540	9,522	33,707,880	1,348,315	2,022,473	4,044,946	7,415,734	41,123,614	92,117
改修	3,540	5,955	21,080,700	832,421	843,228	1,686,456	3,162,105	24,242,805	54,304
合計		44,144	246,715,816	9,657,826	14,381,335	28,762,670	52,801,831	299,517,647	670,920

**Tabora**

工事タイプ	単価 (USD)	開発面積 (ha)	建設費用 (USD)	F/S費用 (USD)	D/D費用 (USD)	SV費用 (USD)	技術サービス費 (USD)	建設費+ES費 (USD)	建設費+ES費 (TZS mil)
新規重力式(完結型)	6,608	9,282	61,335,456	2,453,418	3,680,127	7,360,255	13,493,800	74,829,256	167,618
新規加圧式(完結型)	17,700	1,205	21,328,500	853,140	1,279,710	2,559,420	4,692,270	26,020,770	58,287
拡張	3,540	9,754	34,529,160	1,381,166	2,071,750	4,143,499	7,596,415	42,125,575	94,361
改修	3,540	5,995	21,222,300	636,669	848,892	1,697,784	3,183,345	24,405,645	54,669
合計		26,236	138,415,416	5,324,394	7,880,479	15,760,958	28,965,831	167,381,247	374,934

**Katavi**

工事タイプ	単価 (USD)	開発面積 (ha)	建設費用 (USD)	F/S費用 (USD)	D/D費用 (USD)	SV費用 (USD)	技術サービス費 (USD)	建設費+ES費 (USD)	建設費+ES費 (TZS mil)
新規重力式(完結型)	6,608	19,140	126,477,120	5,059,085	7,588,627	15,177,254	27,824,966	154,302,086	345,637
新規加圧式(完結型)	17,700	0	0	0	0	0	0	0	0
拡張	3,540	17,081	60,466,740	2,418,670	3,628,004	7,256,009	13,302,683	73,769,423	165,244
改修	3,540	16,841	59,617,140	1,788,514	2,384,686	4,769,371	8,942,571	68,559,711	153,574
合計		53,062	246,561,000	9,266,269	13,601,317	27,202,634	50,070,220	296,631,220	664,454

**Total**

工事タイプ	単価 (USD)	開発面積 (ha)	建設費用 (USD)	F/S費用 (USD)	D/D費用 (USD)	SV費用 (USD)	技術サービス費 (USD)	建設費+ES費 (USD)	建設費+ES費 (TZS mil)
新規重力式(完結型)	6,608	133,258	880,568,864	35,222,755	52,834,132	105,668,264	193,725,150	1,074,294,014	2,406,419
新規加圧式(完結型)	17,700	3,670	64,959,000	2,598,360	3,897,540	7,795,080	14,290,980	79,249,980	177,520
拡張	3,540	111,193	393,623,220	15,744,929	23,617,393	47,234,786	86,597,108	480,220,328	1,075,694
改修	3,540	96,278	340,824,120	10,224,724	13,632,965	27,265,930	51,123,618	391,947,738	877,963
合計		344,399	1,679,975,204	63,790,767	93,982,030	187,964,060	345,736,856	2,025,712,060	4,537,595

注: 表中の費用にはVAT (18%)を含む。  
 出典: JICA 調査団

**Dodoma**

工事タイプ	単価 (USD)	開発面積 (ha)	建設費用 (USD)	F/S費用 (USD)	D/D費用 (USD)	SV費用 (USD)	技術サービス費 (USD)	建設費+ES費 (USD)	建設費+ES費 (TZS mil)
新規重力式(完結型)	6,608	25,649	169,488,592	6,779,544	10,169,316	20,338,631	37,287,490	206,776,082	463,178
新規加圧式(完結型)	17,700	420	7,434,000	297,360	446,040	892,080	1,635,480	9,069,480	20,316
拡張	3,540	11,480	40,639,200	1,625,568	2,438,352	4,876,704	6,940,624	49,579,824	111,059
改修	3,540	19,609	69,415,860	2,082,476	2,776,634	5,553,269	10,412,379	79,828,239	178,815
合計		57,158	286,977,652	10,784,947	15,830,342	31,860,684	58,275,973	345,253,625	773,368

**Kilimanjaro**

工事タイプ	単価 (USD)	開発面積 (ha)	建設費用 (USD)	F/S費用 (USD)	D/D費用 (USD)	SV費用 (USD)	技術サービス費 (USD)	建設費+ES費 (USD)	建設費+ES費 (TZS mil)
新規重力式(完結型)	6,608	5,427	35,861,616	1,434,465	2,151,697	4,303,394	7,889,556	43,751,172	98,003
新規加圧式(完結型)	17,700	176	3,115,200	124,608	186,912	373,824	685,344	3,800,544	8,513
拡張	3,540	8,499	30,086,460	1,203,458	1,805,188	3,610,375	6,619,021	36,705,481	82,220
改修	3,540	15,689	55,539,060	1,666,172	2,221,562	4,443,125	8,330,859	63,869,919	143,069
合計		29,791	124,602,336	4,428,703	6,365,359	12,730,718	23,524,780	148,127,116	331,805

**Mbeya**

工事タイプ	単価 (USD)	開発面積 (ha)	建設費用 (USD)	F/S費用 (USD)	D/D費用 (USD)	SV費用 (USD)	技術サービス費 (USD)	建設費+ES費 (USD)	建設費+ES費 (TZS mil)
新規重力式(完結型)	6,608	16,508	109,084,864	4,363,395	6,545,092	13,090,184	23,998,670	133,083,534	298,107
新規加圧式(完結型)	17,700	285	5,044,500	201,780	302,670	605,340	1,109,790	6,154,290	13,786
拡張	3,540	28,973	102,564,420	4,102,577	6,153,865	12,307,730	22,564,172	125,128,592	280,288
改修	3,540	30,074	106,461,960	3,193,859	4,258,478	8,516,957	15,969,294	122,431,254	274,246
合計		75,840	323,155,744	11,861,610	17,260,105	34,520,211	63,641,926	386,797,670	866,427

**Morogoro**

工事タイプ	単価 (USD)	開発面積 (ha)	建設費用 (USD)	F/S費用 (USD)	D/D費用 (USD)	SV費用 (USD)	技術サービス費 (USD)	建設費+ES費 (USD)	建設費+ES費 (TZS mil)
新規重力式(完結型)	6,608	27,883	184,250,864	7,370,035	11,055,052	22,110,104	40,535,190	224,786,054	503,521
新規加圧式(完結型)	17,700	40	708,000	28,320	42,480	84,960	155,760	863,760	1,935
拡張	3,540	39,146	138,576,840	5,543,074	8,314,510	16,629,221	30,486,905	169,083,745	378,703
改修	3,540	7,297	25,831,380	774,941	1,033,255	2,066,510	3,874,707	29,706,087	66,542
合計		74,366	349,367,084	13,716,370	20,445,397	40,890,795	75,052,562	424,419,646	950,700

**Mtwara**

工事タイプ	単価 (USD)	開発面積 (ha)	建設費用 (USD)	F/S費用 (USD)	D/D費用 (USD)	SV費用 (USD)	技術サービス費 (USD)	建設費+ES費 (USD)	建設費+ES費 (TZS mil)
新規重力式(完結型)	6,608	29,573	195,418,384	7,816,735	11,725,103	23,450,206	42,992,044	238,410,428	534,039
新規加圧式(完結型)	17,700	2,844	50,338,800	2,013,552	3,020,328	6,040,656	11,074,536	61,413,336	137,566
拡張	3,540	7,815	27,665,100	1,106,604	1,659,906	3,319,812	6,086,322	33,751,422	75,603
改修	3,540	6,982	24,716,280	741,488	988,651	1,977,302	3,707,442	28,423,722	63,669
合計		47,214	298,138,564	11,678,380	17,393,988	34,787,976	63,860,344	361,998,908	810,878

**Mwanza**

工事タイプ	単価 (USD)	開発面積 (ha)	建設費用 (USD)	F/S費用 (USD)	D/D費用 (USD)	SV費用 (USD)	技術サービス費 (USD)	建設費+ES費 (USD)	建設費+ES費 (TZS mil)
新規重力式(完結型)	6,608	19,163	126,629,104	5,065,164	7,597,746	15,195,492	27,858,403	154,487,507	346,052
新規加圧式(完結型)	17,700	400	7,080,000	283,200	424,800	849,600	1,557,600	8,637,600	19,348
拡張	3,540	10,568	37,410,720	1,496,429	2,244,643	4,489,286	8,230,358	45,641,078	102,236
改修	3,540	4,858	17,197,320	515,920	687,893	1,375,786	2,579,598	19,776,918	44,300
合計		34,989	188,317,144	7,360,713	10,955,082	21,910,164	40,225,959	228,543,103	511,937

**Tabora**

工事タイプ	単価 (USD)	開発面積 (ha)	建設費用 (USD)	F/S費用 (USD)	D/D費用 (USD)	SV費用 (USD)	技術サービス費 (USD)	建設費+ES費 (USD)	建設費+ES費 (TZS mil)
新規重力式(完結型)	6,608	20,954	138,464,032	5,538,561	8,307,842	16,615,684	30,462,087	168,926,119	378,395
新規加圧式(完結型)	17,700	0	0	0	0	0	0	0	0
拡張	3,540	11,194	39,626,760	1,585,070	2,377,606	4,755,211	8,717,887	48,344,647	108,292
改修	3,540	4,587	16,237,980	487,139	649,519	1,299,038	2,435,697	18,673,677	41,829
合計		36,735	194,328,772	7,610,771	11,334,967	22,669,933	41,615,671	235,944,443	528,516

**Katavi**

工事タイプ	単価 (USD)	開発面積 (ha)	建設費用 (USD)	F/S費用 (USD)	D/D費用 (USD)	SV費用 (USD)	技術サービス費 (USD)	建設費+ES費 (USD)	建設費+ES費 (TZS mil)
新規重力式(完結型)	6,608	21,076	139,270,208	5,570,808	8,356,212	16,712,425	30,639,446	169,909,654	380,598
新規加圧式(完結型)	17,700	0	0	0	0	0	0	0	0
拡張	3,540	24,036	85,087,440	3,403,498	5,105,246	10,210,493	18,719,237	103,806,677	232,527
改修	3,540	4,453	15,763,620	472,909	630,545	1,261,090	2,364,543	18,128,163	40,607
合計		49,565	240,121,268	9,447,215	14,092,004	28,184,007	51,723,226	291,844,494	653,732

**Total**

工事タイプ	単価 (USD)	開発面積 (ha)	建設費用 (USD)	F/S費用 (USD)	D/D費用 (USD)	SV費用 (USD)	技術サービス費 (USD)	建設費+ES費 (USD)	建設費+ES費 (TZS mil)
新規重力式(完結型)	6,608	166,233	1,098,467,664	43,938,707	65,908,060	131,816,120	241,662,886	1,340,130,550	3,001,892
新規加圧式(完結型)	17,700	4,165	73,720,500	2,948,820	4,423,230	8,846,460	16,218,510	89,939,010	201,463
拡張	3,540	141,711	501,656,940	20,066,278	30,099,416	60,198,833	110,364,527	612,021,467	1,370,928
改修	3,540	93,549	331,163,460	9,934,904	13,246,538	26,493,077	49,674,519	380,837,979	853,077
合計		405,658	2,005,008,564	76,888,708	113,677,245	227,354,489	417,920,442	2,422,929,006	5,427,361

注: 表中の費用にはVAT (18%)を含む。

出典: JICA 調査団

添付資料-11.6.1(1/9) 全国灌漑マスタープラン2018におけるキャッシュフロー(経済価格)(全体、フェーズ1)

(単位: 百万TZS)

年	コスト			コスト合計	農業生産による便益	その他便益	便益合計	純便益
	建設費	ソフトコンポーネント	O&M					
1	2018	107,870	6,761	114,631	0	0	0	-114,631
2	2019	288,708	6,640	295,348	0	0	0	-295,348
3	2020	493,910	7,124	500,939	0	0	0	-500,939
4	2021	744,910	8,939	770,203	27,505	0	27,505	-742,698
5	2022	852,420	5,192	882,489	101,120	0	101,120	-781,369
6	2023	625,601	2,841	659,576	227,058	0	227,058	-432,518
7	2024	294,060	3,961	340,755	332,096	422,377	422,377	90,281
8	2025	186,803	3,525	35,943	226,271	634,348	634,348	408,077
9	2026	0	0	35,943	295,943	793,865	793,865	757,923
10	2027	0	0	395,371	395,371	868,845	868,845	473,474
11	2028	0	0	35,943	35,943	916,476	916,476	880,534
12	2029	0	0	35,943	35,943	916,476	916,476	880,534
13	2030	0	0	35,943	35,943	916,476	916,476	880,534
14	2031	0	0	35,943	35,943	916,476	916,476	880,534
15	2032	0	0	35,943	35,943	916,476	916,476	880,534
16	2033	0	0	35,943	35,943	916,476	916,476	880,534
17	2034	0	0	35,943	35,943	916,476	916,476	880,534
18	2035	0	0	35,943	35,943	916,476	916,476	880,534
19	2036	0	0	35,943	35,943	916,476	916,476	880,534
20	2037	0	0	395,371	395,371	916,476	916,476	521,106
21	2038	0	0	35,943	35,943	916,476	916,476	880,534
22	2039	0	0	35,943	35,943	916,476	916,476	880,534
23	2040	0	0	35,943	35,943	916,476	916,476	880,534
24	2041	0	0	35,943	35,943	916,476	916,476	880,534
25	2042	0	0	35,943	35,943	916,476	916,476	880,534
26	2043	0	0	35,943	35,943	916,476	916,476	880,534
27	2044	0	0	35,943	35,943	916,476	916,476	880,534
28	2045	0	0	35,943	35,943	916,476	916,476	880,534
29	2046	0	0	35,943	35,943	916,476	916,476	880,534
30	2047	0	0	1,114,227	1,114,227	916,476	916,476	-197,751
31	2048	0	0	35,943	35,943	916,476	916,476	880,534
32	2049	0	0	35,943	35,943	916,476	916,476	880,534
33	2050	0	0	35,943	35,943	916,476	916,476	880,534
34	2051	0	0	35,943	35,943	916,476	916,476	880,534
35	2052	0	0	35,943	35,943	916,476	916,476	880,534
36	2053	0	0	35,943	35,943	916,476	916,476	880,534
37	2054	0	0	35,943	35,943	916,476	916,476	880,534
38	2055	0	0	35,943	35,943	916,476	916,476	880,534

出典: JICA 調査団

現在価値

(単位: 百万TZS)

コスト合計	便益合計	純便益
102,349	0	-102,349
235,449	0	-235,449
362,964	0	-362,964
489,478	17,480	-471,998
500,748	57,378	-443,370
334,162	115,035	-219,127
150,223	191,062	40,839
91,387	256,203	164,816
12,961	286,276	273,314
127,299	279,745	152,446
10,333	263,465	253,132
9,226	235,237	226,011
8,237	210,033	201,796
7,355	187,529	180,175
6,567	167,437	160,870
5,863	149,497	143,634
5,235	133,480	128,245
4,674	119,178	114,504
4,173	106,409	102,236
40,987	95,008	54,021
3,327	84,829	81,502
2,970	75,740	72,770
2,652	67,625	64,973
2,368	60,379	58,011
2,114	53,910	51,796
1,888	48,134	46,246
1,685	42,977	41,291
1,505	38,372	36,867
1,344	34,261	32,917
37,191	30,590	-6,601
1,071	27,313	26,241
956	24,386	23,430
854	21,773	20,919
762	19,441	18,678
681	17,358	16,677
608	15,498	14,890
543	13,837	13,295
485	12,355	11,870
<b>2,572,674</b>	<b>3,559,229</b>	<b>986,555</b>

経済価値指標

(単位: 百万TZS)

正味現在価値 (NPV)	986,555
費用便益比 (B/C)	1.38
経済的内部収益率 (EIRR)	16.4%

感度分析 (EIRR)

便益	コスト		
	Base	+5%	+10%
Base	16.4%	15.7%	15.0%
-5%	15.6%	14.9%	14.3%
-10%	14.9%	14.2%	13.6%

添付資料-11.6.1(2/9) 全国灌漑マスタープラン2018におけるキャッシュフロー(経済価格)(Dodoma、フェーズ1)

(単位:百万TZS)

年	コスト			コスト合計	農業生産による 便益	その他便益	便益合計	純便益
	建設費	ソフトコンポーネント	O&M					
1	2018	11,046	587	11,632	0	0	0	-11,632
2	2019	29,564	576	30,140	0	0	0	-30,140
3	2020	50,577	618	51,195	0	0	0	-51,195
4	2021	76,279	775	77,054	2,877	0	2,877	-74,177
5	2022	87,288	450	87,738	10,576	0	10,576	-77,162
6	2023	64,062	246	64,308	23,749	0	23,749	-40,559
7	2024	30,112	344	30,456	44,178	0	44,178	13,722
8	2025	19,129	306	19,435	66,348	0	66,348	46,913
9	2026	0	0	0	83,033	0	83,033	63,598
10	2027	0	0	0	90,875	0	90,875	71,440
11	2028	0	0	0	95,857	0	95,857	76,423
12	2029	0	0	0	95,857	0	95,857	76,423
13	2030	0	0	0	95,857	0	95,857	76,423
14	2031	0	0	0	95,857	0	95,857	76,423
15	2032	0	0	0	95,857	0	95,857	76,423
16	2033	0	0	0	95,857	0	95,857	76,423
17	2034	0	0	0	95,857	0	95,857	76,423
18	2035	0	0	0	95,857	0	95,857	76,423
19	2036	0	0	3,681	95,857	0	95,857	92,177
20	2037	0	0	40,486	95,857	0	95,857	55,371
21	2038	0	0	3,681	95,857	0	95,857	92,177
22	2039	0	0	3,681	95,857	0	95,857	92,177
23	2040	0	0	3,681	95,857	0	95,857	92,177
24	2041	0	0	3,681	95,857	0	95,857	92,177
25	2042	0	0	3,681	95,857	0	95,857	92,177
26	2043	0	0	3,681	95,857	0	95,857	92,177
27	2044	0	0	3,681	95,857	0	95,857	92,177
28	2045	0	0	3,681	95,857	0	95,857	92,177
29	2046	0	0	3,681	95,857	0	95,857	92,177
30	2047	0	0	114,097	95,857	0	95,857	-18,240
31	2048	0	0	3,681	95,857	0	95,857	92,177
32	2049	0	0	3,681	95,857	0	95,857	92,177
33	2050	0	0	3,681	95,857	0	95,857	92,177
34	2051	0	0	3,681	95,857	0	95,857	92,177
35	2052	0	0	3,681	95,857	0	95,857	92,177
36	2053	0	0	3,681	95,857	0	95,857	92,177
37	2054	0	0	3,681	95,857	0	95,857	92,177
38	2055	0	0	3,681	95,857	0	95,857	92,177

出典: JICA調査団

現在価値

(単位:百万TZS)

コスト合計	便益合計	純便益
10,386	0	-10,386
24,027	0	-24,027
37,088	0	-37,088
50,034	1,828	-48,206
51,231	6,001	-45,229
34,196	12,032	-22,164
15,355	19,984	4,629
9,336	26,797	17,461
1,327	29,942	28,615
13,035	29,259	16,224
1,058	27,557	26,499
945	24,604	23,659
843	21,968	21,124
753	19,614	18,861
672	17,513	16,840
600	15,636	15,036
536	13,961	13,425
479	12,465	11,987
427	11,130	10,702
4,197	9,937	5,740
341	8,872	8,532
304	7,922	7,618
272	7,073	6,802
242	6,315	6,073
217	5,639	5,422
193	5,034	4,841
173	4,495	4,322
154	4,013	3,859
138	3,583	3,446
3,808	3,200	-609
110	2,857	2,747
98	2,551	2,453
87	2,277	2,190
78	2,033	1,955
70	1,815	1,746
62	1,621	1,559
56	1,447	1,392
50	1,292	1,243
<b>262,978</b>	<b>372,271</b>	<b>109,292</b>

経済価値地指標

(単位:百万TZS)

正味現在価値 (NPV)	109,292
費用便益比 (B/C)	1.42
経済的内部収益率 (EIRR)	16.7%
感度分析 (EIRR)	
便益	コスト
	Base +5% +10%
Base	16.7% 16.0% 15.3%
-5%	16.0% 15.3% 14.6%
-10%	15.2% 14.5% 13.9%

添付資料-11.6.1(3/9) 全国灌漑マスタープラン2018におけるキャッシュフロー(経済価格)(Kilimanjaro、フェーズ1)

(単位:百万TZS)

年	コスト			コスト合計	農業生産による 便益	その他便益	便益合計	純便益
	建設費	ソフトコンポーネント	O&M					
1	2018	12,129	621	12,749	0	0	0	-12,749
2	2019	32,462	609	33,071	0	0	0	-33,071
3	2020	55,534	654	57,189	0	0	0	-57,189
4	2021	83,756	821	1,839	86,415	2,877	0	-83,538
5	2022	95,844	477	2,797	99,118	10,576	0	-88,541
6	2023	70,341	261	3,501	74,102	23,749	0	-50,354
7	2024	33,063	364	3,831	37,258	44,178	0	6,919
8	2025	21,004	324	4,041	25,369	66,348	0	40,980
9	2026	0	0	4,041	4,041	83,033	0	78,991
10	2027	0	0	44,455	44,455	90,875	0	46,421
11	2028	0	0	4,041	4,041	95,857	0	91,816
12	2029	0	0	4,041	4,041	95,857	0	91,816
13	2030	0	0	4,041	4,041	95,857	0	91,816
14	2031	0	0	4,041	4,041	95,857	0	91,816
15	2032	0	0	4,041	4,041	95,857	0	91,816
16	2033	0	0	4,041	4,041	95,857	0	91,816
17	2034	0	0	4,041	4,041	95,857	0	91,816
18	2035	0	0	4,041	4,041	95,857	0	91,816
19	2036	0	0	4,041	4,041	95,857	0	91,816
20	2037	0	0	44,455	44,455	95,857	0	51,403
21	2038	0	0	4,041	4,041	95,857	0	91,816
22	2039	0	0	4,041	4,041	95,857	0	91,816
23	2040	0	0	4,041	4,041	95,857	0	91,816
24	2041	0	0	4,041	4,041	95,857	0	91,816
25	2042	0	0	4,041	4,041	95,857	0	91,816
26	2043	0	0	4,041	4,041	95,857	0	91,816
27	2044	0	0	4,041	4,041	95,857	0	91,816
28	2045	0	0	4,041	4,041	95,857	0	91,816
29	2046	0	0	4,041	4,041	95,857	0	91,816
30	2047	0	0	125,281	125,281	95,857	0	-29,424
31	2048	0	0	4,041	4,041	95,857	0	91,816
32	2049	0	0	4,041	4,041	95,857	0	91,816
33	2050	0	0	4,041	4,041	95,857	0	91,816
34	2051	0	0	4,041	4,041	95,857	0	91,816
35	2052	0	0	4,041	4,041	95,857	0	91,816
36	2053	0	0	4,041	4,041	95,857	0	91,816
37	2054	0	0	4,041	4,041	95,857	0	91,816
38	2055	0	0	4,041	4,041	95,857	0	91,816

出典: JICA調査団

現在価値

(単位:百万TZS)

コスト合計	便益合計	純便益
11,383	0	-11,383
26,364	0	-26,364
40,706	0	-40,706
54,918	1,828	-53,090
56,242	6,001	-50,241
37,543	12,032	-25,511
16,854	19,984	3,130
10,246	26,797	16,551
1,457	29,942	28,485
14,313	29,259	14,946
1,162	27,557	26,395
1,037	24,604	23,567
926	21,968	21,042
827	19,614	18,787
738	17,513	16,774
659	15,636	14,977
589	13,961	13,372
526	12,465	11,940
469	11,130	10,660
4,608	9,937	5,329
374	8,872	8,498
334	7,922	7,588
298	7,073	6,775
266	6,315	6,049
238	5,639	5,401
212	5,034	4,822
190	4,495	4,306
169	4,013	3,844
151	3,583	3,432
4,182	3,200	-982
120	2,857	2,736
108	2,551	2,443
96	2,277	2,181
86	2,033	1,948
77	1,815	1,739
68	1,621	1,553
61	1,447	1,386
54	1,292	1,238
<b>288,652</b>	<b>372,721</b>	<b>83,618</b>

経済価値地指標

(単位:百万TZS)

正味現在価値 (NPV)	83,618
費用便益比 (B/C)	1.29
経済的内部収益率 (EIRR)	15.4%
感度分析(EIRR)	
便益	コスト
	Base +5% +10%
Base	15.4% 14.7% 14.1%
-5%	14.7% 14.0% 13.4%
-10%	13.9% 13.3% 12.7%

添付資料-11.6.1(4/9) 全国灌漑マスタープラン2018におけるキャッシュフロー(経済価格)(Mbeya、フェーズ1)

(単位:百万TZS)

年	コスト			コスト合計	農業生産による 便益	その他便益	便益合計	純便益
	建設費	ソフトコンポーネント	O&M					
1	2018	16,908	8,245	25,153	0	0	0	-25,153
2	2019	45,253	8,098	53,351	0	0	0	-53,351
3	2020	77,417	8,687	1,396	87,500	0	0	-87,500
4	2021	116,759	10,902	2,563	130,224	4,546	0	-125,678
5	2022	133,611	6,331	3,899	143,841	16,715	0	-127,127
6	2023	98,059	3,465	4,880	106,403	37,532	0	-68,872
7	2024	46,092	4,831	5,341	56,264	69,817	0	13,553
8	2025	29,280	4,299	5,634	39,213	104,855	0	65,642
9	2026	0	0	5,634	5,634	131,222	0	131,222
10	2027	0	0	61,972	61,972	143,616	0	143,616
11	2028	0	0	5,634	5,634	151,489	0	151,489
12	2029	0	0	5,634	5,634	151,489	0	151,489
13	2030	0	0	5,634	5,634	151,489	0	151,489
14	2031	0	0	5,634	5,634	151,489	0	151,489
15	2032	0	0	5,634	5,634	151,489	0	151,489
16	2033	0	0	5,634	5,634	151,489	0	151,489
17	2034	0	0	5,634	5,634	151,489	0	151,489
18	2035	0	0	5,634	5,634	151,489	0	151,489
19	2036	0	0	5,634	5,634	151,489	0	151,489
20	2037	0	0	61,972	61,972	151,489	0	151,489
21	2038	0	0	5,634	5,634	151,489	0	151,489
22	2039	0	0	5,634	5,634	151,489	0	151,489
23	2040	0	0	5,634	5,634	151,489	0	151,489
24	2041	0	0	5,634	5,634	151,489	0	151,489
25	2042	0	0	5,634	5,634	151,489	0	151,489
26	2043	0	0	5,634	5,634	151,489	0	151,489
27	2044	0	0	5,634	5,634	151,489	0	151,489
28	2045	0	0	5,634	5,634	151,489	0	151,489
29	2046	0	0	5,634	5,634	151,489	0	151,489
30	2047	0	0	174,647	174,647	151,489	0	151,489
31	2048	0	0	5,634	5,634	151,489	0	151,489
32	2049	0	0	5,634	5,634	151,489	0	151,489
33	2050	0	0	5,634	5,634	151,489	0	151,489
34	2051	0	0	5,634	5,634	151,489	0	151,489
35	2052	0	0	5,634	5,634	151,489	0	151,489
36	2053	0	0	5,634	5,634	151,489	0	151,489
37	2054	0	0	5,634	5,634	151,489	0	151,489
38	2055	0	0	5,634	5,634	151,489	0	151,489

出典: JICA調査団

現在価値

(単位:百万TZS)

コスト合計	便益合計	純便益
22,458	0	-22,458
42,531	0	-42,531
62,281	0	-62,281
82,760	2,889	-79,871
81,620	9,484	-72,135
53,907	19,015	-34,892
25,451	31,582	6,131
15,838	42,349	26,512
2,032	47,320	45,288
19,953	46,241	26,287
1,620	43,550	41,930
1,446	38,884	37,438
1,291	34,717	33,426
1,153	30,998	29,845
1,029	27,677	26,647
919	24,711	23,792
821	22,064	21,243
733	19,700	18,967
654	17,589	16,935
6,424	15,704	9,280
521	14,022	13,500
466	12,519	12,054
416	11,178	10,762
371	9,980	9,609
331	8,911	8,580
296	7,956	7,660
264	7,104	6,840
236	6,343	6,107
211	5,663	5,453
5,829	5,056	-773
168	4,515	4,347
150	4,031	3,881
134	3,599	3,465
120	3,213	3,094
107	2,869	2,762
95	2,562	2,466
85	2,287	2,202
76	2,042	1,966
<b>434,794</b>	<b>588,324</b>	<b>153,530</b>

経済価値地指標

(単位:百万TZS)

正味現在価値 (NPV)	153,530
費用便益比 (B/C)	1.35
経済的内部収益率 (EIRR)	16.0%
<b>感度分析(EIRR)</b>	
便益	コスト
	Base +5% +10%
Base	16.0% 15.3% 14.7%
-5%	15.3% 14.6% 14.0%
-10%	14.5% 13.9% 13.3%



添付資料-11.6.1(5/9) 全国灌漑マスタープラン2018におけるキャッシュフロー(経済価格)(Morogoro、フェーズ1)

(単位:百万TZS)

年	コスト			コスト合計	農業生産による 便益	その他便益	便益合計	純便益
	建設費	ソフトコンポーネント	O&M					
1	2018	20,409	974	21,383	0	0	0	-21,383
2	2019	54,624	957	55,580	0	0	0	-55,580
3	2020	93,448	1,026	1,685	96,159	0	0	-96,159
4	2021	140,937	1,288	3,094	145,320	5,881	0	-139,439
5	2022	161,278	748	4,707	166,733	21,620	0	-145,113
6	2023	118,364	409	5,891	124,664	48,546	0	-76,118
7	2024	55,636	571	6,447	62,654	90,307	0	27,653
8	2025	35,343	508	6,800	42,652	135,627	0	92,976
9	2026	0	0	6,800	6,800	169,733	0	162,933
10	2027	0	0	74,804	74,804	185,764	0	110,960
11	2028	0	0	6,800	6,800	195,948	0	189,148
12	2029	0	0	6,800	6,800	195,948	0	189,148
13	2030	0	0	6,800	6,800	195,948	0	189,148
14	2031	0	0	6,800	6,800	195,948	0	189,148
15	2032	0	0	6,800	6,800	195,948	0	189,148
16	2033	0	0	6,800	6,800	195,948	0	189,148
17	2034	0	0	6,800	6,800	195,948	0	189,148
18	2035	0	0	6,800	6,800	195,948	0	189,148
19	2036	0	0	6,800	6,800	195,948	0	189,148
20	2037	0	0	74,804	74,804	195,948	0	121,144
21	2038	0	0	6,800	6,800	195,948	0	189,148
22	2039	0	0	6,800	6,800	195,948	0	189,148
23	2040	0	0	6,800	6,800	195,948	0	189,148
24	2041	0	0	6,800	6,800	195,948	0	189,148
25	2042	0	0	6,800	6,800	195,948	0	189,148
26	2043	0	0	6,800	6,800	195,948	0	189,148
27	2044	0	0	6,800	6,800	195,948	0	189,148
28	2045	0	0	6,800	6,800	195,948	0	189,148
29	2046	0	0	6,800	6,800	195,948	0	189,148
30	2047	0	0	210,812	210,812	195,948	0	-14,865
31	2048	0	0	6,800	6,800	195,948	0	189,148
32	2049	0	0	6,800	6,800	195,948	0	189,148
33	2050	0	0	6,800	6,800	195,948	0	189,148
34	2051	0	0	6,800	6,800	195,948	0	189,148
35	2052	0	0	6,800	6,800	195,948	0	189,148
36	2053	0	0	6,800	6,800	195,948	0	189,148
37	2054	0	0	6,800	6,800	195,948	0	189,148
38	2055	0	0	6,800	6,800	195,948	0	189,148

出典: JICA調査団

現在価値

(単位:百万TZS)

コスト合計	便益合計	純便益
19,092	0	-19,092
44,308	0	-44,308
68,444	0	-68,444
92,353	3,737	-88,616
94,609	12,268	-82,341
63,159	24,595	-38,564
28,341	40,850	12,509
17,226	54,778	37,551
2,452	61,207	58,755
24,085	59,811	35,726
1,955	56,330	54,375
1,745	50,295	48,549
1,558	44,906	43,348
1,391	40,095	38,703
1,242	35,799	34,557
1,109	31,963	30,854
990	28,539	27,548
884	25,481	24,597
790	22,751	21,961
7,755	20,313	12,559
629	18,137	17,507
562	16,194	15,632
502	14,459	13,957
448	12,909	12,461
400	11,526	11,126
357	10,291	9,934
319	9,189	8,870
285	8,204	7,919
254	7,325	7,071
7,036	6,540	-496
203	5,840	5,637
181	5,214	5,033
162	4,655	4,494
144	4,157	4,012
129	3,711	3,582
115	3,314	3,199
103	2,959	2,856
92	2,642	2,550
<b>485,412</b>	<b>760,984</b>	<b>275,571</b>

経済価値地指標

(単位:百万TZS)

正味現在価値 (NPV)	275,571
費用便益比 (B/C)	1.57
経済的内部収益率 (EIRR)	18.3%
<b>感度分析(EIRR)</b>	
便益	コスト
	Base +5% +10%
Base	18.3% 17.5% 16.8%
-5%	17.5% 16.7% 16.1%
-10%	16.7% 16.0% 15.3%

添付資料-11.6.1(6/9) 全国灌漑マスタープラン2018におけるキャッシュフロー(経済価格)(Mtwara、フェーズ1)

(単位:百万TZS)

年	コスト			コスト合計	農業生産による 便益	その他便益	便益合計	純便益
	建設費	ソフトコンポーネント	O&M					
1 2018	5,854	300		6,153	0	0	0	-6,153
2 2019	15,667	294		15,961	0	0	0	-15,961
3 2020	26,802	316	483	27,601	0	0	0	-27,601
4 2021	40,423	396	887	41,707	1,692	0	1,692	-40,014
5 2022	46,257	230	1,350	47,837	6,222	0	6,222	-41,615
6 2023	33,949	126	1,690	35,764	13,971	0	13,971	-21,793
7 2024	15,957	176	1,849	17,982	25,990	0	25,990	8,007
8 2025	10,137	156	1,950	12,244	39,032	0	39,032	26,789
9 2026	0	0	1,950	1,950	48,848	0	48,848	46,897
10 2027	0	0	21,455	21,455	53,461	0	53,461	32,006
11 2028	0	0	1,950	1,950	56,392	0	56,392	54,442
12 2029	0	0	1,950	1,950	56,392	0	56,392	54,442
13 2030	0	0	1,950	1,950	56,392	0	56,392	54,442
14 2031	0	0	1,950	1,950	56,392	0	56,392	54,442
15 2032	0	0	1,950	1,950	56,392	0	56,392	54,442
16 2033	0	0	1,950	1,950	56,392	0	56,392	54,442
17 2034	0	0	1,950	1,950	56,392	0	56,392	54,442
18 2035	0	0	1,950	1,950	56,392	0	56,392	54,442
19 2036	0	0	1,950	1,950	56,392	0	56,392	54,442
20 2037	0	0	21,455	21,455	56,392	0	56,392	34,937
21 2038	0	0	1,950	1,950	56,392	0	56,392	54,442
22 2039	0	0	1,950	1,950	56,392	0	56,392	54,442
23 2040	0	0	1,950	1,950	56,392	0	56,392	54,442
24 2041	0	0	1,950	1,950	56,392	0	56,392	54,442
25 2042	0	0	1,950	1,950	56,392	0	56,392	54,442
26 2043	0	0	1,950	1,950	56,392	0	56,392	54,442
27 2044	0	0	1,950	1,950	56,392	0	56,392	54,442
28 2045	0	0	1,950	1,950	56,392	0	56,392	54,442
29 2046	0	0	1,950	1,950	56,392	0	56,392	54,442
30 2047	0	0	60,464	60,464	56,392	0	56,392	-4,072
31 2048	0	0	1,950	1,950	56,392	0	56,392	54,442
32 2049	0	0	1,950	1,950	56,392	0	56,392	54,442
33 2050	0	0	1,950	1,950	56,392	0	56,392	54,442
34 2051	0	0	1,950	1,950	56,392	0	56,392	54,442
35 2052	0	0	1,950	1,950	56,392	0	56,392	54,442
36 2053	0	0	1,950	1,950	56,392	0	56,392	54,442
37 2054	0	0	1,950	1,950	56,392	0	56,392	54,442
38 2055	0	0	1,950	1,950	56,392	0	56,392	54,442

出典: JICA調査団

現在価値

(単位:百万TZS)

コスト合計	便益合計	純便益
5,494	0	-5,494
12,724	0	-12,724
19,646	0	-19,646
26,505	1,076	-25,430
27,144	3,531	-23,614
18,119	7,078	-11,041
8,134	11,756	3,622
4,945	15,765	10,820
703	17,615	16,912
6,908	17,213	10,305
561	16,211	15,651
501	14,474	13,974
447	12,924	12,477
399	11,539	11,140
356	10,303	9,946
318	9,199	8,881
284	8,213	7,929
254	7,333	7,080
226	6,548	6,321
2,224	5,846	3,622
181	5,220	5,039
161	4,660	4,499
144	4,161	4,017
129	3,715	3,587
115	3,317	3,202
102	2,962	2,859
91	2,644	2,553
82	2,361	2,279
73	2,108	2,035
2,018	1,882	-136
58	1,681	1,622
52	1,501	1,449
46	1,340	1,293
41	1,196	1,155
37	1,068	1,031
33	954	921
29	851	822
26	760	734
<b>139,313</b>	<b>219,005</b>	<b>79,692</b>

経済価値地指標

(単位:百万TZS)

正味現在価値 (NPV)	79,692
費用便益比 (B/C)	1.57
経済的内部収益率 (EIRR)	18.3%

便益	コスト		
	Base	+5%	+10%
Base	18.3%	17.5%	16.9%
-5%	17.5%	16.8%	16.1%
-10%	16.7%	16.0%	15.3%

添付資料-11.6.1(7/9) 全国灌漑マスタープラン2018におけるキャッシュフロー(経済価格)(Mwanza、フェーズ1)

(単位:百万TZS)

年	コスト			コスト合計	農業生産による 便益	その他便益	便益合計	純便益
	建設費	ソフトコンポーネント	O&M					
1	2018	16,016	692	16,708	0	0	0	-16,708
2	2019	42,865	680	43,545	0	0	0	-43,545
3	2020	73,331	730	1,322	75,383	0	0	-75,383
4	2021	110,598	915	2,428	113,941	4,534	4,534	-109,407
5	2022	126,560	532	3,694	130,785	16,668	16,668	-114,117
6	2023	92,884	291	4,623	97,797	37,427	37,427	-60,370
7	2024	43,659	406	5,059	49,124	69,622	69,622	20,498
8	2025	27,735	361	5,336	33,432	104,562	104,562	71,129
9	2026	0	0	5,336	5,336	130,855	130,855	125,519
10	2027	0	0	58,701	58,701	143,214	143,214	84,513
11	2028	0	0	5,336	5,336	151,066	151,066	145,729
12	2029	0	0	5,336	5,336	151,066	151,066	145,729
13	2030	0	0	5,336	5,336	151,066	151,066	145,729
14	2031	0	0	5,336	5,336	151,066	151,066	145,729
15	2032	0	0	5,336	5,336	151,066	151,066	145,729
16	2033	0	0	5,336	5,336	151,066	151,066	145,729
17	2034	0	0	5,336	5,336	151,066	151,066	145,729
18	2035	0	0	5,336	5,336	151,066	151,066	145,729
19	2036	0	0	5,336	5,336	151,066	151,066	145,729
20	2037	0	0	58,701	58,701	151,066	151,066	92,364
21	2038	0	0	5,336	5,336	151,066	151,066	145,729
22	2039	0	0	5,336	5,336	151,066	151,066	145,729
23	2040	0	0	5,336	5,336	151,066	151,066	145,729
24	2041	0	0	5,336	5,336	151,066	151,066	145,729
25	2042	0	0	5,336	5,336	151,066	151,066	145,729
26	2043	0	0	5,336	5,336	151,066	151,066	145,729
27	2044	0	0	5,336	5,336	151,066	151,066	145,729
28	2045	0	0	5,336	5,336	151,066	151,066	145,729
29	2046	0	0	5,336	5,336	151,066	151,066	145,729
30	2047	0	0	165,430	165,430	151,066	151,066	-14,365
31	2048	0	0	5,336	5,336	151,066	151,066	145,729
32	2049	0	0	5,336	5,336	151,066	151,066	145,729
33	2050	0	0	5,336	5,336	151,066	151,066	145,729
34	2051	0	0	5,336	5,336	151,066	151,066	145,729
35	2052	0	0	5,336	5,336	151,066	151,066	145,729
36	2053	0	0	5,336	5,336	151,066	151,066	145,729
37	2054	0	0	5,336	5,336	151,066	151,066	145,729
38	2055	0	0	5,336	5,336	151,066	151,066	145,729

出典: JICA調査団

現在価値

(単位:百万TZS)

コスト合計	便益合計	純便益
14,918	0	-14,918
34,714	0	-34,714
53,656	0	-53,656
72,412	2,881	-69,530
74,211	9,458	-64,753
49,547	18,962	-30,586
22,221	31,493	9,272
13,503	42,231	28,728
1,924	47,188	45,263
18,900	46,111	27,211
1,534	43,428	41,894
1,370	38,775	37,405
1,223	34,620	33,397
1,092	30,911	29,819
975	27,599	26,624
870	24,642	23,772
777	22,002	21,225
694	19,645	18,951
620	17,540	16,920
6,085	15,660	9,575
494	13,983	13,489
441	12,484	12,043
394	11,147	10,753
352	9,953	9,601
314	8,886	8,572
280	7,934	7,654
250	7,084	6,834
223	6,325	6,102
199	5,647	5,448
5,522	5,042	-479
159	4,502	4,343
142	4,020	3,878
127	3,589	3,462
113	3,204	3,091
101	2,861	2,760
90	2,555	2,464
81	2,281	2,200
72	2,036	1,965
<b>380,600</b>	<b>586,678</b>	<b>206,078</b>

経済価値地指標

(単位:百万TZS)

正味現在価値 (NPV)	206,078
費用便益比 (B/C)	1.54
経済的内部収益率 (EIRR)	18.0%
<b>感度分析 (EIRR)</b>	
便益	コスト
	Base +5% +10%
Base	18.0% 17.3% 16.6%
-5%	17.2% 16.5% 15.8%
-10%	16.4% 15.7% 15.1%

添付資料-11.6.1(8/9) 全国灌漑マスタープラン2018におけるキャッシュフロー(経済価格)(Tabora、フェーズ1)

(単位:百万TZS)

年	コスト			コスト合計	農業生産による 便益	その他便益	便益合計	純便益
	建設費	ソフトコンポーネント	O&M					
1	2018	8,942	411	9,354	0	0	0	-9,354
2	2019	23,934	404	24,338	0	0	0	-24,338
3	2020	40,945	434	738	42,117	0	0	-42,117
4	2021	61,752	544	1,356	63,652	2,063	2,063	-61,589
5	2022	70,665	316	2,062	73,043	7,584	7,584	-65,459
6	2023	51,862	173	2,581	54,616	17,029	17,029	-37,586
7	2024	24,377	241	2,825	27,443	31,678	31,678	4,235
8	2025	15,486	215	2,980	18,680	47,576	47,576	28,896
9	2026	0	0	2,980	2,980	59,540	59,540	56,560
10	2027	0	0	32,776	32,776	65,163	65,163	32,387
11	2028	0	0	2,980	2,980	68,735	68,735	65,756
12	2029	0	0	2,980	2,980	68,735	68,735	65,756
13	2030	0	0	2,980	2,980	68,735	68,735	65,756
14	2031	0	0	2,980	2,980	68,735	68,735	65,756
15	2032	0	0	2,980	2,980	68,735	68,735	65,756
16	2033	0	0	2,980	2,980	68,735	68,735	65,756
17	2034	0	0	2,980	2,980	68,735	68,735	65,756
18	2035	0	0	2,980	2,980	68,735	68,735	65,756
19	2036	0	0	2,980	2,980	68,735	68,735	65,756
20	2037	0	0	32,776	32,776	68,735	68,735	35,959
21	2038	0	0	2,980	2,980	68,735	68,735	65,756
22	2039	0	0	2,980	2,980	68,735	68,735	65,756
23	2040	0	0	2,980	2,980	68,735	68,735	65,756
24	2041	0	0	2,980	2,980	68,735	68,735	65,756
25	2042	0	0	2,980	2,980	68,735	68,735	65,756
26	2043	0	0	2,980	2,980	68,735	68,735	65,756
27	2044	0	0	2,980	2,980	68,735	68,735	65,756
28	2045	0	0	2,980	2,980	68,735	68,735	65,756
29	2046	0	0	2,980	2,980	68,735	68,735	65,756
30	2047	0	0	92,369	92,369	68,735	68,735	-23,633
31	2048	0	0	2,980	2,980	68,735	68,735	65,756
32	2049	0	0	2,980	2,980	68,735	68,735	65,756
33	2050	0	0	2,980	2,980	68,735	68,735	65,756
34	2051	0	0	2,980	2,980	68,735	68,735	65,756
35	2052	0	0	2,980	2,980	68,735	68,735	65,756
36	2053	0	0	2,980	2,980	68,735	68,735	65,756
37	2054	0	0	2,980	2,980	68,735	68,735	65,756
38	2055	0	0	2,980	2,980	68,735	68,735	65,756

出典: JICA調査団

現在価値

(単位:百万TZS)

コスト合計	便益合計	純便益
8,352	0	-8,352
19,402	0	-19,402
29,978	0	-29,978
40,452	1,311	-39,141
41,447	4,303	-37,143
27,670	8,628	-19,042
12,414	14,330	1,916
7,545	19,215	11,671
1,074	21,471	20,396
10,553	20,981	10,428
857	19,760	18,903
765	17,643	16,878
683	15,752	15,070
610	14,065	13,455
544	12,558	12,013
486	11,212	10,726
434	10,011	9,577
387	8,938	8,551
346	7,981	7,635
3,398	7,126	3,728
276	6,362	6,086
246	5,680	5,434
220	5,072	4,852
196	4,528	4,332
175	4,043	3,868
156	3,610	3,454
140	3,223	3,084
125	2,878	2,753
111	2,570	2,458
3,083	2,294	-789
89	2,048	1,960
79	1,829	1,750
71	1,633	1,562
63	1,458	1,395
56	1,302	1,245
50	1,162	1,112
45	1,038	993
40	927	886
<b>212,618</b>	<b>266,941</b>	<b>54,322</b>

経済価値地指標

(単位:百万TZS)

正味現在価値 (NPV)	54,322
費用便益比 (B/C)	1.26
経済的内部収益率 (EIRR)	15.0%

便益	コスト		
	Base	+5%	+10%
Base	15.0%	14.3%	13.7%
-5%	14.3%	13.6%	13.0%
-10%	13.6%	12.9%	12.3%

添付資料-11.6.1(9/9) 全国灌漑マスタープラン2018におけるキャッシュフロー(経済価格)(Katavi、フェーズ1)

(単位:百万TZS)

年	コスト			コスト合計	農業生産による 便益	その他便益	便益合計	純便益
	建設費	ソフトコンポーネント	O&M					
1	2018	15,853	832	16,685	0	0	0	-16,685
2	2019	42,429	817	43,247	0	0	0	-43,247
3	2020	72,587	877	1,309	74,772	0	0	-74,772
4	2021	109,474	1,100	2,403	112,978	3,724	3,724	-109,254
5	2022	125,274	639	3,656	129,570	13,692	13,692	-115,878
6	2023	91,940	350	4,576	96,866	30,744	30,744	-66,121
7	2024	43,216	488	5,008	48,711	57,191	57,191	8,480
8	2025	27,453	434	5,282	33,169	85,892	85,892	52,723
9	2026	0	0	5,282	5,282	107,491	107,491	102,209
10	2027	0	0	58,105	58,105	117,644	117,644	59,539
11	2028	0	0	5,282	5,282	124,093	124,093	118,811
12	2029	0	0	5,282	5,282	124,093	124,093	118,811
13	2030	0	0	5,282	5,282	124,093	124,093	118,811
14	2031	0	0	5,282	5,282	124,093	124,093	118,811
15	2032	0	0	5,282	5,282	124,093	124,093	118,811
16	2033	0	0	5,282	5,282	124,093	124,093	118,811
17	2034	0	0	5,282	5,282	124,093	124,093	118,811
18	2035	0	0	5,282	5,282	124,093	124,093	118,811
19	2036	0	0	5,282	5,282	124,093	124,093	118,811
20	2037	0	0	58,105	58,105	124,093	124,093	65,988
21	2038	0	0	5,282	5,282	124,093	124,093	118,811
22	2039	0	0	5,282	5,282	124,093	124,093	118,811
23	2040	0	0	5,282	5,282	124,093	124,093	118,811
24	2041	0	0	5,282	5,282	124,093	124,093	118,811
25	2042	0	0	5,282	5,282	124,093	124,093	118,811
26	2043	0	0	5,282	5,282	124,093	124,093	118,811
27	2044	0	0	5,282	5,282	124,093	124,093	118,811
28	2045	0	0	5,282	5,282	124,093	124,093	118,811
29	2046	0	0	5,282	5,282	124,093	124,093	118,811
30	2047	0	0	163,750	163,750	124,093	124,093	-39,657
31	2048	0	0	5,282	5,282	124,093	124,093	118,811
32	2049	0	0	5,282	5,282	124,093	124,093	118,811
33	2050	0	0	5,282	5,282	124,093	124,093	118,811
34	2051	0	0	5,282	5,282	124,093	124,093	118,811
35	2052	0	0	5,282	5,282	124,093	124,093	118,811
36	2053	0	0	5,282	5,282	124,093	124,093	118,811
37	2054	0	0	5,282	5,282	124,093	124,093	118,811
38	2055	0	0	5,282	5,282	124,093	124,093	118,811

出典: JICA調査団

現在価値

(単位:百万TZS)

コスト合計	便益合計	純便益
14,897	0	-14,897
34,476	0	-34,476
53,221	0	-53,221
71,800	2,367	-69,433
73,521	7,769	-65,752
49,075	15,576	-33,499
22,035	25,870	3,836
13,397	34,691	21,294
1,905	38,762	36,858
18,708	37,878	19,170
1,519	35,674	34,155
1,356	31,852	30,496
1,211	28,439	27,228
1,081	25,392	24,311
965	22,671	21,706
862	20,242	19,381
769	18,073	17,304
687	16,137	15,450
613	14,408	13,795
6,024	12,864	6,841
489	11,486	10,997
437	10,255	9,819
390	9,157	8,767
348	8,176	7,828
311	7,300	6,989
277	6,517	6,240
248	5,819	5,571
221	5,196	4,975
197	4,639	4,442
5,466	4,142	-1,324
157	3,698	3,541
141	3,302	3,161
125	2,948	2,823
112	2,632	2,520
100	2,350	2,250
89	2,098	2,009
80	1,874	1,794
71	1,673	1,602
<b>377,380</b>	<b>481,929</b>	<b>104,549</b>

経済価値地指標

(単位:百万TZS)

正味現在価値 (NPV)	104,549
費用便益比 (B/C)	1.28
経済的内部収益率 (EIRR)	15.2%
感度分析(EIRR)	
便益	コスト
	Base +5% +10%
Base	15.2% 14.6% 13.9%
-5%	14.5% 13.9% 13.2%
-10%	13.8% 13.2% 12.6%