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THE NEED FOR MODIFIED KATC PHASE II MODEL SITE APPROACH

By A.G Pyuza*

It is now confirmed that KATC Phase II model site approach is responsible for much of the improvements experienced by the model sites over the past two seasons. This approach is a package comprising of;

- Carefully selected schemes to participate as model sites
- Comprehensive participatory baseline surveys
- Carefully selected group of key farmers
- Rigorous residential key farmers course providing them with appropriate technological packages
- Carefully selected group of inter-



Permanent Secretary for the Ministry of Agriculture and Food Security (MAFS) Mr. Wilfred Ngirwa giving the opening address during the RTCPP workshop held at Moshi-Kilimanjaro

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A Key – farmer preparing for farmers field day at his demonstration plot

mediate farmers who follow the key farmers activities step by step as they demonstrate to them the improved farming techniques

- Rigorous infield trainings in line with the (seasonal calendar) rice growth stages
- Monitoring and follow-up guidance to key farmers, intermediate farmers and field personnel
- Participatory evaluation process

which is full of excitement as farmers realize better yields in a matter of a single season.

It is also a fact that behind all these, there is donor support, adequate number of competent trainers, attractive working environment, supportive district councils and effective farmers organizations to mention only a few. With all these in place, KATC Phase II Project can be said to be extraordinarily resourceful and therefore not sustainable. We believe that sustainability of KATC is our mutual concern. It is for this reason that we are embarking to utilize the remaining Project period to try a modified model site approach in few irrigation schemes in Manyara Zone meeting the set selection criteria.

To do so we have to be conscious of the fact that we are constrained with time, and that we are mainly aiming at reducing costs and reducing the necessary manpower for implementing the model sites approach. The overall purpose of this approach is to develop training packages that fit to District capacity and its budget scale (DADP



Farmers observing well established nursery beds for paddy that were prepared and managed by farmers themselves after the training

etc.) The bottom-up participatory planning and implementation approach is expected to cultivate an entirely new *modus operandi* in the development of irrigation schemes.

The expected outputs of the modified

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THE NEED FOR MODIFIED KATC PHASE II MODEL SITE APPROACH (From page 1)

training will lead to;

- Come up with cost effective training that will give adequate results to beneficiaries
- Adoption of effective basic rice farming techniques and approach for increased yield and/or returns in model site
- Confirm/evaluate the effective approach/methodologies; e.g., participatory, farmer to farmer extension, cost sharing, gender consideration etc.

- Trainers acquire broader understanding in irrigated rice farming techniques and extension methodologies in order to meet farmer's needs in the field.

For smooth implementation of the modified training, other stakeholders, namely the District Councils and Zonal Irrigation Offices must be willing to participate in KATC activities and shoulder some of the costs. The scheme, the District Council and Zonal Irrigation Office must be willing to spread the successes of the scheme to other irrigation schemes in the district and zone using

their own initiatives and resources i.e. DADP, etc.

It is proposed that the irrigation scheme, the District Council and the Zonal Irrigation Office should be prepared to organize and conduct some of in-field training activities in the absence of KATC personnel. Because of the reduced number of visits to the schemes, other means of communication should be utilized more. Use of news letters, pamphlets, Leaflets, brochures etc., should be emphasized.

WORKSHOP ON REGIONAL TECHNICAL COOPERATION PROMOTION PROGRAMME (RTCPP)

By A. G. Pyuza

Workshop on Regional Technical Cooperation Promotion Programme was held on 23rd – 24th February in Moshi, Tanzania to exchange views and ideas on how best to implement RTCPP. This workshop was on Irrigated rice farming technologies currently being undertaken on pilot basis in neighbouring countries of Kenya, Malawi, Uganda and Zambia. It is expected that this pilot phase is going to be very instrumental



Participants at the RTCPP workshop listening to the presentation on the progress in the irrigation schemes

Phase II Project is operating especially on the farmer-to-farmer extension approach that has been very successful.

In the same line RTCPP is now broadening the concept as it

cooperation.

It is an idea, which is addressing food security regionally. It does not make much sense when one country in this region has enough food and the rest are starving. It is also true that the new concepts such as the RTCPP takes time to be embedded in the existing policies and institutional framework, yet we are optimistic that grasping will be eminent and implementation be fast so that the programme could



Mr. E. Kitahara, Vice President of JICA giving a key note address on the occasion of the opening ceremony

Tokyo in the year 2000, aiming at promoting South-South Cooperation among neighbouring countries of the developing World. It is expected that the successful performance of the programme will pave a way for charting future direction and strategy for development assistance worldwide but specifically for the developing countries. Using the experiences on the way KATC

will be targeting the developing countries regional wise and capitalize on the cooperation advantages existing to enhance south-south cooperation. The Government of Japan through Japan International Co-operational Agency (JICA) is pioneering the concept of RTCCP and Tanzania through KATC is pioneering as a collaborator in this Eastern and Southern Africa Region, especially in the field of irrigated rice cultivation improvement. This is a field in which Tanzania has some comparative advantage, but it is also true that is a field, which Tanzania is struggling very hard to develop to its full capacity. This is a challenge to developing world, as many of our people are not sure of their next meals. To us here, the idea of RTCPP means a lot more than 'South-South'

to the Government of Japan and Tanzania who are jointly implementing the programme. On the other hand the Government of Kenya, Malawi, Uganda and Zambia will also benefit from the programme outcomes.

The idea to start this programme emanated from the second Tokyo International Conference of African Development (TICAD II) held in



A Key-farmer from Sefula Irrigation Scheme-Zambia presenting achievements and success of the training conducted at their scheme



Director for Training Institutes in the Ministry of Agriculture and Food Security giving a word of thanks to participants in the workshop



Workshop participants observing a Key-farmer's managed demonstration plot at Mombo irrigation scheme

THIRD STEERING COMMITTEE MEETING OF THE KATC PHASE II PROJECT

By A.G.Pyuza and Waziri Mwinji

The third Steering Committee Meeting was held on 31st March 2005 to evaluate progress of activities, achievements and plan on how the project should be concluded. The meeting was attended by Six Model Site District Executives Directors/Representatives (Igunga, Kilosa, Korogwe, Mbarali, Shinyanga and Songea), Scheme Managers from the Model Sites (Mwamapuli, Mwega, Mombo, Mbuyuni, Nakahuga and Nduguti). In charge from Zonal Irrigation Offices (Kilimanjaro, Mbeya, Morogoro, Mtwara, Tabora, Mwanza and Manyara) and KATC Principal, Deputy Principal, Heads of Academic Sections and JICA Experts .

The Objectives of the meeting were to;

- Report on Model Site activities; Problems and achievements
- Discuss KATC II activity plans for model sites; The modified training programme
- Report overview of irrigated agricultural development in districts and in the Irrigation Zones
- Discuss on utilization of Model Sites for enhancement of technical capabilities of irrigators and field personnel in the whole district/irrigation zone as part of District Agricultural Development Plans (DADP).

It was realized that, in all model sites except Nduguti which was hit hard by drought; The average rice yields of sample farmers increased in all the model sites after receiving KATC training. The percentages of farmers who have exceeded the target rice



KATC principal, Mr. R.J.Shayo presenting a paper on modified approach to the steering committee meeting members



3rd Steering committee meeting held at hotel Salsalnero in Moshi town-Kilimanjaro

yields set by each model sites were 64% in Nakahuga, 53% in Mombo, 42% in Mbuyuni, 43% in Mwega and 35% in Mwamapuli (Refer Fig. 1)

The average unit net returns from rice in all the model sites after the training increased mainly due to the increase in rice yield and higher selling prices (Refer Fig. 2)

Such achievements have been realized as a result of :-

- Increased adoption rate of rice production techniques
- Improvement in dissemination of information from Key farmers to Intermediate farmers.
- Increased use of appropriate farming tools like power tillers and push weeders
- Improvement in organization and maintenance of irrigation infra-structures
- Improvement in gender awareness towards harmonization of resources allocation and utilization.

During the meeting, the followings were recommended for enhancement of the utilization of modelsites:

- The model sites to be used as training centres for other schemes in the districts and zones
- Key farmers from the model schemes to be used in training other farmers from other schemes in the districts and zones
- One or more model sites to be selected for implementing the modified training. These model site(s) to be selected from a nearby area to KATC for smooth implementation, preferably from Manyara Zone where there is no model site at present and
- Efforts are to be made to solicit funds for training activities from districts especially through DADP fund, etc so as to utilize efficiently the model sites.

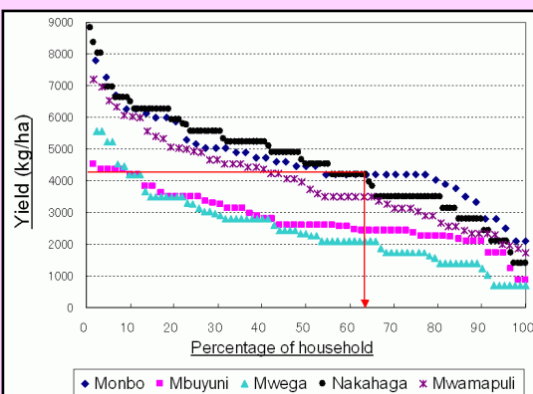


Fig. 1. Percentage of farmer by yield (Showing example of Nakahuga)

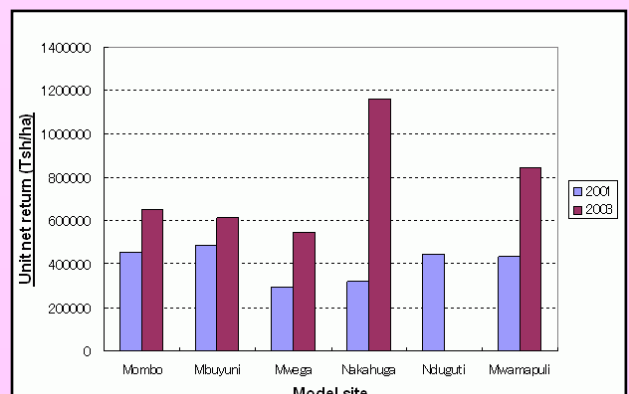


Fig. 2. Comparisons of net return rates for year 2001 & 2003

SECOND SEASON IN-FIELD TRAINING IN THE MODEL SITES

By A.G.Pyuza (Deputy Principal-KATC)

KATC continued with In-field Training for second season between January – June 2005 in each Model Sites in Tanzania. Regional Technical Cooperation Promotion Programme (RTCPP) Infield training also was implemented in Kenya, Malawi, Zambia and Uganda.

The main focus was to train and make follow up to see to what extent the farmers reached in terms of application of technologies learned in previous trainings in areas of rice cultivation techniques, farmer to farmer extension and operation, maintenance

and management of irrigation facilities.

The fourth in-field training was conducted at harvest stage to train and enable farmers monitor both technical and economical aspects of their production process. Also farmers were trained on means and ways to strengthen their organizations to empower them in maintaining their irrigation facilities.

The fifth In-field training (after harvest) focused on monitoring and evaluation of activities. The training enabled farmers to see the results of applied technologies

learned from KATC and observing the performance of different trials conducted in the season. Farmers day was conducted in each scheme with the purpose of:

- Showing farmers and other stakeholders the achievements obtained in farmers field in the scheme
- Other farmers to see technologies adopted by fellow farmers and emulate them.

Review of Action Plan in each Scheme was also made to agree on the necessary adjustments for smooth implementation of various activities in the scheme.

STUDY TOURS – AN EDUCATIVE FUTURE PROSPECT – FULL OF HOPES AND POSITIVE IMPACT

By Eliezer Shukran Chuma (Extension and Farmers Training)

While KATC Phase II project is nearing to its end, the project is organizing and conducting study tours for the farmers in the model sites in Tanzania. The study tours are aiming at enabling farmers to exchange and share knowledge, skills and attitudes in rice farming arena. Indeed the study tours stimulate direct contacts between farmers of different communities to learn and train themselves through dialogical and debatable social interface, discussions and direct observations of what



Nakahuga farmers listening to explanations from Kwemazandu irrigation scheme Key-farmer

one community endeavors to change the peoples lives.

Bearing this fact in mind, KATC Phase II project in collaboration with the concerned District Councils are organizing and conducting study tours for farmers. Already KATC in collaboration with the Songea District Council and Scheme organized a study tour for farmers from Nakahuga model site to visit some good performing schemes and important institutions that are dealing with rice. The places, which they visited, were Mwega



Nakahuga farmers in a group picture at Mwega irrigation scheme intake

Irrigation scheme, Mkindo Farmers' Training Centre in Morogoro region and Mombo irrigation scheme, and Kwemazandu irrigation scheme in Tanga region.

On the other hand KATC in collaboration with the District Council of Korogwe and scheme organized a study tour for farmers from Mombo Irrigation scheme where by they visited, Mwega irrigation scheme, Dakawa (Agricultural Research institute and Mkindo Farmers Training Centre).

Apart from field observations the guest farmers held discussions and exchanged knowledge, skills and experiences in rice farming with their host farmers. Upon return to their schemes a general meeting was held whereby the participants of the study tours presented their findings and observations to their fellow farmers who didn't participate in the study tours. Discussions on the presentations especially on issues that may be of great help to their scheme were made. Some of these issues include:

- Strengthening of farmers organiza-

tion through timely paying of fees for the operation and maintenance activities by water users, registration of more farmers so as to become members of the irrigation organizations, strictly use of by-laws in implementation of scheme operations

- Farmers participation in communal work
- Farmers involvement in field schools
- Organizing farmers' SACCOS in model schemes and
- Organic farming in rice

Although a group of farmers who participated in the study tour was small, the objectives of the tour were



Nakahuga farmers in a discussion with their host farmers at Mombo irrigation scheme

achieved. This was revealed during the study tours and upon return of farmers in their schemes especially during discussions and future determination to improve their schemes.

Achievement of Energy Saving Stoves in Model Sites

By Yoko Harada (Gender Short-term Expert)

The “Ukombozi” stoves (energy saving stoves) introduced in the KATC project sites during the gender training are showing positive results in the area. In the monitoring survey conducted by the KATC gender team in three model irrigation schemes, namely Mbuyuni, Mwega and Mombo, in June and July 2005, some trainees reported the effectiveness and usefulness of the stoves, which they had constructed at home after the training.

Women usually spend considerable time for firewood collection in rural areas. In some schemes, women used to spend one month to collect firewood to be used for the next six months. In Mwega, women went out every day in the dry season to collect enough firewood for the next rainy season. Consequently, they failed to effectively participate in paddy production. However, now with the use of this energy saving stove, the consumption of firewood has dramatically reduced. One bunch of firewood, which used to last for only one week, now lasts for at least a



Improved stove which is environmentally friendly at one of the Key farmer's house in Mombo irrigation scheme

month.

In the Project area, women now spend less time on firewood collection. As a re-



sult, they have more time to join hands with their husbands in the paddy production. In the project sites, the significant increase of rice productivity has been reported this year. Along with the new agricultural technologies introduced by the project, the interventions aiming at the reduction of drudgery and time spent on carrying out laborious household and farming activities have greatly contributed to this achievement, resulting in the increase of income and the improvement of living standard of the trained participants.



Women workload has been reduced by introducing improved stove.

Number of trips to the forest to fetch firewood has been reduced tremendously

Kenya Officials visit KATC

By Marie Mtika (Information/Curriculum Development Unit)

A group of eight (8) Officers mainly Principals of Farmers' Training Centres (FTCs) from Republic of Kenya, Ministry of Agriculture, through Agricultural Extension Services Division Headed by farmers Training Services Branch visited KATC on 11th – 14th April, 2005 with the following goals and aspiration to;

- Understand the programmes offered by KATC and learn what is relevant for their FTCs
- Improve the Management Skills of their FTC Managers (Principals) by learning from experiences of KATC Manager(s) in view of limited resources
- Learn the successful training/outreach programme of KATC, and observe the farmer to farmer field training as institutionalized in Tanzania Extension Services



Head of Farmers Training service in the Min. of Agriculture (Kenya) Mrs. Mary Mugo talking to farmers in Mombo Irrigation scheme

- Understand the role the Central Government of Tanzania plays in the management and funding of Agricultural Training Centres and compare it with the situation in Kenya for possible improvements

- Broaden thinking of their FTC Managers with a view to improving

their ability to work with stakeholders and reduce reliance on government funding as well as

- Learn, possible ways on how best to upgrade Kenya's Farmers' Training Centres.



Principals for Farmers Training Centre (Kenya) in a discussion with District Executive Director (DED) in Korogwe

Kenya Officials visit KATC (from page 5)

KATC was happy to receive the entourage from Kenya and it felt proud by seeing the approach, which was applied in the model sites including South West Kano scheme in Kenya, brought positive impact, to the farmers.

Beside the explanations and discussions with the KATC academic staff, the team had opportunity to visit Mombo model scheme, where farmers demonstrated on how the technology is transferred to one another through farmer-to-farmer extension. They also visited Korogwe district office where they had discussions with the District Executive Director and District Agricultural and Livestock Development officer on the contribution of local

government for funds and technical package to farmers in the irrigation schemes.

Although the effort of farmers to adopt



FTC principals in a field visit at Mombo irrigation scheme

the skills was appreciated by the team, they gave precaution to farmers that it could be better to have an alternative crop in the project to deal with the problems of water shortage so as to gain more income rather than relying on rice production only.

We would like to appreciate the effort made by the Director for Extension Division for recognizing the achievement and decided to organize a trip for some of FTCs Principals to come to KATC to observe the outcomes of the programme.

Agricultural Development Through Mechanization: The Contribution of KATC.

By Shauritanga, Nicolaus Nicodemus (Farming Development Section)

Agricultural development involves among others, increasing land and labour productivity. Critical to this is the substitution of improved appropriate tools and machines for human labour. In collaboration with various stakeholders, especially the Ministry of



Utilization of hand tractor power for chopping grass and other animal feeds.

Agriculture and Food Security and district councils, the Kilimanjaro Agricultural Training Centre (KATC) conducts training programmes on utilization, repair and



An operator explaining on how to use a hand tractor attachment (plough)

maintenance of tools and machineries to various clients including farmers, extension workers, agricultural machine owners and operators.

Through the Ministry of Agriculture and Food Security, the government of Tanzania imported a good number of hand tractors, commonly known as power tillers, in her efforts to promote the hand tractor utilization technology. This type of tractor has become very popular especially in rice growing

areas like Mbarali, Moshi, Kilombero and Mvomero and the demand for these tractors is increasing. But the main problem hindering utilization of this new technology has been identified as inadequate repair and maintenance skills. To respond on this, the ministry of agriculture requested KATC to organize a training programme on utilization, repair and maintenance of hand tractors for district mechanization officers from fourteen (14) districts namely; Biharamuro, Geita, Handeni, Igunga, Kahama, Magu and Mbalali. Others were Moshi, Muleba, Sengerema, Singida, Sumbawanga, Tabora both rural and municipality, and Urambo. During their closing ceremony, the participants promised to be the good ambassadors of KATC for its contribution to the national agricul-

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Agricultural Development Through Mechanization: The Contribution of KATC. (from page 6)

tural development strategies through utilization of appropriate tools and machines. KATC therefore, invites the public to utilization of its material and hu-

man resources so as to improve theoretical and practical understanding of the utilization of various farm tools and machineries, especially for rice cultivation.

The course participants learning on how to use hand tractor power for milling.



Re: Farmers Training at Mwega Irrigation Scheme

A letter from Zonal Irrigation Engineer (Morogoro Irrigation Zone)

Being one of the stakeholder of KATC phase II our office was involved in follow-up of farmers training stage II at Mwega irrigation scheme from 12 - 16 April 2005.

Our participation revealed that the training had brought big impact in improving agronomic practices for rice and some improvement in scheme management. Farmers know how to prepare crop calendar and action plan although more efforts are needed through extension workers and district council to make a close follow-up to implement their action plan. We observed that approximately 75% or more of the farmers



KATC trainers observing the intake at Mwega irrigation scheme

all rice farmers at Mwega irrigation scheme feel the impact of KATC phase II training program.

Our office will extend the necessary assistance to make sure that the training offered by K.A.T.C brings the desired impact by increasing rice yields and improving farmers livelihood at Mwega irrigation scheme.

We wish you all the best.

improve water distribution in the scheme to alleviate this problem. Together with the above observations, we would like to suggest the following:

We observed that farmers conduct spacing trial of 30 x 10 cm, 30 x 15 cm and 30 x 20 cm under the guidance of KATC. In the current situation, farmer select any of the above spacing using different varieties and crop management practices which will complicate the interpretation of the results to arrive at final spacing to be used by all farmers. We therefore suggest that KATC conduct spacing trial at Mwega irrigation scheme alongside with farmer's trials and later on recommend appropriate spacing for the particular set of varieties.

We also observed that farmers are conducting fertilizer rate trial. Like spacing trial, we suggest that KATC conduct a trial that will integrate space, variety and fertilizer rate.

We highly commend for the good job done so far and it is evident that



KATC trainers discussing with Kilosa District Agricultural and Livestock Development Officer Mr. C. Milaho (center) on cost sharing matters at Kilosa

transplant using spacing and fertilizer rate recommended by KATC. Likewise, many farmers are using push weeder (rotary weeder) for weed control that has also been found to improve rice yields elsewhere although its success is confronted by other factors like irrigation water availability. Our office will however work to



A female Key-farmer and her intermediate farmer in front of their demonstration plot at Mwega irrigation scheme

A.G. Ruhangisa
Zonal Irrigation Engineer
Morogoro

A.G. Ruhangisa
Zonal Irrigation Engineer
Morogoro

Basic Cultivation Techniques That Suit Farmers Needs and Circumstances as Introduced by KATC II Project

By Waziri Mwinji (Rice Cultivation Section)

It has been evidenced through many occasions that, introduction of simple and appropriate technologies to the rural farming communities is the key to sustainable farming development.

Regarding the overall objective of KATC phase II project of increasing rice yield per unit area in irrigation schemes, baseline survey was conducted before the actual implementation of the project. The survey aimed



Using locally made hand compactor

at identifying possible limitations and problems facing farmers. From that exercise, many farmers all over the six selected model sites revealed the following short falls;

- Low average yield per unit area
- Resource constraints
- Limited knowledge and skills on improved rice cultivation techniques.

In order to achieve the project objectives, emphasis was therefore put on addressing these problems by designing the training package, which com-



Using a push weeder

plies with the farmer's level of understanding as well as their economic situations. The characteristics were as follows;

Simple to learn and adopt

The techniques were put as simple as possible in such a way that farmers can pick them quite easily. Farmers were able to prepare seeds by using simple techniques. Some of the techniques were; use of salt solution to separate filled and unfilled grains, introduction of line transplanting using ropes and simple measuring sticks. In addition, for effective and timely weeding, appropriate hand-weeding tool like push weeders were encouraged. Use of threshing stand also was introduced where farmers were able to thresh their produce fast with minimum grains breakages and wastage.

Cost effective

Most of the techniques were designed to be less costly with respect to materials required, time, etc. Farm-

ers themselves using locally available materials can easily fabricate push weeders and threshing stands immediately after the learning exercise. Push weeder reduces time required for weeding as well as reduction of workload. Farmers were encouraged to produce their own seeds by using simple techniques. All of these lead to substantial reduction in operation cost.

Environmentally friendly

• In weed control

The use of push weeders substituted herbicides in controlling weeds while the use of Azolla has proved to have multiple benefits ranging from weed suppression, adding of nutrients in



Farmers using wooden hand leveler

the soil and reducing evapo-transpiration.

• Insect pests and diseases

Cultural control methods like field and irrigation canal cleaning was very much encouraged to control diseases and insect pests like Rice Yellow Mottle Virus, etc, and insect vectors in favor of insecticides.



Threshing paddy by using wooden paddy threshing stand



Puddling by using locally made animal drawn puddler

