

資料-3 合同委員会への活動報告

A REPORT ON THE ACTIVITIES SINCE THE COMMENCEMENT OF THE MWEA IRRIGATION
AGRICULTURAL PROJECT AS PRESENTED TO THE JOINT STEERING COMMITTEE ON
19TH NOVEMBER, 1991

1.0 INTRODUCTION:

The Japanese Technical Cooperation for Mwea Irrigation Agricultural Development Project started on 1st February, 1991, on the basis of the Record of discussion signed on 27th November, 1990, between the Permanent Secretary, Ministry of Regional Development and the Japanese Implementation Survey Team.

The main objective of the MIAD Project is to develop appropriate techniques for irrigated rice cultivation and transferring these techniques to the staff of National Irrigation Board and key farmers.

The other activities were as follows:

(i) 4th June, 1990: Ground-breaking ceremony signaling the commencement of stage 1 which included the establishment of the Pilot Farm.

The Guest of Honour at the ceremony was the Minister for Regional Development, Hon. Onyango Midika, with his Excellency the Japanese Ambassador, Mr. Kumagai also present.

30th May, 1991: Handing over ceremony of MIAD Project to the National Irrigation Board presided over by the Permanent Secretary, Ministry of Regional Development, Mr. D. Mboya.

2.0 STAFFING POSITION

2.1 JAPANESE EXPERT PERSONNEL

<u>NAME</u>	<u>DESIGNATION</u>
Mr. Shigenobu Murao	Team Leader
Mr. Masato Tamura	Co-ordinator
Mr. Toshinari Ota	Rice Cultivation Expert
Mr. Naoji Uchiyama	Water Management Expert
Mr. Akira Yoshida	Farm Machinery Expert
Mr. Yoshihiro Ozawa	Irrigation and Drainage Expert

2.2 COUNTERPART PERSONNEL

<u>NAME</u>	<u>DESIGNATION</u>
Mr. Moses Agot	Officer In Charge
Mr. Hebron Adoli	Farm Machinery
Mr. Simon Kamundia	Irrigation and Drainage
Mr. S.N. Alukonya	Training

<u>NAME</u>	<u>DESIGNATION</u>
Mr. Mohammed Abdullahi	Water Management
Mr. Raphael Wanjogu	Rice Cultivation
Mr. William Cherutich	Accountant
Mr. Charles Kiruthi	Administrative Assistant

2.3 JUNIOR AND SUBORDINATE STAFF

Field Assistants	4
Junior Medical Technician	1
Copy typist	1
Stores Clerk	1
Watchmen	4

The number of staff in the Junior and Subordinate categories are set to increase with increased operations in the Pilot Farm.

3.0 FEATURES OF PILOT FARM

3.1 BUILDINGS

Office Block
 Training Block
 Laboratory
 Workshop
 Multipurpose Store

3.2 FARM

The farm is 35 ha subdivided into 106 paddy blocks of 40 x 100 m.

4.0 SECTIONAL REPORTS

4.1 FARM MACHINERY

The farm machinery section has been involved in the land preparation exercise in the Pilot Farm. Dry Land preparation was practised with disc ploughing, harrowing and ridging.

4.2 RICE CULTIVATION

Two ha was used for preliminary trials.

The following trials were set up

1. Aromatic Variety Trial
2. Crop Maturity Trial

3. High Yield Trial

4. Large scale trial on three of the current commercial varieties i.e. BW 196, Sindano and Basmati 217

4.3 WATER MANAGEMENT

This section has been involved in site investigation at the Pilot Farm, Thiba main canal, and parts of Mwea Irrigation Settlement.

The objective of this exercise is to draw up an inventory of existing hydraulic structures to confirm their adequacy for the designed objective.

Attached to this report are some findings and recommendation from the Water Management Expert.

4.4 IRRIGATION AND DRAINAGE

This section was involved with the water management section in site investigation during the first few months from May.

During the transplanting of rice in the Pilot Farm, the fields were observed to be not level.

This section will be involved in levelling the fields immediately after the discussion on TSI so that the other sections can carry out their programmes without problems.

4.5 TRAINING

Training activities for NIB staff and key farmers will start in earnest from April, 1992.

5.0 SHORT-TERM EXPERTS

The first short-term expert received at the Project was Dr. Kikuo Wasano. This was from 3rd August, 1991 to 26th August, 1991. He is a Professor of rice breeding from Saga University in Kyushu. He came specifically to advice on cold tolerance breeding work.

The next short-term expert is Mr. Asao Tanaka. He came on 10th October, 1991 and he is still around upto 4th December, 1991. He is going to conduct agro-economic survey within the Scheme and also with farmers outside the Scheme.

6.0 GRANT AID EQUIPMENT

The grant aid equipment for the Pilot Farm was received from the middle of October, 1991.

6.1

FARM MACHINERY

- Farm Tractor (Kubota) 60 PS 4 x 4 Drive
- Hand Tractor 10.5 PS class
- Disc Plough
- Chisel Plough
- Disc Harrow
- Rotary Tiller
- Drive Harrow (for paddy use)
- Cage Wheel
- Float Strake
- Broadcaster
- Rotary Cutter
- Subsoiler
- Reaper
- Sprayer (Tractor mounted type)
- Carpet Duster (Tractor mounted type)
- Knapsack Sprayer
- Crawler Type Tractor 65 HP class

6.2

METEOROLOGICAL EQUIPMENT

- Recording Rainfall Gauge
- Thermo-hydrograph Meter
- Large-scale Evaporimeter
- Sunshine sensor and Recorder
- Solar Radiation Recorder
- Fuess - type Maximum - Minimum Thermometer
- Instrument Shelter
- Measuring supporting pole
- Windvane and Anemometer

6.3 WORKSHOP EQUIPMENT

6.4 OFFICE EQUIPMENT

- Photocopy Machine

- Facsimile

7.0 TECHNICAL EXCHANGE

From 4th November, 1991 to 7th November, 1991 some of the experts and the counterparts visited Kilimanjaro Agricultural Development Project (KADP) in Moshi, Tanzania.

The following were in the trip:

Mr. Akira Yoshida

Mr. Masato Tamura

Mr. Toshinari ota

Mr. Yoshihiro Ozawa

Mr. Moses Agot

Mr. S.N. Alukonya

Mr. Hebron Adoli

Mr. Simon Kamundia

During the visit, the different sections of the MIAD team discussed and exchange technical information with the KADP team. The experience was quite rewarding considering that KADP has been in operation for some time now.

8.0 CONCLUSION

After the signing of TSI, it is hoped that the various sections will now endeavour to accomplish the work ahead within the specified period. For this to be achieved maximum cooperation will be required from all the parties concerned.

Mr. Shigenobu Murao Team Leader

Mr. Moses Agot Officer In Charge

31/10/1991

Recomendation on operation of Thiba main canal

I have concluded from my observation that the operation method of Thiba main canal at this moment is in a dangerous condition especially during rainy season. So I think that it is my obligation to inform of you my opinion.

The danger is overflow over the bank of the main canal which might make serious damage to downstream. The most dangerous points are just upstream of the turnout to the pilot farm or the Parshall flume upstream of the turnout where the freeboard is always less than 50 cm from my observation.

You should watch the water level to prevent from the overflow whenever you change the discharge in the canal and also during flooding period. Otherwise you cannot control the water level adequately.

Therefore I shall recomend to you the next two points.

1. To post men in charge (water guards) at Thiba headworks for watching the water level in the river and operating the gates, and upstream of the turnout for watching the water level, all day even if it is during night in flooding period.

It is nessesary to set projectors there and also a watchhouse upstream of the turnout.

2. To set a radio station at MIS H.Q. and walkie-talkies at each place mentioned above with emergency power supply because the man who decides the operation of the gates should be the head water guard according to the organization map of MIS.

And another reason is that nobody can come and go along the canal during rain even by Land rover and blackouts often occur during rainy season.

Futher more, I think that wakie-talkies should be set at the end of the main canal and the beginnig of Karaba section in order to secure sufficient irrigation water supply to Wamumu section and Karaba section.

Naoji UCHIYAMA

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

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160 JAPAN

R e c o m m e n d a t i o n

The Japanese Consultation Survey Team has surveyed activities of the Mwea Irrigation Agricultural Project during its stay and come to realize that the project is progressing successfully under good management of both the Japanese and Kenyan sides.

The Team, however, has found some points to be improved on the technical cooperation for the project. Therefore, the team would like to recommend the followings.

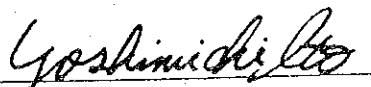
I. Recommendation to Japanese side

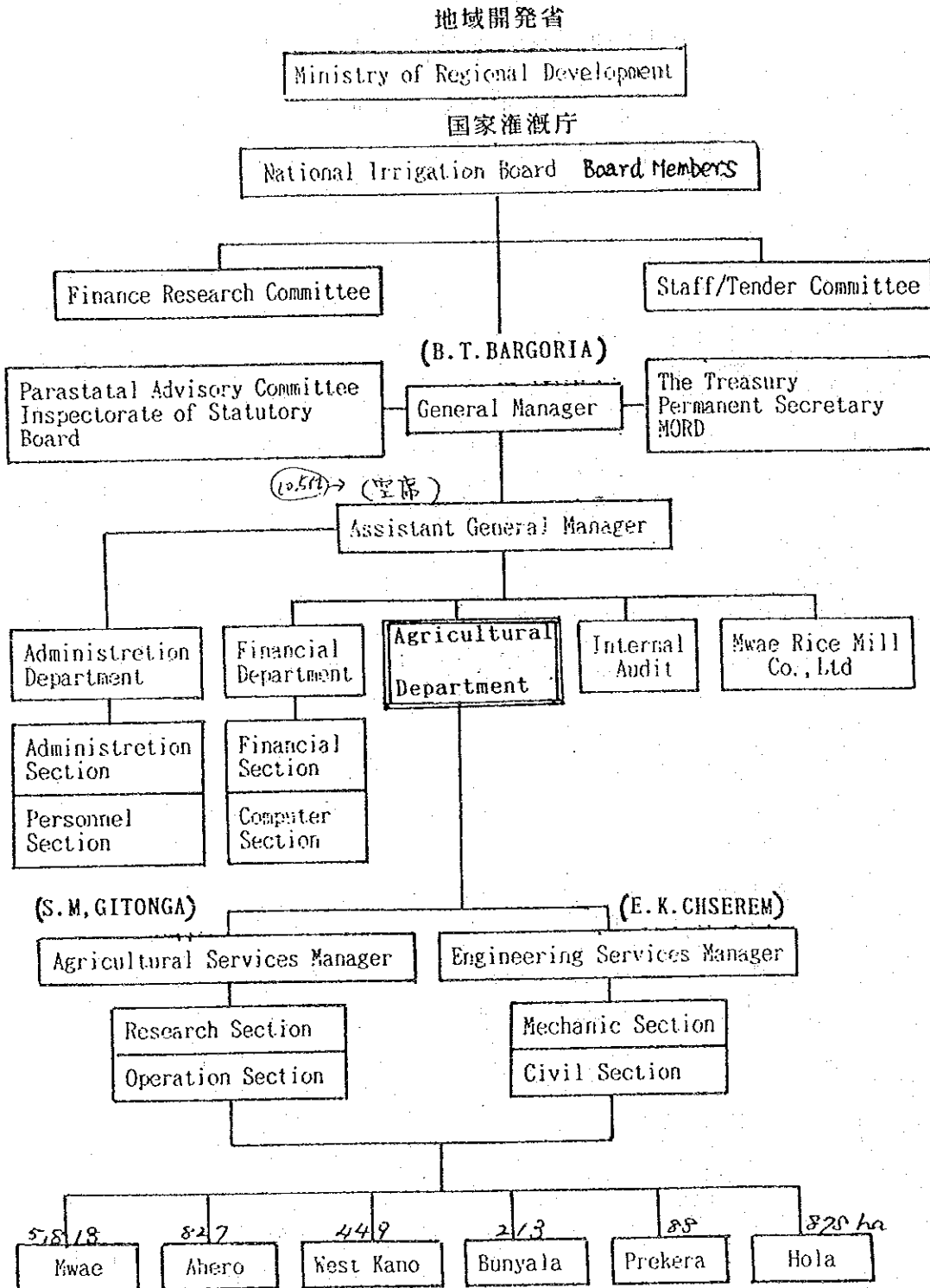
Urgent provision of technical cooperation machinery and equipment

II. Recommendation to Kenyan side

1. Taking measures for speeding up JICA official forms (A₁, A₂₋₃ and A₄) process
2. Providing the project with adequate operational funds once security at MIAD is ensured
3. Assistance for preparing a trainees' dormitory, furniture and catering facilities to be used by the trainees
4. Assignment of a counterpart personnel for coordinating work^(*) in the NIB headquarter
 - a. Coordinating work for processing JICA official forms
 - b. Coordinating work for technical cooperation equipment clearance
 - c. Recruitment of the lecturers as well as the trainees for the training courses (outside MIS area)

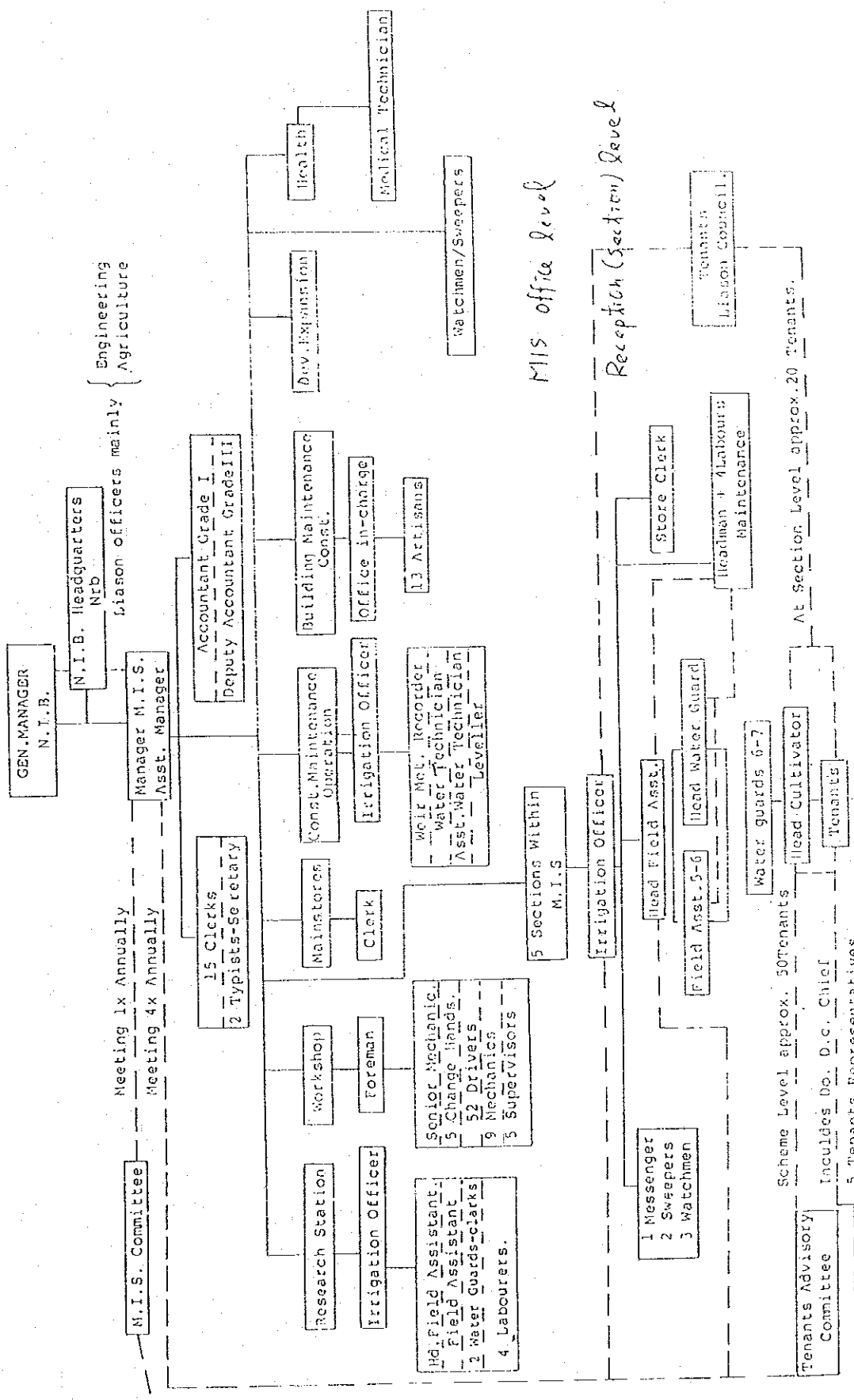
November 19, 1991


Yoshimichi Ito
Leader,
The Japanese Consultation
Survey Team, JICA



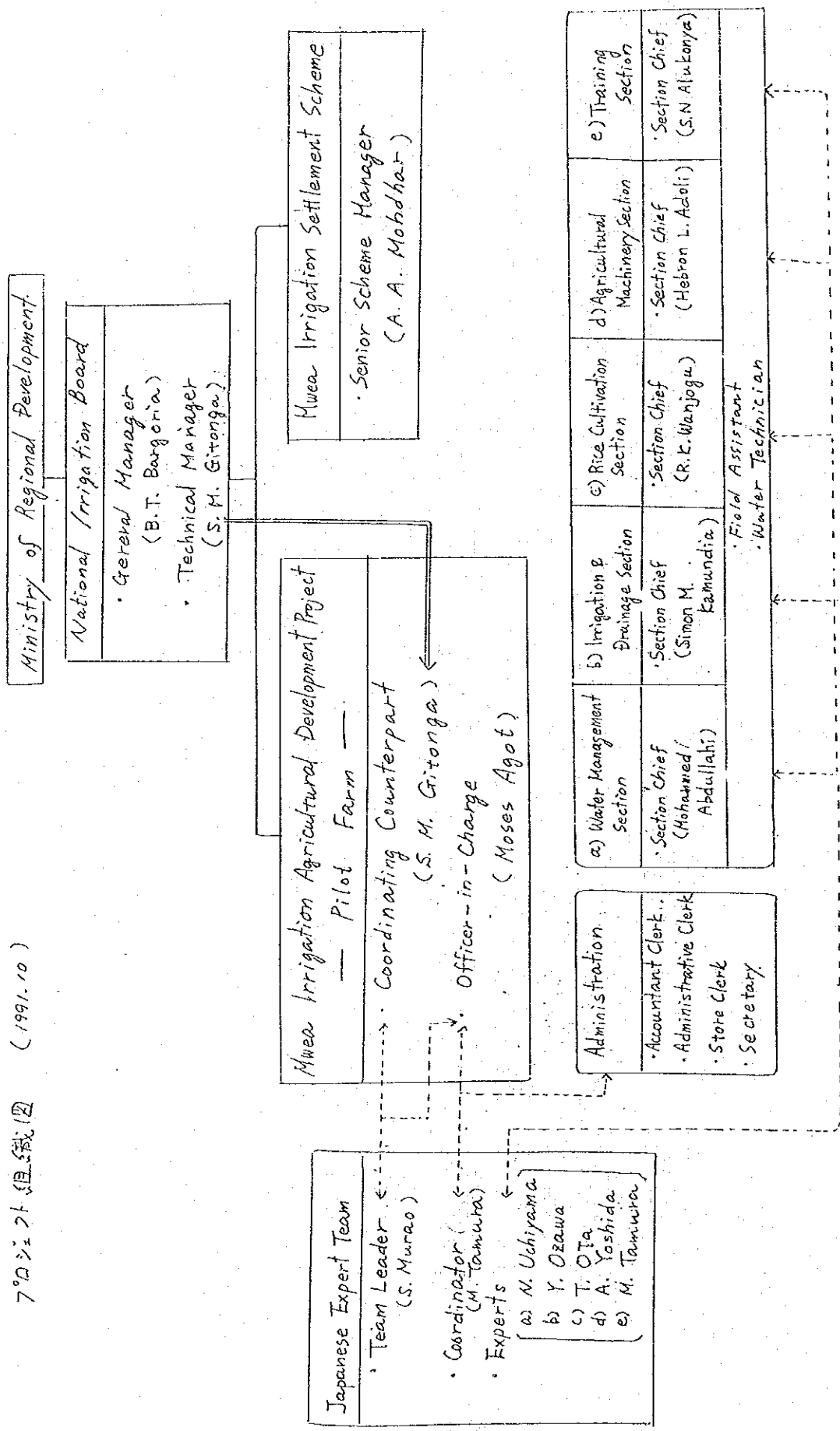
灌溉面積
計8,305Ha

National Irrigation Board 組織図



MWPA IRRIGATION SETTLEMENT ORGANISATION CHART.

70ジツヲ組織図 (1991.10)



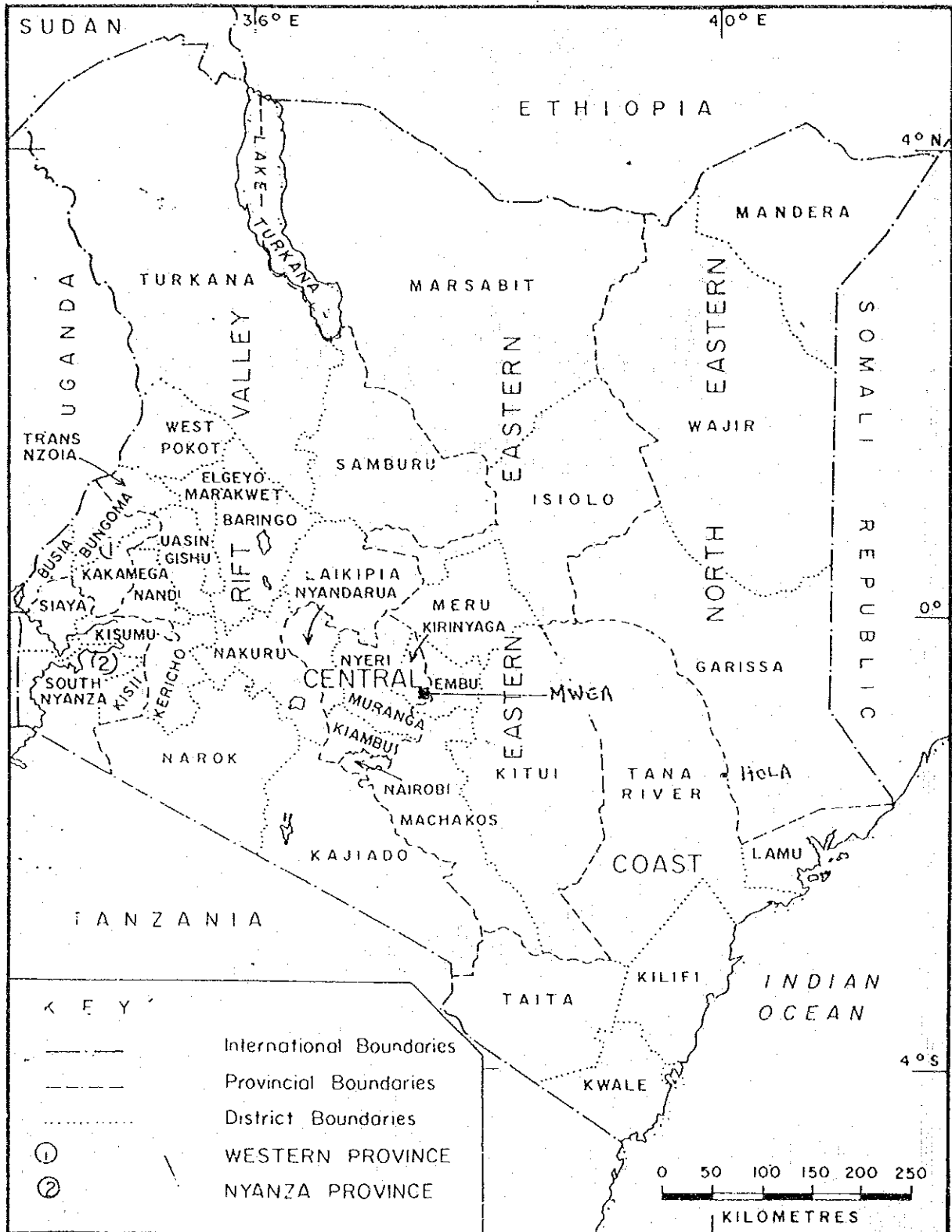
..... : Counterpart

N.I.B.

**Mwea Irrigation
Settlement**

Handout

MAP OF KENYA



NATIONAL IRRIGATION BOARD
MWEA IRRIGATION SETTLEMENT

LOCATION AND HISTORY:

The Mwea Irrigation Settlement is situated approximately 100 Km. North East of Nairobi on the foot-hills of Mount Kenya, at an altitude of 1,159 metres above Sea Level and latitude 0°- 40' South.

The History of this now very productive and internationally known Scheme is fascinating and perhaps little appreciated even in Kenya itself. One outside observer has summarised its reputation abroad as "the oldest, largest, and most successful irrigation Project in Kenya (Blume 1971)". Since, with the notable exception of Gezira in the Sudan, there are few other examples of clearly successful irrigation Schemes in Africa, it is not surprising that Mwea has become the object of several technical studies. To the technical expert the Scheme offers a model of a highly successful production system that combines strongly centralized management with the attainment of relatively high rice yields by slightly over three thousand farmers year after year.

Today some 75 - 80% of Kenya's rice production comes from the Mwea Irrigation Settlement. Few people realise that the area which now feeds the bulk of Kenya's growing rice eating community actually used to be a mosquito-ridden swamp, sparsely populated and that it infact started as a detention camp for Mau Mau detainees and only became a rice-producing project by accident.

In 1948, somebody in the Colonial Office had begun to think a little more seriously about the development of rice growing in Kenya particularly in the Tana River Basin. Indeed the Colonial Office East African Rice Mission of 1948 had reported discouragingly on prospects for irrigated rice in the upper Tana Basin.

In 1949, a District Agricultural Officer in Embu, one Leslie Brown, was one of the first people to start black soils irrigation experiments with rice near Nguka Swamp, in the same year that the Mwea Development and Reclamation Scheme was being put forward.

In 1951, an African Land Development Organisation (ALDEV) survey suggested that 3,000 - 6,000 acres of the area might indeed be suitable for irrigation. The Declaration of Emergency in 1952 and the decision to set up a Detention Camp in Mwea shortly thereafter in 1953 not only eased the minds of the British Colonial Security authorities but also gave the agricultural authorities renewed hope for the realization of an irrigation Scheme in Mwea.

With the labour provided by the detainees, canal digging and construction of the infrastructure proceeded fast and the reclamation of Mwea became a distinct reality. In the wake of this now changed situation, further surveys followed, - in 1954, and the pendulum swung completely the other way with a much more optimistic suggestion that some 40,000 acres might be irrigated and 10,000 - 12,000 families settled. In the same year, the Swynnerton Plan estimated an expenditure of £150,000 over a period of 5 years on the Mwea/Tebera Irrigation Scheme.

In 1955, in response to urgent needs, Staff were progressively posted into the Scheme, some including the first Manager, working for ALDEV and some for the Ministry of Works (MOW) formally known as Public Works Department (PWD). Co-ordination was made difficult by the residence of Staff in different camps, and under pressure for quick results departments were driven to compete for resources resulting in the formation of a Mwea/Tebera Irrigation Scheme Committee, with the District Commissioner as Chairman, and a Joint Committee in Nairobi to co-ordinate departments. In this year the Nguka Swamp was drained and the layout of the one acre fields begun. It also saw the arrival of the first potential tenant farmers and the planting of rice on black cotton soils. The Red Soils presented problems due to high degree of percolation and were later left out.

In 1956, the Tebera Headworks on the Nyamindi River was completed and the rice crop realised an encouraging £7,000. The Mwea Division was formed and a District Officer posted. With this renewed momentum, the expenditure rose sharply (£364,000 by middle of 1957/58 Financial Year) and despite cutbacks, the Thiba River Headworks was completed in 1957.

In 1963, a small surplus of revenue over expenditure was used to develop 391 acres but outside financial assistance was needed for large scale expansion. Thanks to the United Kingdom Freedom from Hunger Committee who in the same year granted £163,000 for a further development of 2,000 acres completed in 1967. And towards the end of 1967 the West German Kreditanstalt fur Wiederaufbau (KfW) agreed to a £107,000 loan for a further extension of 3,000 acres and for the construction of a new Headquarters at Wanguru, which was completed in 1971.

From then onwards, the Scheme proceeded from strength to strength resulting in the establishment of the National Irrigation Board (NIB) as a statutory body by an Act of Parliament in 1966 with a General Manager. The Board was of course responsible for all irrigation Schemes in the Republic. Incidentally, the other two pioneer Schemes which also started as detention camps were the Hola and Perkerra Irrigation Schemes though neither was involved with rice growing.

Today, the Mwea Irrigation Settlement covers an area of 30,000 acres (12,140 ha). The Irrigation water is tapped from the Nyamindi and Thiba rivers and fed to the Scheme by gravity. The run-off from both Catchments is relatively high with a minimum flow in each river seldom falling below 100 cusecs (2.83 cubic metres per second). The soils consist of (a) free draining reddish brown lateritic clay loam (Red Soils) and (b) impermeable montmorillonitic clays, with about 80% clay (Black Cotton Soils). Rice is solely cultivated on the black cotton soils.

WEATHER:

The annual rainfall over the past 20 years has varied from a maximum of 1,626 mm to a minimum of 356 mm (averaging 950 mm/year). Maximum precipitation takes place in April/May (Long rains) and October/November (Short rains). The average maximum temperatures are in the range of 16°C in the cooler months (June to August) to 26.5°C. Relative humidity varies from 52 - 67%. Radiation is especially low in July and August (about 390 cal/cm²/day) and Sunshine duration ranges from 3.7 hrs/day in July/August to 10.1 hours/day in January/February period.

SCHEME LAYOUT:

The Scheme is divided into 5 Sections: Tabere Section producing paddy on 3,130 acres; Mwea 3,012 acres; Thiba - 2,833 acres; Wamumu - 2,766 acres and Karaba 2,640 acres. (See Maps attached)

The total acreage under paddy production is 14,381 leaving 15,619 acres to be utilized for farmers villages, schools, dispensaries, business plots, Church plots, roads, swamps and red soil patches for rainfed subsistence farming.

SETTLEMENT DATA:

There are 3,240 farmers with their families settled in the Scheme each growing rice on basic holding of 4 acres (1.6 ha). All the farmers live in 36 Villages on the Settlement and each Village is located as centrally as possible in relation to the farmers holding.

The majority of the farmers have been recruited from Kirinyaga District in the Central Province with varying percentages from Nyandarua, Nyeri, Muranga, Kiambu and Embu Districts. The qualifications used for admission to the Settlement are landlessness and unemployment. Agricultural competence has never been used as a criterion for selection. None of the farmers had any previous experience in rice cultivation. Today the Settlement provides livelihood directly or indirectly to an estimated 50,000 people.

AGRONOMY:

All rice is manually transplanted. The first variety used was high yielding Sindano, a medium to long grain variety. Basmati (an aromatic) variety also known as 'Pishori' was introduced for commercial production in 1972 but its yields are consistently lower than Sindano, although this is more than made good by the higher market prices that it fetches. Other varieties which are grown commercially include BW 196, IR 2793 and IR 2035 to a lesser extent.

Initially, the Scheme went through a difficult period and rice production was only stabilised after adoption of single cropping system. Rice grows best in the Short rains season lasting between July and March. The long rains period is a period when Mwea experiences low daily mean temperatures and few sunshine hrs/day and it has been observed that when rice grain setting coincides with low daily mean temperatures, and few sunshine hours there is a higher rate of spikelet sterility which reduces the yields by as much as 50 - 70%. At the same time the costs of growing a second crop are significantly increased because of higher inputs, manpower and machinery requirements. Attempts to double crop since 1975 have therefore been unsuccessful.

Each farmer has on his holding a permanent nursery area of 1/8 of an acre. Upto 1961 a system of communal nurseries was used but the system was abandoned in favour of individual nurseries due to high seedling mortality and extensive wastage of plants. The nurseries are cultivated manually and insecticides and fertilizers applied as recommended. A seed rate of 75 Kg. per nursery is used and the seed is pre-germinated before sowing. This is enough seed for the farmers' holding of 4 acres. Seedlings are transplanted when about 4 weeks old at a recommended spacing of 4" x 4" (10 cm x 10 cm) at single plant/hole.

Cultivation of paddies prior to transplanting used to be carried out in two stages. The land was ploughed, flooded and puddled by a laborious and not so efficient method involving the use of animal-drawn, tineless levelling boards. In 1960 mechanical land preparation was tried with great success and subsequently adopted throughout the Settlement.

Currently, land preparation is carried out by flooding the fields to a depth of 4" and then cultivating them by use of 30 tractors (40 - 75 HP) equipped with rotavators. The fleet takes 126 working days at the rate of 479 acres per tractor to complete the area.

At transplanting, Tripple Superphosphate (TSP) fertilizer is applied as basic dressing at the rate of 50 Kgs/acre field.

A split application of Sulphate of Ammonia (21%N) or ASN (26%N) is applied at transplanting and then at 35 days after transplanting making a total of 100 Kgs - 200 Kgs per acre depending on the variety of rice grown.

Irrigation water is maintained at about 1/3 of the plant height during the growth period. About 3 weeks before cutting the crop the fields are drained to enable harvesting to be done on dry fields.

The crop is cut by means of a sickle at 18-21% moisture content, threshed, winnowed and bagged manually by the farmers. The Settlement collects the crop from the field into the 5 Reception Centres at Mwea, Tebere, Thiba, Wamumu and Karaba where it is weighed, cleaned and sundried to 14% moisture then rebagged to a standard weight of 75 Kgs. net.

PESTS AND DISEASES:

The only pest of economic importance in a single cropping system is the leaf miner (*Hydrellia* sp. and *Asperia* sp.) Minor infestation of White Stem Borer (*Maliarpha* sp.) and other leaf eating insects eg. Stalk-eyed fly (*Diopsis* sp.) have also been observed. These have previously been controlled by spraying with DDT 25% but currently controlled by Sumithion 50% EC. at 0.4 L/acre and/or Carbofuran 5G (Furadan) at 4 Kgs/acre.

Quelea birds come in large numbers at the time of grain filling and during harvesting. Continual scaring is the responsibility of individual farmers, in a normal year this keeps the problem under control. If the birds reach epidemic proportions, they are then controlled by aerial spraying carried out by the Desert Locust control team under the Ministry of Agriculture. The birds are sprayed with Queletox (Fenthion).

No disease of economic importance has been reported under single cropping regime.

Under double cropping system insect pests and diseases such as Stem Rot build up quickly and become of major importance. Also Quelea birds which are normally migratory, quickly become resident as continuous supply of food is available.

MILLING OF PADDY:

All the Mwea paddy is milled by the Mwea Rice Mills Ltd., (MRM) which was established in 1967 and extended in 1972. At present it has 4 mills with a total milling capacity of 14 tonnes per hour. This is the only major rice milling enterprise in the Country.

The Mwea paddy mills fairly well with a mean recovery of 63% for most varieties of rice. The paddy is highly regarded by the millers because of its uniform quality and purity.

The MRM Ltd., is jointly owned by the Mwea rice farmers (45%) through their Co-operative Society and National Irrigation Board, on behalf of the Government, owns 55% shares.

INPUTS, SERVICES AND CHARGES:

The Settlement maintains stocks of all farm inputs (e.g. seed, fertilizers, insecticides, gunny bags, etc) which are supplied to the farmers. Also the Settlement provide the farmers with services of a pool of mechanical equipment (excavators, tractors and vehicles) and organises spraying teams to carry out necessary pests control measures. Transport and drying facilities for the crop are also provided.

All the inputs and services (Land preparation, maintenance of irrigation canals, roads, and other physical infrastructure) are charged against the farmers' crop and debited to his account maintained at the Scheme. Charges are always at cost since NIB is by definition a non-profit making body. Land preparation charge constitute the only source of revenue to the Scheme.

CROP YIELD AND INCOME:

On average a total of 375,065 bags at 75 Kgs. (28,129 metric tonnes) paddy worth KSh. 5,667,832 is produced annually. This is a worthy contribution by any standard considering that the area produced not a single grain of rice some 35 years ago. The average paddy production has slightly declined within the period (1980/81 - 1989/90) comparable to the period (1970/71-(1979/80). This is mainly as a result of the Scheme increasing the acreage under Basmati and reducing the acreage under Sindano and Sindano related varieties.

The Mean yield of paddy has been about 27.2 bags of 75 Kgs. per acre realizing a net income to the farmer of KShs.4,750 per acre or KShs. 19,000/= per holding of four acres (1989/90 crop). This income is net of all charges but does not take into account the cost of the farmers labour. Each farmer is normally allowed to retain for home consumption 12 - 14 bags of paddy, worth KShs. 3,300/= - 5,000/= depending on variety. This amount would conveniently cover any labour expenses incurred by the farmer. Yield figures given above do not include paddy retained by farmers.

The entire crop from the Settlement used to be sold to the National Cereals and Produce Board which from 1968 milled the crop over a period of 11 months and distributed the polished rice throughout the Country. But from 1988 the paddy remains the property of National Irrigation Board and on behalf of the farmers undertakes the milling and later sell the polished rice to Government appointed agents like NCPB and/or KNTC.

SOCIAL:

Farmers settled before 1963 were provided with free houses in one of the Villages already referred to. Later settlers were encouraged to build their own houses by means of a bank loan of K£50 or more repayable over a period of 3 years. In 1970, a new system was introduced in which new farmers were given bank loan of K£. 100 to build themselves a standard designed mud-block houses repayable in 5 instalments. This was to cultivate a degree of commitment. The loan premium was progressively increased to K£. 200 and eventually to K£. 250 in 1985. The loans are however given in kind i.e. in building materials such as iron sheets, nails and timber.

The Ministry of Health initially carried out anti-malaria measures in the Settlement but w.e.f 1971 the N.I.B. took over the exercise. The measures have been very successful for, despite the highly favourable ecological conditions, incidences have been trimmed to negligible proportions.

In conjunction with D.V.B.D. of Ministry of Health, the Scheme is carrying a similar campaign against Bilharziasis with a remarkable success.

In 1964 a 'Tenants' Thrift Society' (later named Mwea Credit Co-operative Union and eventually Mwea Amalgamated Rice Growers Co-operative Society) was formed. By 1971 about 89% of the farmers had joined the Society and were, through a check-off system at the Scheme, contributing voluntarily a sum of over K£ 140,000 to the Society per year.

From 1983/84 all Society members (98% of the rice farmers) were paid their final crop proceeds and/or MRM's dividend directly through their newly established Banking Section of the Society, amounting to over K£2,000,000. each year. The Society, on the other hand, continued to subscribe and increase its shares at the MRM from 40% - 45% (1989), and effectively look after farmers economic interest and welfare.

GENERAL:

1. As stated earlier the Settlement has been most successful and viable in its operations. In production it has been able to consistently achieve high yields and production (averaging 375,065 bags/year) except for climatically adverse years such as the drought affected year of 1984/85 when total production fell below 368,000 bags and in the 1985/86 Season due to the double cropping programme.

2. RED SOIL PROJECT:

At the inception of the Scheme, some 37 years ago, it was anticipated to develop and irrigate both Red and the low-lying Black soils. Hence fields and canals were laid out on both areas in Tebere Section, but due to high infiltration rates of the Red soils, cultivation of paddy rice became difficult and uneconomic. Since there was very little known on the soils irrigation characteristics and their cropping possibilities the Red soils were eventually abandoned in 1958.

In 1979 NIB initiated a pilot-project at Unit T3 in Tebere Section involving 44 grown up children of the rice farmers. The Scheme assisted the farmers to grow 66 ha. of subsistence crops, under rainfed conditions, by providing machinery for land-preparation and farm inputs on credit basis. Yields of maize, beans and other crops have been reasonably good during long rains seasons but unpredictable during short rains. It is, however, clear that the Red soils have great potential and marketing opportunities which were virtually non-existent in earlier years, have now considerably expanded.

3. MWEA DEVELOPMENT PROJECT:

In 1985 the Kirinyaga District Development Committee (DDC) approved NIB's proposal to carry out a Feasibility Study on the Mwea Irrigation Development Project. The study was started in January 1987 by Japan International Co-operation Agency (JICA) and concluded in early 1988.

In June 1989 the Governments of Japan and Kenya signed a credit pact for the implementation of the proposed project in February/March 1990. The Government of Japan agreed to provide financial assistance on Grant Aid basis (approx. K&S9,350,000) and also Technical Co-operation for the project.


The objectives of the project were (a) Rehabilitation of the existing Mwea Scheme covering some 6,000 ha. (b) Development of the red soils in the existing Scheme.

(c) Development of a Pilot farm covering an area of 50 hectares for research and training purposes and (d) Development of the Mutithi Extension area covering 4,000 ha.

The above measures are expected to significantly increase rice production in the Scheme. And to contribute greatly in the reduction of importation of rice, thereby help the Country save the much needed foreign exchange.

Stage-I of the Project which included (i) Rehabilitation of Thiba Headworks, Link Canal - II and Thiba Main Canal, (ii) Construction of the Pilot Farm with its Office buildings and Residential quarters and (iii) Provision of 24 Agricultural Tractors, some O & M Equipments; was successfully completed in April, 1991. Land

Stage-II which involves the construction of the new Nyamindi Headworks, Headrace, Link Canal - I, Nyamindi diversion works and Tebere Main Canal as well as procurement of O & M equipment and Farm machinery for the Pilot Farm, is in progress (September, 1991) and on schedule.



A. A. MOHDHAR
SENIOR SCHEME MANAGER
MWEA IRRIGATION SETTLEMENT

20th September, 1991.

NIB SCHEMES & POTENTIAL IRR. DEVELOPMENT

