

Annual Report for 2004

HIROSE PROJECT OF IITA FUNDED BY  
KINKI UNIVERSITY OF JAPAN THROUGH THE PROJECT  
LEADER OF PROF. T. WAKATSUKI  
January 2004 to March 2005

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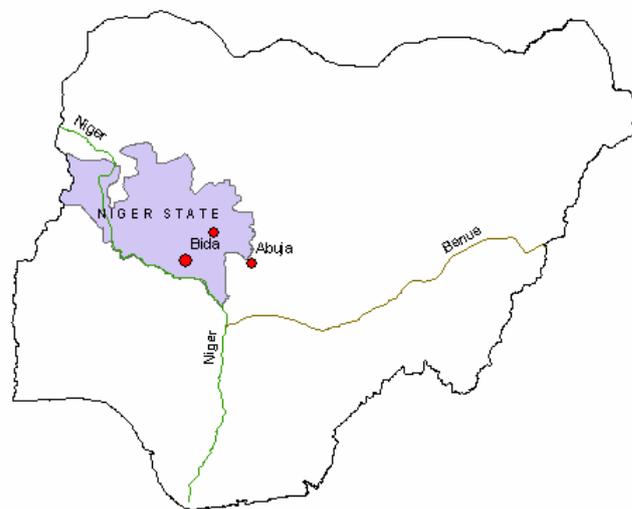
## **1.0 SUMMARY**

### **1.1 ACTIVITIES FOR 2004**

- Collection and sales of Rice for the fertilizer distributed in 2004, 100 bags of fertilizer was distributed to farmers.
- One and half (1.5) ha SAWAH Demonstration field
- One ha Seed production field of WITA 4, at Ejeti
- Expansion of hectarage on farmer's field of Sawah system technology to 10 ha from less than 3 ha in 2003.
- Collaborative work with Drs. Shiwachi / Kikuno on the introduction of Improved Yam varieties which are early maturing about 6-8 months to increase farmers income.
- Organising for the purchase, collection and distribution of fertilizer to farmers – Micro financing. 100 bags of NPK and Urea were bought.
- Establishment of Community based tree crop plantation for the upland – Mangoes.
- Collaboration with another NGO working on Rice – SHARE FOUNDATION.

## 2.0 INTRODUCTION

Niger state has a tremendous potential for Rice production. Due to Bida's geographical position to the River Niger it is blessed with an array of water channels and watersheds. To take advantage of the watershed we changed our approach and working philosophy in 2002 from 10 x 10 m demonstration plot of sawah scattered in many villages to having large hectares a minimum of 1 ha per farmer or group in



fewer villages.

The objective therefore was to have a **visible / sizeable sawah system technology** on farmer's field which shall serve as a "field school" to demonstrate sustainable sawah system technology.

Also, due to the importance of input especially fertilizer for the increase and sustenance of improved yield of rice, we took it as a challenge to source for, procure and distribute fertilizers to our collaborating farmers on a "one bag fertilizer (50kg) to one bag rice (80kg) basis," which is **micro-financing**.

In the year we were able to train more operators in the use and handling of the power tiller. The two operators from NCRI were still been used with one person from

each of the four villages were trained. During the year we were able to use two power tillers simultaneously.

In the year 2004 we had a very successful farmer's field day in November. In attendance was the Permanent Secretary Ministry of Agriculture Niger state, Chairperson NSADP, the Managing Director was represented by the Director Technical Services and other top management team, Vice chairman Gbako local government, President Rice Farmers Association of Nigeria – Niger state branch, Zonal Manager NSADP, Bida, Scientist from NCRI, other NSADP staff from Bida and Minna, farmers from different villages. During the field visit farmers spoke on how much the program had helped them. Different village representatives acknowledge the effort of the project in sawah system technology dissemination and its yield increase effect on their fields. All participating members had an increased yield with varying degree.

Land preparation started in Ejeti in the year under review due to two reasons early rains and larger number of farmers participating in Sawah system resulting in the accusation of 6.5 ha area for Sawah in Ejeti village alone. Kpatagi village was next with Sawah area of 1.5 ha next in line was Emitsundadan with about 1 ha field and lastly was Nassarafu also with 1 ha field. The land preparation started in early July and ended late August. 2004 had more rains than the last two years and it started raining early in the year. This is very important in planning the activities of the Power tillers on farmer's fields.

### **3.0 DEVELOPMENT**

#### **3.1 PRODUCTION FIELD EJETI LOWLAND**

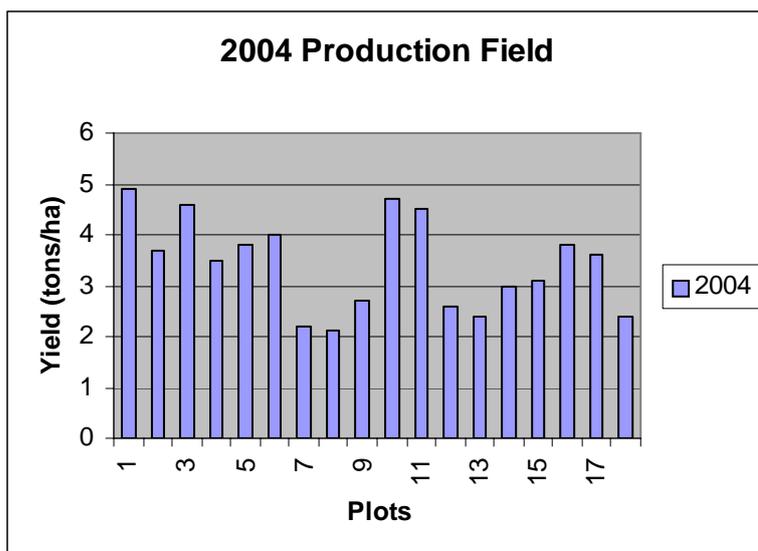
##### **3.1.1 Demonstration Field at Ejeti**

The year under review 2004 had a lot of rain – 1378.3mm when compared with the last two years – 2003 and 2002 had 918mm and 899mm respectively and the rains came early. This helped us increase our 2003 one (1) ha Production/Demonstration field to a little over 1.5 ha in 2004 and the entire field was fully utilized. The 1.5 ha field was divided into 20 plots with the smallest plot size, of 490m<sup>2</sup> and the largest is 730m<sup>2</sup>. Eighteen (18) individual plots were puddled and leveled with some plots needing more soil movement for them to be leveled. Two (2) plots were used for NERICA seed production because of their elevation. These plots were only rotavated. Yields from the WITA 4 plot range from 2.2 tons to 5 tons per ha (Fig 1). The variation in yield could be attributed to the soil movement during leveling of the plots with the lower yields from plots with the soil movement. However, plots 7, 8, 12 and 13 were badly affected with floods that occurred just about a month after transplanting, which lasted for about 2 months.

### 3.1.2 Lowland Seed Production

The production field was used for the WITA 4 seed multiplication. Because the materials are for seed (foundation seed) a great effort was done to rogue so as to maintain the purity of the seed. Off types were removed throughout the growing period and before harvest. Harvesting was done in December 2004, which gave us a physical collection of 30 bags – a little over 2 tons.

The farmers were amazed at the output from this field and it greatly encouraged them to the benefits of sawah system technology. More so when they all saw how the floods were eventually managed.



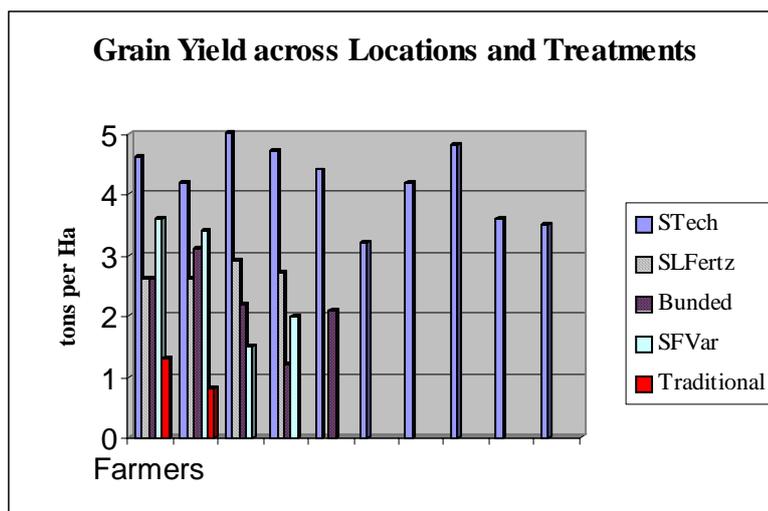
**Fig 1: Yield Result per Plot on the Demonstration Field**

### 3.1.3 Farmer's field puddled

The use of the power tiller for land preparation was concentrated in 4 villages namely: Ejeti, Kpatagi, Emitsundadan and Nassarafu with a total of 8.5 ha of sawah fields their yield range were from 3 – 5 tone per ha (Fig 2). However the total hectare puddled increased to 8.5 ha as against 2.5 ha done in 2003. Ejeti farmers' fields were 5 ha more than 50% of the puddled fields for farmers.

### 3.1.4 Farmer's unpuddled field

We could not puddled some farmer's field but they still banded and planted in straight rows and some used improved variety. There yield range were from 2 to 3.0 tons per ha (Fig 1).



**Fig 2: Grain Yield of SAWAH Technology as against other systems in 2004.**

1. STech: Sawah Technological Package i.e. bunded, puddled, leveled, improved variety – WITA 4 planted in straight rows and recommended fertilizer level – 75kg N
2. SLFertz: Sawah package with low level of fertilizer – 30 – 45kg N
3. Bunded: Bunded field without puddling but improved variety, straight row planting and recommended fertilizer level.
4. SFVar: Sawah package with farmers’ variety (two farmers used low levels of fertilizer resulting in yield of less than 2 tons / ha)
5. Traditional: Traditional bunding, traditional puddling, farmer’s variety and farmer’s fertilizer levels (~20kg N).

#### **4.0 MICRO FINANCING**

##### **4.1 Fertilizer for Rice Program**

The importance of fertilizer for improved yield of rice cannot be over emphasized. Unfortunately, its availability and distribution is always a problem to most farmers. This led us to come up with a scheme in which one bag of fertilizer

(50kg) is given at the beginning of the planting season for one bag of paddy rice (85kg at  $\geq 14\%$ MC) at harvest.

The fertilizer demand from the farmers had increased from 100 bags in 2001 to over 400 bags in 2003. However we could not meet these demands, therefore based on what we were able to buy with available resource is what we distributed.

In 2004, after several trips to the Ministry and NSADP, Minna we finally secured 100 bags of fertilizers from the Niger State government store at Bida at the cost of N1650 per bag, which were distributed to the farmers. This is of tremendous help and assistance to the farmers. Timing of the available fertilizer was equally important. The distribution was done in October 2004. Table 1 shows the fertilizer distribution per village for 2004.

**Table 1: Fertilizer distribution per village 2004**

| Village      | 2004       | Quantity left                       |
|--------------|------------|-------------------------------------|
| Ejeti        | 30         | -                                   |
| Manbuhari    | 15         | 2                                   |
| Nassarafu    | 20         | 2 (1 bag of fertilizer was return)  |
| Doko         | 5          | 1 (4 bags of fertilizer was return) |
| Kpatagi      | 10         | -                                   |
| Angbasa      | 2          | -                                   |
| Shaba-Maliki | 2          | -                                   |
| Emitsundadan | 4          | -                                   |
| Gadza        | 9          | -                                   |
| Madodo       | 3          | - (1 bag of fertilizer was return)  |
| <b>Total</b> | <b>100</b> | <b>5</b>                            |

It is worth noting that by the end of March 2005 only 5 bags of the 100 bags were yet to be collected from 3 villages out of the 10 villages that originally collected.

## **5.0 GRASS ROOT PROJECT**

### **5.1 A New Grass-root Grant Received**

On the 29<sup>th</sup> of March 2005, WIN 2001 was awarded another grass root grant of \$50,264. This was in recognition of our successful completion and handing over ceremony of the last grass-root grant in 2002. Grass-root grant for 2005 went only to two NGOs (i) WIN 2001 and (ii) Pastoral Resolve.

The Embassy of Japan grass-root project was for:

- (1) 2 bore holes in two villages
- (2) Community clinic in Ejeti
- (3) A block of community school
- (4) About 2000 sugar cane sickle to be fabricated and distributed by NCRI

The new Japanese Ambassador to Nigeria Mr. Akihito Tanaka, with the first Secretary Economics Mr. Y. Mizutani performed the cheque awarding ceremony.

## **6.0 TREE CROP FOR UPLAND IMPROVEMENTS AND INCOME GENERATION.**

### **6.1 Community Mango Plantation**

10 stands of grafted Israeli Mangoes were purchased from Maizube farm along Bida – Minna road. These were distributed to farmers at Nassarafu, Ejeti, and Emitsundadan in September 2004.

The names of farmers handling the establishment of the seedlings by village are:

- |  |          |
|--|----------|
| (1) Alhaji Usman Ejeti* - Ejeti                      | 4 stands |
| (2) Alhaji Muhammed Gbongbo - Nassarafu              | 3 stands |
| (3) Mall. Muhammed Shehu Emitsundadan - Emitsundadan | 3 stands |

**Total**

**10 stands**

\* It is sad to note that on the 28<sup>th</sup> March 2005 our very important collaborator and the president of the farmers in Ejeti, Alhaji Usman Ejeti passed away while he was on his yam field.

A monitoring conducted in February 2005 showed that two of the mango stands in Ejeti survived, all three stands in Nassarafu are still surviving and Emitsundadan has two surviving stands.

## 6.2 Community Cashew Plantation

Of the 200 stands of Cashew established in 2003 in Ejeti only 40 stands are surviving while more than 50 stands out of the 100 stands established in Nassarafu are still surviving.

## 7.0 OTHERS

### 7.1 Survey of Inland valley watershed.

The survey and mapping of the four main valleys namely; Ejeti, Kpatagi, Emitsundadan and Nassarafu were carried out in the year with the assistance of two NSADP staff. It is hope that the information would help our future Sawah development program, since it would give us the potential land area.

### 7.2 Introduction of Improvement Yam variety

A collaborative study with Dr Kikuno (Shiwachi) on the introduction of improved early maturing Yam varieties for increase income was done using water Yam.

### 7.3 Dry Season Cowpea Production after Rice

Two cowpea varieties 98K-131-2 (Brown color) and 90K-277-2 (White color) were given to the 4 farmers in two villages Kpatagi and Emitsundadan for trial. They were to give back after production a reasonable quantity of seed at harvest.

## 8.0 PROPOSED ACTIVITIES FOR 2005

- Quantifying with empirical data set the yield differences observed in 2004 between puddled farmer's fields and the demonstration field and unpuddled farmer's fields.
  - Consolidation of the 10 ha farmers' fields Sawah system technology, so that all farmers would use the full package (Sawah, Recommended fertilizer level and improved rice variety).
  - We hope to introduce a new approach to the farmers for the Micro-financing – known as the “Sawah Package”.
  - Collaborative work on improved yam with Dr. H. Kikuno.
  - Expansion and Establishment of more community based Tree crop plantations.
  - Organic Matter Amendment Trials With Humified Sludge
  - In collaboration with NCRI through the support and funding from JICA we hope to have a training program for SAWAH Package vis-à-vis Power tiller operation as a necessary tool for Sustainable Rice Production System.
  - We hope to have one or two Japanese experts on short-term basis in 2005.
- Other collaborative work and coordinating to achieve the project's goal

