

FINAL INTERIM NARRATIVE REPORT ON SAWAH TECHNOLOGY ACTIVITIES FROM 05TH MARCH – 24TH APRIL, 2017.

SUMMARY OF THE ACTIVITIES CARRIED OUT.

The IOM / NCAM collaboration project commenced fully on the 05th March, 2017 when the Sawah Team travel from Nigeria to N'djamena for the On-the-job training of Sawah Eco-technology.

The field work commenced on the 06th March, 2017, where the Sawah team in Baga-Sola, Tissi and Haraze visited some of the sites in their respective region.

TEAM IN BAGA-SOLA

Brief from Team Leader, IOM Baga-Sola

a. Kousserrie II

- Machines and Agric tools were confirmed.
- Pre-selected site was confirmed.
- OJT on power tiller assembly, operations (canal and bund constructions, ploughing, puddling and levelling) and maintenance were carried out for the returnee.
- The farmers were met and sensitized about Sawah technology at the village.
- About 3.6 hectare of rice field was mark out for sawah development.
- The farmers were exposed to power tiller assisted construction of bunds. Shovels were used to put finishing touches to the bunds.
- Construction of primary canal of 70 *m* × 2.2 *m* was carried out.
- The rice nursery was establishment.
- Ploughing of 3.2 hectares of rice field and still on-going.

- Puddling and levelling of 2.6 hectares of rice field and still on-going.
- Transplant of rice seedling on 1.9 hectares of rice field and still on-going.
- Water management and still on-going.

TEAM IN TISSI

- Brief from Acting Team Leader, IOM Tissi
- The machines and Agric tools were confirmed in IOM office, Tissi.

a. Amzili and Gadar Sites.

- The farmers were met and re-sensitized with what Sawah Technology and Kubota G1000 Boxer power tiller is all about.
- Gadar and Amzili have not recorded any significant activity due to non-availability of tube-well in either of the community.
- OJT on power tiller assembly, operations (carried out on soft up land) and maintenance were successfully carried out for the returnees

b. Tissi Sawah Site.

- The Sawah team visited the old sawah site in Tissi but no farmers to train.

c. Bolong Site.

- The farmers were met and sensitized with what Sawah Technology and Kubota G1000 Boxer power tiller is all about.
- The Sawah Team in Tissi started working on Bolong IOM approved site with tube well digging to an extent it was not possible to continue before any tillage operation, water management and agronomic practices was carried out.
- Tube well digging was discontinued after digging beyond 16m with no sign of water.
- Due to lack of progress in Bolong IOM approved site, on the request of the Sawah Team leader, Tissi, to Acting IOM Team Leader, Tissi, the Team were able to survey the Coast of the Lake in Bolong on the 11th March, 2017.

- The Sawah team and IOM Tissi were able to persuade a land owner around the Lake coast in Bolong who agreed that the returnees can use the land for sawah technology development.
- Site selection was carried out on the 13th March, 2017.
- About 1.5hectare of rice field was marked out for sawah development.
- Construction of primary and secondary irrigation/drainage canal of about $350m \times 2.2m$ of primary canal and $88m \times 1.2m$ of secondary canals was carried out using power tiller and the returnees were actively involved.
- The rice nursery was established.
- Construction of bunds (perimeter and internal bunds) on 1.2hectares of rice field was carried out. The area covered was determined by returnees because of the management of the farm (protection from animals, water and birds).
- Ploughing of 1.2 hectares of rice field was completed.
- Puddling and levelling of 1.2 hectares of rice field was completed.
- Transplant of rice seedling on 1.2 hectares of rice field was completed.
- OJT on power tiller assembly, operations (canal and bund constructions, ploughing, puddling and levelling) and maintenance were successfully carried out for the returnees.
- Application of fertilizer (3 bags of NPK)
- Weed management and still on-going.
- Water management and still on-going.

TEAM IN HARAZE

- Brief from Team Leader, IOM Haraze
- The machines and Agric tools were confirmed in IOM office, Haraze.

a. Ardebe site

- All Agric materials and equipment were confirmed.
- The developed sawah site was confirmed.
- The bunds were re-enforced and the canal was dredged.
- Ploughing of 0.4 hectares of rice field and still on-going.
- Puddling and levelling of 0.4 hectares of rice field and still on-going.
- Transplant of rice seedling on 0.4 hectares of rice field and still on-going.
- OJT on power tiller assembly, operations (canal and bund constructions, ploughing, puddling and levelling) maintenance and were successfully carried out for the returnees.
- Water management and still on-going.

b. Massamagne site

- OJT on power tiller assembly, operations (canal and bund constructions, ploughing, puddling and levelling) and maintenance were successfully carried out for the returnees.

c. Goz-tougoula site

- All Agric materials and equipment were delivered.
- OJT on power tiller assembly, operations (canal and bund constructions, ploughing, puddling and levelling) and maintenance were successfully carried out for the returnee.
- About 0.6 hectare of rice field was mark out for sawah development.

d. Kouba-Adimiti site

- All Agric materials and equipment were delivered.
- OJT on power tiller assembly, operations and maintenance were successfully carried out for the returnees.
- 200m×110m area of rice field was mark out for sawah development.

e. Kar-Dabou site

- All Agric materials and equipment were delivered.
- OJT on power tiller assembly, operations and maintenance were successfully carried out for the returnee.
- 200m×180m areas of rice field was mark out for sawah development.
- The system design and land formation was carried out.

DETAILS OF THE ACTIVITIES CARRIED OUT.

| S/No. | LOCATIONS | ACTIVITES | OBSERVATIONS | RESULTS | CONSTRAINTS |
|-------|-----------|--|--------------|---------|-------------|
| 1. | N'DJAMENA | <p>i. On 05th March, 2017, the team arrived N'Djamena at 8:55pm, the team were lodged in hotel.</p> <p>ii. On the 06th March, 2017, the team departed from N'Djamena to Baga-Sola (Segun, Dada-Joel, Okoro, Idris and Maigari), Tissi (Bashiru, Fari and Tauheed) and Haraze</p> | | | |

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| | | (Eneh, Hamza and Abdullahi). | | | |
| 2. | BAGA-SOLA | | | | |
| | Kousserrie II | <ul style="list-style-type: none"> i. Sensitisation of participants from Kousserrie II ii. Confirmation of the pre-selected site, transportation of machines and operational equipment to kousserrie II iii. On-the-Job-Training on assembly and servicing of power tillers (Boxer G1000) iv. System design and land development commenced on 09/03/2017 v. Establishment of first nursery vi. OJT on power tiller operation (bunding and tillage operations) vii. Tillage operations in progress (ploughing, puddling and levelling) iii. OJT on preventive maintenance of the power tillers was carried out on 24/03/2017 | | <ul style="list-style-type: none"> i. The pre-selected site was confirmed. ii. Participants were thoroughly sensitised about the practice of sawah iii. Approximately 3.6 hectares was marked out for development of sawah field iv. Construction of primary canal 70 m x 2.2m v. Tillage operations in progress vi. Establishment of first nursery vii. OJT on power tiller assembly, operations (canal and bund construction, ploughing, puddling and levelling), and maintenance weed management and water management was carried out. viii. Transplanting was also in progress | <ul style="list-style-type: none"> i. Personalisation of working tools by the participants. ii. Non-availability of fertiliser (NPK and Urea) iii. Non availability of recommended herbicide |

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| | | <p>ix. Transplanting commenced on 30/03/2017</p> <p>x. Weed management and still on-going</p> <p>xi. Water management and still on-going</p> | | | |
| 3. | TISSI | | | | |
| | IOM Office | <p>Arrival of NCAM Sawah team in Tissi by 1.00 pm.</p> <p>NCAM Sawah team table the activities to be achieved within 50 days of their stay i.e. OJT on Sawah Technology Development, Power tiller assembly, operations and maintenance in Tissi, Amzili and Gadar.</p> <p>The team were made to know by Mr. Michelle (Acting IOM Team Leader, Tissi) that this year Sawah activities is for Amzili and Gadar only, but there is no available water to start Sawah development in either of the communities. This is because; the drilling of tube-well was not successful by Mr. Yamamoto due to the presence</p> | | | |

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| | | <p>of rock after digging down to 8m and yet no sign of water.</p> <p>NCAM Sawah team suggested drilling tube-well in other points in Amzili and Gadar, we were restricted from trying any other point of digging in either of the community, but it was made known to us that it has been contracted to another company that has the capacity of breaking through the rock and get to the depth of water in either of the community.</p> <p>While waiting for the new tube-well drillers in Amzili and Gadar, NCAM Sawah Team suggest to start work in Tissi or Bolong where there is potential for Sawah development around the river bank.</p> <p>The team was taken round the village to visit the authorities.</p> <p>Machines and Agro input confirmed are as follows;</p> <ul style="list-style-type: none"> ➤ Four (4) power tillers with complete implements, cage | | | |
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| | | wheels and diesel engine oil. ➤ 15 litres of transmission oil ➤ Six (6) fertilizers (3 NPK and 3 Urea) ➤ One set of motorized tube-well drilling machine. ➤ One set of manual tube-well drilling machine. ➤ Pumping machines; 2 inches 2 pump 3 inches1 pump 4 inches2 pump Suction hose; 2 inches.....10m 3 inches.....30m 4 inches.....30m Delivery hose; 3 inches.....100m 4 inches.....300m | | | |
| | Bolong site | i. Confirmation of site pre-selected by Ms Yoko (IOM approved site) was done. ii. Tube-well drilling commenced on the 9 th March, 2017 at IOM approved site in Bolong. iii. The tube-well digging continues till 11 th March, | i. The site pre-selected is only suitable for rainy season unless tube-well is drill in the site. ii. After 16 meters of tube-well drilling in Bolong, there is no | i. 26 bags (50 kg) of rice paddy were achieved during the last rainy season farming using the applications of Sawah eco-technology for rice farming based ii. Sites were confirmed. | No sign of water on the 16.2 meters dugout tube-well. |

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| | | <p>2017 where the team achieved 16.2 <i>meters</i>.</p> <p>iv. After deliberations between NCAM Sawah team and IOM staffs in Tissi on Sunday 12th March, 2017, and some consultation with land owners around the river bank in Bolong, a man volunteer to release his portion of land for Sawah development for dry season farming.</p> <p>v. The team visited the field and make necessary preparation toward development of Sawah technology, i.e. marking out of about 1.5 hectare.</p> <p>vi. The power tiller was knocked down in IOM office, transported to the field (Bolong) and reassembled by the team and the returnees.</p> <p>All the tillage operations commenced on the 14th March, 2017 and were carried out by Sawah team and the returnees with steady using of pumping machine to</p> | <p>sign of water and decided to stop working on the tube-well.</p> <p>iii. It was observed that the land around Lake Coast in Bolong has potentials for Sawah Eco-technology for rice farming.</p> <p>iv. The engine block of the Prime Mover was opened and discovered that the Connecting rod was bent and requires a replacement.</p> | <p>iii. 16.2 <i>meters</i> of tube-well drilling was achieved.</p> <p>iv. The farmers were meet and sensitized about Sawah technology and the new machine (G1000 Boxer)</p> <p>v. Approval from land owner around the Lake Coast at Bolong.</p> <p>vi. Marking out of about 1.5 hectares of land for Sawah development.</p> <p>vii. Construction of Primary Canal of about 350m×2.2m.</p> <p>viii. The problem with power tiller prime mover was identified.</p> <p>ix. The Nursery was established on a nursery bed of 5m×4m and 4m×4m dimension.</p> <p>x. Construction of two secondary canals of 88m×1.2m</p> <p>xi. Perimeter and internal bunding of 1.2 hectares was completed.</p> <p>xii. Ploughing of 1.2 hectares was completed.</p> | |
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| | <p>delivered water into the farm to soften the soil for easy power tiller operation.</p> <p>On-the-Job Capacity training on the Power tiller operations, maintenance and water management was carried out for the returnees during the Tillage operations, Agronomy practices and Water management.</p> <p>In the process of using the power tiller for land development, it accidentally fell and sucks some water into the prime mover.</p> <p>vii. Construction of Primary Canal was carried out between 14-18th March, 2017</p> <p>viii. Construction of two secondary canals was carried out in the process of bund construction.</p> <p>ix. Perimeter and internal bunding between 20-25th March, 2017</p> <p>x. Ploughing of 1.2 hectares was carried out between 27-31st March, 2017</p> | | <p>xiii. Puddling and levelling of 1.2 hectares was completed.</p> <p>xiv. Rice transplanting was completed.</p> <p>xv. Application of 3 bags of NPK fertilizer was achieved</p> <p>xvi. Weed management was also achieved</p> <p>xvii. OJT on power tiller assembly, operations (canal and bund constructions, ploughing, puddling and levelling), maintenance, fertilizer application, weed management and water management were successfully carried out for the returnee.</p> | |
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| | | <p>xi. Puddling and levelling and transplanting of 1.2 hectares were carried between 01-05th April, 2017</p> <p>xii. NPK fertilizer was applied on the 10th April, 2017</p> <p>xiii. Weed management</p> <p>xiv. Water management in progress</p> | | | |
| | Amzili site | <p>i. The state of the site was confirmed.</p> <p>ii. The farmers were sensitized about Sawah Technology and Kubota G1000 Boxer power tiller.</p> <p>iii. OJT was carried out on power tiller assembly and some operations for the farmers.</p> <p>iv. The operations of Sawah development, rice transplant, water management, weed management, machine operation, maintenance and minor repair was explained to the farmers</p> | <p>i. The land has been cleared for Sawah development.</p> <p>ii. Two tube-well was dug with no water due to presence of rock around 8meters was confirmed.</p> | <p>i. Site earlier selected were confirmed.</p> <p>ii. Farmers were met and sensitized with what Sawah Technology and Kubota G1000 Boxer power tiller is all about.</p> <p>iii. OJT on power tiller assembly, operations and maintenance.</p> <p>iv. Farmers were tutored on Sawah development, rice transplant, water management, weed management, machine operation, maintenance and minor repair was explained to the farmers.</p> | Non availability of sustainable water for Sawah development |

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| | Gadar site | <p>i. The state of the site was confirmed.</p> <p>ii. The farmers were sensitized about Sawah Technology and Kubota G1000 Boxer power tiller.</p> <p>iii. OJT was carried out on power tiller assembly and some operations for the farmers.</p> <p>iv. The operations of Sawah development, rice transplant, water management, weed management, machine operation, maintenance and minor repair was explained to the farmers</p> | No available water for the development of Sawah technology until tube well is dig. | <p>i. Site earlier selected were confirmed.</p> <p>ii. Farmers were met and sensitized with what Sawah Technology and Kubota G1000 Boxer power tiller is all about.</p> <p>iii. OJT on power tiller assembly, operations and maintenance.</p> <p>iv. Farmers were tutored on Sawah development, rice transplant, water management, weed management, machine operation, maintenance and minor repair was explained to the farmers.</p> | Non availability of sustainable water for Sawah development |
| | Tissi site | <p>i. The state of site was confirmed.</p> | The water level in old Sawah site in Tissi was less than 30cm at the upper part and more than 60cm at the lower part of the field. | <p>i. Site earlier selected were confirmed.</p> | Non availability of farmers in Tissi. |
| 4. | HARAZE | | | | |
| | Ardebe | i. Delivery of two power tillers, equipment and agro | i. No sufficient tube-well for water | i. Machine, equipment, materials and agro inputs | i. The tube-well takes about 9hours to soak |

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| | | <p>inputs were delivered to the farmers.</p> <p>ii. OJT was carried out on power tiller assembly for the farmers.</p> <p>iii. Establishment of nursery on a three nursery bed of 20m×2m.</p> <p>iv. Fine tuning of existing bunds and canals.</p> <p>v. Flooding of the field with the only tube-well in the field.</p> <p>vi. Ploughing, puddling and levelling were carried out.</p> <p>vii. Transplanting of rice seedlings was commenced.</p> <p>viii. Water management in progress</p> <p>ix. Weed management.</p> | <p>delivery into the field for Sawah technology development.</p> <p>ii. The tube-well uses submersible which can be powered by generator for pumping water.</p> | <p>were delivered to the returnees.</p> <p>ii. Nursery was established.</p> <p>iii. Ploughing, puddling and levelling of 0.4 ha and still on-going.</p> <p>iv. Transplanting of 0.2 ha was carried out and still on-going.</p> <p>v. OJT on power tiller assembly, operations (canal and bund constructions, ploughing, puddling and levelling) and maintenance were successfully carried out for the returnees.</p> | <p>the soil before any tillage can be done.</p> <p>ii. Insufficient tube-well.</p> |
| | Massamagne | <p>i. Confirmation of on-going activities on the developed Sawah field in Massamagne.</p> <p>ii. Delivery of two power tiller, equipment, materials and agro inputs.</p> <p>iii. About 0.4ha already cultivated and expansion is on-going.</p> | | <p>i. 317 bags (75 kg) of rice paddy were achieved during the last year project.</p> <p>ii. Machine, equipment, materials and agro inputs were delivered to the returnees.</p> <p>iii. OJT on power tiller assembly, operations (canal and bund constructions, ploughing,</p> | |

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| | | iv. OJT was carried out on power tiller assembly for the farmers. | | puddling and levelling) and maintenance were successfully carried out for the returnees | |
| | Goz-tougoula | i. Delivery of two power tillers, machine, equipment and agro inputs were delivered to the farmers. ii. OJT on power tiller assembly operation and maintenance was carried out for the farmers. iii. About 0.6ha was marked out for sawah development. iv. Tillage operation was commenced using power tiller. | | i. 17 bags (75 kg) of rice paddy were achieved during the last year project. ii. Machine, equipment, materials and agro inputs were delivered to the returnees. iii. OJT on power tiller assembly, operations (canal and bund constructions, ploughing, puddling and levelling) and maintenance were successfully carried out for the returnees | No submersible pump for the tube-well available. |
| | Kouba-Adimiti | i. Delivery of two power tillers, machine, equipment and agro inputs were delivered to the farmers. ii. OJT was carried out on power tiller assembly for the farmers. iii. The operations of Sawah development, rice transplant, water management, weed management, machine | | i. Machine, equipment, materials and agro inputs were delivered to the returnees. ii. OJT on power tiller assembly and maintenance were carried out for the returnees. iii. Farmers were tutored on Sawah development, rice transplant, water | No submersible pump for the tube-well that was available. |

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| | | <p>operation, maintenance and minor repair was explained to the farmers.</p> <p>iv. Marking out of $200m \times 110m$ area for clearing.</p> <p>v. Marking out of $15m \times 6m$ for nursery establishment.</p> | | <p>management, weed management, machine operation, maintenance and minor repair was explained to the farmers.</p> | |
| | Kar-Dabou | <p>i. Delivery of two power tillers, machine, equipment and agro inputs were delivered to the farmers.</p> <p>ii. OJT was carried out on power tiller assembly for the farmers.</p> <p>iii. The operations of Sawah development, rice transplant, water management, weed management, machine operation, maintenance and minor repair was explained to the farmers</p> <p>iv. Marking out of $200m \times 180m$ area for clearing was carried out.</p> <p>v. Marking out of $15m \times 6m$ for nursery establishment.</p> | | <p>i. Machine, equipment, materials and agro inputs were delivered to the returnees.</p> <p>ii. OJT on power tiller assembly and maintenance were carried out for the returnees</p> <p>iii. Farmers were tutored on Sawah development, rice transplant, water management, weed management, machine operation, maintenance and minor repair was explained to the farmers.</p> | <p>No submersible pump for the tube-well that was available.</p> |

CONSTRIANS

- i. Logistic and communication
- ii. Non availability of tube-well in Gadar and Amzili.
- iii. Non availability of sustainable water in Gadar and Amzili sites for Sawah development.
- iv. Non availability of farmers in Tissi site.
- v. Limited tube-well in all the sites in Haraze district.
- vi. Non availability of fertilizers (NPK and Urea) and recommended herbicide in Baga-sola

SUGGESTIONS AND RECOMMENDATIONS

- i. Power tillers should be made available to Bolong Rice Farmers community due to their commitment on Sawah rice farming based.
- ii. All tools and Agro inputs needed for Sawah Technology should be fully deployed to the various sites that will be covered.
- iii. Arrangement should quickly be made for the Tube-well Team with compressor machine to arrive in Amzili and Gadar for better kick-off of Sawah Eco-technology for Rice Farming.
- iv. Logistics should be made available at all time for the success of the project.
- v. 2 inches pressure pump with pressure pipes installed inside the tube-well should be used instead of using generator and submersible pump.
- vi. G1000 Boxer power tiller spare parts should be purchase for sustainable uses.
- vii. A modality should be put in place for the farmers on how the rice paddy gotten from the program should be utilized.

PHOTO GALARY

PICTURES FROM TISSI / BOLONG











POWER TILLER ASSEMBLY AND DEMONSTRATIONS IN GADAR AND AMZILI





PICTURES FROM BAGA-SOLA





