

Project Brief & Rice Extension Guideline

Extension Workshop
29th April 2021
Kumasi

Sustainable Development of Rain-fed Lowland Rice Production
MOFA/JICA TENSUI RICE PROJECT Phase 2

Rice Cultivation

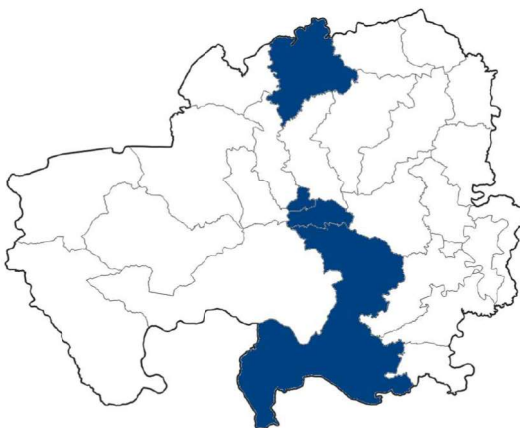
Farming Management

Land Development

Extension

Other

Background: Phase 1 (2009-2014)



Purpose was to develop a Rice Extension Guideline.

Output 1: To develop Technical Package for rice cultivation.

Output 2: To verify methodology for improve farming support system.

Output 3: To Develop Rice Extension Guideline (including output 1-2)

TARGET MMDAs: 9 MMDAs

ASHANTI REGION

- Adansi South
- Ahafo Ano North
- Asante Akim North
- Asante Akim Central
- Atwima Mponua

NORTHERN REGION

- East Gonja
- Sagnerigu
- Tamale Metro
- West Mamprusi

Background: Phase 1 (2009-2014)

- **In the 5 YEARS**, MoFA and JICA applied and improved Japanese rice cultivation techniques for Ghanaian environment.
- Japan has developed technical know-how of rice cultivation through its long history.
- The Japanese rice cultivation techniques were
 - ✓ tested in different environment of Ashanti and Northern regions.
 - ✓ and improved for a rain-fed lowland rice cultivation in these Ghanaian environment.

Rice Extension Guideline was developed based on such exercise and approved by MoFA in 2014.



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Background: Phase 2 (2016-2021)

- The Phase 2 supports 41 MMDAs* (phase 1: 9 MMDAs). *Incl. 6 new MMDAs
- The purpose is to support them to utilize the developed Rice Extension Guideline under the Ghanaian government system.

The Phase 2 fine-tuned the Guideline with the experience in 41 MMDAs.

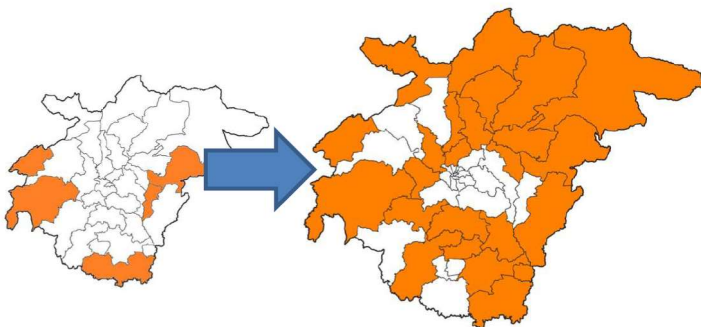
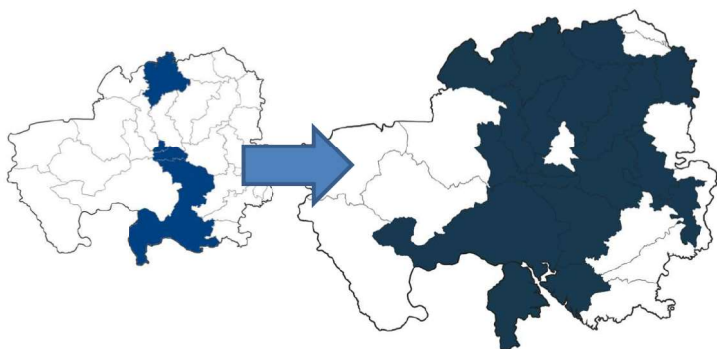
Project Framework

Output 1: Planning and Budgeting

Output 2: Rice Extension (implementation)

Output 3: M&E

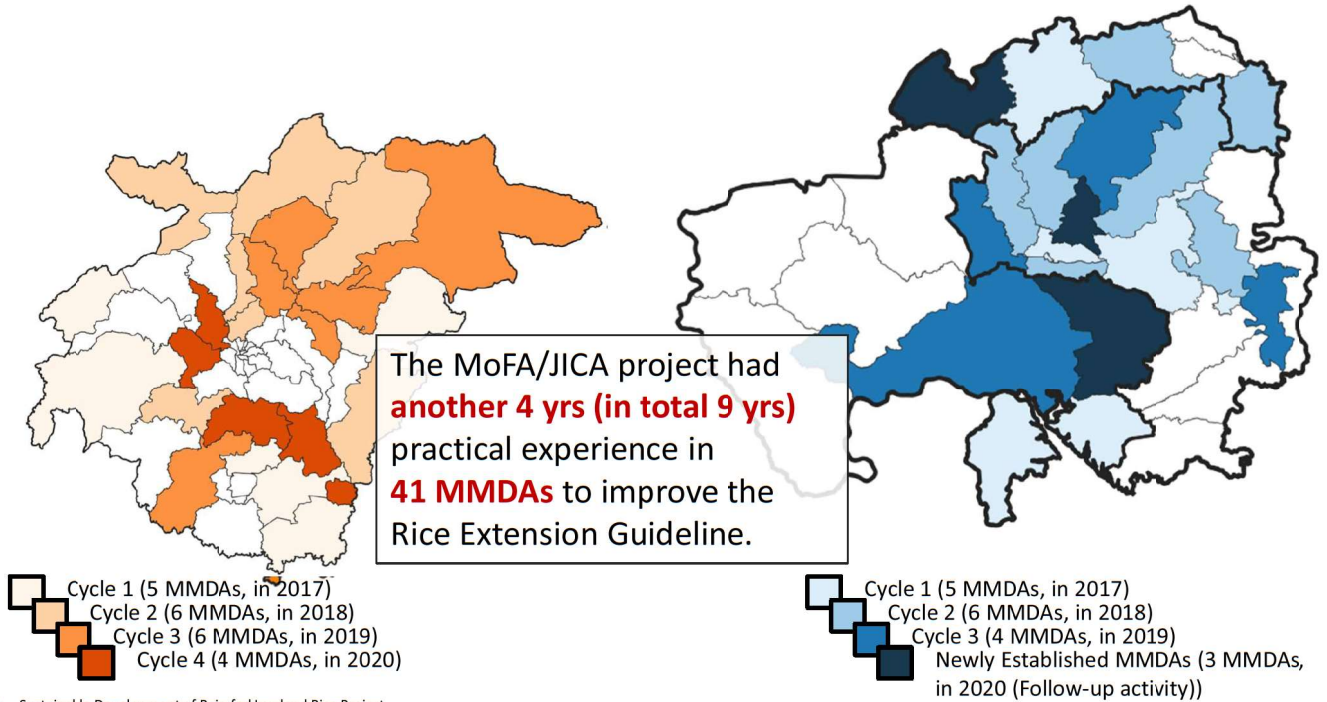
Output 4: Fine-tuning Guideline



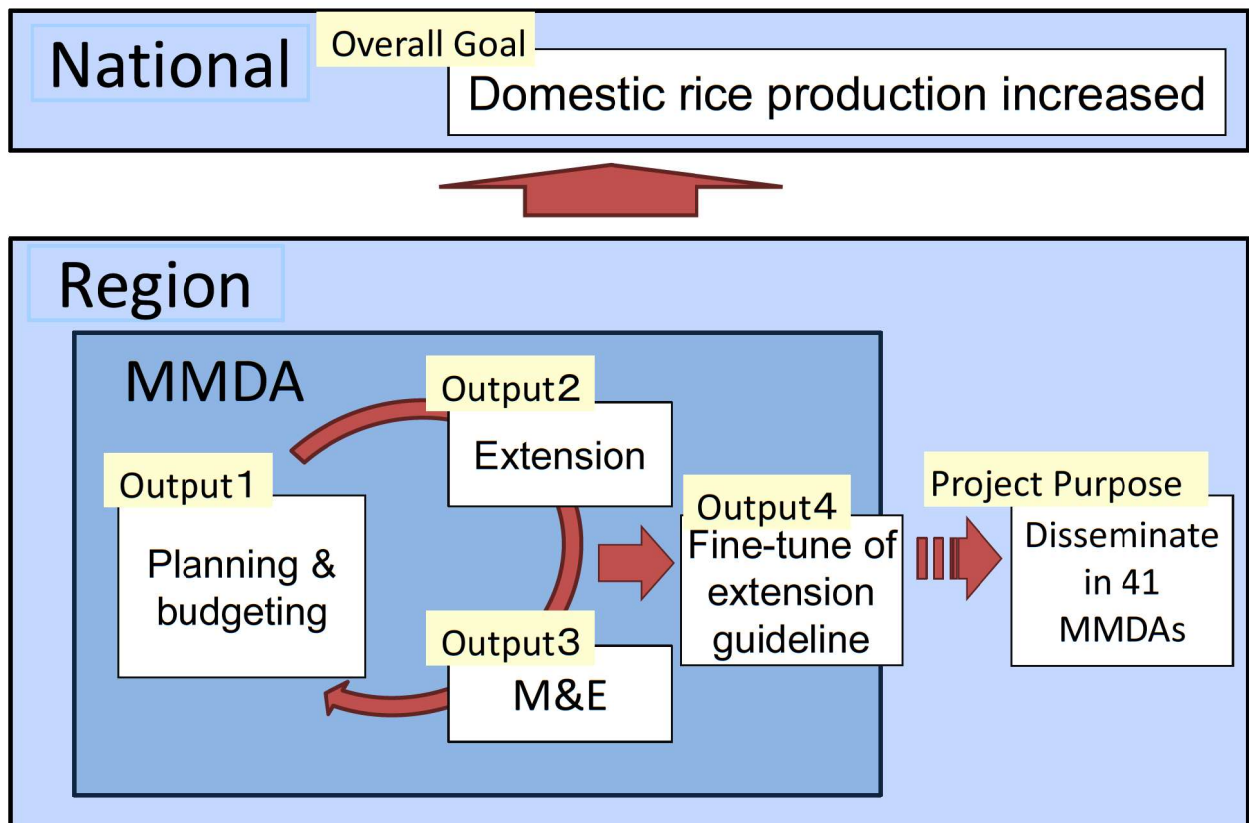
Sustainable Development of Rain-fed Lowland Rice Project
MOFA/JICA TENSUI RICE PROJECT Phase 2

Background: Phase 2 (2016-2021)

- To support MMDAs effectively, the MoFA/JICA project divided MMDAs into 4 groups.
- The MoFA/ JICA project supported them to implement rice extension activities in their annual planning cycle.



Project Framework



RESULTS AND ACHIEVEMENT FACTORS (2017-2020)



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MOFA/JICA TENSUI RICE PROJECT Phase 2



Output 1 (Planning & Budgeting): Achieved

	Indicator	Target	unit	2017-2020		
				Ashanti	Northern	Total
Output 1	Rice extension plan developed.	Yes	# of district	20	15	35
	Prioritized in DMTDP.	Yes	# of district	11	14	25
	Budgeted in the Composite Budget	Yes	# of district	20	15	35

Factors of Achievement

- **Proactive actions:** The training of the target MMDAs to improve capacity in planning and budgeting was carried out at early stage of the project.
- **Tools and information:** PCU also gave MMDAs necessary information and tools for budget negotiation (Unit cost and timing of training (“budget calendar”) and reporting format).
- **Strategic access to several fund source:** MMDAs were enabled to access Government source of fund as well as the other source of fund.
- **Utilization of M&E data:** The M&E data have helped DAD to justify the rice extension activities in negotiating budgeting and its release.



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Output 2 (Extension): Achieved

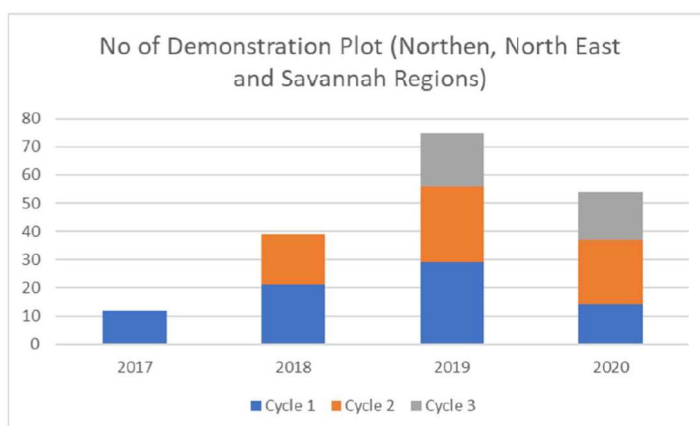
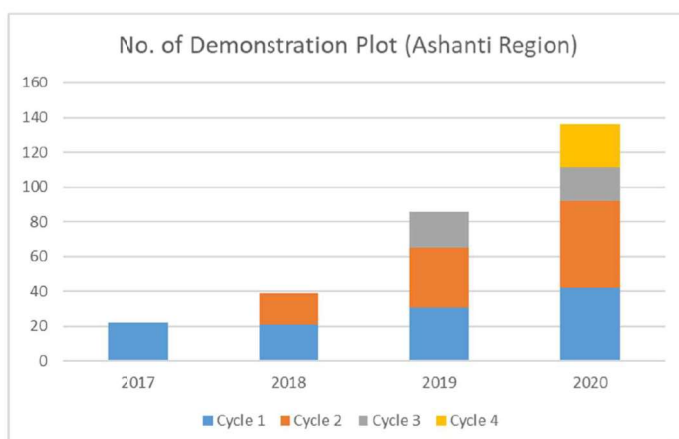
	Indicator	Target	unit	2017-2020			
				Ashanti	Northern	Total	
Output 2	Number of training conducted.	5/ district/ year	times	20	12	16	
			times in total	1,057	530	1,587	
	Number of DAO and AEA trained.	490	person (net)	1,197	583	1,780	
			DAO trained.	person (net)	267	189	456
			AEA trained.	person (net)	930	394	1,324
	Number of farmers trained.	11,700	person (gross)	15,853	8,966	24,819	
			Male	person (gross)	11,019	6,179	17,198
			Female	person (gross)	4,502	2,723	7,225

Factors of Achievement are explained in coming slides.



Factor 1: Achievement of planning and budgeting

MMDAs has secured more demo plot budgets than initial expectation and training has been conducted.



	Region	Total MMDAs	Demo plots	Total
2017	AR (5)	10	22	34
	NR (5)		12	
2018	AR (11)	22	39	78
	NR (11)		39	
2019	AR (19)	34	92	154
	NR (15)		62	
2020	AR (23)	41	136	190
	NR (18)		54	

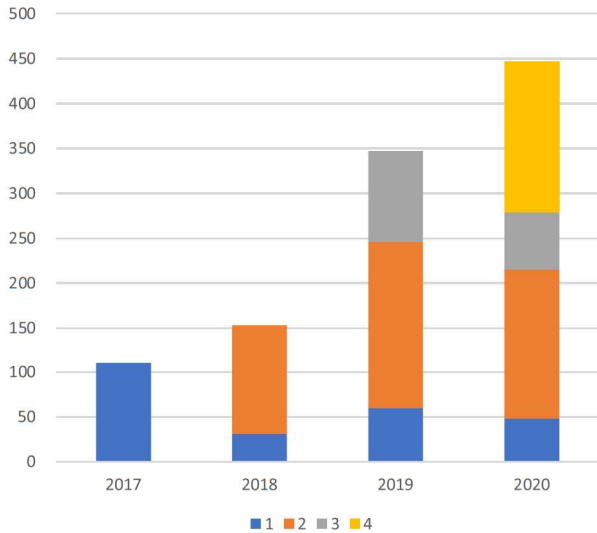


Factor 1: Achievement of planning and budgeting

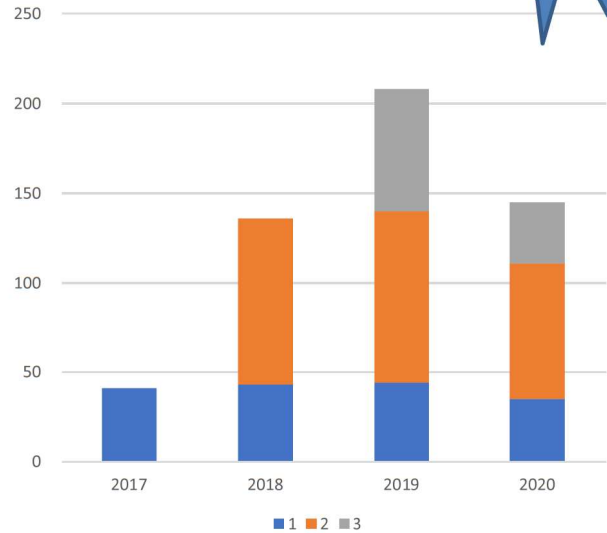
Training was conducted more than expected.

320%
than
Target

of Training Ashanti Region



of Training Northern Region



	2017	2018	2019	2020
1	110	31	60	48
2		122	186	167
3			101	64
4				168
Total	110	153	347	447

	2017	2018	2019	2020
1	41	43	44	35
2		93	96	76
3			68	34
Total	41	136	208	145

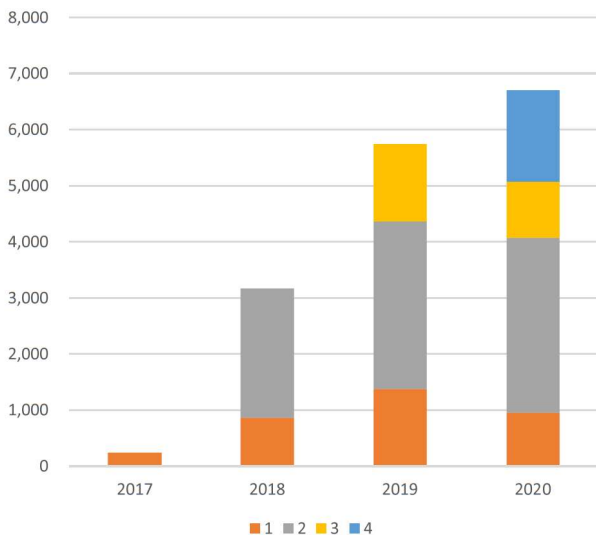


Factor 1: Achievement of planning and budgeting

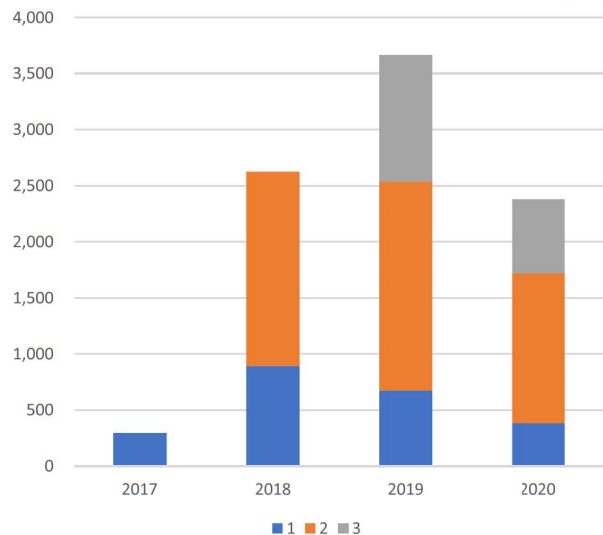
Therefore, farmers were trained more than expected.
Target: 11,700 Achievement: 24,819

212%
than
Target

of Farmer Trained Ashanti

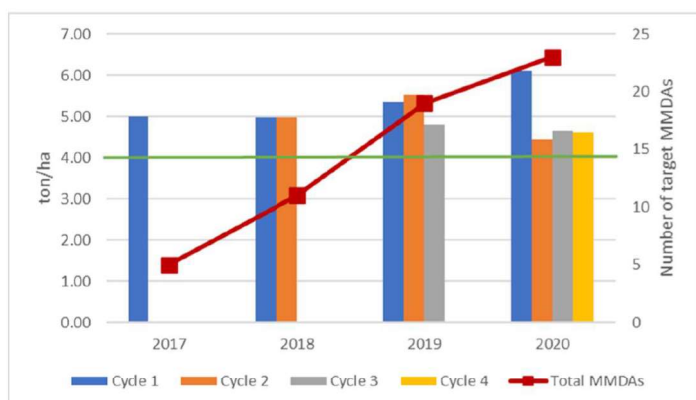


Farmers Trained Northern



Factor 2: Fine-tune of Tech. Package & Appropriate Extension Approach

Ashanti Region



Northern, North East and Savannah Regions

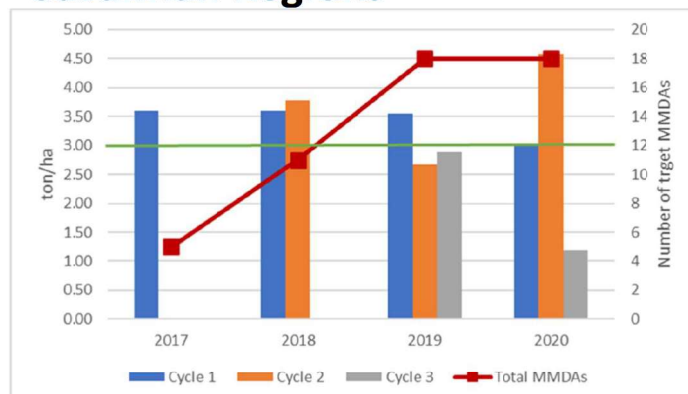


Table: Average Yield and No. of Demonstration Plots

Continuous efforts enabled MMDAs to achieve average high yield even in the latter half of the project where 41 MMDAs carried out the rice.



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Output 3 (M&E): Achieved

275%
than
Target

	Indicator	Target	unit	2017-2020		
				Ashanti	Northern	Total
Output 3	M&E system established.	Yes		M&E tools developed.		
	Number of training conducted.	1 /region/ year	times	2.8	2.8	2.8

Factor of Achievement

Development of M&E tools at early stage: M&E Tool has been developed and introduced before supports to cycle MMDAs started.

Simplified Design: Simple design for ease of use has been pursued through two revisions.

M&E Training: PCU emphasized the importance of M&E and trained MIS officers of cycle MMDAs in each training.



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Output 4 (Fine-tune): Achieved

224%
than
Target

	Indicator	Target	unit	2017-2020		
				Ashanti	Northern	Total
Output 4	Application rate (%).	5% up (73%)	Application rate (%)	84.0%	71.0%	78.0%
		In comparison with phase 1.	% increase			12.2%

Factors of Achievement:

Activities for output 1-3 has been implemented as planned.

Note: rate of farmers who applied techniques of the Rice Extension Guideline.



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Project Purpose: Achieved

	Indicator	Target	unit	2017-2020		
				Ashanti	Northern	Total
Purpose	Farmer Yield (ton/ha)	100% up	ton/ ha	3.60	2.05	2.92
	* Average yield of applied farmers.	Compare to baseline survey 2016	%	122.1%	83.7%	113.4%

Factors of Achievement:

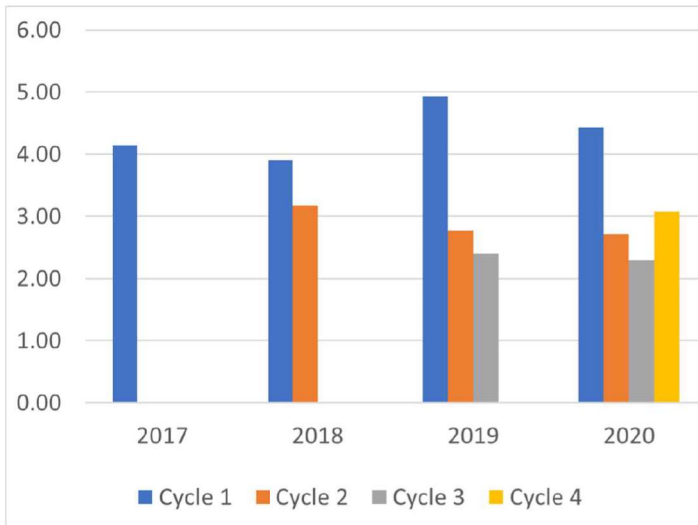
Activities for output 1-4 has been implemented as planned.



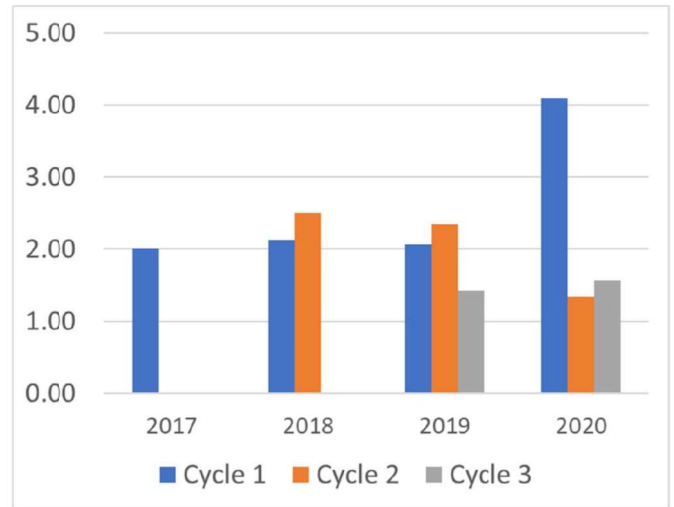
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Yield of Farmers Who applied techniques

Ashanti Region (ton/ha)



Northern, North East and Savannah Region (ton/ha)



	2017	2018	2019	2020	Average
Ashanti	4.15	3.55	3.50	3.21	3.60
Cycle 1	4.15	3.90	4.93	4.43	4.35
Cycle 2		3.18	2.77	2.71	2.89
Cycle 3			2.40	2.29	2.35
Cycle 4				3.08	3.08

	2017	2018	2019	2020	Average
Northern	2.00	2.41	2.11	1.64	2.05
Cycle 1	2.00	2.12	2.06	4.10	2.57
Cycle 2		2.50	2.34	1.33	2.06
Cycle 3			1.42	1.56	1.49

Note: support to the same demo plot for three years is recommended in the Guideline. Only cycle 1 and cycle 2 supported MMDAs could achieve the third year during the project period.



Behind the numbers, so much efforts, experience, lessons learnt exist.

All of them are now reflected in the Guideline.

Let us share it!



RICE EXTENSION GUIDELINE



Sustainable Development of Rain-fed Lowland Rice Project
MOFA/JICA TENSUI RICE PROJECT Phase 2

Summary of Rice Production Techniques for TENSUI 2

Rice, we can!



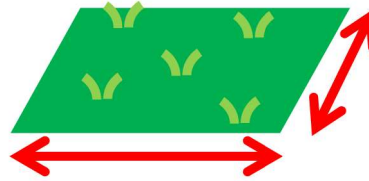
THE PROJECT FOR SUSTAINABLE DEVELOPMENT OF RAIN-FED LOWLAND RICE PRODUCTION PHASE II (TENSUI 2)



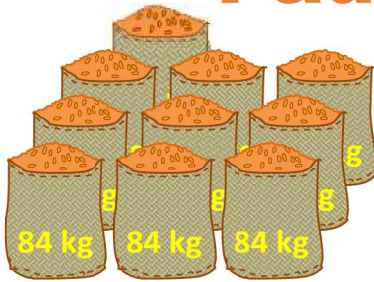
We can...

Produce more!

1 acre of rice field

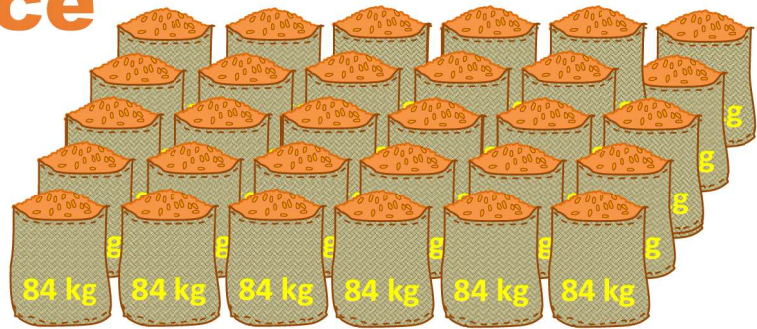
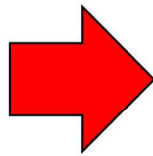


Paddy rice



10 bags

Now



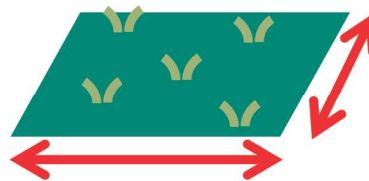
About 30 bags

Future

We can...

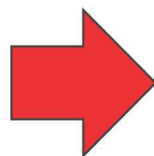
Earn more!

1 acre of rice field



GHS 2,000

Now



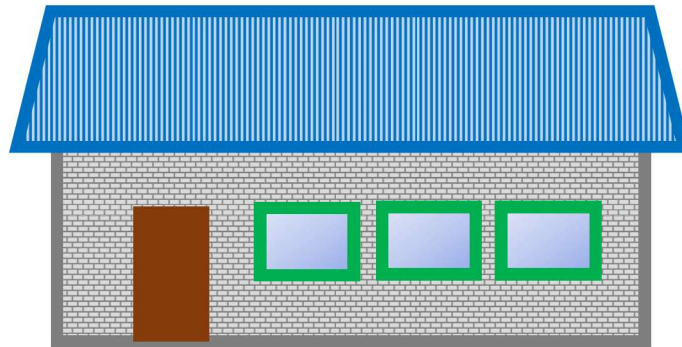
About GHS 6,000

Future

Price/120kg paddy = GHS 200

We can...

Be happier!



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Rice, we can! **Success Stories**

Mr. Abdul Rahman Iddrisu, a 38 year old successful rice farmer in Tepa.

Previously, he had an acre rice field and produce only 7 bags of paddy rice.

In 2010, he joined farmers' group for the training. The improved rice cultivation techniques trainings he had made it possible for him to grow more rice.

He currently cultivates 8 acres of lands for rice and produces 300 bags (37 bags/acre; 84kg per bag) of paddy rice in both major and minor cropping seasons.

He is a 3 time recipient of the district best rice farmer award. The latest being winner of 2018 district best rice farmer award.

Now he serves as a resource person for dissemination of TENSUI 2 technology to farmers in Ahafo Ano North and other Districts.



Technologies they gave us make me keep growing rice every year.

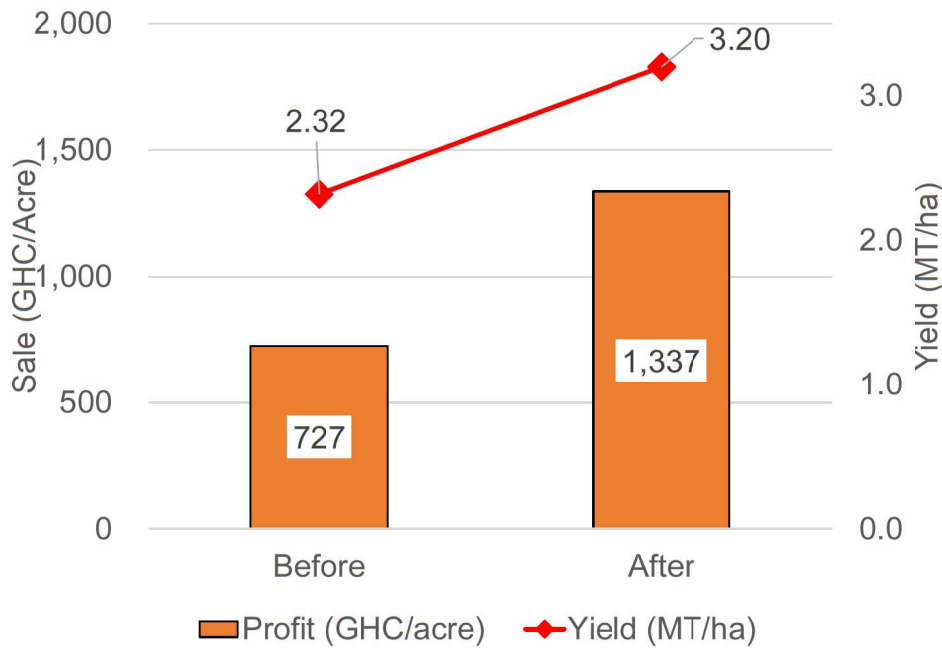
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Rice, we can!

Impact on Farmers



Increase profit (2018)



*Profit per ha:
Before
GHC 1,817/ha
After
GHC 3,342/ha

Source: Collected from Cycle 2 districts in Ashanti region through M&E tools for District Rice Extension Plan

How?

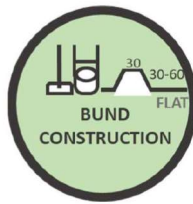
Traditional Improved



Rice, we can!

With simple technique!

1 HARVEST WATER AND DISTRIBUTE IT EVENLY



5 PROVIDE NUTRIENTS TO PLANTS AT RIGHT QUANTITY & TIME.



2 SMALLER QUANTITY SEED & HIGHER GERMINATION RATE



6 MAXIMIZE BENEFIT OF FERTILIZER



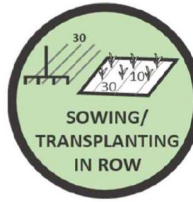
3 FREE FROM DISEASE & HEALTHY SEEDLINGS



7 GET BEST QUALITY PADDY & REDUCE HARVEST LOSS



4 INCREASE PLANT POPULATION & IMPROVE YIELD



8 GET BEST QUALITY GRAINS WITHOUT CRACK & STONE



MoFA/ JICA Simple Techniques 1

Bund construction



Conventional farming

- No construction of bunds



RESULT:

- Lack of water in the field,
- Risk of fertilizer loss through run-off.



Tensui2 Project Technical Package

- Construction of bunds



RESULT:

- Water conservation on the field,
- Floods control,
- Prevents fertilizer loss through run-off.



Ploughing, Puddling and Land Levelling

Conventional farming

- No plough, no puddling and no land levelling



RESULT:
Uneven distribution of water.



Tensui2 Project Technical Package

- Ploughing helps to break the soil clumps
- Puddling softens the soil.
- Levelling reduces the field undulations.



RESULT:
Uniform water distribution for rice growth.



Water Management

Conventional farming

- Lack of water in the field
- Uneven distribution of water



RESULT:

- Stunted growth, Weed invasion,
- High soil temperature leading to disease infestation.



Tensui2 Project Technical Package

- Maintain water level depends on the growth stage of rice.



RESULT:

- High yield,
- Good growth
- Weed control.

Seed Selection



Conventional farming

- Use of farmers own seeds.
- No seeds selection.

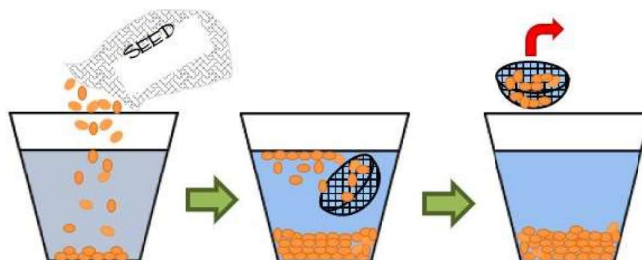


RESULT:
Poor germination rate.



Tensui2 Project Technical Package

- Use improved variety.
- Use of salt water solution to select fully filled seeds.



RESULT:

- Good germination
- Removal of unfilled seeds
- Vigorous growth.

Hot Water Seed Treatment



Conventional farming

- No seed treatment



RESULT:
Seeds become vulnerable to disease infestation.



Tensui2 Project Technical Package

- Hot water seed treatment

Regulate fire to maintain 60°C for 10 minutes



RESULT:

- Produce disease resistant seeds to Rice Blast, Bakanae etc
- Healthy seedlings growth.

Row Planting -Transplanting-



Conventional farming

- Random dibbling
- Broadcasting



RESULT:
Difficult to control weed and remove off-type (rogueing).



Tensui2 Project Technical Package

- Planting distance of 30cm [row] x 10cm [hill],
- 2-3 seedlings /hill,
- Planting depth of 2-3cm



RESULT:

- Easy to apply fertilizer,
- Easy removal of weeds and off-type.

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Three Split Fertilizer Application



Conventional farming

- No fertilizer application
- Apply too less or too much
- Apply at inappropriate time (once or twice)

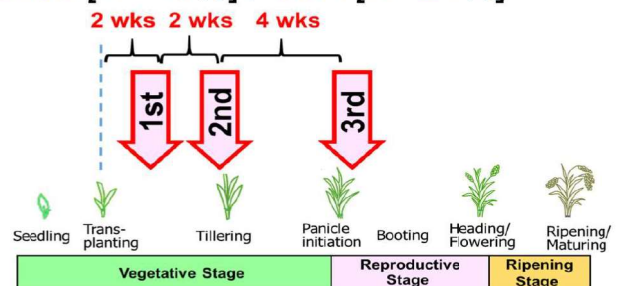
RESULT:

- No significant benefit from fertilizer,
- Lodging of rice plant due to excess application,
- Stunted growth.



Tensui2 Project Technical Package

- Apply fertilizer at right quantity & correct growth stage.
- N:P:K [60:30:30]
- Urea [N=46%] / SoA [N=21%]



RESULT:

- Maximize utilization of fertilizer by plants,
- Maximum formation of tillers.

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Weed Management



Tensui2 Project Technical Package

Conventional farming

- Poor weed control.



RESULT:

- Harbours pests and help spread diseases,
- Stunted growth due to nutrient competition from weeds,
- Poor yield.

- Timely weed control
- Weeding be done twice.
 - 1st : 2 weeks after transplanting
 - 2nd : 2 weeks after 1st weeding



RESULT:

- Maximize benefit of fertilizer,
- Clean paddy,
- Increased yield.

Harvest On Time



Tensui2 Project Technical Package

Conventional farming

- Late harvest
- A lot of loss



Too early



Too late



Correct time



RESULT:

- Poor quality grains,
- High broken percentage,
- Harvest loss.

- Timely harvesting
- Harvesting at
 - Moisture content: 25-20 %
 - Percentage of yellowish grains : 80 - 85 %

RESULT:

- High quality grains,
- Reduction of percentage broken grains,
- Reduction in harvest loss,
- Improvement in milling quality.

Thresh On Tarpaulin



Tensui2 Project Technical Package

Conventional farming

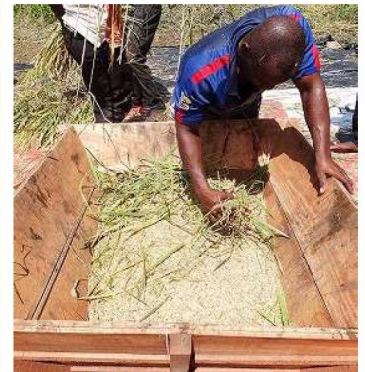
- Use of barrel
- Use of stick or club



RESULT:

- Poor quality grain,
- Presence of stones, metallic debris and other foreign materials.

- Use of tarpaulin
- Use of Threshing Box (bambam box)
- Barefoot threshing on tarpaulin



RESULT:

Stone free high quality grains.

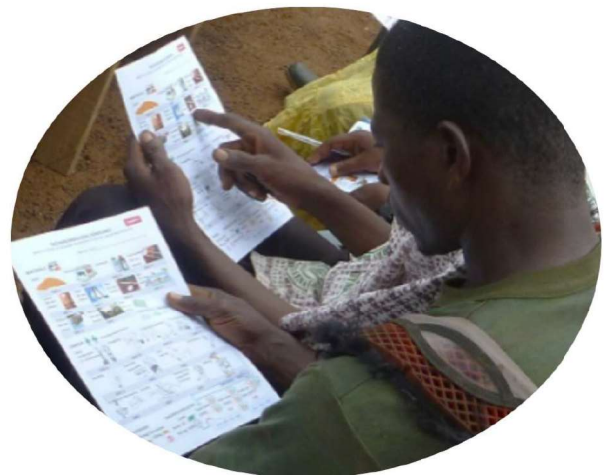
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How to Teach Farmers?

With User Friendly Training Materials



Field Training materials for farmers



Farm Record keeping



Handbook for AEs



Simple tools



Marketing support

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-Example of crop budget (1)-

Conventional farming (1/4 acre)



Tensui2 Project Improved Technical Package (1/4 acre)

	Item	Qty	Unit price (GHC)	SubTotal (GHC)
Variable cost	Subsidized Seed	12 kg	3	36
	Land rent			40
	NPK	30 kg		45
	Urea	15 kg		30
	Herbicide	1500ml		24
	Sowing (dibbling)	2 manday		80
	Spraying	1 manday		40
	Bird scaring	40 manday		50
	Harvesting			40
	Threshing			40
	Drying, Winnowing, Bagging			20
	Carting of paddy			40
	Milling charge	2 bags	21	42
	Total (GHS)			527

	Item	Qty	Unit price (GHC)	SubTotal (GHC)
Variable cost	Certified Seed	6 kg	4.5	27
	Land rent			40
	NPK	20 kg		30
	Urea	6 kg		14
	Herbicide	1 bottle		18
	Bund construction			250
	Transplanting			100
	Weeding			20
	Harvesting			40
	Threshing			30
	Drying, Winnowing, Bagging			20
	Carting of paddy			40
	Milling charge	8 bags	21	168
	Total (GHS)			797

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-Example of crop budget (2)-

Conventional farming (1/4 acre)



Tensui2 Project Improved Technical Package (1/4 acre)

	Item	Qty	Unit price (GHC)	SubTotal (GHC)
Fixed cost	Cutlass	1	20	20
	Hoe	1	7	7
	Knapsack sprayer	1	65	65
	Polyethene sheet	2	10	20
	Barrel	1	15	15
	Total (GHS)			127

	Item	Qty	Unit price (GHC)	SubTotal (GHC)
Fixed cost	Mattock	1	30	30
	Hoe	3	20	60
	Compactor	2	40	80
	Leveler	2	45	90
	Push weeder	2	45	90
	Bird scaring net	2	40	80
	Sickle	2	10	20
	Bambam box	1	45	45
	Tarpaulin	1	100	100
	Total (GHS)			565

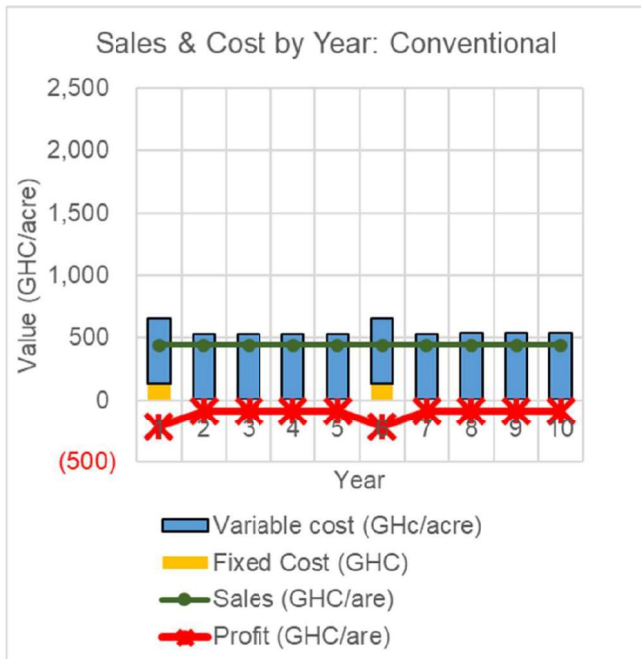
40

-Example of crop budget (3)-

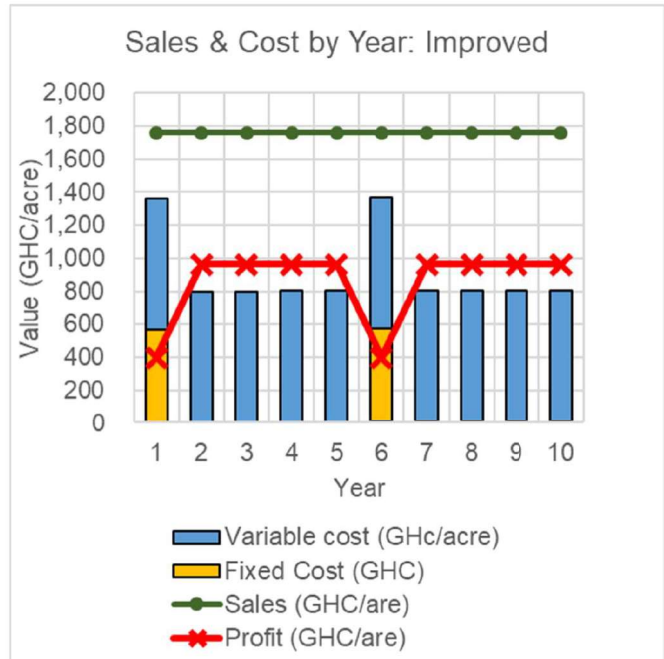
Conventional farming (1/4 acre)



Tensui2 Project Improved Technical Package (1/4 acre)



**2 bags (120kg) from 1/4acre, sales at GHC220/bag

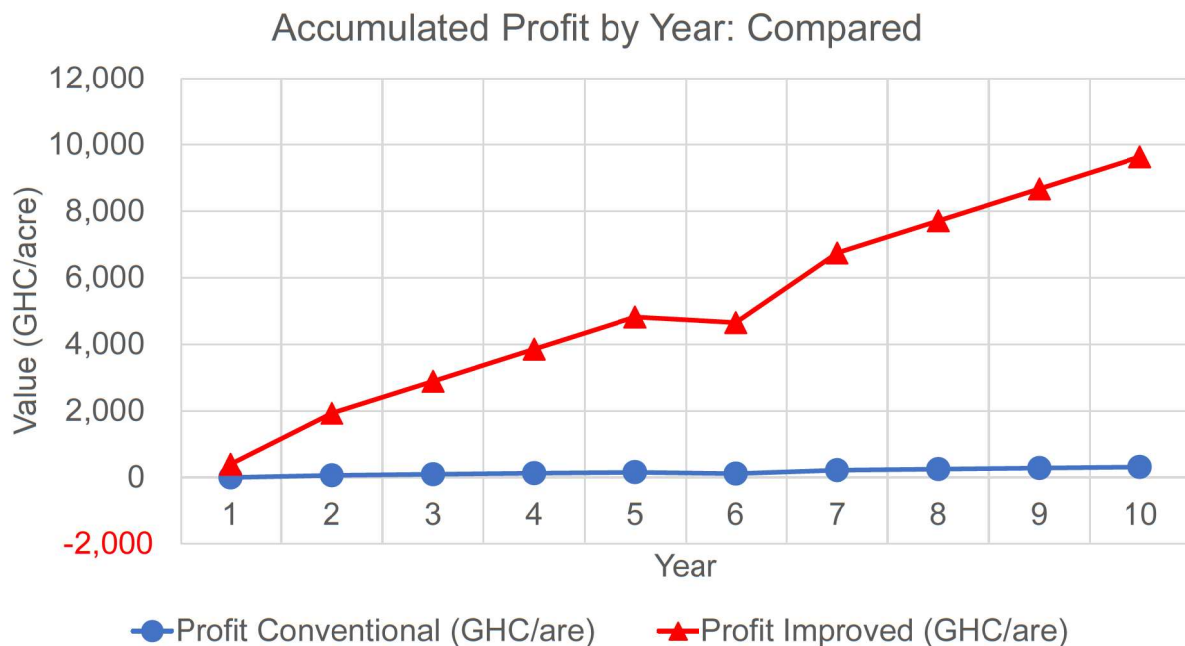


**8 bags (120kg) from 1/4acre, sales at GHC220/bag

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-Example of crop budget (4)-

Profit accumulated with Tensui 2 improved techniques.



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Other Activities

Nutrition Improvement



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What TENSUI2 did for Ashanti region is...

Trial for introducing unpolished rice to explore a future valuable possibility for:

- **Higher nutrient contents of unpolished rice**
Higher contents of vitamin Bs, iron and protein, etc. can be expected in bran and germs kept after removing husk
- **Unpolished rice as alternatives of traditional foods**
Rice flour dishes can be preferred by farmers as alternatives of maize flour dishes.



Jasmine 85 of Frenchman, Tapa



Unpolished rice porridge and banku



Pictorial Recipe of Unpolished Rice Porridge

1. RICE-SOYA WEANIMIX PORRIDGE

1. RICE-SOYA WEANIMIX PORRIDGE

Preparation for Rice-Soya Weanimix

1. Roast 4 parts of rice and 1 part of dehulled soya beans separately.
2. Put them together and mill into fine flour.
3. Store the weanimix in an airtight container not more than 3 months.

1. RICE-SOYA WEANIMIX PORRIDGE

INGREDIENTS
(No. of Servings - 4 adults or 6 children)

Rice-Soya Weanimix: 1 cup (200g)
Water: 2L

Milk: 1 small tin (160g) or Powder milk: To taste
Salt and Sugar: To taste

Remark: If milk is not available, you can increase the amount of soybean by changing the rice:soybean ratio from 4:1 to 3:1

1. RICE-SOYA WEANIMIX PORRIDGE

METHODS

- 1 Bring water to boil.
- 2 Mix weanimix with water to form slurry.
- 3 Pour the slurry into the boiled water, add salt.

1. RICE-SOYA WEANIMIX PORRIDGE

METHODS (CONT'D)

- 4 Stir to avoid formation of lumps. Allow to cook for 5-10 minutes till the mixture gets thicker.
- 5 Serve hot with milk or sugar to taste.

Pictorial Recipe of Unpolished Parboiled Rice Banku

UNPOLISHED RICE BANKU

First, let's prepare unpolished rice flour dough!

- 1 Let the unpolished rice into water overnight.
- 2 Grind the unpolished rice which absorbed water into flour.
- 3 Let the unpolished rice flour sit overnight for fermentation.

INGREDIENTS

(No. of Servings – 10 pieces of banku)

Unpolished rice flour dough: 1 bowl (1kg)
Bankey mmore (cassava dough): 1 packet (400g)

Water: 2L
Salt: To taste

COOKING METHODS

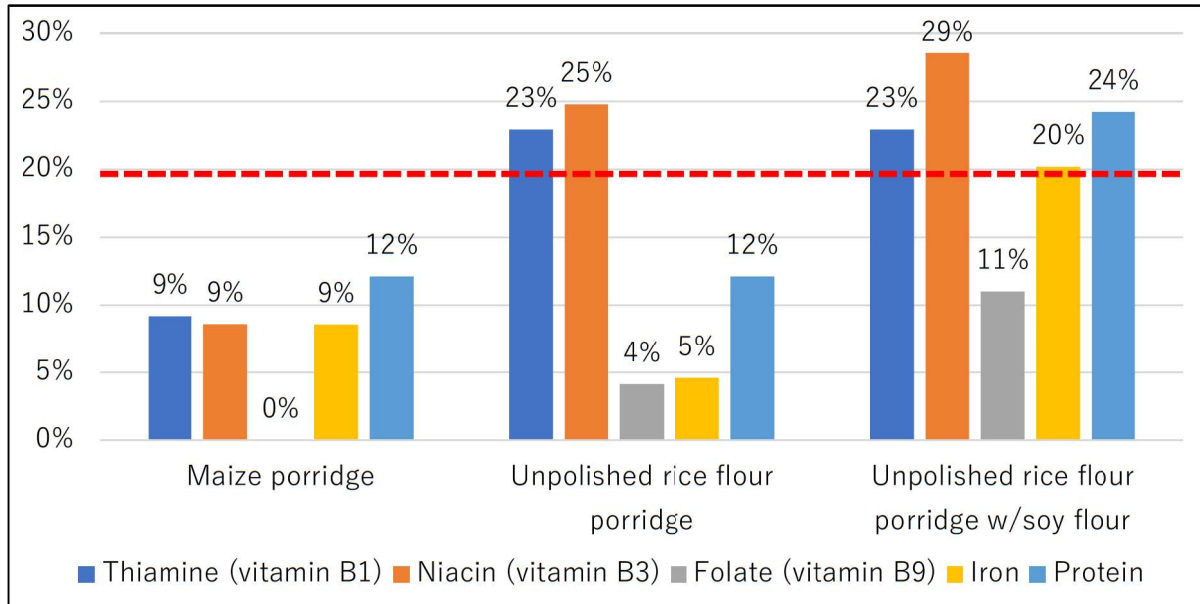
- 1 Mix unpolished rice flour and *bankey mmore* with 2L of water.
- 2 Mix the slurry into pouring consistency.
- 3 Stir continuously for around 60 minutes.
- 4 Mold into balls and serve with *okro* soup or any soup of your choice.

eye de paa!

Unpolished rice dishes can alternate maize dishes with sufficient nutrients!



Nutritional contents of the rice/maize flour porridge (Percentage Daily Value)

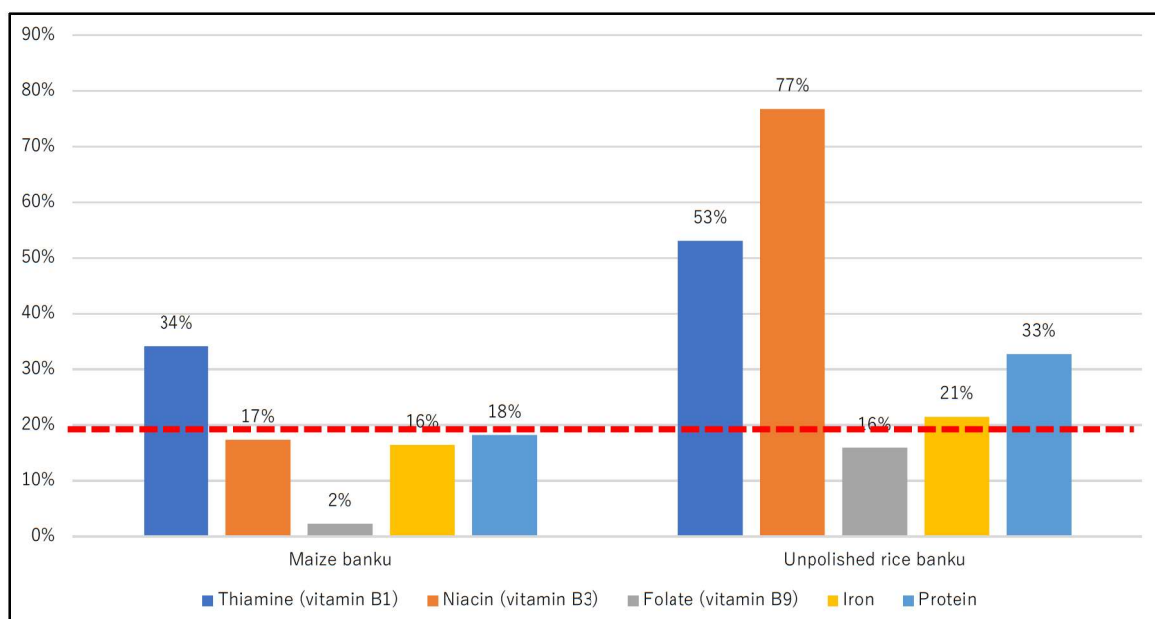


Japan Food Analysis Center, October 2020

Unpolished rice dishes can alternate maize dishes with sufficient nutrients!

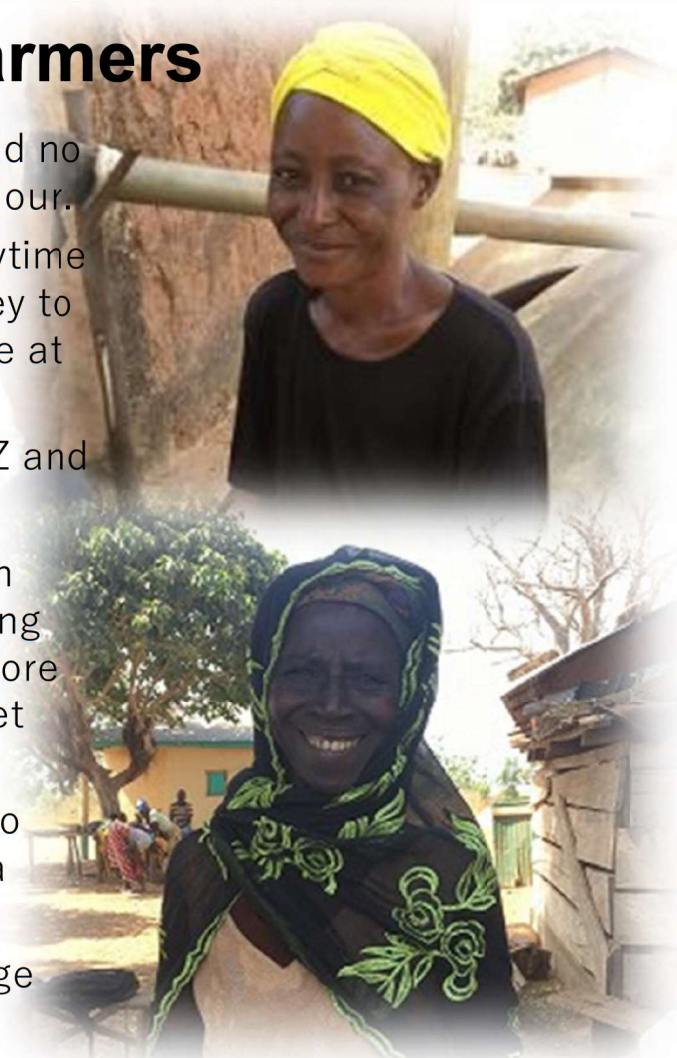


Nutritional contents of the rice/maize banku (Percentage Daily Value)



Voices from target farmers

- Before attending demonstration, I had no idea that TZ can be made with rice flour.
- Now, I can cook TZ for my family anytime even when we have no enough money to buy maize flour because we have rice at home.
- Rice TZ is tasty as same as maize TZ and my husband likes it very much.
- I want to cook rice flour porridge with soy flour for my children every morning because they love it and eat much more than porridge made from maize, millet or sorghum.
- Another advantage is that it is easy to cook rice flour porridge, taking only a short time to prepare.
- I also started selling rice flour porridge as new business!



Technical Challenges and Countermeasures



Technical Challenges and Countermeasures

Dissemination workshop

29th April 2021

Project for Sustainable Development of Rain-fed Lowland Rice Production
(Tensui Rice Project) Phase 2

Table of Contents

1. Planning and Budgeting
2. Land Development
3. Rice Cultivation
4. Farm Management System Support
5. Extension
6. Monitoring and Evaluation

1. Planning and Budgeting

Challenge 1: Less Priority

- Challenge

Though DCE/DCD submitted commitment letter, some districts were unwilling to allocate funds timely

- Cause 1

DA's Priority on the other sectors (e.g., infrastructure, health)

1. Planning and Budgeting

Challenges 2: Delay of Transfer of Funds

- Challenge (cont.)

Though DCE/DCD committed by submitting commitment letters, some districts were unwilling to allocate funds timely.

- Cause 2

Delay by administrative reason.

GiFMIS system caused fund transfer to delay

*A district spent almost 3 month (87 days) to transfer money form DACF to DAD.

1. Planning and Budgeting

Challenge 3: Smaller Budget Allocation than Amount DAD budgeted

- Challenge

Full amount of budget was not released.

Cause

- Due to reduction in the budget allocation to DA,s, full rice extension budget is not released to DAD.
- Funds channeled to unplanned activities by DAD

1. Planning and Budgeting: Countermeasure

1. In planning and budgeting (Readiness for Release of funds)

- Plan & Budget Rice extension activities
 - ✓ In the annual plan and composite budget.
 - ✓ Involve budget officer of DA
- Prepare and submit Cash and Work Plan after approval.
 - ✓ Inform when & how much DAD needs for rice extension activities.

2-1. In implementation (Facilitate allocation)

- DCE/DCD's Awareness
 - ✓ Make DCE/DCD aware of the importance of rice extension activities (by use of PR material and inviting them to the Field).
 - ✓ Make full use of results in the previous year (M&E is important!).
- Involvement of Financial Officer of DA

2-2. In implementation (Adjustment)

- Adjustment of Plan according to availability of funds is necessary.
- Moderate spending of funds to cater for other activities.

**RICE CULTIVATION
ACTIVITIES, TOOLS & INPUTS**

DDA's ACTIONS TO GET BUDGET RELEASE NORTHERN REGION

Cost for JT: GHC 900 PER TRAINING (GHC 300 x 3 times)

Cost for OST PER DEMONSTRATION PLOT : **GHC 2,759**

TRAINING : GHC 1,225 (GHC 245 x 5 OSTs)
(Estimate from A CYCLE 2 MMDA in 2018)

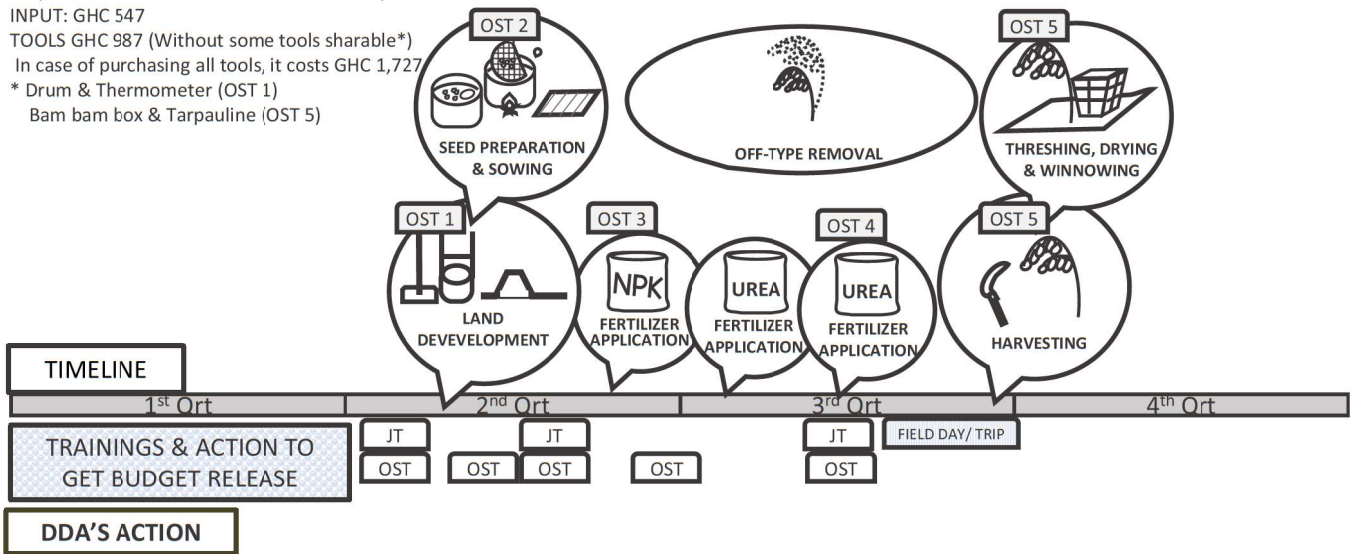
INPUT: GHC 547

TOOLS GHC 987 (Without some tools sharable*)

In case of purchasing all tools, it costs GHC 1,727

* Drum & Thermometer (OST 1)

Bam bam box & Tarpauline (OST 5)



- **PLAN & BUDGET ACTIVITIES** by SEVERAL SOURCES (GOG, DACF, IGF as well as donor etc.)
- **MEET DCE/DCD MANY TIMES:** Explain Importance & Request Release
- **PICTURE:** Take Picture of Plot & Show Them to DCE/DCDs
- **SPEND CAREFULLY:** Don't Use Up All Money Received at Once
- **INVITE DCE/DCD TO BEST PLOT** in the Season
- **BUY INPUTS & TOOLS FOR NEXT SEASON** If Fund Is Released In 4 Qrt
- **PREPARE MEMO PER TIMELINE OF ACTIVITIES** (Small amount in Memo will promote timely release!)



1. Planning and Budgeting: Summary of Discussion

Challenge

1. More priority on the other sector
2. Delay in administrative procedure
3. Full Amount will not be released.

Countermeasure

- 1-1. Raise awareness of DCE/DCD
- 1-2. Use M&E results.
- 1-3. Involvement of Budget officers
2. Involvement of financial officer
3. Adjustment of plan at the implementation stage.

Overarching countermeasure

Plan and budget rice extension activity in the previous year.

2. Land Development

Challenges

1. Drudgery nature of the land development activities
2. Some farmers are not familiar with ploughing the land by using hoe in developing fields for rice production

Countermeasures

- 1.1 Formation and strengthening of farmer groups to reduce tediousness of the work
- 1.2 Introduction of simple farm machinery.
2. Continues sensitization of Officers and farmers on importance of plough. Continues practices of using hoe.

3. Rice Cultivation: Adaption by target farmers

Challenges

1. Harvesting too late due to no labour

Countermeasures

- 1-1. Formation and strengthening of farmer groups to carry on harvesting on time.
- 1-2. Use of simple equipment. (E.g. reapers, threshers, mini combine harvester)

3. Rice Cultivation:

Challenges

1. Pest and disease infestation (Blast control)
2. Bird scaring techniques

Countermeasures

- 1-1. Hot water seed treatment
- 1-2. Community control (mass spraying with fungicide)
- 2-1. Use of bird nets
- 2-2. Proper setting of the bird nets

4. Farm Management System Support

Challenges

Land tenure:

1. Demo plot/individual lands are reclaimed by landowners after successful farming season by tenant farmers.

Countermeasures

1. Group members should have official land tenure agreement with landowners before establishment of demo-plot and own field.

4. Farm Management System Support

Challenges

Record keeping:

1. Understanding of benefit or how to record, inability of writing etc.

Marketing:

1. Unavailability of rice milling centres
2. High cost of transportation due to absence of milling centers.
3. Unavailability of buyers in some communities.

Countermeasures

- 1-1. Continuous sensitization on the importance of record keeping.
- 1-2. AEAs to provide assistance to farmers during record keeping.
- 1-1. Stakeholders involvement in the establishment of milling centres.
- 3-1. PCU introduced Officers and AEAs to do market survey for more market information

4. Farm Management System Support

Challenges

Gender:

1. Inaccessibility and ownership of paddy fields by women. (Males dominate in every aspect of rice production)

Countermeasures

1. Further involvement of women in land ownership in training: for example good practices in the field.

5. Extension: District Training of Trainers

Challenges

1. Punctuality of DAD officers.
2. Late disbursement of funds
3. Unpreparedness of DAD resource persons after ToT.

Countermeasures

- 1-1. Time management and proper scheduling
- 2-1. In adverse cases, DAD to pre-finance trainings.
- 3-1. DAD resource persons to study ToT materials before district training.

5. Extension: On-Site Training (2)

Challenges

1. Punctuality on the part of farmers and officers.

Countermeasures

- 1-1. Time management and proper scheduling (Action plans to be adhere to)

6. Monitoring & Evaluation

Challenges

1. Untimely submission of M&E data
2. Unwillingness or late collection of data by of AEAs.
3. Uncompiled field data by MIS officers.
4. Lack of knowledge on I.C.T (Ms Excel et)

Counter Measures

- 1-1 / 3-1. Frequent communication with DAD to speed up data submission
- 2-1. Field level monitoring training to be strengthened to enhance monitoring capacities.
- 2-2. Motivation of AEAs (financial support)
- 4-1. Conduct MIS workshops.

7. Others: Human Resource

Challenge

1. Movement of trained officers as a results of promotion and transfer. (Officers who have received training on MoFA/JICA Tensui Project)

Request

1. Trained officers to be retained to serve as resource persons.

Countermeasure

1. New officers to be trained to continue extension activities.

MoFA-JICA

**SUSTAINABLE DEVELOPMENT OF RAIN-FED LOWLAND RICE
PRODUCTION PROJECT - PHASE II [TENSUI II]**

ASHANTI REGION PCU

SUCCESS STORIES

DISSEMINATION WORKSHOP

APRIL 29, 2021

TRUE VINE HOTEL

CONTENT OF PRESENTATION

- 1. INTRODUCTION**
- 2. MMDAs SUCCESS STORIES**
- 3. FARMERS SUCCESS STORIES IN ASHANTI
REGION**
- 4. FARMERS SUCCESS STORIES IN NORTHERN
REGION**

INTRODUCTION

- The Sustainable Development of Rain-fed Lowland Rice Production Project - Phase II [Tensui II] has improved production levels of beneficiaries through the TENSUI techniques.
- This increase in production levels has also **improved their livelihoods.**
- These beneficiaries include Metropolitan, Municipal and District Departments of Agriculture, project target farmers, non-target farmers and other stakeholders.
- Below are success stories shared by beneficiaries

1. MMDAs SUCCESS STORIES

ADANSI SOUTH [1]

Had sponsorship for Inputs for Demo Plot

- District obtained inputs and cash from four (4) Agro Input Dealers and a farmer.
 - The following inputs and cash were contributed by the Agro Input Dealers for the three (3) demonstration plots;
 - Two bags of NPK
 - One bag of Urea
 - 2 litres of Herbicides
 - 20 kg of seeds from a beneficiary woman farmer under Phase 1, who was awarded by the Regional JICA office
 - Cash of GHS140.00 (used to buy 6 hoes and additional inputs)



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ADANSI SOUTH [2]

How Did the District Obtain the Contributions?

- **Step 1:** There was meeting with the Regional JICA monitoring team to discuss about other sources for funding for the demonstration.
- **Step 2:** After the meeting the district decided to appeal to the input dealers in the district for support.
- **Step 3:** Five (5) selected Agrochemical dealers in the district were invited for a meeting to discuss about the establishment of demos to train rice farmers, technical support from JICA and funding of demos.
- **Step 4:** A budget was presented to them, in order for them to willingly select what input they can sponsor either in kind or cash.
- **Step 5:** They selected what input they will provide.

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ADANSI SOUTH [3]

Win-Win for both district and sponsors

Benefits Used to Persuade Input Dealers

- **Promotion of their business** in the beneficiary communities for farmers to buy from their store.
 - **Invite them to field days/field trips** to show them how their inputs were utilized.
 - **Appreciate their support/sponsorship** at any agricultural gathering/fora.
 - **Erect sign post with their company names on it as sponsors.**
- **Appreciation to the Sponsors**
 - They were invited to participate in a field trip organised by the district.
 - All the four (4) sponsors were invited to the district monthly technical review meeting to thank them and to show our appreciation to them.
 - They expressed their happiness about the acknowledgement and also learning more about rice cultivation especially using salt solution in selecting good seeds.

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BEKWAI MUNICIPAL

- Increase in farmers' **average income per acre by 33%** eg. Issa Nunfam.
- He was the lead farmer at Asanso who also established a half acre field at the same period of the Rice Program at Bekwai. **He got 13bags(120kg/bag)**
- A total of 32bags (40kg) produced from demonstrations established by the office have been purchased for the PFJ programme.
- **Collaboration with other programs: Do It Yourself Rice Programme (DiYORP)** was an initiative to encourage staff to establish their own Rice fields using the technologies learned from the Tensui II project.
- **Two (2) staff members** took active part in the programme.
 - **Mr. Osei Aboagye Jnr.** was able to produce 30bags(40kg) Seed Rice for the PFJ programme.
 - **Mr. Isaac Asare [NABCO personnel]** also had 24bags (110kg) from an area cultivated.

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ATWIMA NWABIAGYA MUNICIPAL

- **Anidaso** rice farmers group is cooperating very well with the department.
- They have **adopted** lots of rice technologies taught them.
- This has led them in **purchasing thresher**.

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ASANTE AKIM NORTH

- A farmer group at Nyamebekyere has been able to purchase **rice thresher after increased income from Rice cultivation with improved Tensui techniques**.
- Mr. Joseph Opuni at Juansa through proceeds from rice has been able to buy a **tricycle, motorbike, enter poultry farm, completed his stores and three-bedroom apartment. He also trains other farmers on improved rice cultivation technologies**
- A group member /miller purchased and installed a **modern rice mill at Akutuase after increased income from rice cultivation**.

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SEKYERE CENTRAL

- Average yield of rice increased from 2.4mt/ha in 2016 to 4.5mt/ha in 2020.
- Kyekyebon rice demo field recorded up to 8.7mt/ha in 2020 after applying all recommended Tensui Techniques.
- Peter Lanjima from Amoamang Community, a target farmer has built a house from profit realized from increased yield.
- Issaka Zugmore, Salifu Inusah and Joseph Aleba, target farmers at Asare Nkwanta purchased rice shellers, threshers and rice mills from proceeds they obtained from 2019 rice farming.
- Many farmers have now taken up rice farming than before due to the gains (impact) they have seen in target farmers' yield / production and income.

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SEKYERE AFRAM PLAINS

- Cultivation of rice once per year has now moved to two times per year due to bund construction which is able to hold up water and retain nutrients.
- Paul Amankwah, district best rice farmer for 2020 after adopting the techniques, has been able to build a five-bedroom house, and educating his child at the Nursing training school at Mampong.
- GHS 99,600.00 loan assistance from REDCAPPA (NGO) to JICA rice farmers has led to increase in production volume.
- Seed treatment before planting has reduced rice blast drastically in the district.

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ADANSI NORTH

1. Resource persons at filed level

- Two National Service personnel benefited from Tensui II TOT. After completion, they have become full time rice farmers adopting the improved rice cultivation techniques.
- They have employed other people to assist with 4 acres farm established in the district.

2. Machinery/Equipment acquisition

Two youth rice farmers in the district have been able to acquire a combined harvester and a thresher through the assistance of the department of agriculture.



AHAFO ANO NORTH

Resource Person at field level

- Mr. Abdul Rahman Iddrisu, a successful rice farmer in Tepa. Previously, he had an acre rice field and produce only 7 bags of paddy rice.
- In 2010, he joined farmers' group for the training. The improved rice cultivation techniques trainings he had made it possible for him to grow more rice.
- He currently cultivates 8 acres of lands for rice and produces 300 bags (37 bags/acre; 84kg per bag) of paddy rice in both major and minor cropping seasons.
- He is a 3-time winner of the district best rice farmer award. The latest being winner of 2018 district best rice farmer award.
- Now he serves as a resource person for dissemination of TENSUI 2 technology to farmers in Ahafo Ano North and other Districts.



AMANSIE WEST

- There is **high demand** for locally produced rice in the district, thus; **creating market** for few rice farmers.
- Many farmers are gradually going into rice production as an **alternative livelihood activity** in the district
- Mr. Isaac Ofosu Oto, a farmer at Pakyi Camp has bought a **rice thresher** from rice production using the TENSUI 2 method
- This same farmer is preparing to do **8 acres** of rice this year using the TENSUI 2 method

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ATWIMA NWABIAGYA NORTH

Strengthen of Farmer Group

- Two vibrant rice groups at Adagya and Abira created.
- Anontaaba women group at Ntensere in the process of accessing rice reaper from MAG.
- Adagya rice farmers group were awarded the Best Rice group at the 36th District Farmers' Day celebration.

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BOSOME FREHO [1]

1. District Own Initiative

Based on DAD budget 4 demo plots were established.

Twenty-four (24) farmers were targeted to be trained but ended up training sixty-five (65) farmers by the end of December, 2020



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BOSOME FREHO [2]

- Project start in May, 2020 and by the end of December, 2020;
 - **Increased income** of farmers resulting in the purchase of rice hand held harvesters, building projects initiated, diversification (animal production) etc.
 - **All year production** for farmers.
 - **Reduction** in the cost of production by applying simple techniques like seed selection, Hot water seed treatment and split fertilizer application.
 - **Use of water** to control weeds and reuse of nets over time.

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BOSOME FREHO [3]

Farmers practices have changed

- Agya Tawiah and his wife were the first people to adopted technology.
- Four (4) non-targeted farmers have adopted technology (esp. bund construction, seed selection and transplanting) by observing the training plot and farmer to farmer extension.



AGYA TAWIAH AND HIS WIFE
BOSOME FREHO

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SEKYERE SOUTH

- A farmer by named **Yahaya Issah** won the **2020 District best rice farmer** because he has adopted the technologies impacted to him.
- He has **one (1) acre banded rice farm** at Afamanaso.
- He and others cropped throughout the year which has increased their income.
- He **has built a house**, and is taking care of his children's educational needs.
- Farmers **complained of rice blast** which was due to continuous use of one variety of rice but with the **introduction of AGRA and Amankwatia rice varieties**, incidence of rice blast diseases has minimized.

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2.

FARMERS SUCCESS STORIES IN ASHANTI REGION

1. FRANCIS OGYIRI [KWASO, ASANTE AKIM SOUTH]

- A 32 year old rice farmer in 2018, cultivated 4 acres of rice using his own seeds and technology without consulting with the AEA or the Department of Agriculture. He harvested 41 bags (120kg/bag).
- In 2019, he cultivated the same field and harvested 72 bags (120kg/bag) after using improved seeds from PFJ and also benefitted from on- site trainings from the Department of Agriculture.
- At the end of the season, he bought a tricycle for commercial activities to generate income for his family.
- Also, in 2020, he cultivated the same field (4 acres) and at this time harvested 76 bags (120kg/bag).
- He bought a taxi car to serve as another source of income for his family.
- Ogyiri is very much grateful to the department and has vowed not to stop working with the department as far as farming is concerned.



- Francis Ogyiri with his tricycle and taxi purchased from rice production

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2. BENEFO DONKOR [ATOBIASE, ADANSI SOUTH]

- A 53 year old rice farmer has been cultivating 6 acres and harvesting between 42-46 bags (120kg/bag) without working with the Department of Agriculture.
- After adopting the Tensui techniques in 2020 and benefitting from improved seeds, and inputs, he **harvested 76 bags (120kg/bag) on a 4 acre** out of his 6 acre field.
- He has now been able to renovate his house.
- He has resolved to work hand-in-hand with the Department of Agriculture in relation to rice production.

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Benefo with his renovated house at Atobiase

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3. RAHINATU KARIM **[TEPA, AHAFO ANO NORTH MUNICIPAL]**

- A female rice farmer with eleven (11) years of farming experience after adopted the Tensui techniques
- Purchase **two (2) tricycles** (Aboboyaa) for her private business and **one (1) tricycle** (Aboboyaa) for her brother's use
- Acquired **one (1) building plot**
- Moulded **1300 blocks** for construction of her building
- Currently **supporting her sister** who is pursuing her tertiary education
- Purchased **LED flat screen TV set** and **Wardrobe**
- **Won District best female rice farmer**

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4. AMADU SEIDU ***BODWESANGO, ADANSI ASOKWA***

- Won the best rice farmer in the district after adopting the new technology.
- He cultivated the rice on a three (3) acre of land where he did an acre of bunds across the farm.
- He also used a good seed variety (Agra), planted in rows and applied fertilizers on time.
- **He has been able to raise a building**
- Plans to acquire more lands to increase his rice production

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5. ABDUL RAZAK ***KOKOADO, ASANTE AKIM SOUTH***

- Started practicing Tensui techniques in **2018**
- Has been able to put up **8 bedrooms house,**
- Has taken care of his daughter to complete nursing training
- **Has also bought a building plot at Juaso.**
- He has been taking good care of his other children in basic schools



6. MAHAMA SEIDU

YAW SARFO, ASANTE AKIM SOUTH

He has been able to put up this **structure** out of the **profit he gained** from his rice field after adopting Tensui techniques in 2019 and 2020 (0247045458)



MAHAMA SEIDU beside his structure at Yaw Sarfo

7. IBRAHIM BABA

DICKSON, ASANTE AKIM SOUTH

He has bought a **motorcycle** using the **profit** he had from the sales from his rice field due to the application of Tensui techniques in 2019 and 2020 (0558165947)



ABU AFRUGU

DICKSON, ASANTE AKIM SOUTH

- He has put up this structure using profit obtained from his rice fields as a result of the adoption of Tensui techniques in 2019 and 2020 (0248628851)



Abu's house at Dickson, Asante Akim South

MR. YABDOO MBORANAM

OFFINSO NORTH

- He used to harvest only **18 bags from his 3 acre farm.**
- He now harvests 54 bags (paddy) after adopting Tensui techniques in 2018
- He has been able to complete a **4 bedroom house and put 2 children** to school to the tertiary level



Mr. Yabdoo in front of his house

SOMAILA BAYABA

ASEMPANEYE, OFFINSO NORTH

- He applied Tensui techniques learnt from the AEA to his **10 acre** farm.
- He has now been able to **complete a 3 bed room house**
- He won the best rice farmer award in 2019



Thank You