SEEDS VARIETAL TRIAL IN OTON:

AN ECOSYSTEM ADAPTATION PROGRAM

EXECUTIVE SUMMARY

Rice plays a dominant role in agricultural land use in the Municipality of Oton. The increase in rice yield is seen as one of the determining factors in reducing poverty and increasing food sufficiency in the municipality. Unfortunately, Climate Change that has greatly affected the rice production in the Municipality of Oton leaving ecosystems for rice production unfavorable.

The Local Government Unit then introduced Seed Varietal Trial. It is using different varieties of rice to test which among these can both bring about high yield and adapt to local conditions. The goal is to determine the best varieties which can thrive in the current ecosystem in identified locations for high rice production which can potentially translate to high economic returns regardless of market instability.

The Municipality of Oton through its local initiative, found it a feasible solution and thus entered into a Memorandum of Agreement with Iloilo Multi-Purpose Cooperative (SIAMPC) to fund the project, using the newly developed rice varieties supplied by PhilRice for testing. The project used fourteen (14) rice varieties and were tested in three (3) different locations – fully irrigated, intermittently irrigated or partly irrigated and rain fed or the favorably rain fed areas.

Three barangays were selected whose locations satisfy the requirement for the study, namely: Barangay Tagbac Sur for the partially irrigated lowland, Barangay Tuburan for the fully irrigated lowland and Barangay Rizal for the favorable rain fed lowland. Out of the fourteen (14) rice varieties, only four (4) varieties were carefully chosen for reproduction by the seed growers in the municipality which yielded stable and high production during the wet and dry season planting. The results showed a significant increase in the production of quality seeds which ensued an increase in income for local farmers.

PROJECT DESCRIPTION

Apart from Climate Change, rice production is directly affected by factors such as water and availability of seeds. At present, 99% of Oton farmers are still practicing the conventional method of farming with the use of commercial fertilizers. Of these, 57% are farming on “irrigated” conditions while 42% are into rain fed farming. Of the 57% of irrigated rice ecosystem of Oton, only 10% accounts for “true irrigated areas”. These are the upstream areas reached by irrigation waters of the National Irrigation Authority (NIA). Areas located midstream and downstream often experience water shortage, resulting to farmers resorting to shallow tube well as alternative.

There LGU encountered several issues through the course of the implementation:

Firstly, the accessibility of quality seeds. Although majority of farmers opt to use of quality tested seeds, they remain to be more expensive than registered and certified seeds. This can also be attributed the fact that there are very few seed growers in Oton.

Secondly, insufficient water supply. It is normal for farmers with under irrigated farm lands to experience seasonal drought, the water shortage issue was made worse due to El Nino which severely affected the country during crop years 2015-2016. While the Municipal Agriculture Office in cooperation with Provincial Agriculture Office has been continuously providing trainings on rice production technology, their gains from the trainings can become futile without sufficient water.

To address the above-mentioned issues, the Municipality of Oton signed a Memorandum of Agreement with the Southern Iloilo Multi-Purpose Cooperative (SIAMPC) in 2016, for the funding of the rice varietal trial. PhilRice supplied fourteen (14) rice varieties at one (1) kilogram per variety of rice and the Municipal Agriculture and Cooperative Office through Engr. Stephen Geroche, Ms. Felisa Celeste and Mr. Rommel Haro provided the technical assistance to start the project.

In addition, the LGU introduced *Palayamanan*, Palay Check and System of Rice Intensification to the farmers. These programs equipped the farmers with the knowledge to better manage their farms.

The trial's objectives were identified as follows: (1) To determine the agronomic characteristics of fourteen newly released rice varieties under the three ecosystems; (2) To determine the yield performance of the fourteen newly released rice varieties under three ecosystems; (3) To identify the best performing rice varieties grown in each of the three ecosystems.

Out of the fourteen (14) rice varieties, only four (4) performing rice varieties shall be selected to be re-produced based on production, pest resistance and its good eating quality. After the trial, the group identified not only four (4) but seven (7) rice varieties. These varieties were tested on three major ecosystems for rice which prevailed in the municipality, namely: fully irrigated, intermittently irrigated or partly irrigated and rain fed and the favorably rain fed (provided with shallow tube well (STW). With an appropriate variety planted, gains in rice production could really be assured.

The trials were implemented under the strict monitoring of two technical personnel of the Municipal Agriculture's Office at two different rice ecosystems. During the trial, it was primarily agreed that all production costs shall be shouldered by SIAMPC. The first cropping was done during the wet season of June to October 2016, with the rice farmers of Oton and adjacent municipalities as its beneficiaries.

Of the data collected and presented, Dr. Blanquita Garcia, a former professor of CPU College of Agriculture was tapped to evaluate the trial. Out of the fourteen (14) rice varieties, the following are identified as best quality rice variety: NSIC Rc 308, NSIC Rc 346, NSIC Rc 352, NSIC

Rc 358, NSIC Rc 360, NSIC Rc 286 and NSIC Rc 292. Out of the seven, the four best performing were NSIC Rc 308, NSIC Rc 352, NSIC Rc 358, and NSIC Rc 360. Dr. Garcia found the program more extensive due to the varietal planting on three different ecosystems which is not normally done.

IMPLEMENTATION PROCEDURES

The table below shows the sequence of activities in the implementation of the project, respective output, time frame required, resources needed and persons or office responsible.

Key Implementation Steps	**Main Output**	**Time Frame Required**	**Resources Needed**	**Person/Office Responsible**
Preparation and Approval of Project Proposal	Approval of the Project Proposal and the signing of the Memorandum of Agreement with the SIAMPC (see Annex A and B)	1 Month (March 2016)	None	Municipal Agriculture Office, SIAMPC and PhilRice
Purchase of Materials	Materials purchased for the use of the trial	1 Month (April 2016)	P25, 300	SIAMPC
Land Preparation and Seed Bed Preparation	To prepare the land and the seed bed before the transplanting of the rice varieties.	2 Months (May to June 2016)	P6, 500	SIAMPC and Municipal Agriculture Office
Transplanting	To control the weed for wet or puddled fields.	1 Month (June 2016)	P6, 500	SIAMPC and Municipal Agriculture Office
Farm Activity (includes fertilizer management and pest management before harvesting)	Grown rice with good quality seeds.	4 Months (June to September 2016)	None	Municipal Agriculture Office

Harvesting	High yielding seed varieties	1 Month (October 2016)	None	Municipal Agriculture Office

The following practices were followed for all three ecosystems used in the study except when otherwise indicated:

A. LOCATION:

The experiment was done in three locations, namely: Barangay Tagbac Sur for the partially irrigated lowland, Barangay Tuburan for the Fully Irrigated Lowland and Barangay Rizal for the Favorable Rain fed (with shallow tube well) Lowland. These three locations represent the ecosystem for the adaptability test of the fourteen (14) rice varieties.

B. LAND PREPARATION

Within the first forty (40) days before sowing, first and second plowing of the area was done. Five (5) days before planting, first harrowing was done and final leveling was followed, two (2) days before planting.

C. SEED BED PREPARATION

The seeds of the fourteen (14) rice varieties were sown in seedbeds following the wet bed method. Seeds were soaked for twelve (12) hours and incubated for thirty six (36) hours before final sowing to the prepared seedbed. Urea fertilizer was applied before sowing.

D. SEEDLING MANAGEMENT AND CROP ESTABLISHMENT

Seedlings were grown until 21 days from sowing. Transplanting was done thereafter at one (1) seedling per hill, spaced 20x20 cm following the straight row planting;

E. FERTILIZER MANAGEMENT

Three applications of fertilizers were followed per 150 sq. m. plot.

For the fully irrigated ecosystem, the first application was done 7 days after transplanting using 20 kg of urea and 15 kg of 16-20-0. Second application was done 21 days after transplanting using 7.5 kg of urea, 8 kg of 16-20-0 and 18.75 kg of T14. The third application was done 39 days after transplanting using 10 kg of urea and 8.25 kg of 16-20-0.
For the partially irrigated ecosystem, identical amount of fertilizer was applied for the first application, as to the second and third applications it was done at 8.22kg and 37 days after transplanting.

In similar manner, fertilizer application for favorable rain fed ecosystem was done 10, 25 and 41 DAT.

F. PEST MANAGEMENT

For the weed control, advance herbicide was sprayed 6 DAT and agroxone at 20 DAT.

G. HARVESTING

When 80% of the grains per panicle have golden brown grains, it simply means that it is the right time to harvest.

H. DATA COLLECTION

The data collected were plant height (cm) at harvest, number of productive tiller from ten (10) randomly selected sample plants per 150 sq. m. plot, actual fresh yield (kg) and the computed yield (t/ha).

Below is the table for the Budgetary Requirements:

TITLE	**CONVENTIONAL FARMING (Irrigated 1 ha)**	**CONVENTIONAL FARMING (Rainfed - 1 ha)**	**RESPONSIBLE AGENCY/ PARTY**	**TOTAL (Php)**
Land Preparation Transplanting	Php 6,500/ha x 1 ha. Php 6,500/ha x 1 ha	Php 6,500/ha 1ha Php 6,500/ha x 1ha	SIAMPC	6,500.00 6,500.00
Urea @ Php 1,000/bag	4 bags	4 bags	-do-	8,000.00
0-0-6- @ Php 1,200/bag	1 bag	1 bags	-do-	2,400.00
T14@Php 1,100/bag	3 bags	3 bags	-do-	6,600.00
Palay Seeds	Different seed varieties	Different seed varieties	PHILRICE	
Herbicide	1 L	1 L	SIAMPC	1,200.00
Pesticide	1L	1L	SIAMPC	2,000.00
Labor for broadcasting fertilizer, herbicide and pesticide spray	1 man/day @ 5 days @ Php 300/day	1 man/day @ 5 days @ Php 300/day	SIAMPC	3,000.00
Diesel for Water Uptake		3 containers (Php 700/ container	SIAMPC	2,100.00
TOTAL				**38,300.00**

PROJECT RESULT/IMPACT

The Municipality of Oton has identified that aside from climate change and the aberrant ecosystem, there is a need to try out different types of rice to discover not only high yielding rice seeds but seeds that can sustain the need of the farmers – low cost and low maintenance. Through the local initiative of the Municipality of Oton, in cooperation with PhilRice and SIAMPC, seeds varietal trial for 2016 became an effective tool to identify high yielding and good quality seeds that farmers can avail at a lower price.

The trial came up with three objectives which were answered after the trial. Firstly, the agronomic characteristics of the fourteen (14) newly released rice varieties under three ecosystems were determined through the following criteria: final height in centimeters at Harvest, the number of productive tillers per hill, the grain weight, the computed yield (t/ha), and the variance in yield. Secondly, the yield performances of the fourteen newly released rice varieties under the three ecosystems were identified as indicated by the variability of the data. Lastly, after the trial, there was not only four (4) but seven (7) best performing rice varieties grown identified in each of the three ecosystems.

The result of the study is summarized below, including the tables and computations to show the performance of each rice variety.

Plant Height

The average height of each of the fourteen varieties at harvest is given in Table 1. The data show that NSIC Rc 288 had the tallest plants in all three ecosystems at 169.30 cm for the partially irrigated, 169.00 for the fully irrigated and 155.20 cm for the favorable rain fed ecosystem. NSIC Rc 278 was taller over the other twelve varieties for all ecosystems and then NSIC RC348 was tall or third in height among the fourteen (14) varieties. The statistical analysis show that the height at harvest differed significantly with height decreasing with water availability in the ecosystem. Tallest plants were noted among fully irrigated with height significantly taller over the partially irrigated ones and the rain fed grown rice varieties were the shortest with identical variety for that matter. The results indicate that height is a stable characteristic of the variety.

Table 1. Final Height (cm) at Harvest

VARIETY	LOWLAND ECOSYSTEM			Variety Mean
	Irrigated	Fully Irrigated	Favorable Rainfed	
NSIC Rc 360	129.80	121.30	117.80	122.97^{de}
NSIC Rc 358	115.90	110.90	97.90	108.23^{ef}
NSIC Rc 352	138.00	127.00	125.40	130.13^{cd}
NSIC Rc 300	125.30	111.80	108.90	115.33^{de}
NSIC Rc 348	155.90	141.30	130.20	142.47^{bc}
NSIC Rc 346	119.30	103.25	102.40	108.32^{ef}
NSIC Rc 292	140.00	128.00	120.40	129.47^{cd}
NSIC Rc 288	169.30	169.00	155.20	164.50^{a}

NSIC Rc 286	129.50	128.40	114.40	124.10^{de}
NSIC Rc 284	123.70	118.80	117.00	119.83^{de}
NSIC Rc 278	168.70	152.00	142.40	154.37^{ab}
NSIC Rc 276	133.00	125.50	115.20	124.57^{de}
NSIC Rc 274	139.40	135.00	122.40	132.27^{cd}
NSIC Rc 272	105.00	97.80	92.50	98.43^{f}
Ecosystem Mean	135.2	126.43	118.72	126.79

Ecosystem: F value = 475.86** at p=.000<.01 Variety: F=72.46** p=.000<.01

Number of Productive Tillers per Hill

The data in Table 2 gives the number of productive tillers per plant of fourteen varieties tested. The data show how the fourteen varieties respond to the different ecosystems where they were planted. NSIC Rc 274 had the most number of productive tillers per hill at an average at 21.70 under fully irrigated condition, followed by NSIC Rc 278 with 20.30 productive tillers per hill and NSIC Rc 346 with 16.70 average number of productive tillers per hill. Different ranking varieties were noted under the partially irrigated ecosystem. The most number of productive tillers was 14.70 on the average for NSIC Rc 276 followed by NSIC Rc 300 with 13.50 productive tillers and NSIC Rc 346 with 13.10 productive tillers per hill on the average. The mean number of tillers was noticeably lower for partially irrigated ecosystem for all fourteen varieties. The reduction in the mean number of tillers was remarkable under rain fed ecosystems no matter that it was considered favorable because of the shallow tube well. Under this condition, the most productive tillers per hill on the average was 13.10 obtained by NSIC Rc 276, followed by NSIC Rc 346 with 12.20 average number of productive tillers per hill and then NSIC Rc 278 with 11.70 productive tillers per hill on the average. Across ecosystem, NSIC Rc 276 got significantly the most average number of productive tillers per hill with NSIC Rc 278 comparably second in average number of productive tiller count. The least number of productive tillers per hill was noted from NSIC Rc 292 at only 9.03. Statistical analysis using the analysis of variance for RCBD disclosed a significant number of productive tillers per hill among varieties grown in fully irrigated ecosystem.

Table 2. Number of Productive Tillers/Hill

VARIETY	ECOSYSTEM			Variety Mean
	Irrigated	Semi-Irrigated	Favourable Rain fed	
NSIC Rc 360	13.80	11.00	8.90	11.23bcd
NSIC Rc 358	11.40	10.10	10.10	10.53bcd
NSIC Rc 352	13.90	11.70	11.00	12.20abcd
NSIC Rc 300	13.90	13.50	10.90	12.77abcd
NSIC Rc 348	11.10	11.00	8.90	10.33bcd
NSIC Rc 346	16.70	13.10	12.20	14.00abc
NSIC Rc 292	9.60	9.40	8.10	9.03d
NSIC Rc 288	11.30	10.60	6.80	9.57cd

NSIC Rc 286	13.80	9.00	8.80	10.53bcd
NSIC Rc 284	11.90	9.90	9.10	10.33bcd
NSIC Rc 278	20.30	11.70	11.70	14.57ab
NSIC Rc 276	21.70	14.70	13.10	16.50a
NSIC Rc 274	11.70	12.50	9.80	11.33bcd
NSIC Rc 272	14.50	12.40	11.00	12.63abcd
Ecosystem Mean	13.97	11.47	10.03	11.82

Ecosystem: 17.25 ** p=.000<.01 Variety: 4.08* at p-.044<.05

Fresh Grain Weight (kg/150 sqm)

The variable fresh grain weight data among the fourteen varieties grown under three different ecosystems indicate the adaptability of these varieties to local ecosystems for rice with data in Table 3 supporting the contention. Surprisingly, varieties grown under the partially irrigated lowland ecosystem had generally heavier fresh grain weight compared with their grain weights under the fully irrigated or favorable rain fed ecosystems. Plants grown in rain fed ecosystems the lowest fresh grain weight on the average compared with the two other ecosystems. Looking into the specific fresh grain weights per ecosystem, under the fully irrigated lowland ecosystem, the heaviest average fresh grain weight was obtained by NSIC Rc 358 at 115 kg, then NSIC Rc 288 getting 111 kg and NSIC Rc 300 with 109 kg fresh grain weight. The top average fresh grain weight performance of NSIC Rc 358 was retained under partially irrigated condition where the value considerably increased to 121 kg. The second heaviest fresh grain weight of 118.50 was recorded for NSIC Rc 278 closely followed by NSIC Rc 276 with 117 kg fresh grain weight. A different set of varieties produced the heaviest grain weights under favorable rain fed ecosystem. NSIC Rc 292 was the top with 99.00 kg average fresh grain weight, then NSIC Rc 272 with 97 kg average fresh grain weight and a close third was NSIC Rc 284 with 96 kg average fresh grain weight. Statistical analysis using ANOVA for RCBD disclosed significant difference in fresh grain weight across varieties and ecosystems. Average fresh grain weight was significantly comparable between fully irrigated and partially irrigated ecosystem and rice varieties grown in any of the two ecosystems produced significantly heavier grain weights over the rain fed ecosystem. Considering the varieties, ten of the fourteen varieties had comparable fresh grain weights across three ecosystems. NSIC Rc 292, NSIC Rc 278 and NSIC Rc 284 were the top three producers of heavy fresh grain weight.

Table 3. Fresh Grain Weight (kg/150 sq m?)

VARIETY	ECOSYSTEM			Variety Mean
	Irrigated	Semi-Irrigated	Favorable Rain fed	
NSIC Rc 360	108.00	92.00	57.00	85.67a
NSIC Rc 358	115.00	121.00	45.00	93.67a
NSIC Rc 352	50.00	62.00	25.00	45.67b
NSIC Rc 300	109.00	103.00	53.00	88.33a
NSIC Rc 348	95.00	92.50	78.50	88.67a
NSIC Rc 346	83.50	77.00	76.50	79.00ab

NSIC Rc 292	109.00	111.50	99.00	106.50a
NSIC Rc 288	111.00	75.00	78.00	88.00a
NSIC Rc 286	71.50	97.00	56.00	74.83ab
NSIC Rc 284	97.50	111.50	96.00	101.67a
NSIC Rc 278	99.00	118.50	90.00	102.50a
NSIC Rc 276	84.00	117.00	68.00	89.67a
NSIC Rc 274	33.00	46.00	48.50	42.50b
NSIC Rc 272	50.00	112.50	97.00	86.50a
Ecosystem Mean	86.82	95.46	69.11	83.80a

Ecosystem: F=7.74 * at p=.019<.05 Variety: F=3.29* p=.038>.05

Computed Yield

The data on computed yield as given in Table 4 justify the need for adaptability trial of the different varieties as indicated by the variability in the data. For the fully irrigated ecosystem, the highest yield of 7.60 t/ha was computed from NSIC Rc 358 followed by 7.40 t/ha from NSIC Rc 288 with lowest yield of 2.20t/ha from NSIC Rc 274. For the semi-irrigated ecosystem, RC288 was the highest yielder with 10t/ha computed yield followed by NSIC Rc 352 at 8.27t/ha and NSIC Rc 358 at 8.06 t/ha. Lowest yield was at 5.13t/ha for NSIC Rc 348. For the rain fed ecosystem, the highest yielder was NSIC Rc 292 at 6.60t/ha, then NSIC Rc 272 at 6.47t/ha and NSIC Rc 284 at 6.40 t/ha. Across varieties, the yield did not differ significantly. Still, NSIC Rc 288 got the highest computed yield of 7.53t/ha on the average, followed y NSIC Rc 292 at 7.10 t/ha and NSIC Rc 278 at 6.82 t /ha. The rice varieties differed significantly in their yield performance in the three ecosystems, with an average of 7.23 t/ha for varieties grown in partially irrigated ecosystem, then 6.02t/ha for the fully irrigated ecosystem. Rice varieties produced significantly the lowest average yield per hectare at 4.72t.

Table 4. Computed Yield (t/ha)

VARIETY	ECOSYSTEM			Variety Mean
	Irrigated	Semi-Irrigated	Favorable Rainfed	
NSIC Rc 360	7.20	6.13	3.80	5.71
NSIC Rc 358	7.60	8.06	3.00	6.22
NSIC Rc 352	6.67	8.27	3.33	6.09
NSIC Rc 300	7.27	6.87	3.50	5.88
NSIC Rc 348	6.33	6.17	5.23	5.91
NSIC Rc 346	5.57	5.13	5.10	5.27
NSIC Rc 292	7.27	7.43	6.60	7.10
NSIC Rc 288	7.40	10.00	5.20	7.53
NSIC Rc 286	4.77	6.47	3.73	4.99
NSIC Rc 284	6.50	7.43	6.40	6.78
NSIC Rc 278	6.60	7.86	6.00	6.82
NSIC Rc 276	5.60	7.80	4.53	5.98
NSIC Rc 274	2.20	6.13	3.23	3.85

NSIC Rc 272	3.33	7.47	6.47	5.76
Total	6.02	7.23	4.72	5.99

Ecosystem: F=13.886** at p=.000<.01 Variety: F=1.634ns at p=.608>.05

Variance in Yield

Considering the basic yield in the area, variances were observed as indicated by the data in Table 5. Under Oton conditions, the base yield for irrigated is 7.9t/ha, 4,32t.ha for the partially irrigated because of stem borer infestation and 5.28 t/ha for favourable rain fed ecosystem. Basically, the yield of the 14 varieties was lower than the base yield in the area as indicated by the negative sign. The average variance for the fully irrigated was -1.88t/ha. The variance for partially irrigated, although positive at +2.91 on the average should be taken with reservations considering the low base yield due to stem borer infestation. The yield of the fourteen varieties tested under favorable rain fed condition was very low at +0.15t/ha only.

Table 5. Variance in Yield

VARIETY	ECOSYSTEM			Variety Mean
	Irrigated Base yield: 7.9t/ha	Semi-Irrigated 4.32t/ha	Favourable Rain fed 5.28t/ha	
NSIC Rc 360	-.70	1.81	-1.48	-.12
NSIC Rc 358	-.30	3.74	-2.28	.39
NSIC Rc 352	-1.23	3.95	-1.95	.26
NSIC Rc 300	-.63	2.55	-1.78	.05
NSIC Rc 348	-1.57	1.85	-.05	.08
NSIC Rc 346	-2.33	.81	-.18	-.57
NSIC Rc 292	-.63	3.11	1.32	1.27
NSIC Rc 288	-.50	5.68	-.08	1.70
NSIC Rc 286	-3.13	2.15	-1.50	-.83
NSIC Rc 284	-1.40	3.11	1.12	.94
NSIC Rc 278	-1.30	3.54	.72	.99
NSIC Rc 276	-2.30	3.48	-.75	.14
NSIC Rc 274	-5.70	1.81	-2.05	-1.98
NSIC Rc 272	-4.57	3.15	1.19	-.08
Ecosystem Mean	-1.88	2.91	.15	.16

Summarily, seven best performing rice varieties were identified after the trial. This includes – NSIC Rc 308, NSIC Rc 346, NSIC Rc 352, NSIC Rc 358, NSIC Rc 360, NSIC Rc 286 and NSIC Rc 292. Out of the seven, the four best performing were NSIC Rc 308, NSIC Rc 352, NSIC Rc 358, and NSIC Rc 360. The identified four varieties will then be mass produced by SIAMPC to be distributed to the local farmers at a lower price. The current market price of seeds with same quality as the identified seed varieties

ranges at P1250.00 per sack (40 kilos per bag) while the seeds identified in the trial will only cost the farmers at P1150.00 per sack (40 kilos per bag). The difference of P100 is a big variance especially that a sack of rice seedlings can only cover ¼ hectare of land.

Based on the data collected, the program has shown that there was indeed an increase in production of good quality seeds, thus also increased the yield as well as the income to our farmers. It has also improved the organization and management of the Municipal Agriculture and Cooperative office and other attached farm based organization and the SIAMPC as well. More seed growers are willing to invest and PhilRice are still willing to support the seeds component by providing more new varieties of rice for more adaptability trials. Lastly, the program has strengthened the participation of the farmer's association, the financial institution and the seed growers.

(ANNEX A)

Republic of the Philippines
Province of Iloilo
Municipality of Oton
Municipal Agriculture and Cooperative Office

PROJECT PROPOSAL

I.	PROJECT TITLE	:	ADAPTATION TRIAL OF DIFFERENT RICE VARIETIES IN IRRIGATED AND RAINFED CONDITIONS AT OTON, ILOILO
II.	PROPONENT	:	MUNICIPAL AGRICULTURE OFFICE AND SOUTHERN ILOILO AREA MULTI PURPOSE COOPERATIVE (SIAMPC)
III.	LOCATION	:	OTON, ILOILO
IV.	BENEFICIARIES	:	RICE FARMES OF OTON AND ADJACENT MUNICIPALITIES
V.	IMPLEMENTING PERIOD:		JUNE – OCTOBER 2016
VI.	PROJECT COST	:	Php 38,300.00
VII.	SOURCE OF FUND	:	SIAMPC., OTON, ILOILO
VIII.	RATIONALE	:	

Rice plays a dominant role in agricultural land use in the Municipality of Oton. The increase in rice yield is seen as one of the determining factors in reducing poverty and increasing food sufficiency in the municipality. Rice production is directly affected by factors such as water and availability of seeds. At present, 99% of Oton farmers are still practicing the conventional method of farming with the use of commercial fertilizers. Of these, 57% are farming on “irrigated” conditions while 42% are into rainfed farming. Of the 57% of irrigated rice ecosystem of Oton, only 10% accounts for “true irrigated areas”. These are the upstream areas reached by irrigation waters of the National Irrigation Authority (NIA). Areas located midstream and downstream often suffer from water shortage, thus, farmers utilizes shallow tube well to augment water requirements.

Availability of quality seeds is another factor that directly affects rice production. Majority of farmers results to the use of good quality seeds, while a few are using Registered and Certified seeds. This may be due to the fact that there are only a few seed growers in Oton and the price of seeds vary greatly if these are produced by seed growers compared to the cheap good quality seeds. Most farmers prefer the cheap seeds that can be bought from the area.

Since food sufficiency is the main thrust of the present government, the Municipal Agriculture Office and the Provincial Agriculture Office has continuously provided trainings and seminars as to the technology to be used to increase rice production, however, these technologies are futile without the availability of high quality seeds and water. It is normal of Oton farmers under irrigated farm lands to experience "minimal drought" in their farms as irrigation water provided by NIA is usually not enough to serve its farmer clientele. The irrigation water shortage was made worst due to El Nino which severely hit the country during crop year 2015-2016. To mitigate the strong effects of El Nino in our farms, we have introduced Palayamanan, Palay Check and System of Rice Intensification to our farmers. These farming systems equipped our farmers with the knowledge to better manage their farms. However, problems such as the accessibility of high quality seeds are still being addressed as we speak. One solution to this problem is the production of new high quality seed varieties from newly released varieties from PhilRice.

IX. Objectives :

1. To conduct varietal trials of the newly released rice varieties from PhilRice Munoz, Nueva, Ecija;
2. To determine which varieties will be favorable under Iloilo weather conditions;
3. To reproduce the new rice varieties that best suits Iloilo weather thru SIAMPC-managed/assisted farms and maintain quality of seeds thru rouging;
4. To sell these high quality seeds to farmers in the area at a much lesser price.

X. Method of Implementation:

This project is a SIAMPC funded project assisted by technical personnel (Mr. Stephen Gerochi and Mr. Ben Olivares) from the Municipal Agriculture Office and a retired Agricultural Technologist and SIAMPC member (Mr. Herman Turija). Upon the acquisition of newly developed rice varieties from PhilRice, SIAMPC will identify rainfed and irrigated farms for the varietal trials. The trials will be conducted under strict monitoring by technical personnels at two different rice ecosystems (Sta. Monica, Oton – Rainfed Ecosystem; Tagbac Sur – Irrigated Ecosystem). All production cost will be shouldered by SIAMPC and at the end of the cropping trial, the variety that provides the best results will be turned over to identified PUFFAO members which in turn will carry on with the seed production program. Production from this level will be sold back to SIAMPC and SIAMPC in turn will be selling these high quality seeds to its member farmers and other farmers in the adjoining municipalities at a much lesser price compared to the on-going price of seeds from accredited seed growers in the province.

XI. Expected Output :

1. Determine the viability of different rice varieties newly released by PHILRICE when planted in irrigated and rainfed rice ecosystems in the municipality of Oton;
1. Availability/Accessibility of quality controlled seeds to rice farmers of Oton and adjoining municipalities;
2. High quality seeds available at a lesser price to SIAMPC members and other farmers in the area.

XII. Quality Control/Management Staff

Two trained and equipped personnel from the Municipal Agriculture Office will conduct the varietal trials in two different rice ecosystems in Oton, Iloilo. SIAMPC will also provide their own trained personnel to assist in the trial process. All activities conducted in the field varietal trial will be technically assisted by the Municipal Agriculture Office. These personnel will ensure that proper scientific processes will be followed in the conduct of the field trials and data will be collected to ensure quality control of the seeds produced.

XIII. Budgetary Requirements

TITLE	CONVENTIONAL FARMING (Irrigated 1 ha)	CONVENTIONAL FARMING (Rainfed - 1 ha)	RESPONSIBLE AGENCY/ PARTY	TOTAL (Php)
Land Preparation Transplanting	Php 6,500/ha x 1 ha. Php 6,500/ha x 1 ha	Php 6,500/ha 1ha Php 6,500/ha x 1ha	SIAMPC	6,500.00 6,500.00
Urea @ Php 1,000/bag	4 bags	4 bags	-do-	8,000.00
0-0-6- @ Php 1,200/bag	1 bag	1 bags	-do-	2,400.00
T14@Php 1,100/bag	3 bags	3 bags	-do-	6,600.00
Palay Seeds	Different seed varieties	Different seed varieties	PHILRICE	
Herbicide	1 L	1 L	SIAMPC	1,200.00
Pesticide	1L	1L	SIAMPC	2,000.00
Labor for broadcasting fertilizer, herbicide and pesticide spray	1 man/day @ 5 days @ Php 300/day	1 man/day @ 5 days @ Php 300/day	SIAMPC	3,000.00
Diesel for Water Uptake		3 containers (Php 700/ container	SIAMPC	2,100.00
TOTAL				**38,300.00**

XIV. Time Table of Activities:

Activities	Month											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
1. Preparation and Approval of Project Proposal			x									
2. Purchase of Materials				x								
3. Land Prep					X	X						
4. Dapog						X						
5. Transplant						X						
6. Farm Activities						X	X	X	X			

7. Field Day									X			
8. Harvest										X		

Submitted by:

CELSA S. SUAREZ
Municipal Agriculturist

CELESTIAL S. TOLOSA
Manager, SIAMPC

Recommending Approval:

VICENTE B. FLORES, JR.
Mayor

Approved:

_____

ANNEX B – MEMORANDUM OF AGREEMENT WITH THE SIAMPC

MEMORANDUM OF AGREEMENT

KNOW ALL MEN BY THESE PRESENTS:

This memorandum of agreement, made and entered into this ____ day of December, 2016 in the Municipality of Oton, Iloilo, Philippines, by and between:

THE MUNICIPALITY OF OTON, ILOILO, with office address at Oton Municipal Hall, Oton, Iloilo, hereinafter referred to as the FIRST PARTY, represented by its Mayor, Carina V. Flores;

- AND –

SOUTHERN ILOILO AREA MULTI-PURPOSE COOPERATIVE (SIAMPC), a cooperative duly organized and existing under Philippine law, with office address at Bonifacio Street, Oton, Iloilo, hereinafter referred to as the SECOND PARTY, represented by its ROBERTO G. MALALA, Chairman of the Board of Directors.

WITNESSETH:

WHEREAS, the Philippine Rice Research Institute (PHIL. RICE) is an attached agency under the Department of Agriculture (DA), tasked to undertake a national rice research program, with the goals of creating a competitive and sustainable rice industry, improving the income and economic condition of rice farmers, and expanding opportunities in rural areas;

WHEREAS, the PHIL. RICE is implementing the "Rolling Out Techno Gabay Rice Program for Sufficient Food on the Table. Sub-Program 3: S&T-Based Farms (STBF) on Rice Production in Selected Irrigated and Rainfed Areas &" and "STBF on Increasing Yield through Utilization of Quality Rice Seeds of Recommended Varieties &" in partnership with Philippine Council for Agriculture, Forestry and Natural Resources Research and Development, Local Government Units, and Magsasakang Siyentista.;

WHEREAS, FIRTS PARTY desires to improve the quality of rice in the Municipality of Oton to uplift the economic condition of the people;

WHEREAS, the SECOND PARTY owns and operates a warehouse in Brgy. Tagbac Sur, Oton, wherein said program is conducted;

WHEREAS, the varietal seeds from the warehouse were distributed to the seed growers of SIAMPC in Brgy. Rizal, Brgy. Tuburan and Sitio Manwe, Brgy. Tagbac Sur (rain fed, irrigated and semi-irrigated areas);

WHEREAS, the grown seeds are now ready for selling by the SECOND PARTY;

WHEREAS, the FIRTS PARTY wants to extend the availment of the said program to the members of the Progressive Unified Federated Farmer's Association of Oton (PUFFAO);

WHEREAS, the PUFFAO is an association organized by the LGU-Oton, Iloilo to support the farmers;

NOW THEREFORE, for and in consideration of the foregoing premises, the parties hereby mutually agree on the joint undertaking, subject to the following terms and conditions:

SECTION 1. SCOPE OF WORK AND RESPONSIBILITIES OF THE FIRST PARTY.

1. 1.) The FIRST PARTY shall provide two (2) qualified personnel from the Municipal Agriculture and Cooperative Office (MACO) to train at PHIL.RICE main office in Maligaya, Munoz, Nueva Ecija, Philippines.

1.2.) The FIRST PARTY shall supervise the growth of selected varietal seeds.

SECTION 2. RESPONSIBILITIES OF THE SECOND PARTY.

2.1.) The SECOND PARTY shall allow the FIRST PARTY to use its warehouse in Brgy. Tagbac Sur, Oton to supervise and monitor the growth of selected varietal seeds.

2.2.) The SECOND PARTY agrees to sell the seeds to its members and the members of the Progressive, Unified and Federated Farmers Association of Oton (PUFFAO) at the same price.

IN WITNESS WHEREOF, parties herein affixed their signatures on the date and place above written.

CARINA V. FLORES	**ROBERTO G. MALALA**
FIRST PARTY Representative	SECOND PARTY Representative

Signed in the presence of:

_____ _____

ACKNOWLEDGMENT

Republic of the Philippines)
Province of Iloilo) S.S.
Municipality of Oton)
X----------X

BEFORE ME, a Notary Public, for and in the Municipality of Oton, Iloilo, Philippines, this ____ day of _____ 2016 personally appeared:

Name	**ID No.**	**Issued On/At**
1. CARINA V. FLORES	_____	_____ / _____
2. ROBERTO G. MALALA	_____	_____ /_____

all known to me to be the same persons who executed the foregoing instrument and hereby acknowledged to me that the same is their free and voluntary act and deed.

This instrument consisting of ____ pages, including this page on which this acknowledgment is written refers to a Memorandum of Agreement and has been signed by the parties and their witnesses and sealed with my notarial seal.

WITNESS MY HAND AND NOTARIAL SEAL.

_____

Doc. No. ____
Page No. ____
Book No. ____
Series of 2016.

ANNEX C – LAND PREPARATION TO PLANTING OF RICE VARIETIES

THE LOCAL GOVERNMENT UNIT OF OTON and SOUTHERN ILOILO AREA MULTI-PURPOSE COOPERATIVE

(STA... COOPERATION with PhilRice

PROJECT	:	ADAPTABILITY TESTING OF NEWLY RELEASED RICE VARIETIES
LOCATION	:	TUBURAN, OTON, ILOILO
CROPPING SEASON	:	WET SEASON 2016
FARMER COOPERATOR	:	NOEL MONTENID
AGRICULTURAL EXTENSION WORKERS (AEWs) IN-CHARGE:		ENGR. STEPHEN Q. GEROCHE (LGU)
		Mr. BEN B. OLIVARES (LGU)
		Mr. GERMAN O. TURIJA (SIAMPC)

Land Preparation....

ANNEX D – BEFORE HARVESTING


NSIC
RC 352


NSIC
Rc 282


NSIC
RC 352