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CPAR Champions: Creating a Ripple of Success

Featuring the testimonies of nine farmers during the First CPAR National Congress



BAR R&D Digest is published quarterly by the Department of Agriculture-Bureau of Agricultural Research (DA-BAR). As the staff bureau of the Department, BAR was established to lead and coordinate the agriculture and fisheries research and development (R&D) in the country. Specifically, BAR is tasked to consolidate, strengthen, and develop the R&D system to improve its effectiveness and efficiency by ensuring customer satisfaction and continous improvement through work excellence, teamwork and networking, accountability and innovation.

This publication contains articles on the latest technologies, research results, updates, and breakthroughs in agriculture and fisheries R&D based from the studies and researches conducted by the National Research & Development System for Agriculture and Fisheries (NaRDSAF).

BAR R&D Digest welcomes comments and suggestions from readers.

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R&D NOTES

by DR. NICOMEDES P. ELEAZAR, CESO IV

THE 1ST CPAR CONGRESS: *A Celebration of Partnership for Agricultural Development*

he Community-based Participatory Action Research (CPAR) program has been at the forefront of the bureau's efforts and has consistently delivered on its promise to improve farming system technologies for specific micro agro-climatic environments through research and

development (R&D) activities that involve farmer and fisherfolk cooperators in the various regions of the country. Since its inception in 1999, CPAR has generated a lot of impact on the agricultural sector, providing relevant information generated through on-farm verification of developed agricultural technologies, and has helped immensely in hastening the process of technology transfer for improving productivity in the coverage areas. It has strengthened RD&E with real time confirmations of the effectiveness of technologies turned out by research. On 20-21 February 2014. a grateful Bureau of

2014, a grateful Bureau of Agricultural Research (BAR), together with Secretary Proceso J. Alcala of the DA, held the first-ever congress on CPAR at the prestigious Manila Hotel. With the theme, "CPAR: Pagtutulungan ng mga Mananaliksik, Magsasaka't Mangingisda tungo sa Malawakang Pagunlad ng Pamayanan," the congress highlighted the accomplishments and success stories from the CPAR program and the forging of stronger linkages with and among BAR's partners for better program implementation.

The CPAR Congress, which will now be held as an annual event, was unique as it was not researchers or research managers who did the presentations of success stories but the beneficiary farmers and fishers themselves who are after all the real "bidas" at the grassroots level and the source of inspiration for us at BAR. With descriptions of the developments coming "straight from the horse's mouth," so to speak, the audience was able to fully appreciate the advantage of CPAR technologies to the farmers and fishers, their kin and their neighbors.

We now have 231 projects being done in 549 sites in the country's 16 regions. Thus far, 11,291 farmers and fishers have directly benefitted from CPAR and the number continues to grow. Eventually, these developments feed into the higher level BAR program on technology commercialization (NTCP) wherein successful CPAR technologies are subjected to enterprise development such as those that are featured in the National Technology Forum held annually every August at the SM Megatrade, Megamall, Mandaluyong City.

Secretary Alcala and I, in our messages, took note that CPAR has essential attributes.

It is witness to the farmers' and fishers' ability to surmount agricultural challenges in a scientific manner given the chance. It is a good model for government initiatives being contemplated that call for partnerships with farmers/fishers and LGUs with a minimal budget. It is a sound stepping stone towards entrepreneurship, transforming "farmer-scientists" to farmer entrepreneurs. It has a multiplier effect as many of the farmers/fishers in the community become convinced of the CPAR technologies tried out by cooperators and help spread the word.

Through CPAR, BAR affirms its commitment to transform subsistence agriculture into one that truly makes farming profitable for farmers and fishers. ###

CPAR CHAMPIONS: CREATING A RIPPLE OF SUCCESS

by RITA T. DELA CRUZ

research result introduced as an intervention or a technology in a community can only be considered effective if farmers themselves are able to use and adopt them in their fields resulting to improved production and increased income. It then becomes successful if more communities use and adopt the technology creating a ripple effect that extends to other communities making the technology self-sustaining. This is the wave that the **Community-based Participatory** Action Research (CPAR) has been creating since it was first implemented and this echoes and redounds to every farmer and fisher testifying on how CPAR projects have improved their way of living.

Community-based approach

CPAR is a location-specific research cum extension activity that focuses on improving farming system technologies for specific micro agro-climatic environments within a province or municipality. One important feature of CPAR is that it uses a community-based approach as a strategy.

The community-based approach is a partnership strategy between the researcher and the community, requiring the involvement of the community members throughout the research process and valuing their contributions in the decision-making process. The aim is to increase knowledge and understanding at both ends and integrate the knowledge gained with interventions to improve their quality of life.

The approach used in CPAR draws the active participation of cooperators in ensuring that the community is empowered with informationbased decision-making. This allows for an uncomplicated technology verification and adaptation process where mature farming technologies resulting from R&D initiatives are tried and tested by the farmer/fisherfolk cooperators themselves with activities that encompass technology verification, adaptation, demonstration and dissemination. Extension activities based on the needs identified by the community are also part of the CPAR project.

CPAR is holistic and multidimensional in nature making it practical and effective. It follows a total farm approach ensuring that all resources in the farm are maximized to their full potential. Farmers' knowledge and practices are also valued and their impacts are considered especially in the validation and acceptance of technologies. Specifically, CPAR focuses on technology, family, community, and market.

As a program, CPAR specifically seeks to: 1) enhance the role of RD&E through technology transfer to improve production management systems as business; 2) develop strategies for effective integration of support services for enterprise and agribusiness development; and 3) institutionalize active community participation in the overall management of farm and coastal resources for enterprise and agribusiness development.

Empowering communities

One of the selling points of CPAR is that it enjoins the participation of farmers and fisherfolk, empowering them to make informed decisions that will bring benefit to the entire community.

Members of the community are involved in the decision-making process, making them partners in the actual implementation of the agricultural projects.

Model farms are established where technologies and other related farming and production processes have been successfully demonstrated. CPAR focuses on the needs of our farmers and fishers and their families thus bringing the benefits at the community-level. At the end of the chain, CPAR ensures that the harvests of farmers and fishers will reach the market and, hopefully, elevate the new practices to widescale production and product promotion.

Direct beneficiaries of CPAR are farmer and fisherfolk cooperators. Meanwhile, adopters, who are among the many indirect beneficiaries of CPAR, are composed of farmers who have seen firsthand the benefits and effectiveness of the project's initiatives with its implementation in their localities and would want to adopt the same technology in their own lands.

Farmer organizations are also active participants in capacity building activities

	DA-BAR	COMMUNITY-BASED PARTICIPATORY ACTION RESEARCH (CPAR) PROJECT
	Title	BFAR-13/CFRDC TILAPIA POND-BASED HATCHERY AND NURSERY PROJECT
	Implementing Agencies	BFAR-Caraga Fisheries Research & Development Center, SNCAT, Office of the Provincial Agriculture, Provincial Fishery Office & Municipal Agriculture Office, Dinagat
The	Date Started	: November 2009
	Date of Completion	: November 2011
71	Location	: Brgy. Cayetano, Dinagat, Province of Dinagat Islands
	Researchers	: MIGUEL O. BAAY, HELEN L. SUAREZ, ZENDA ELAGO, DR. WILFREDO C. TIU AND JUANITA M. BAHIAN
Z	Cooperator	: Professional League Multi-purpose Cooperative
	Funded by	

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under CPAR that include training programs and workshops. These training programs equip organizations with bookkeeping and fund-management tools which are vital in intensifying the production competence of the farmer organization.

Transforming lives

A game changer in Philippine R&D, CPAR provides the best of opportunities to our local farmers and fishers in practicing what they do best.

In the recently concluded "First National CPAR Congress," farmers and fishers from all over the country attended the event and testified on how CPAR changed and transformed their lives. Production- and profitwise, they shared their individual "success stories" on how they came to know about CPAR and how the interventions and technologies introduced to them were able to greatly improve their yield and income.

The two-day congress, themed "CPAR: Pagtutulungan ng mga Mananaliksik, Magsasaka't Mangingisda tungo sa Malawakang Pagunlad ng Pamayanan," aimed to forge stronger linkages among partners for better program implementation. More importantly, the congress was held to provide public awareness, not only of the CPAR program, but to inform everyone that there is money in farming given the proper intervention and technologies.

Technologies and interventions introduced in every CPAR project is based on the results of a Participatory Rural Appraisal (PRA) which is conducted beforehand to ensure that the project will address the existing needs of the community and identify the resources of the areas that can be mobilized to serve its needs.

One of the many CPAR farmer-beneficiaries who shared her experience was Julie Lapingcao, a 48-year old farmer-cooperator from Brgy. Rosario, Aloguinsan, Cebu, who proved that, with the great recipe for success, she has risen above others. Her recipe? "Knowledge in corn farming, which I have achieved through attending CPAR training and seminars, added with the right dose of determination to apply everything that was learned, and hard work" has brought Julie to where she is now, a successful farmer.

Julie, with the rest of the CPAR farmer-cooperators,

underwent trainings on production and cultural management, integrated upland pest management, soil and water conservation and management, technologies on corn-based farming systems, animal health care, farm planning and farm record-keeping. Vegetable and livestock integration became a practice, and for Julie, "it is the best thing I have learned."

Another individual with transformed life after CPAR is Ruel Alido, a farmer-cooperator from SIbagat, Agusan del Sur who believes that a farmer who was trained and taught the value of appropriate technologies and interventions will produce and harvest more than a farmer who relies on hearsay. Experience has taught him that in farming there is no shortcut. And he was thankful for CPAR that they were taught the appropriate farming systems approach.

Alido and his fellow CPAR cooperators attended training and seminars on organic fertilizer production and utilization, cropping systems, and crop production. "Prior to the implementation of the project, we underwent several trainings and effectively put to use what we learned by applying them in our farms. Now we are reaping what we have sown." ###





From Highlands to Fishponds:

The Success of CPAR in Lamut, Ifugao

Ko po ay isang simpleng magsasaka sa amin, sa bayan ng Lamut, probinsya ng Ifugao, rehiyon ng Cordillera. Ang kasaysayan po ng aming bayan ay sahod ulan lamang po kami walang irigasyon," hence the introduction of Mr. Pio Famorca in a testimonial referring to their traditional practice of rainfed agriculture.

Cordillera Region is characterized by high, rugged and massive mountain ranges. Despite of limited arable and fertile land, agriculture still remains to be the primary source of livelihood in the region. Major agricultural products include rice, corn, legumes, fruits, vegetables, rootcrops, coffee, and tobacco. The region is also known for its rich heritage and culture due to their mastered art of living with nature, one manifestation of which is the famous Banaue Rice Terraces.

Until the operation of the Hapid Irrigation Project in 2000, the farmers of Lamut, Ifugao were delighted and inspired upon seeing a visible light of progress. Just like Mr. Famorca and the rest of the farmers and fisherfolk, they already have higher hopes for a better yield and catch as well as new alternative source of income. Thus, some farmers ventured into fish production which led to the beginning of tilapia production. More idle lands were excavated

by LIZA ANGELICA D. BARRAL

and converted into fishponds. However, the increased inputs in fish production still resulted to decrease income. Although fisherfolk have potential areas for this new technology intervention, they cannot engage so much due to their limited funds and technical knowledge on fish production.

Beginning of CPAR in Lamut

Aware of the existing problems in the municipality, Dr. Catherine Buenaventura, supervising agriculturist from the local government unit of Ifugao, together with Ms. Neriza Danao, aquaculturist at the Provincial Agriculture Environment and Natural Resources Office (PAERNO), spearheaded the project "Community-based Participatory Action Research (CPAR) on Fishpond Tilapia **Production and Processing** Project in Hapid and Sanafe in Lamut, Ifuagao".

Implemented in 2008, the project aimed to increase the income of fish farmers by 20 percent through the adoption of improved fish production technology. Specifically, it sought to: 1) adopt improved technology on tilapia production to 40 fisherfolk using the Fisherfolk Field School (FFS) approach, 2) utilize fishery resources within sustainable yield levels,

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Epitome of a humble success

"Kasi noong hindi pa nagpunta ang CPAR para magtraining sa amin, kanya-kanya po kaming saliksik kung paanong mag-alaga, kung paano ang timpla ng pagkain, kung pano magprepare ng pond at imonitor kung lumalaki sa amount ng pagkain nila," Famorca said as he recalled the early days when each of them were conducting their own research on how to combine the proper feeds, prepare the fishpond, and monitor the growth of tilapia.

According to Famorca, one of the benefits of CPAR was that, they have learned various technical skills on tilapia fishpond preparation and production. Also, the project implementers gave the beneficiaries a quota of 400 sq/meter of fishpond with 2,000 tilapia fingelings. As a result, Famora cited that proper technology adaptation was their key in obtaining significant increase of income by almost half.

Aside from the technical assistance, CPAR facilitated the introduction of value-adding technologies from tilapia. The beneficiaries were able to create various products like tinapang tilapia (smoked tilapia) and fish balls. "Sa ngayon po ang OTOP (One Town One Project) namin sa Lamut, Ifugao ay naging tilapia na," Famorca delightedly shared.

CPAR also helped the beneficiaries to look for practical alternative source of income aside from agriculture. "Noong dumating ang irigasyon, lahat po ay nag-engage sa tilapia, pangalawa na naming trabaho bukod sa palay at corn," Famorca added.

Key to CPAR's victory

During the implementation, the team established sustainability mechanism to identify issues and constraints and to ensure that they were addressed through strategies and key measurable targets. To ensure that the capabilities of fish farming communities are strengthened, the team conducted capacity building activities.

"Learning by doing" through Fisherfolk Field School (FFS) was the effective strategy utilized during the CPAR implementation. According to the project team, FFS sessions were conducted twice a month. Various topics were being discussed such as pond preparation or construction, fertilizer requirement, proper computation and application of fertilizers, stocking of fingerlings, feeds and feeding, water management, etc. During the sessions, participants were given the opportunity to share their insights on the project implementation, project's strengths and weaknesses and recommendations on how to improve the project.

Series of trainings on data gathering, record keeping, seine net design, construction

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PIO FAMORCA

"Kasi noong hindi pa nagpunta ang CPAR para mag-training sa amin, kanya-kanya po kaming saliksik kung paanong mag-alaga, kung paano ang timpla ng pagkain, kung pano magprepare ng pond at imonitor kung lumalaki sa amount ng pagkain nila."



REGION 1

aving the technical know-how and access to right farming technologies are two essential ingredients to complete a recipe for success. This was realized during the implementation of a Communitybased Participatory Action Research (CPAR) project that was introduced in Sto. Domingo, Ilocos Sur.

"Kami po ngayon ay hindi nahihiyang magsabi na kahit paano, sa mga taga CPAR Sto. Domingo, lalo na sa aming bayan na hindi lang medyo, kundi talagang umangat na din ng konti ang aming pamumuhay dahil sa CPAR," shared Bonifacio Fagela, one of the CPAR farmercooperators from Sto. Domingo who gave a testimony during the First CPAR National Congress.

Prior to CPAR implementation, Sto. Domingo farmers produce major crops including rice, corn, sugarcane, tabacco, and vegetables. However, their cropping patterns left out the farm lands idle from early March to May.

The Ilocos Integrated Agricultural Research Center (ILIARC) thought of converting these idle months into profitable ones by adding cropping season for corn. It was from here that the project, CPAR on Rice – Corn – Corn Farming System was implemented in two adjacent barangays in Sto. Domingo, the Brgys. Lussoc and Borobor. "Sa corn po, noong una binabalewala namin ang

FROM NONE TO STO. DOMINGO PROFIT FROM EXTRA

pagtatanim ng corn. Noon kitang-kita po ang lupain namin ay bakante, lalo kung tag-ulan. Pero dahil sa CPAR, nabago namin. Hindi lang bakante, naging dalawang beses pa kaming nakapagtatanim," reported Fagela.

To ensure that the interventions are followed, farmers attended trainings on technology updates on rice and corn, organic agriculture, record keeping, entrepreneurial management, and series of

CASH: FARMERS (ROPPING

by DIANA ROSE A. DE LEON

educational tours to other progressive farms to keep them updated and knowledgeable on the appropriate farming technologies that they can use in their farms.

As a result, significant increase in yield both was attained both for corn and rice. The implementers introduced the hybrid rice during the second year of the project which further boosted the production. Farmer cooperators posted an average yield of over 6 tons per hectare. "Ngayon dahil sa CPAR gumagamit na kami ng certified o hybrid seeds kung saan umaani na kami—ang pinakamataas, sa akin lang po ay 130 cavan per hectare at yun na din sa mga kasama namin," added Fagela. Before, their average harvest was 60-70 cavans per hectare using inbred rice.

For the first corn cropping, from 4 tons per hectare, it went up to 6 tons per hectare. The second corn cropping, which is the main intervention of the project, using the BT corn, the farmers reported a yield of 6 tons per hectare.



The project also included goat raising as part of the intervention. "Sa kambing po, ngayon ay tinatawag na namin siyang ATM, dahil 'pag may kailangan kami, yun ang isinaswap namin. Ginagawa naming pera ang kambing," Fagela happily reported.

Farmer-cooperators were able to continuously support their familys' everyday expenditures. They are able to buy their own farm equipment including kuliglig (two-wheeled trailer pulled by a two-wheeled tractor similar

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BONIFACIO FAGELA

"Kami po ngayon ay hindi nahihiyang magsabi na kahit paano, sa mga taga CPAR Sto. Domingo, lalo na sa aming bayan na hindi lang medyo, kundi talagang umangat na din ng konti ang aming pamumuhay dahil sa CPAR."

REGION 3

GOAT BECOMES "READY CASH" FOR MANG RUFO

by ANNE CAMILLE B. BRION

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is testimonial in many occasions continues to be a living proof of how the Community-based Participatory Action Research (CPAR) program of the Bureau of Agricultural Research (BAR) is able to help transform lives and empower the country's farmers and fisherfolk.

"Ako po ay magpapatotoo sa malaking tulong ng CPAR project sa goat production. Isa po kasi ako sa mapalad na farmer na naging myembro ng CPAR," said Mang Rufo D. Dolueras, a goat farmer in Porac, Zambales during the First National CPAR Congress.

"Sisimulan ko po ang kuwento noong 2009 nang tinipon ang farmers sa Porac para alamin kung paano po papasok ang CPAR sa aming mga maliliit na magsasaka. Noon po, ang namamahala ng Research Outreach Station (ROS) sa Porac ay si Mr. Benjamin Baltazar. Pinulong po niya kami at tinawag ang municipal agriculturist ng Botolan para alamin kung saan papasok ang proyekto na ipagkakaloob nila, at iyon nga ay ang pag-aalaga ng kambing."

Through the conduct of a Participatory Rural Appraisal (PRA), the first step in a CPAR implementation that identifies the needs of the farmers, it was found that the common problem in the community is poverty due to limited livelihood activities and low productivity in farm areas. A large portion of upland areas also remain idle which can be tapped for animal farming, one of which is goat production.

According to Dr. Arthur Dayrit, member of the CPAR team in Region III, goat raising has a big potential as a profitable business enterprise in the region because there is a huge demand, but insufficient supply. In addition, goat farming is not labor intensive. It requires low investment and is low maintenance. Also, the goats can reproduce up to three times in two years time, which translates to faster return of investment for the farmers.

This paved the way for the implementation of the project, "CPAR on the Promotion of Recommended Goat **Production Strategies through** Farmers Livestock School-Integrated Goat Management (FLS-IGM) in the Province of Zambales". Initiated in 2009, the project aimed at increasing the adoption of recommended goat management strategies among raisers. A major component of the project was a training on integrated goat management. It was organized and facilitated by the Department of Agriculture-Regional Field Office 3 through Central Luzon Integrated Agricultural Research Center (CLIARC) ROS Hillyland Station in collaboration with the Office of the Provincial Agriculture, Provincial Veterinary Office, Municipal Agriculture Office, local government units, and farmers' organizations.

It involved a sevenmonth season long training on integrated goat management, wherein different recommended production strategies on goat farming were discussed. Farmers were taught of different technologies which they can apply to their own farms. These include: upgrading the genetic base of native goats, proper housing made from locallyavailable materials, proper deworming with the help of the provincial veterinarian, stall feeding, improved forage, late grazing, and utilization of manure as fertilizers, among many others. To date, the FLS-IGM has already produced four batches of graduates. From the initial 18 farmers, the project has already assisted 87 farmer-cooperators in the province with 230 goats distributed.

Mang Rufo is a second batch graduate of the FLS-IGM. From the initial five goats that he received from the project in 2010, he has already produced 46 goats within a span of four years. When translated to income, this amounts to Php 69,000. Of these, 10 offsprings were already returned to CLIARC that will then be loaned out to the next batch of interested farmercooperators.





He is always reminded of how raising goats helped him acquire a motor water pump from a mining engineer. He recounted the story when a mining engineer who once visited their area was captured by the quality of one of his goats. The engineer then made a deal with him to give him a water pump in exchange of the goat. Without thinking twice, Mang Rufo and the mining engineer sealed the deal. Since then, the water pump has been greatly helping him in his farming activities.

He was thankful to all the collaborating agencies, especially to BAR, for helping smallscale farmers like him. "Taos-puso po akong nagpapasalamat sa patuloy na pagtulong ng DA-BAR," Mang Rufo said. Now, his goats are becoming ready cash asset for him so he does not worry anymore where to get money in case he needs it. "Marami po ang mga benepisyo na natanggap ko. Bilang isang magsasaka, mahilig



po akong magtanim ng gulay at ng palay. Sa pagtatanim ko ng palay, may puhunan na ako, at iyon nga ang kambing. Noong araw po, pagpatak ng ulan, naghahanap pa ako ng takalanan o iyong utang na ang ibabayad ay palay. Ngayon po, pagpatak ng ulan, ang hinahanap ko na ay iyong bibili ng kambing para may puhunan na ako sa pagtatanim ng palay," Mang Rufo narrated.

Through CPAR, goat farmers in Zambales, just like

Mang Rufo, have been equipped with knowledge on appropriate technologies and interventions that improved their existing practices. Goat farming now becomes a source of alternative livelihood and additional income to provide for their families. With the project's fruitful outcomes, CLIARC has been receiving requests from other interested farmers to conduct the same training. ###

REGION 4A

Daughter of a Farmer turns APOOLSOOG into Profitable Business

by MA. ELOISA H. AQUINO

ung wala na sa tubig ang pera, lipat tayo sa lupa," thus, the initial statement uttered by Alodia Rey of Brgy. Matandang Sapang Silangan, Catanauan, Quezon. "Ang una naming hanapbuhay ay ang pangingisda hanggang sa dumating ang panahon na halos wala na kaming mahuling isda. Kaya naisip naming magtanim ng gulay, mais, at uraro," she added.

Alodia is a daughter of a farmer who was not able to finish college because life was difficult then. She also married a farmer, thus, agriculture is close to her heart. From fishing, they opted to shift to farming and focusing on planting arrowroot or "uraro" because of its profit potential.

Arrowroot is a major source of income in Catanauan. One important product is the arrowroot flour which is used in making a wide-range of high quality biscuits and cookies that provide a great potential as an export product. Its starch is used in food, pharmaceuticals, and cosmetics while its flour can be used for pastries and cakes or feed for livestock.

Production areas for arrowroot grew in Catanauan declaring it as One Town, One Product (OTOP). Plans are in place to expand the market for Catanauan's starch and flour to include Bulacan and other parts of Laguna, Marinduque, and Quezon.

But as the demand for arrowroot products increase, Alodia experienced that her harvest was becoming insufficient. It was noted that tuber and starch production was relatively low, partly due to lack of access of the community to the latest in technology and planting techniques.

To address insufficient production in arrowroot and enhance the marketability of the arrowroot starch and flour, a project titled "Communitybased Participatory Action Research (CPAR) on Improved Arrowroot **Production Technologies** and Enhancement of the Arrowroot Starch and Flour" was introduced in Catanauan, Quezon. Implementing the CPAR was the Department of Agriculture-Regional Field Office 4A, Southern Tagalog Integrated Agricultural Research Center (DA-RFO 4A, STIARC).

To mobilize the community, selected farmer-cooperators from Matandang Sabang-Silangan (MSS) and Matandang Sabang-Kanluran (MSK) in Catanauan were identified STARADEC





Department of Agriculture is now looking at the possibility of using the arrowroot flour as a substitute for wheat.

Farmer-members in MSS are now registered under the Department of Labor and Employment as a Buklod ng Pagkakaisa Association. The Arrowroot Planters Association of MSK likewise received a Certificate of Accreditation from the Municipal Office. Members of both Associations are processing arrowroot tuber into starch, flour and feed meal in large volumes.

"Marami ang nagtatanong kung paano kami nakapagpapaaral ng mga anak, e ako'y isang magsasaka lamang? Sinabi ko sa kanila, sipag at determinasyon ang aming sikreto," Rey shared. She was proud to say that, through her income from arrowroot, she was able to have her children continue their studies. She can now send her three children to college with another one in high school.

There were other tangible benefits attributed to the CPAR project. "May nakabili ng kalabaw, baka, baboy at mga appliances at may mga nakapagpagawa din ng kanilang bahay at dagdag pa dito ang gastusin sa pagpapaaral at tustusin sa pangaraw-araw na



pangangailangan," Rey shared.

"We are very happy with how our lives have improved because of CPAR. We are thankful for the new technology and the training that were provided to us. They were such a big help to us," she said.

Rey informed that she now distributes her uraro cookies in Manila, Marinduque, and Mindoro and that the income from her sales enabled her to purchase cattle.

With the success of Alodia, a lot of her fellow farmers became interested and were encouraged to plant arrowroot. ###



REGION 5

Farmers Develops MOTORIZED WEEDER through CPAR

by ANNE CAMILLE B. BRION

ith the numerous programs and projects that the government, particularly the Department of Agriculture (DA), has been implementing to help the farmers and fisherfolk in the country, one farmer in Bicol thought of how he, as a farmer, can contribute to the productivity of the agriculture sector.

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AR R&D DIGEST

"Marami na pong programa ang nagbigay tulong sa aming mga magsasaka. Mayroon po kaming maipakikita na kontribusyon upang lalo pang mapaunlad ang ating sakahan, mapataas ang produksyon, at mapababa ang inputs. Ito po ang aming naunang inisyatibo: ang makatuklas ng aming nakikitang napakalaking tulong sa paglutas ng problema ng damo sa palayan," said Carlito Aquino, a farmer from Ocampo, Camarines Sur, in a testimonial during the First Community-based Participatory Action Research (CPAR) National Congress.

The widespread growth of different types of weeds in farms has always been a problem for farmers. Their incomes tend to lower as weeds inhibit rice productivity and production. Through the creative mind of Aquino and the skills of another farmer, Gil Penetrante, the two thought of a way on how to address this problem–and that is when the development of a motorized weeder came to life.

"Isa po sa mga problema ng mga magsasaka ay ang pagdami ng damo sa kanilang palayan. Naisip ko, kung gagamit ng mechanized na weeder, mababawasan ang gastos dahil mababawasan din iyong tao na kailangan para mag-weed," Aquino explained. Made mostly of scrap materials, the motorized weeder can finish the weeding of a one-hectare farm with only three farmers, as compared to the manual weeder which needs 10 people to finish the job. If expenses incurred in a day amounts to P2,500 using the manual weeder, cost for the motorized weeder is only P1,260.50. Hence, the cost of labor is reduced by as much as 50 percent.

"Siguro darating ang panahon na hindi lamang iyong mga technical people, hindi lamang mga inhinyero sa agrikultura, kung hindi meron din palang mga magsasaka na tutulong at marunong din lumikha. Dahil unang-una, nakikita din namin mismo kung ano ang aming mga pangangailangan dahil kami mismo ang nagsasaka," he furthered.

Due to the potentials of the motorized weeder, the DA-Regional Field Office 5 under the leadership of Regional Executive Director Engr. Abelardo R. Bragas has promised to support the invention. To date, the equipment is being improved by the Regional Engineering Group and the Research Division to come up with data on the measurement of efficiency and fund allocation.

Aquino is just one of the many resourceful and innovative farmer-beneficiaries of the project, "CPAR in **Upland Farming Communities** in the Provinces of Albay and **Camarines Sur: Promotion** of Farm CARE (Capability Advancement and Resource Empowerment)". According to Luz Marcelino, manager of the **Bicol Integrated Agricultural** Research Center (BIARC), "the project aims to increase the farmers' productivity and income in rice growing areas through the development of appropriate and location-specific technologies and interventions. Moreover, it seeks to enhance the role of research and development in the transfer of technology, resource management, and agricultural sector productivity of the region."

For these to be realized, the farmers will be empowered by hastening and harnessing their



capabilities through the conduct of various activities and trainings. They are encouraged to actively participate in the identification of technologies that are suitable to their own needs, and along the process, it is hoped that they will be able to influence their fellow farmers in promoting the specific interventions introduced by CPAR.

One of the features of the project is the application of organic methods on diversified



farming systems wherein farmers were taught on making liquid fertilizers. "Nang aming natutunan ang pagsasaka ng organiko, natuto kaming gamitin ang lahat ng inputs na nanggagaling din sa aming lugar. Kami ay may sariling produksyon ng pataba at sariling paggawa nung concoction na itinuro din sa amin ng mga taga-DA," Aquino said. "Iyan po ang aming experience sa pag-engage sa organic agriculture. Kailangan lang

ng sipag, interes para matuto, at kaalaman sa kung ano mga pangangailangan mo. Kung kinakailangan mo ng pataba, dapat mag-isip ka ng paraan kung paano magkaroon ng solusyon sa ganoong pangangailangan," he added.

His experiences of venturing into organic agriculture prompted the Bicolano farmer to develop the motorized weeder. "Nakaimbento po kami ng isang weeder, na dahilan ng aming eksperyensiya sa organikong pagsasaka kung saan hindi kinakailangan gumamit ng sintetikong pamatay ng damo," he said.

With this invention, it is hoped that other farmers will be encouraged to be ingenious in their own little ways. As BIARC Manager Marcelino said, "here in Bicol, we want to teach our farmers how to become more innovative in their farming endeavors." ###

REGION 6

CPAR Improves Farming Practices of Leon Farmers

by DIANA ROSE A. DE LEON





to ang naging susi ng tulad kong magsasaka sa aming barangay na mai-angat ang aming produksyon sa pamamagitan ng pagsunod sa mga bagong teknolohiya," shared Noli Caldina during the First Community-based Participatory Action Research (CPAR) National Congress. He is one of the farmer-cooperators of a CPAR project implemented in Leon, Iloilo.

Farmers from Leon have an existing farming system of rice-rice-rice, rice-rice-corn or rice-corn-vegetable. The profit from their harvest was just enough for a family's daily subsistence. Looking for a way to further boost their source of income, a CPAR project was introduced in the area. Among the identified culprits on why productions of rice, corn, and vegetables were low was due to lack of access to quality seeds, pests' infestations, and high cost of inputs (fertilizer and pesticide).

Through the CPAR project, 25 farmer-cooperators from Brgy. Tina-an Norte and Brgy. Buga, Leon were tapped to try the package of technologies (POTs) developed for vegetables. They also underwent intensive 16-week training on palay check system through the Farmer Field School (FFS). Farmer-cooperators were also taught topics on integrated



nutrient management and integrated pest management. Other support given were the provisions of inputs including quality certified seeds and fertilizers.

"Sa CPAR tumaas ang aking ani mula sa 88 cavans to 107 cavans per hectare. Bumaba ang aking cost of production pero tumaas ang aking kita," expressed the happy Caldina. Based from the data gathered for wet and dry seasons, on the average, the farmercooperator from Brgy. Tina-an Norte can earn on rice alone an amount of Php 37,053 per hectare. Meanwhile, a farmercooperator from Brgy. Buga can earn an average net income of Php 29,630 per hectare. For vegetables

production, they were provided POTs for hot pepper, eggplant, squash, tomato, and ampalaya. Another intervention brought by CPAR to Leon was the integration of livestock raising specifically on cattle fattening to their farming system. "Sa cattle fattening, may income po na Php 10,000 per cattle in six months," added Caldina. He also mentioned that they are now started raising native chickens.

With a rice-ricevegetable plus cattle fattening and applying the learning from CPAR trainings on appropriate technologies, a farmer can earned an average of Php 97,060 for Brgy. Tina-an Norte and Php 78,208 for Brgy. Buga. This amount is equivalent to



an increase of income of Php 47,675 and Php 31, 732 for Brgys. Tina-an Norte and Buga, repectively. CPAR is not operating under a dole-out scheme but is employing on a roll-over scheme wherein farmercooperators repay the initial inputs provided to them through the CPAR. The

repayment is handled by the farmer association wherein the amount serves as their seed money. Sixty percent of the amount that was provided to farmer-cooperators had been returned to the association as seed money and 40 percent served as a grant to farmercooperators. "Sa ngayon ang aming asosasyon ay may seed money na mahigit sa Php 200,000 at tulong-tulong po namin itong pinapalago at pinapalaki. Sa ngayon, hindi na kami nagungutang dahil sa asosasyon na namin kami humihiram ng capital" reported Caldina. He added that before they have no choice but to rely on moneylenders who charge with high interest rates, but now they can borrow money from the association with a minimal amount of interest rate and flexible repayment scheme.

"Tumatag ang aming asosasyon mula sa 10 miyembro, 46 members na kami," he proudly said. According to Caldina, before CPAR, though they have existing farmers' association, the members were not that cooperative. Now, the members are actively engaging to the meetings and attending activities of their associations. He said that there are now plenty of farmers who want to join their association so that they can be part of CPAR too. ###

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CORN FARMING AT ITS BEST: THE **JULIE LAPINGCAO** CPAR STORY

by DARYL LOU A. BATTAD

orn is already a common crop especially here in our community, that's why I wanted to stand out and make a difference, as far as corn farming is concerned."

True enough, Julie, a 48-year old farmer-cooperator of Community-based Participatory Action Research in Brgy. Rosario, Aloguinsan in Cebu proved that she indeed—in their small town and in her own right—rose above others in corn production.

The intervention of CPAR

The project, "CPAR on Corn-based Farming System Development implemented by the Central Visayas Integrated Agricultural Research Center aimed to improve productivity of farmers which will result to an increase in their income. There were 15 members of the Rosario Farmers Association (ROSARFA) who were involved in the CPAR project.

Julie, with the rest of the farmer-cooperators, underwent trainings on production and cultural management, integrated upland pest management, soil and water conservation and management, technologies on corn-based farming systems, animal health care, farm planning and farm recordkeeping.



Vegetable and livestock integration became a practice, and for Julie, "it is the best thing I have learned."

A CPAR corn champ

Julie's life before CPAR was 'too ordinary,' as she puts it. She served as help to her husband who is a carpenter. "Pag may gawa lang ang asawa ko, doon lang kami nagkakaroon ng kita. Pag may tumawag sa kanya na magpapakarpintero," she shared, referring to "gawa" as her husband's carpentry sideline. Although she was already into farming prior to CPAR, her knowledge on corn farming was very limited, which then resulted to very low productivity enough for her family's consumption only. "Ang tanim kong mais, pangkain

lang namin. May sumosobrang kaunti, yun naman ang binebenta ko. Ang kita ko noon, dalawang daan lang, ganyan lang," she revealed. It was when she became part of CPAR that changed her life.

From the 200-peso that she earned by selling her produced corn, income skyrocketed to about Php34, 000. In less than a hectare of planting area that she allotted for CPAR in corn production, she harvested 680 kilos as per last cropping in 2013 which she sold at P50.00/kilo. "Ang laki talaga ng pagkakaiba ng kita ko noong dumating ang CPAR, at ipagpapatuloy ko lahat ng natutunan ko dito," Julie said.

From the use of the native corn variety (*Tiniguib*), Julie adopted the IPB Var 6 which was introduced

JULIE LAPINGCAO

"Ang laki talaga ng pagkakaiba ng kita ko noong dumating ang CPAR, at ipagpapatuloy ko lahat ng natutunan ko dito." through CPAR. According to project leader, Mr. Florentino Calinawan, Jr., the introduced variety yielded 3.89t/ha on an average.

Aside from corn, she also earned profit from other commodities such as peanut and bitter gourd. All of her produce were being marketed in local markets within the municipality of Aloguinsan.

The CPAR life

Julie admitted that being a part of CPAR made her feel important. "Masarap sa pakiramdam na maisasama ang tulad namin sa ganitong programa ninyo," she exclaimed. Currently, she is the president of ROSARFA, and was made to testify about the benefits of the project during the First National CPAR Congress on February 20-21, 2014 at the Manila Hotel. "First time ko pong mag-Manila Hotel," she said. "Ang sarap po sa pakiramdam noon sa amin dahil nabibigyan kami ng pansin. Mas lalong nakaka-enganyong

magtrabaho pa," she added. The congress was graced by the Agriculture Secretary and other prominent DA officials and its regional field offices, along with other CPAR farmers from Luzon, Visayas, and Mindanao.

Looking at the success of the CPAR farmers especially in the case of Julie, the widespread notion that there is no money in agriculture has just been refuted by CPAR, "Ang maganda dito sa CPAR, pinagaaralan muna [ang mga teknolohiya] e," shared Julie."Kaya siguro naging epektibo ito sa aming lugar. Basta maging masipag ka lang, kikita ka naman talaga sa CPAR," she added.

She also emphasized how CPAR gives value to the knowledge and opinion of farmers. "Mula umpisa naging parte kami ng CPAR. Pinapahalagan nila ang mga sasabihin namin, o kung may naiisip kami na pwede naming maibigay sa project," Julie explained.

Truly, the principles of CPAR made a mark in the lives of these farmers, especially to Julie. Asked how CPAR helped her, she said, "Sobrang laki ng pagbabago sa buhay namin na hindi mapigilan ng mga kapitbahay ko na makibahagi na rin sa CPAR." ###





From Highlands to... from page 9

and maintenance were also conducted in collaboration with the Bureau of Fisheries and Aquatic Resources (BFAR) and Regional Fisheries Training Center (RFTC) of Aparri, Cagayan. Refresher courses on tilapia production in fishponds were also conducted as well skills training on postharvest and value-adding. Members of the fisherfolk's group have attended trainings on organic farming specifically on the preparation of organic fertilizers and concoctions which can be used in the fishponds like Indigenous Microorganisms (IMO) and Lactic Acid Bacterial Serum (LABS). The fisherfolk have found out that



there was less mortality when IMO was added regularly into the fishponds.

Another key factor is the establishment of an organized. Hapid Fisherfolks' Association Incorporated and Sanafe Fisherfolks' Association were registered with the Department of Labor and Employment (DOLE) in December 2009 and in January 2010, respectively. CPAR empowered farmers and fisherfolk by honing their skills through new technological interventions. Values formation became evident wherein each beneficiary developed their sense of responsibility of managing and preserving their natural source of livelihood. ###

From None to Cash... from page 11

to a rotary tiller), water pump, generator, motorcycle, tricycle, house maintenance and repair, appliances, among others. They were also able to buy their own other livestock (pigs and cattle) as additional support in their income. "Pagkatapos ng rice farming, naisisingit namin ang ibang produkto kagaya ng pakwan. Kaya sa halip na ricecorn-corn lang ang produkto namin ngayon saloob ng CPAR project ay mayroon na kaming naidadagdag na magandang



mapagkakakitaan," he added.

Fagela is appreciative on the government support through the CPAR project which motivated him and the other farmer-cooperators to do better and surpass the expected impact of the project. In fact, as CPAR operates in a roll-over scheme, the farmer-cooperators were able to repay 100 percent of their loans and is now accommodating more farmers to avail of their loan service. Furthermore, due to excellent performance and good result of the CPAR project in Sto. Domingo, the project was extended allowing other barangays to be part of CPAR and to experience what the farmers of Brgys. Lussoc and Borobor have been enjoying. ###

DIGEST



armers will not immediately believe in a technology even if the claims are promising. Experience has taught them that in farming there is no shortcut. Its methodical nature begs that prudence be followed along with hardwork and wit. Information is important, but it is here, in the appreciation for new knowledge, where lies the difference between a farmer who was trained and taught the value of appropriate technologies and interventions with one who merely relies on hearsay.

Ruel Alido, a farmer from Sibagat, Agusan del Sur, logically believes that a farmer who was taught how to till, plant and integrate crops, and fertilize his soil will harvest more compared to those who were not. Alido, is one of the farmer-cooperators of the project, "Communitybased Participatory Action Research Program in the Province of Agusan del Sur", led and implemented by the Department of Agriculture-Regional Field Office 13, CARAGA Integrated Agricultural Reseacrch Center (CARIARC).

Generally, the crops grown in Agusan del Sur include rice, corn, fruit trees, oil palm, banana, abaca, rubber, coconut, root crops, vegetables and commercial tree species. Agriculture and forestry are the major sources of income.

The CPAR interventions introduced in the area were based on the information gathered during the rapid rural appraisal. Among the major issues and problems identified by the local people were: presence of pests and diseases, nutrient deficiency of agricultural lands, inadequate marketing support, financing, infrastructure, and lack of preand postharvest facilities. The project aimed to improve efficiency of production and increase profitability of farmers using a farming systems approach. Specifically, it looked into the improvement in production of banana, coconuts, sweet potato, corn, ginger, and abaca through the establishment of technology demonstration sites that would also serve as model farms for other farmers.

Alido and other CPAR farmer-cooperators were taught and trained on organic fertilizer production and utilization, cropping systems, and crop production. "Prior to the implementation of the project, we underwent several trainings and effectively put to use what we learned by applying them in our farms," he said.







BAR R&D DIGEST

CPAR'S promise delivered in Agusan del Sur

by RITA T. DELA CRUZ

THLET

RUEL ALIDO

"Prior to the implementation of the project, we underwent several trainings and effectively put to use what we learned by applying them in our farms."







Farmer-cooperators were given short gestation crops (sweet potato and ginger) so that they will have a source of income while waiting for their primary annual crops. These crops were planted under the main crops (banana and abaca) to maximize the use of their farm area. They were also provided vegetable seeds as additional source of income and food of the farmers and their families.

Alido confessed that "at first, we went through difficulties especially during the time when our abaca and banana were infested by Banana Bunchy Top Virus (BBTV). Some of my fellow farmers lost the drive to continue. We helped each other on how we could eradicate BBTV so that it will not affect the healthy plants," Alido explained. BBTV is considered the most destructive virus disease of banana in the Philippines. It is characterised by the 'bunched' appearance of newly emerging

leaves, and dot-dash flecking of leaves and stem sheaths. The affected plants do not produce fruit causing significant losses in production.

Another component of the CPAR project was vermicomposting. "This helped us a lot. Since we were taught how to make our own organic fertlizer, we don't need to buy expensive inorganic fertilizer for our crops anymore. We sell the surplus to our fellow farmers who need them so it's another source of income," Alido explained.

"As of now, our vermicompost production hardly meets the demand. It's not even enough to accommodate all the orders so we plan to extend our production area so that we can ensure good harvest and, at the same time, add income to us," he added.

Although infested with BBTV during the first year of implementation, Alido said that their abaca production helped them. "We process the abaca fiber into valuable handicrafts and native products including sinamay, doormat, placemat, wall décor, and pinukpok which is a material for the Barong Tagalog," he said.

The Municipal Agriculture Office (MAO) of Sibagat was the one coordinating with the buyers and the municipal cooperative so that the farmers were assured of a market for abaca fiber and its various products.

Meanwhile, for banana production, "we are processing products from banana. We make banana chips which we sell to schools and the nearby market," reported Alido.

"As of now, my fellow farmers who are also CPAR cooperators are slowly paying the inputs from the project," concluded Alido. The roll-over scheme is an important aspect of CPAR because this will sustain the life of the project. This will also help more farmers avail of the CPAR inputs and technologies. ###

ARMM

SULU FARMERS FIND HOPE IN CPAR

by PATRICK RAYMUND A. LESACA

ulu is an agricultural province, with its people living mainly on farming and fishing as source of livelihood. Among its major crops include abaca, cassava, coconuts, lanzones, and oranges as well as exotic fruits like durian and mangosteen.

The province has the largest cultivated area for cassava of roughly 17,000 hectares in the region. Farmers and villagers are into cassava production being one of their food staples. This indicates that the crop is widely-grown among various crops on alluvial, sloping, and foothill areas. Some farmers intercrop cassava with coconut or with upland rice and corn.

Although the province is predominantly engaged in agricultural activities, cassava production

HAYMIN DANSALAN

"Through CPAR we were able to send our children to school and address other school related necessities. We were also able to purchase decent furnitures and appliances. And to tap it all, we can now save and deposit money for our cooperative... CPAR is a blessing not only to Muslims, but also to Christians alike. Salamat sa CPAR."



is still low and has not been fully maximized due to various physical, technical, and socio-cultural factors including the growing population and the demand for food.

Strings of hope for the Tausug

To address the issue of cassava low production, a project titled, "Community-based Participatory Action Research (CPAR) for Cassava-based Farming System in the Province of Jolo, Sulu" was introduced following strings of interventions that would help the farmers improve their production and income.

The project was implemented by the Autonomous Region in Muslim Mindanao Integrated Agricultural Reseach Center (ARMMIARC) in collaboration with the local government unit of Jolo. Leading this iniative was Rossana T. Pinduma, superintendent of the Research Outreach Station (ROS) based in Jolo, Sulu.

The objectives of the project was to: 1) increase farmers' income through farming activities, 2) generate baseline information on the status of selected agriculture resources of the province, 3) improve production efficiency and increase income per cropping season, and 4) empower farmer skills on improved technologies through trainings and capacity development.

The CPAR was implemented in three barangays in the municipality of Indanan, namely: Tagbak, Bwansa, and Adjid as recommeded sites for the cassava-based farming system. Five farmer-cooperators (FC) for each barangay or a total of 15 FCs were selected as beneficiaries. They were provided with cassava planting materials, assorted vegetable seeds (ampalaya, eggplant, pole sitao, pechay, sayote), cattle, 9 heads of chicken, and 1 rooster. They were also underwent trainings to equip them in implementing the program.

Each component demonstrated appropriate technologies that would boost production and income of the family. Each FC established a farm showcasing the appropriate farming interventions and technologies. Their farms also served as models for other farmers who are not into CPAR yet.

Hope shimmers on Mang Haymin

One of the identified and selected farmer-cooperators was Haymin Dansalan of Brgy. Adjid, Indanan. Haymin, 56, is married to Shermajal with whom he has four children. A devout Muslim and a passionate farmer, the Dansalan family cultivates 1.5 hectares farm land devoted mainly to cassava and vegetables.

In 2009, Haymin learned that DA-BAR, in coordination with DA-ARMMIARC and LGU of ARMM, was conducting a Participatory Rural Appraisal (PRA) and series of seminars on cassava and vegetable production and cattle and poultry raising. Eager of this development and thinking of the opportunities to improve his livelihood and to support the needs of her growing family, he attended the seminar. This paid off as he is now reaping the benefits from the learnings he is now applying in his farm.

Haymin was one of the selected FC together with the other 14 cooperators participants from the three barangays. He was provided with cassava stalk, cassava machine grater, vegetable seeds, cattle, and nine heads of chicken. He planted one hectare of cassava and planted the remaining area with vegetables.

"Ang cassava grater de makina, ito ay pinag-aralan namin," as narrated when asked how the program helped him. After being involved in the project for more than a year, he gained the momentum of growing vegetables and raising livestock. And this boosted the Dansalan earnings. "Malaki po ang kita sa cassava at sa gulayan". Haymin was refering to his 3,000 hills of eggplant which provided a net income of roughly Php 60,000. While waiting for the cash crops, he was harvesting cassava, which provided them additional income and served as their food staple other than rice. "In the absence of the machine, we can only obtain one full sack of cassava in three hour's time. With the machine, the hours consumed in grating was reduced to six minutes only to get a full sack of cassava. And this helped us in our farming concerns. Time saved was spent with the family," Haymin explained. He also added that another source of their income came from raising cattle and poultry. "Prior to the CPAR project, we only have three cattles in the barangay, to date, our inventory reached 10 cattles. Five were provided to us," he narrated.

"Through CPAR we were able to send our children to school and address other school related necessities. We were also able to purchase decent furnitures and appliances. And to tap it all, we can now save and deposit money for our cooperative. We are very grateful to DA Secretary Proceso J. Alcala and to the Bureau of Agricultural Research under the



leadership of Dr. Nicomedes P. Eleazar. CPAR is a blessing not only to Muslims, but also to Christians alike. Salamat sa CPAR," Haymin confessed.

Impact to community

The CPAR project did not only help one farmer, it rippled in the community. With increased production, eventually their income source also improved. The positive results encouraged more farmer cooperators and adopters to sustain the project up to the present.

With the interventions introduced to FC, there was an increase in farm income. Cooperators were able to send their children to school, improve their homes, purchase kitchen utensils, bed sheets, and clothes, and deposit savings in their cooperative. One farmer was able to purchase secondhand motorcycle. Through the project, the farmers were taught unity, hardwork and how to become self sufficient. After two years of implementation, the project was replicated in Brgys. Tubod in Talipao and Kiput in Pata. ###



1ST CPAR NATIONAL CONGRESS

With the theme, "CPAR: Pagtutulungan ng mga Mananaliksik, Magsasaka't Mangingisda Tungo sa Malawakang Pagunlad ng Pamayanan," the congress showcased the accomplishments and success stories from selected CPAR projects nationwide through product promotions, exhibits, project presentations of researchers and project leaders, and testimonials from the farmers and fishers themselves. About 400 participants attended the congress including researchers, CPAR implementers, representatives from local government units (LGUs), DA attached agencies, farmer and fisher cooperators, and representatives from the private sector.



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