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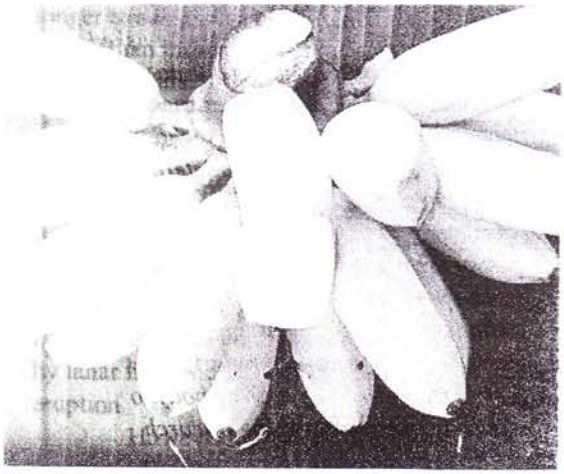
IPGRI turns over banana var to RP



International Plant Genetic Resources Institute (IPGRI) Director General Geoffrey Hawtin handed over to the Department of Agriculture (DA) banana germplasm materials in a symbolic turn-over ceremony this October at UP Los Baños, College, Laguna.

The germplasm materials are improved banana varieties contributed by the International Network for the Improvement of Banana and Plantain-International *Musa* Testing Programme (INIBAP-IMTP) network to breeding programs worldwide. These were tested in different banana-growing countries that are within the network of INIBAP, including the Philippines through the Bureau of Plant Industry (BPI). The banana varieties include the cooking and dessert types, some of which are proven to be resistant to major diseases and are high yielding.

INIBAP is an IPGRI program created in 1985 to control the rapid spreading outbreaks of banana fungal diseases and to accelerate research on banana improvement. IPGRI is an autonomous international scientific organization and one of the 16 research centers supported by the Consultative Group on International Agricultural Research (CGIAR).

According to INIBAP Regional Director Agustin Molina, this turnover will allow the Philippine government to transfer the varieties to farmer fields for adaptation trials and eventual adoption. For small-scale farmers, these varieties can be used to alleviate the ravaging effects of banana diseases, which is a production constraint. Likewise, this will also help the smallholder farmers who, compared to the big commercial growers, do not have the technical and economic capabilities to manage banana diseases by chemicals.

"The turnover," Molina says, "also signifies the productive collaborations of germplasm exchange among countries and public breeding institutions to address global production constraints affecting particularly the small-scale growers." This also shows the role of INIBAP in its network members like the Philippines.

The DA–Bureau of Agricultural Research coordinated the ceremony as part of the activities during the Philippine Day, the first leg of the Annual General Meeting (AGM) of CGIAR held here in the country from October 28 to November 2, 2002. *(Likha C. Cuevas)*

Fisheries biotech RDE program drafted

To strengthen partnerships among institutions that conduct research and development activities in fisheries biotechnology, a national research and development program for fisheries biotechnology is established.

Dr. Eliseo R. Ponce, director of the Bureau of Agricultural Research (BAR), said that there is potency and efficiency when institutions move forward as an integrated group of people with a common goal.

"The establishment of the fisheries biotechnology R&D program is carried out in phases. A core group is organized to spearhead the consultation with the various stakeholders such as people's organizations and regional offices and attached agencies of the Department of Agriculture," disclosed Dr. Juanito Sangalang, head of the National Programs Division (NPD) of BAR.

The consultation is necessary in the formulation of the agenda and program for research, development and extension. Dr. Rolando Platon, chief of the aquaculture department of the Southeast

see Fisheries biotech... page 3

GUEST COLUMN

Making technologies work for the Filipino farmer

In the fourth quarter National R & D Management Meeting, held at NOMIARC, Bukidnon, Undersecretary Ernesto Ordonez, talked about technology transfer and challenged us, agricultural researchers, to be creative in transferring the technologies developed from our researches to the Filipino farmer.

Why us, the research sector and not the extension system? And why the need to be creative?

Usec Ordonez himself says, we can ask why a new technology is not being adopted and then recommend measures to have it adopted. I guess this is where we researchers have failed - in determining why adoption fails. Have farmers failed to adopt the technology because

1. *they have not heard of it?*
2. *they have heard of it but would like to see it work first?*
3. *they believe in it but they lack the skill to use it?*
4. *they have seen/tried it but it did not work?*
5. *they have seen it, found it effective but it takes too much of their time that could be for other productive activities*
6. *they would like to use it but the inputs, e.g. seeds needed are not available?*
7. *they would like to use it but they could not afford the inputs?*
8. *they find no incentive to produce more?*

These questions if answered yes, would require different interventions and different institutions.

Our current extension system has been organized to intervene if questions 1, 2 and 3 are answered yes. However, who should start the process of technology promotion? Who should call the attention of the extension system when new technical information or technology is available? Is it the researcher who did the work? Do researchers have the appropriate skills? Should we train them and fund them to do the work? How much time is needed? Will such work keep them from doing more research? However, it may help researchers intervene if the answers to question #4 and 5 are yes. Thus, the loop of feedback between researchers and farmers is completed.

We have known instances when a researcher's bias stands in the way when a technology needs further improvement and thus, not adopted by farmers. Hence, should we have an impartial body to review all research reports and choose which report is ready for dissemination and which ones should be further verified or improved upon?

I presume this is one of the weakest links between research and extension. Today, many researchers take it upon themselves to call the attention of the public on their research results. This works only if the technology requires simply changing certain farming practices and the materials needed are available. However, one of the eternal laments about new technologies is the lack of the needed machinery or material, that is, a yes answer to question # 5. UPLB researchers once announced that new duck hybrids are better than traditional stocks. However, when asked where the public can buy the hybrid stocks, their answer was that only a few were actually available. Similar situation exists for many more technologies and explains why these technologies are not extensively adopted.

The intervention needed when question #6 is answered yes is a credit policy and therefore beyond the realm of the research sector but still within the realm of the extension sector. However, the low repayment rates in our government credit program make the program non-sustainable. What kind of questions should the research sector ask to help design a viable credit program?

Lack of incentives to produce more and more efficiently is an attitude that should be dissected by researchers. Unstable market is often cited by farmers as a disincentive to improved production. Some researchers cite plain laziness as a reason why some farmers lack the will to improve production. These reasons require different interventions as well.

Should these questions be asked by the researcher themselves or an independent body? Looking at successful private technology developers whose adoption of their technology determines their very survival, the asking of the whys appears to be a function of another part of the organization. It is not the researchers who developed the technology who do the asking but the marketing department. Similarly, therefore, we need a separate body to ask these questions, review research results and advocate new policies to promote technology transfer. We have previously thought that a division of the BAR, the Governance, Impact Evaluation and Policy Division, should lead this function. It is time for the Division to take up the challenge.

(SHalos)

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NOMIARC discusses research benefits

Research is only as good when this is used by farmers. This is the main focus of the Fourth Quarter National R&D Management Meeting at the Northern Mindanao Integrated Agricultural Research Center (NOMIARC), Malaybalay City, recently.

According to key speakers, Ernesto Ordoñez, the government has been spending money for R&D to benefit the intended clients by increasing their agricultural production. However, the technologies generated by the researches had not been adopted by farmers. The regions are encouraged to look at extension as part of their responsibility. Researches, no matter how outstanding, remain useless until the farmers use them and must contribute to an increase in their yield and the quality of their product.

One of the speakers, DA Undersecretary Ernesto Ordoñez mentioned how R&D was effectively utilized with a good extension system during the time of then Secretary of Agriculture Edgardo Angara. According to him, from 1986 to 1999, the area allotted for rice was 4.2 M ha but only 300,000 ha was planted with certified seeds. Seeing that the problem was in the extension system, Secretary Angara implemented a project of seed networking with subsidy from government. With this strategy, rice production, according to Usec Ordoñez, increased. The 300,000 ha doubled to 700,000 ha within the year. Then, the following year, the 700,000 ha became 1.5 M ha with all this planted to certified rice seeds.

According to Usec Ordoñez, one of the problems in extension is the devolution of DA extension to the Local Government Units (LGUs) causing lack of control and communication among them. Oftentimes, the department has no direct connection with these people.

As a strategy to improve regional extension, DA implemented an incentive system for extensionists in Regions II and X. What they did, according to Usec Ordoñez, was to initially give each region the same amount of money for extension services. This amount was gradually decreased or increased, depending on the extentionists' performance - "if they are lazy, they get less and if they are good they get more." This new system is now being

see NOMIARC discusses...page 5

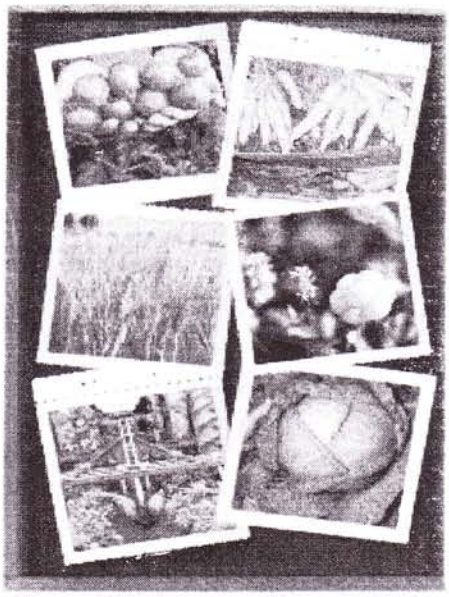
Fisheries biotech...

Asian Fisheries Development Center (SEAFDEC) suggests collaboration among the institutions involved in fisheries R&D.

Aside from SEAFDEC, research activities in fisheries biotechnology in the Philippines are undertaken by UPLB National Institute of Molecular Biology and Biotechnology (BIOTECH-UPLB), Bureau of Fisheries and Aquatic Resources-National Fisheries Research and Development Institute (BFAR-NFRDI), UPV National Institute of Molecular Biology and Biotechnology (UPV-NIMBB), UP Marine Science Institute (UP-MSI), and Mindanao State University-Iligan Institute of Technology (MSU-IIT).

These institutions are involved in improving the existing culture technologies, developing new methods for growth and reproduction of cultured species through the use of indigenous feed ingredients. Disease resistance of some marine species, preservation of marine biodiversity, and development of new food products and medicines are also one of the priority programs.

The nine institutions present in the consultative meeting hosted by the Bureau comprise the core group that prepares and plans activities for the formulation of the RDE program. *(Maria Rowena Briones and Andressa Gutierrez)*



Potential crops to minimize imports identified

Bureau of Agricultural Research (BAR) Technical Adviser for Seed System Dr. Danilo Baldos identified potential crops for the different regions. He emphasized that the country could minimize the volume of our agricultural imports if we focus on the improvement of our new crops.

This was revealed during the 4th Quarter National R&D Management Meeting held at the Northern Mindanao Integrated Agricultural Research Center (NOMIARC) in Dalwangan, Malaybalay City.

"In 2001, we imported a substantial amount of products from crops of which some are (ironically) endemic to our country. These imported products are derived from soybean, corn, tapioca, mungbean, peanut, onions, coffee, garlic, watermelon, cowpea, longan, sesame, lychee, sunflower, cashew, and lemon," he explained.

Dr. Baldos emphasized that our country has conditions similar to those countries that grow these import-based crops.

Dr. Baldos added that even if some of the crops are not prevalent in our country, their seeds could be easily acquired from other countries and the proper technology to develop them. He pointed out that if we improve crops species indigenous to us, we will have comparative advantage in producing them and even expand our export base.

The following is Baldos' list of identified potential crops that can be grown in various regions of the Philippines.

Cordillera Administrative Region (CAR)
Bokchoi, kale, Korean radish, Thai longan, lychee, persimmon

Ilocos Region
indigenous vegetables, seeds squash and watermelon (China varieties), sesame (Thai, China, and India varieties), sour tamarind, avocado, sineguelas

Cagayan Valley
spineless Amaranths, upland kangkong, sunflower (Thailand hybrid varieties), soybean (Thailand varieties), cassava, lime, longan

Central Luzon
squash, upland kangkong, radish, singkamas, sesame, sunflower (Thailand varieties), chili pepper (Thailand and Indonesia varieties), sweet and baby corn, sweet tamarind, green mango and other varieties

Bicol Region
gabi, upland kangkong, ubi, upland taro, yam (fresh or flour), black pepper, pili, sour tamarind, mangosteen

Western Visayas
Kale, Bokchoi, upland kangkong, squash, onion, ubi, taro, yams, ilang-ilang, piña fiber, longan, sweet and sour tamarind, pomelo

Central Visayas
upland kangkong, indigenous vegetables, sweet and baby corn, aromatic coconut, jackfruit, sineguelas, and atis

Eastern Visayas
Amaranth, upland kangkong and indigenous vegetables, ubi,taro, ginger, chili pepper (Thai and Indo varieties), anato (food colorant), jackfruit, avocado, rambutan, lansones

Western Mindanao
Amaranth, upland kangkong, onion, chili pepper, cassava, ubi, black pepper, jackfruit and avocado

Northern Mindanao
tomato, squash, crucifers, peanut, cassava, sesame (Thai, India, China varieties), sunflower (Thai varieties), longan, MD-2 pineapple

Southern Mindanao
Asparagus, upland kangkong, bokchoi, kale, peanut, soybean, coffee, cacao, durian, mangosteen, lansones, lychee, longan, solo papaya, guava

Central Midanao
upland kangkong, indigenous vegetables, peanut, mungbean, ginger, ubi, gabi, cacao, durian, mangosteen, longan, lime

CARAGA
Amaranth, upland kangkong, indigenous vegetables, abaca, seaweed, taro, ubi, cassava, anato, durian, mangosteen, lime

Autonomous Region of Muslim Mindanao
seaweed, amaranth, indigenous vegetables, peanut, mungbean, coffee, cassava, yams, durian, mangosteen, lansones *(Mary Charlotte O. Fresco)*

Agricultural research is key to development-DA Secretary

"It is poverty that provides the spawning ground for local and global conflicts and terrorism."

This was stated by Department of Agriculture Secretary Leonardo Q. Montemayor during the Philippine Day Opening Program of the 2002 Annual General Meeting (AGM) of the Consultative Group on International Agricultural Research (CGIAR) held at the University of the Philippines Los Baños (UPLB) on October 28, 2002.

In his message to the AGM delegates and guests, Sec. Montemayor said that poverty is principally a rural phenomenon and central to the improvement of the lives of the rural poor in boosting agricultural productivity and farm incomes. "Agricultural research is the major instrument in the development of productivity enhancing technologies in the context of sustainable production systems," Montemayor said.

Quoting UN Secretary General Kofi Anan, Montemayor affirmed that people, "who have nothing in this world also have nothing to lose and such people are easily seduced by terrorists." Poverty is the spawning ground where terrorism can spread its evil ideology. "Food security and poverty reduction are fundamental strategies for a stable and progressive world," he said.

Agricultural research plays a major role in increasing productivity and income during this time of declining resources and this pursues countryside development and global food security. To illustrate this point, Montemayor pointed out that it has been estimated that technology contributed from one-half to two-thirds of agriculture's output gains in recent decades. "Investing more on developing and adopting new technologies reduce production cost, boost productivity, enhance competitiveness, and increase farmers' earnings," he concluded.

As hosts of the Philippine Day, UPLB Chancellor Wilfredo David, Laguna Governor Teresita Lazaro, and Los Baños Mayor Caesar Perez welcomed the AGM participants and guests.

Other speakers during the program were Bureau of Agricultural Research Director Eliseo Ponce, International Rice Research Institute (IRRI) board of Trustees Chairperson Mrs. Angeline Kamba, and CGIAR Chairman Ian Johnson. *(Likha C. Cuevas)*

NOMIARC discusses...

adopted in other regions. Each region is required to submit accomplishment or performance reports which are the bases for the incentives. Usec Ordoñez remarked that, with this kind of system implemented, DA was able to influence 17,000 extension workers to perform better.

Usec Ordoñez asked the Regional Integrated Agricultural Research Center (RIARC) managers why good researches are not adopted. Most of the researchers said that the Filipino farmers do not have access to the researches and the ones using them are the good extension workers from Thailand, Vietnam, and Israel, who then transfer the technology to their own countries.

Usec Ordoñez added that, in the long run, farmers could be influenced to adopt the technologies, provided that there is enough demonstration and training to familiarize them with the technologies. The techno-demo is not only the researchers' responsibility but is also the job of the extension workers. *(Rita T. dela Cruz)*

Causes of flooding...

poisoning the groundwater.

As a long-term solution, the researchers recommended reforestation of the regional mountains. According to them, this would reduce peak heights and duration of floods, and would diminish slope erosion and channel build-up.

Ultimately, the researchers are one in admitting that these steps would not totally eliminate the problem of flooding since these areas are low-lying and practically flat, because subsidence of deltas occur naturally, and global warming has already set in, raising sea levels. "We must plan accordingly to build or develop areas that are least susceptible to frequent flooding and change land use in harmony with the changing environment," they said. "For instance, if groundwater continues to be a major source of domestic water, it should be regulated by using well-managed central sources instead of a multitude of unregulated small-scale wells," they add.

Likewise, the researchers called for the vigorous implementation of government regulations already in existence. ■

The Diversification Project FS Review

Finding the right interventions

by Carmela B. Brion

The External Review Team

Before a project starts, proponents must have a total picture of how it will go about and a deep understanding of the scenarios in a particular community after the project is implemented. What exactly do they expect to happen?

What changes will the project bring to the community? What combination or mix of interventions is effective? Will these good things last and be duplicated in another community?

These are some of the insights of Dr. Corazon Lamug, one of the members of the External Review Team that evaluated the feasibility study (FS) of the Rural Incomes Diversification Project (RIDP).

The other members of the review team are Dr. Ponciano Intal, Agribusiness and Marketing Assistance Service (AMAS) Director Salvador Salacup, and other officials of the Department of Agriculture.

Six months ago, the same group assessed and rated the pre-feasibility study of the project conducted by the Multi Sectoral Consultants Multi Purpose Cooperative (MSCmpc), an agency commissioned by BAR to carry out the FS. It is a project that employs varying agricultural production systems to fight poverty in rural areas.

Approximately 179 barangays in Mindoro Oriental, Iloilo, Aklan, Capiz, Bukidnon, and Misamis Oriental are expected to benefit from the RIDP.

What is exciting about RIDP is its promise to bring major interventions or changes in the way farmers and fishermen produce, harvest, package and market their goods. What exactly are these interventions or changes?

Money, or the lack thereof, is the number one reason why most of the farmers are reluctant to try new technologies. Shifting from one technology to another is very risky for a farmer living on subsistence level, where failure translates to hunger. RIDP's answer to this dilemma will be a fast and easy credit mechanism. Agricultural loans will be available to the farmers who will venture into new business opportunities. The Quedan and Rural Credit Guarantee Corporation (Quedancor) will be the front liner in giving fast and easy credit access to the farmers.

Choosing the right technology for farming needs will be as easy as shopping for the best television set in an appliance center, thanks to RIDP. The farmers will have access to a wide array of agricultural technologies that will help them respond to the production environment and market opportunities.

Para-technicians, or individuals possessing technical and organizational management skills and trained to do extension works, will be deployed to the countryside to assist the farmers in identifying and planning their business projects. Financial incentives will be given to the provincial agriculturists and extension workers who will help out the farmers in the target areas. Local university-based scientists will also be tapped for technical advice. This is a good strategy to keep the project in motion even after implementation. Local people from the target areas will be continuously involved in running RIDP.

Financial support is provided to the private sector that invests in facilities establishment such as those used in bivalves (oysters/mussels) cleansing or packing and cassava flour production.

After a thorough study of the project components, the MSCmpc, with the help of the External Review Team and other DA officials, will determine the right mix of interventions needed in each project site. After all, project sites are like fingerprints, each is unique by itself with no two being alike. ■

Causes of flooding at Manila Bay, study reveals

by Thea Kristina M. Pabuayon

source: www.unep.org

For years now, areas surrounding Manila Bay including Pampanga, Bataan, Bulacan, and Caloocan, Malabon, Navotas and Valenzuela (CAMANAVA) have been experiencing floods. Alarmingly, recent floods are more frequent, more widespread, take longer to subside, and are relatively higher than those experienced in previous years.

Experts say flooding in these areas is largely a consequence of unchecked urbanization like increased paved areas, proliferation of squatters and fishponds that block water channels, deforestation, and improper garbage disposal. In the case of Pampanga, flooding is largely due to channel filling by lahar from the 1991 Pinatubo eruption.

However, scientists from the National Institute of Geological Sciences in UP Diliman have reason to believe that flooding in these areas may be caused by other factors aside from Pinatubo-related sedimentation. According to Drs. Fernando P. Siringan and Kelvin S. Rodolfo, Pampanga has already been notorious for flooding even before 1991, while the areas of CAMANAVA, Bataan and Bulacan, "although unaffected by large-volume volcanic sedimentation, are also experiencing aggravated flooding."

Water rising, ground sinking

In their study '*Relative sea level changes and worsening floods in the western Pampanga delta: Causes and some possible mitigation measures*' funded by the Bureau of Agricultural Research (BAR) and Oxfam Great Britain, Drs. Siringan and Rodolfo cite the rise in local sea level and the subsidence (lowering) of delta deposits as more important factors that contribute greatly to the flooding of areas surrounding Manila Bay.

According to them, sea level rise around Manila Bay is caused largely by the subsidence of areas north of the bay, rather than the constant sea-level rise due to global warming. Subsidence is the lowering of entire regional surfaces caused by natural or enhanced compaction, and tectonic movements due to volcanic activity or faulting.

This lowering of the delta plains north of Manila Bay is ten or more times faster than global sea level rises, they add. At present, sea level due to global warming is about 2 mm/year or 20 cm/century, which is only a tenth of the rate of sea level rise along the Pampanga delta coast caused by local subsidence.

The study also reveals that subsidence in these areas is accelerated by over-pumpage of groundwater, which is practically the only water source for agriculture and domestic purposes. "The natural compaction process of delta sediment is greatly accelerated when groundwater is withdrawn from an aquifer (sand and gravel layer)."

From surveys conducted during the study, it was found that until the early 1960's, sea level rise at Manila's South Harbor was only about 2 mm/year. During this period and through the 1980s, population rose drastically, and according to local informants, this was when enhanced flooding began, with the rate of sea level rise escalating ten times faster. Dr. Siringan explains, "this accelerated rise correlates very well with the rates at which water was pumped out of deep wells in Manila. In turn, rates of groundwater extraction correlate well with the growth of the population that utilizes it." Drs. Siringan and Rodolfo add that subsidence due to withdrawal is not exclusive to the Philippines, but has also occurred in many cities as Venice, Bangkok, Tokyo and Shanghai.

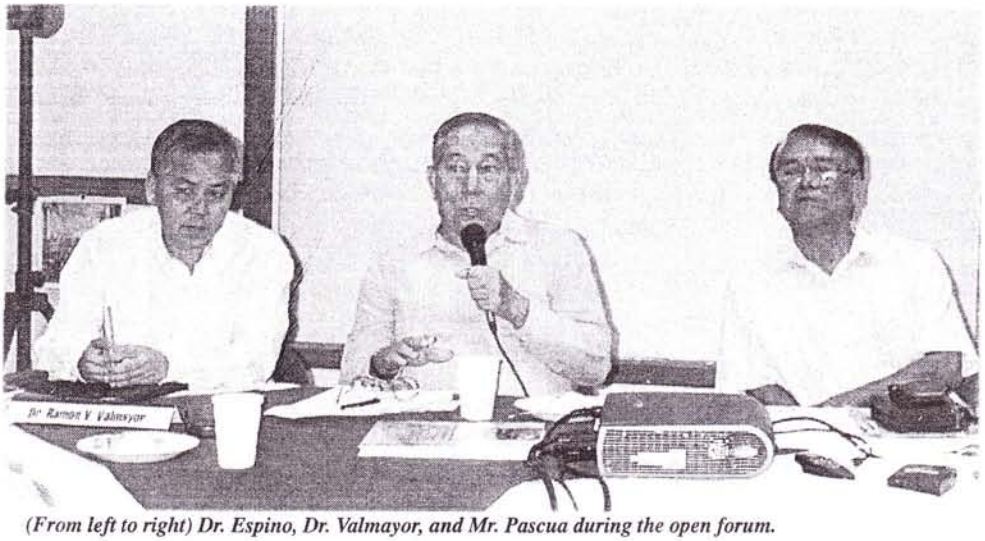
Staying afloat

Drs. Siringan and Rodolfo presented a number of possible short-term and long-term solutions to mitigate the effects of continued flooding in the areas mentioned. As a short-term solution, they recommend the restoration of original channel widths by minimizing garbage dumping and proliferation of squatters along channels, and modifying aquaculture practices. For instance, illegal fishponds proliferate along water channels, preventing rain floods from draining into the sea. As these fishponds cannot be demolished totally, fishpond dikes should be lowered and their tops restored with porous netting to allow better water flow.

Other short-term solutions include building dikes and dredging. However, Drs. Siringan and Rodolfo emphasized that aside from being costly, these methods are often more damaging than beneficial. Dikes are damaging to floodplains dynamics and ecology, while dredging has little impact on low areas and may only bring seawater inland,

see Causes of flooding... page 5

Asians to lead banana classification



(From left to right) Dr. Espino, Dr. Valmayor, and Mr. Pascua during the open forum.

Asians should lead the way in the classification of bananas.

Dr. Ramon V. Valmayor, Asia's foremost banana expert and former director general of the Philippine Council for Agriculture, Forestry and Natural Resources Research and Development (PCARRD) urged scientists and researchers during the seminar and launching of the book, 'The Wild and Cultivated Bananas of the Philippines,' at the BAR Conference Room last September. Dr. Valmayor co-authored the book with Rene Rafael C. Espino, director of the DA-High-Value Commercial Crops (HVCC) and Orlando Pascua, OIC of the Bureau of Plant Industry – Davao National Crop Research and Development Center.

According to the authors, banana is the most popular fruit in the Philippines and banana export has earned $178.98 million for the first semester. Although many articles have been written about it, there is no single publication that describes and classifies the 91 existing cultivars in the country until now.

Dr. Valmayor gave a seminar on the history, characteristics, and classification of the Philippine banana cultivars. After the lecture, an open forum followed wherein the issues on classification and biotechnology were discussed. During the exchange, Dr. Espino related how the *saba* was left out in the Simmonds scoring system for classification of genomic groupings (a system used in classifying banana varieties).

The *saba* was first identified as an ABB cultivar. "The only reason they classified it as such is that the bracts occur, which is one characteristics of the *acuminata*." Apparently, the scoring stopped when the values reached beyond 69, which are the values for the *balbisiana* group. However, if one follows the Simmonds scoring, the *saba* would fall in the *balbisiana* group. "That's why it was revised…to include the *balbisiana* group because the original scoring does not include it," he said.

"Asians should spearhead this classification," Valmayor stated, "The book of Simmonds talks about just the evolution of the *acuminata* and the hybrids. It does not talk about the evolution of the *balbisiana*, which they probably don't know because of the few samples they had when they classified this particular banana."

By isozyme analysis, the *saba* really belongs to that particular group of *balbisiana*. Morphologically, there was a lot of discussion, " Dr. Valmayor expounded. "If we brought it out in the meetings that we have with them (other banana scientists), they would say, 'we don't want to talk about it," he added.

However, the authors clarified that they did not deviate from everything that have been previously set; they just followed it. "We're just putting in the evidence that there is a parallel evolution of *balbisiana* that almost the same as that is of the *acuminata*," Valmayor added. *(Likha C. Cuevas)*

Web NEWS

No failure of Bt cotton says seed company
(http://www.hinduonnet.com)

GM plant route for rinderpest vaccine?
(http://link.springer.de/link/service/journals/00299/contents/02/00540/)

Carbon trading, climate change, and the Kyoto protocol
(http://www.futureharvest.org)

Community museum helps safeguard the African calabash
(http://www.futureharvest.org)

Government to infuse P99.5M to improve meat regulatory services
(http://www.da.gov.ph)

RP cuts pork and poultry imports due to rise of local output
(http://www.da.gov.ph)

Village bank established for banana biotech
(http://www.isaaa.org/kc/CBTNews/Special/banana.htm)

Brazil to import GM corn
(http://www.isaa.org)

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