Southern Mindanao Agriculture and Resources Research and Development Consortium

Research & Development Programs/ Projects
Background

STA 2006-2010

Top 3 Commodities

- banana
- pummelo
- environmental services
Key strategy…

Research and Development

Programs

banana
pummelo
environmental services

Under the National Banana R&D Program

Proj. 2.3 Adoption of S&T Based Integrated Crop Management (ICM) and Good Agricultural Practices (GAP) for Saba, Cardaba and Lakatan in Region XI

Proj. 2.5 Introduction and Adoption of Postharvest handling Technology of Lakatan, Saba and Latundan

Proj.1.3 Evaluation and Cultivated Bananas of the Philippines for Resistance of major Virus-Infected Bananas from National and Regional Germplasm Collection

Total PCARRD Investment P3.2M
Agencies involved: USeP, BPI-DNCRD, SPAMAST
Duration: Jul2010 – Jul2012
Key strategy...

R&D/RDRU

Programs

banana
pummelo
environmental services

Development of Strategies for Managing Fusarium Wilt or Panama Disease of Banana

- Mapped the incidence of Fusarium wilt
- Identified the races and VCGs of *Fusarium oxysporum f. sp. cubense* isolated in the region, identified cultivars tolerant to the isolated FOC
- Identified and developed new strategies in controlling Fusarium wilt or Panama disease (introduced to farmers)

Total PCARRD investment: P981,300.00

Agencies involved: BPI-DNCRDC

Duration: 2007-Dec2010
The package of technology was modified based on the PCARRD recommendation as a result of initial stage of the project. The project comparative agronomic characteristics of Lakatan under the Lakatan Package of Technology (POT), Modified POT and Farmer’s Practice. However, one major constraints met by the researchers was the unfavorable weather condition (Heavy rain and strong winds). As a result, new IECs on banana were developed, packaged and disseminated. These are Parts of Banana; Facts about Banana; Sigatoka Disease; Panama Disease; Banana Freckle; Banana Bunchy Top; Bract Mosaic and Nutrient Deficiency Symptoms in Banana.

Findings of Postharvest handling Technology of Lakatan Banana was successfully translated to the trainers in the region through the conduct of Trainor’s Training on Post Harvest in May 2011.

Effort to eliminate viruses through in vitro techniques were exerted. “Vampire’ methods was employed wherein dry bamboo pegs soak
showcased and demonstrated the effectiveness of the S&T based technologies / Package of Technology (POT) for banana in augmenting production and profit.

The S&T intervention introduced to the farm increased the yield to 4,590.31kg/ha compared to the MS practice.

While the use of S&T required an additional cost of P13,853, the additional yield (P23,870.33) gave an additional PhP 10,017.33 net profit.

Total PCARRD Investment P250K
Agencies involved: USEP, PLGU Davao del Norte/FITS
Duration: (Y2 on-going)
AFNR Project 3: Entrepreneurship & employment generating S&T-based projects

emphasizes on on-site, hands-on production and enterprise training in:

1. Banana plantation Management and;
2. Ancillary enterprises:
   • tissue culture
   • Nursery
   • fertilizer production
   • wood-packaging production

258 students trained; 7 hectares Banana Plantation established; 5 production models developed. Venue for R&D opportunities
Facility Upgrading

Capability Building

Establishment of Banana Research Station at USEP Tagum w/ BASF Philippines
Policy Advocacy
Supply Chain Analysis / Policy Research

Programs

banana  pummelo
environmental services

Under the Program on Supply Chain Improvement in Selected Commodities in AFNR (Phase 1)

**Proj 5** Supply Chain Improvement for the Banana Industry in Selected Areas in the Philippines

Total PCARRD Investment P357K
Agencies involved: USEP
Duration: 2009 to DEC2010 (For TR)
Research and Development

Key strategy...

Programs

banana

Pummelo

environmental services

Total PCARRD Investment
P4,335,304.20

Inter-agency counterpart
P1,677,339.00

Agencies involved: USeP, BPI-DNCRDC, DA SMIARC

Duration: Dec15/09 to Dec14/11

Integrated R&D Program for Pummelo in Region XI

Proj.1 Optimum Fertilization to Improve the Yield and Quality of Pummelo

Proj.2 Modified Atmosphere Packaging and Waxing of Pummelo at Different Maturity Stages

Proj.3 Integrated Pest Management for Citrus Rind Borer (prays endolema diakonof) on Pummelo (citrus maxima Burm.)
Status

Programs

banana

Pummelo
  environmental services

Proj 1 Finding show that using 1:2 ratio of inorganic fertilizer yielded the most number fruits per tree (23) over the other treatment using purely inorganic fertilizer.

Proj. 2 Postharvest handling experiment used sample fruits from the same orchard used in the above study. Fruits were tagged at fruit-setting to determine the appropriate maturity indices. The developed fruits were used in the waxing and modified atmosphere packaging.

Proj. 3 More sites were added for fertilizer trials. The researchers evaluated the different management strategies such as pruning, spraying of chemical, use of parasitoids, bagging using nets, and sanitation. Study on the biology of the citrus rind borer is ongoing.

Rampassen and disposal of CRB infested fruits at the USeP Pummelo Orchard in Mampising, Compostela Valley Province.
Science and Technology Based Farm (STBF)

**Agriculture**

banana

**Pummelo**

environmental services

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**Technology Transfer**

S & T-Based Farm on Pummelo, cum: Integrated Nutrient and Pests Management

- Total Farm Rehabilitation
  - Interventions:
    - Conduct proper soil sampling and subject to soil laboratory analysis for appropriate fertilizer recommendation
    - Application of both synthetic & organic fertilizers with Bio-N & Effective Microorganism (EM)
    - Full implementation of vermin-composting

**Total PCARRD Investment** P250K

Agencies involved: USeP, LGU Mawab/FITS Center

Duration: 2009-2012
Key strategies...

Research and Development

Programs

banana
Pummelo
environmental services

(Watershed) National R&D Program for Watershed Management

Proj.3 Watershed Characterization of the Libuganon-Saug (River Basin)
Approved by GC in 2009, but not implemented

Agencies involved: DENR, USeP
Conservation Farming Village

Enabling sustainable livelihood in the community

Helped upland farmers protect their communities against environmental degradation while sustaining their sources of livelihood.

Conducted 2 Field days. Latest, July 8, 2011

Technology Transfer

Programs

- banana
- Pummelo
- environmental services

DOST-PCARRD/NEDA investment: P4.5M
Agencies involved: USeP, LGU Panabo City
Duration: 2008-2011
Other environmental services milestone 2006-2010

Key strategies...

Programs

banana
Pummelo
**environmental services**

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**Climate Change Forum**
timely and aims to promote awareness on climate change impacts, adaption and mitigation measures; options for pest management strategies in the light of growing concerns on aerial spraying.

Mindanao
Climate Change Summit

**Waste management (Biogas Technology)**
Linkage of MS Felimon Santander with Int’l Committee of the Red Cross and Vjandep

The Land Use Project/Research in Region XI

Impact Assessment of SANREM Program in Lantapan, Bukidnon

The Pitcher Plan Project/Research

The Brgy. Bitaogan Development Project
Key strategies...
STA 2011-2016

Projects

Banana
Pummelo
Environmental Services

MANGO
DURIAN
COCONUT

STA 2006-2010

STA 2011-2016
Key strategy…

**Positioning Mindanao Durian R&D roadmap**

**Programs**

- **durian**
- mango
- environmental services
- coconut
- banana
- pummelo

(with 11 proposed projects; 9 for R&D, 1 each for RDRU and Capability Building)

The Mindanao Integrated R&D Program (proposed)

“Enhancing Productivity and Sustainability of the Durian Industry in Southern Mindanao for Global Competitiveness”

Budget: P41,683,481.69

Agencies involved:
- CARRDEC, SMARRDEC/
- LGU Davao City
Key strategy...

Ongoing Durian R&D in the region

Programs

- durian
- mango
- environmental services
- coconut
- banana
- pummelo

Participatory Action Research on the Control of Durian Patch Canker using garden Balsam Fruit Extract

Funded by ACIAR

Feb 2009 - Jul 2011
Technology Transfer
Science and Technology Based Farm

Programs

durian
mango
environmental services
coconut
banana
pummelo

Improvement of Minimally Processed Durian Through Vacuum Packing

Products already market tested and exhibited during the PHILFOODEX Food Fair and National Trade Fair (Q1) and International Food Expo (IFEX) Q2.

PCARRD investment P250K
 Agencies: USeP, DA SMIARC
Key strategy...

Research and Development

Programs

- durian
- mango
- environmental services
- coconut
- banana
- pummelo

(PROPOSED)
Mango Development Program for Region XI

USeP
SPAMAST
DOSCST
BPI-DNCRDC

Program packaging on going for submission to PCARRD for evaluation
Key strategy...

Research and Development

Programs

durian

durian

mango

environmental services

coconut

banana

pummelo

Demonstration trial of low-back drafting and pruning of mango at high density planting

Mass-rearing and efficiency evaluation of the predators of mango scale insects in farmers field

(Proposals being improved; BPI DNCRDC)
Key strategy…

IEC/Information Material Development

Programs

- durian
- mango
- environmental services
- coconut
- banana
- pummelo

Embarked on the development and packaging of Mango and Durian Production Modules in print and interactive e-learning format.

Reproduced and made available to FITS centers and other agencies, thus benefiting a wider scope of technology users.
Key strategy…

Research and Development

Programs

durian
mango
environmental services
cocoanut
banana
pummelo

(PROPOSED) Integrated Climate Change Adaptation and Mitigation Program for AFNR in Region XI (ICCAMP for AFNR XI)

USEP, DNSC, SPAMAST, DOSCST
DENR, PCA, PLGU

Program packaging on going for submission to PCARRD for evaluation
Key strategy…

Research and Development

Programs
- durian
- mango
- environmental services
- **coconut**
- banana
- pummelo

**Integrated Coconut Industry Research and Development Enhancement Program (ICRDEP)**

Proj. 4 Development of an Integrated Pest Management (IPM) Against Brontispa longissima (Gestro), an Invasive Pest of Coconut and other Palm Species (approved and ongoing)
Technology Transfer
Science and Technology Based Farm

Programs
- durian
- mango
- environmental services
- coconut
- banana
- pummelo

Improving Coco-sap production
- utilized S&T interventions on integrated nutrient management system particularly the application of salt and vermicast fertilizer to coconut palms
- increased coconut toddy production and consequently coco-sap harvest from 4L/day to 6L/day

PCARRD Investment
P250K

Agencies Involved:
- SPAMAST, LGU
- Bansalan/FITS
MS Lao marketed coco sugar and coco honey not only locally but also to markets in the United States, Europe and Asia. He exported 10,200 L of coco syrup a month. The Bansalan, Davao del Sur community is benefiting from the STBF project, which provides employment and income to his fellow farmers. Presently, Mr. Lao has more than a hundred workers from only 9 when he started the project.
Thank you.