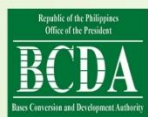


ACCOMPLISHMENT REPORT

January 2013 - December 2014

Bridging the Human Resource Competency Gaps in Support of the National R&D Agenda (A BCDA-funded Project)



Philippine Council for Industry, Energy and Emerging Technology Research and Development
Department of Science and Technology

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Introduction

As one of the sectoral planning councils of the Department of Science and Technology (DOST), the Philippine Council for Industry, Energy and Emerging Technology Research and Development (PCIEERD) has the mandate of a) formulating national policies, plans, programs and strategies; b) programming and allocating government and other external funds for research and development in industry, energy and emerging technologies and providing mechanisms for the assessment, evaluation and monitoring thereof; c) supporting the development of institutions and R&D human resource pool; and d.) developing and implementing programs for the optimal utilization, transfer and commercialization of technologies and other research outputs, among others.

To realize its mandate of developing a human resource pool, PCIEERD implements the PCIEERD Human Resource Development Program (HRDP), a local HRD program with five components namely: visiting expert program, research attachment, faculty immersion, attendance to seminars, conferences and trainings and conduct of seminars, conferences and trainings.

In 2012, DOST received its share of the proceeds from the sale of portions of Metro Manila Military Camps. The funds were distributed to the DOST Councils for foreign training on the basis of Republic Act No. 7917 “An Act Amending Section 8 of Republic Act 7227, otherwise known as the Bases Conversion Development Act of 1992.”

Background and Rationale

Along with the formulation of the Harmonized Research and Development Agenda, several priority projects were identified by the DOST. While the country already has a considerable number of MS and PhD degree holders at present, there is still a perceived deficiency in the competencies necessary to implement certain priority projects.

Thus with the funding received from BCDA, PCIEERD proposed the implementation of the project, “Bridging the Human Resource Competency Gaps in Support of the National R&D Agenda” to be able to generate the necessary human resource for the implementation of the DOST priority projects.

Project Information

To address the deficiency in human resources necessary to implement various programs supportive of the Harmonized Research and Development Agenda, the Department of Science and Technology (DOST) through the Philippine Council for Industry, Energy, and Emerging Technologies Research and Development (PCIEERD), is currently implementing the project **“Bridging the Human Resource Competency Gaps in Support of the National R&D Agenda.”** The project to date has supported young scientists, engineers, researchers, and students in various fields for short-term training in various parts of the world.

Specifically, the project aims to:

- Generate human resource essential for successful implementation of the Harmonized R&D Agenda through individual short-term training overseas, research attachments/sandwich program for the DOST scholars and post-doctoral fellowships;
- Raise the DOST RDI’s capabilities through benchmark and training activities
- Provide training to Grade 1 public school teachers on the use of existing digital mathematics courseware

The training opportunity was made open first, to scholars, faculty and research/technical personnel of the National Science Consortium (NSC) and the Engineering Research and Development for Technology (ERDT) Consortium. Recognizing that the realization of the Harmonized Research and Development Agenda is everybody's concern and not the exclusive responsibility of a selected few, the training opportunity was eventually made available to state universities and colleges (SUCs), the DOST agencies, namely, the R&D institutes (RDIs), the regional offices (ROs), the sectoral planning councils, and the service institutes.

The areas identified as priority include but are not limited to:

- Numerical Modelling
- Data Analysis
- Space Technology Applications
- Sensor Technology
- Computer Vision Technology
- Photovoltaic and Solar Cell Technology
- Genomics
- Molecular Biology
- Biomedical Engineering
- Rubber Science/Engineering
- Metals Engineering
- Waste Treatment Techniques
- Microscopy and Imaging
- Nanotechnology Techniques
- Technology Transfer/Commercialization
- Intellectual Property Licensing (*new*)
- Taxonomy (*new*)
- Technology Forecasting

The implementation and monitoring of the project are being overseen by members of the BCDA Project Monitoring Working Group (PMWG) composed of Dr. Rowena Cristina L. Guevara (Executive Director, PCIEERD), Engr. Raul C. Sabularse (Deputy Executive Director, PCIEERD), Ms. Maridon O. Sahagun (Chief, DOST-SPD), and Engr. Ermie M. Bacarra (Chief, PCIEERD-HRIDD). The Advisory Board includes Usec. Fortunato T. dela Peña, Usec. Amelia P. Guevara and DOST Secretary Mario G. Montejo.

Accomplishments

Since the project's implementation in 2012, the project has supported a total of 108 grantees. As can be seen from Fig. 1, a majority of applicants are in the field of space technology applications. This is in preparation for the implementation of the DOST-funded project, "Development of Philippine Scientific Earth Observation Microsatellite (PHL-MICROSAT)," which aims to develop and launch the first microsatellite of the Philippines, in collaboration with the Hokkaido University and Tohoku University in Japan. A majority of the grantees are from UP Diliman – Electronics and Electrical Engineering Institute (EEEI) (Figures 2-3). Other grantees are from Mapua Institute of Technology (MIT) and the Advanced Science and Technology Institute (ASTI). They were sent to Japan for research visits and research attachments to enable them to develop research capability in microsatellite development.

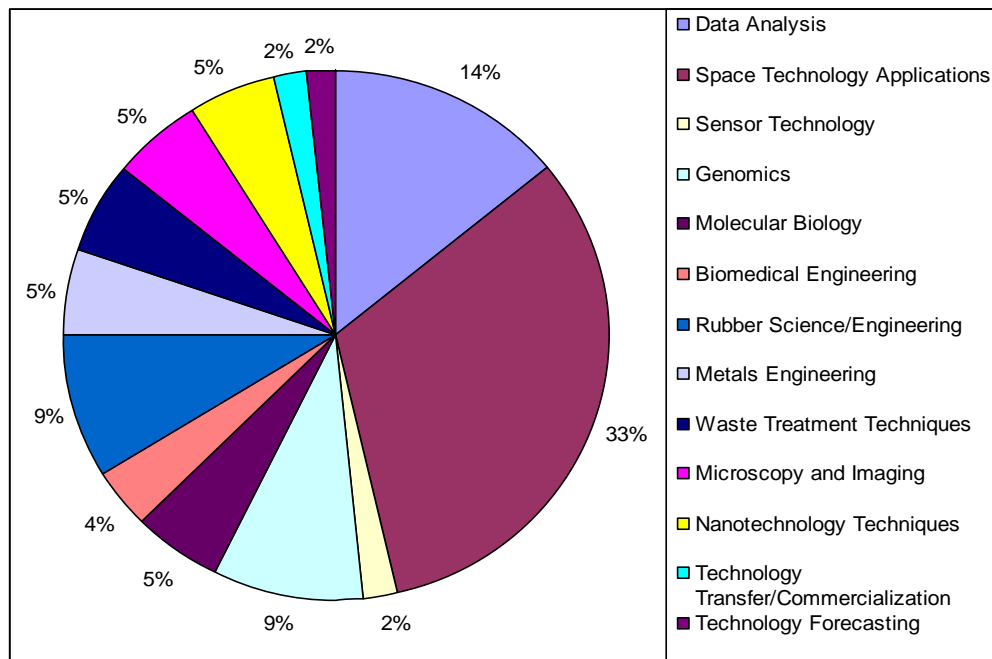


Fig. 1 Percentage distribution of priority areas taken up by the grantees as of December 12, 2014.



Fig. 2 Grantees from UP Diliman, MIT and ASTI, who were sent to Japan to undergo microsatellite development training with Japanese experts.

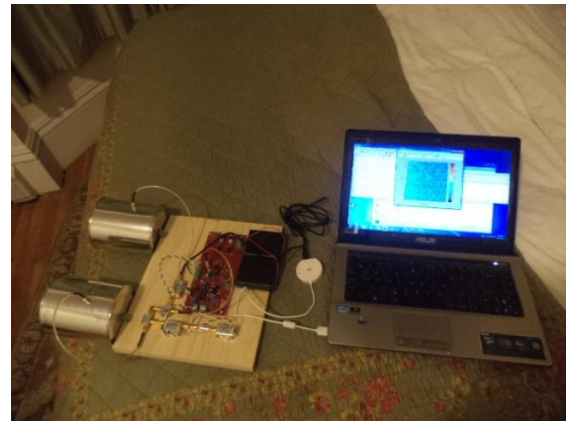


Fig. 3 Mr. Jeark A. Principe with his radar during his training on “Build a Small Radar System” at the Massachusetts Institute of Technology, USA.

The second most subscribed area is data analysis accounting to fourteen percent (14%) of the total applications received. Topics for the said area cover video analytics, design and implementation of spatial databases, advanced statistics and data mining, reoptimization for closest substring problem, etc. which are considered necessary in processing satellite data as well as numerical modeling (see Figure 4).

Genomics and rubber science and engineering, follow at third rank. Interest in genomics has probably been triggered by the establishment of the Philippine Genome Center (PGC), a joint project of the University of the Philippines and DOST, aiming to tap genomics- the study of an organism’s complete set of DNA – to improve crops, conserve biodiversity, improve disease diagnostics, and aid in forensics (Figures 5-6).

Likewise, the high percentage in the uptake in the rubber science/engineering area can be linked to the goals of various government agencies including the DOST, finance institutions and other industry stakeholders to revive and double the production in the near future of the rubber industry in the desire to make the Philippines as one of the major natural rubber-producing countries in Asia.



Fig. 4. Grantees under the data analysis priority area of the BCDA-funded project; (A) Dr. Prospero Naval (rightmost) with other trainees of “Advanced Statistics and Data Mining” held at the Escuela Tecnica Superior de Ingenieros Informaticos, Universidad Politecnica de Madrid, Spain; (B) Dr. Rhodora Gonzales during her training on “Design and Implementation of Spatial Databases” last June 9-27, 2014 at the University of Twente, Netherlands.

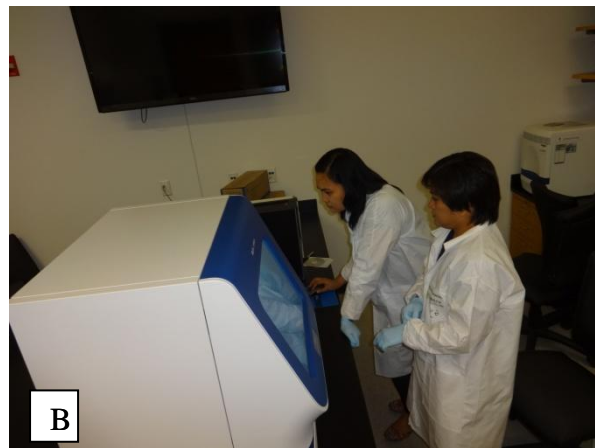
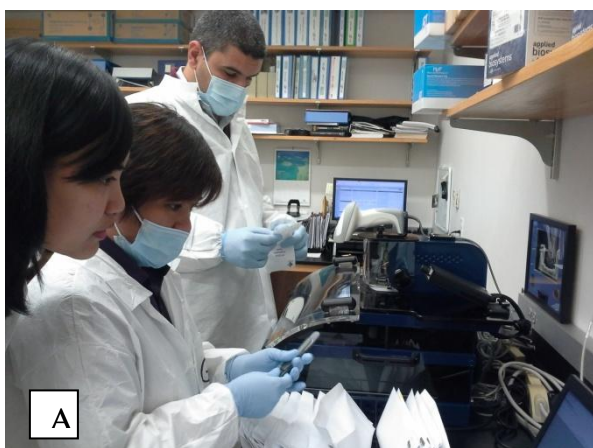


Fig. 5 Photos of Ms. Jazelyn Salvador and Gayvelline Calacal (A-D) during their 4-week certificate training program in forensic genetics and DNA database technology at the University of North Texas Health Science Center, USA.

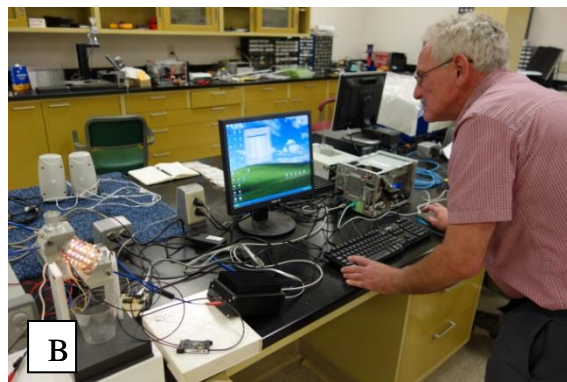


Fig. 6 Dr. Kevin Yaptenco with Dr. Wetzler, an expert in NIR, during his training on “NIR and Chemometrics for Non-destructive Testing of Food and Food Products” at the USDA Engineering and Wind Erosion Research Unit (EWERU), Manhattan, Kansas, USA (Fig. 6A). Fig. 6B shows Dr. Yaptenco’s host, Dr. Paul Armstrong, demonstrating the use of a prototype single-kernel grain analyzer under development.

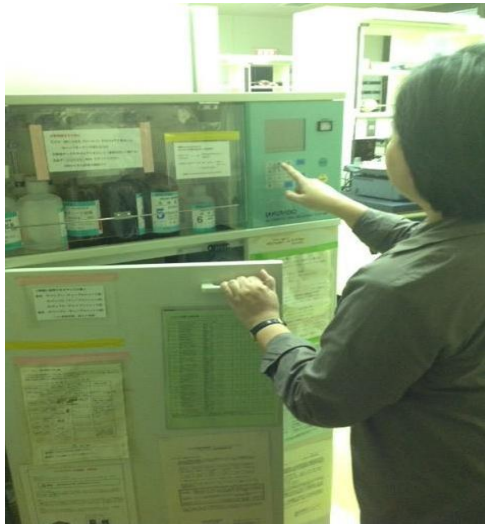
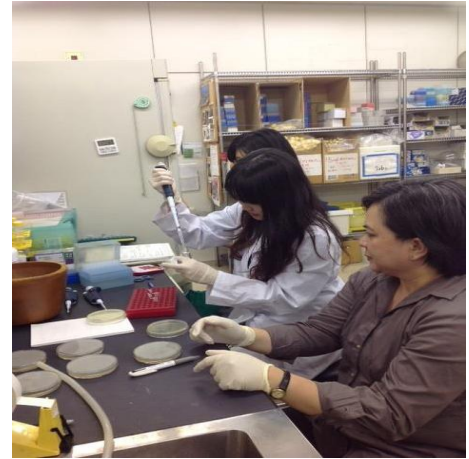


Fig. 7 Photos of Ms. Shiela V. de Jesus during her training on Genome Analysis of Human Endogenous Retroviruses: A bioinformatics Approach last October 30-November 9, 2013 in Japan.



Fig. 8 Group photo shared by Ms. Melissa Anne T. Gabriel during her training on Atomic Force Microscopes Applications Workshop at the Institute Pasteur de Lille, France.

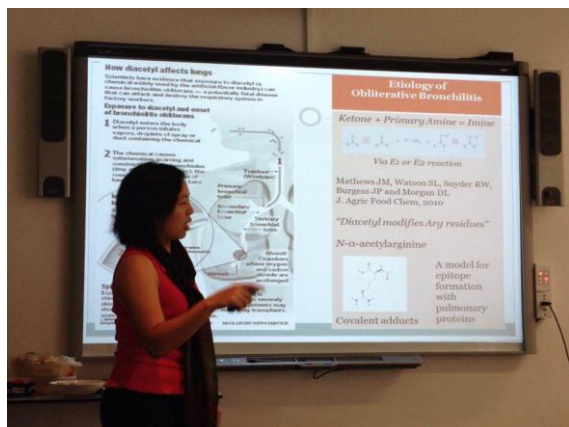


Fig. 9 Ms. Alma Lorelei Abejero presenting her toxicology laboratory results and case study during her training on “Utrecht Summer School in Toxicology and Environmental Health” at the Universiteit Utrecht, Netherlands last August 16-31, 2014.



Fig. 10 Mr. Jose Bergantin performing some laboratory activities during his training on “Bioanalytical Nanotechnology Techniques” at the Universitat Autònoma de Barcelona, Bellaterra, Barcelona, Spain.

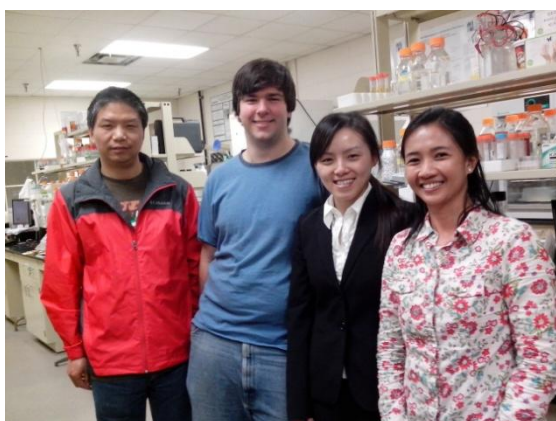


Fig. 11 Dr. Lilia Fernando during her training on “Nano-Biosensors for Diagnostics” last April 4-June 2, 2014 at the Michigan State University, USA.



Fig. 12 Ms. Lucy Lastimosa with other trainees on “Impact Evaluation of Technical Cooperation and Development Projects and Programmes” at ITC-ILO, Turin, Italy.

To date, no applications have been received for numeral modelling, computer vision technology, photovoltaic and solar cell technology, and metals engineering but applications are expected to pour in the first quarter next year. Taxonomy and intellectual property licensing, on the other hand, had been recently added to the list. The addition of taxonomy in the priority areas is in response to the shortage and declining number of taxonomists in the country. It is one of the issues being faced by the scientific community around the world as hundreds of newly discovered animals, plants and other organisms remain unclassified due to the scarcity of taxonomists. Likewise, intellectual property licensing was added in view of a more intensive effort to transfer and commercialize research outputs.

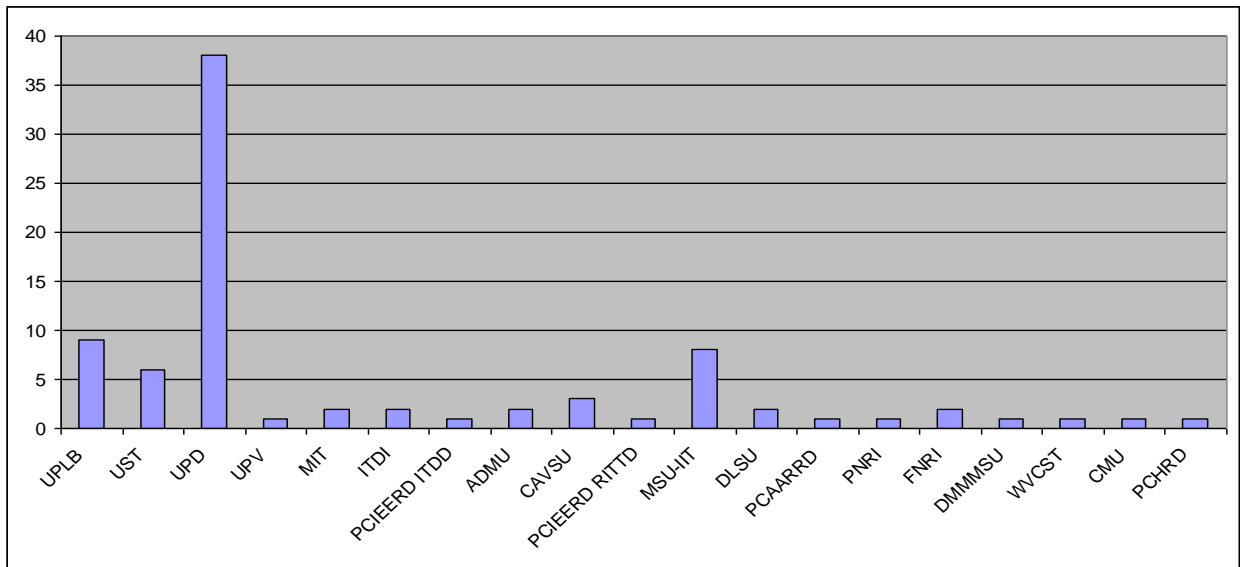


Fig. 12 shows the total number of grantees per institution.

Out of one hundred forty eight (148) applications received, eighty-eight (88) had been approved by the BCDA Project Monitoring Working Group (PMWG) for Individual Trainings, fifteen (15) for Sandwich Program and three (3) for Post-Doctoral Fellowship. As depicted in the graph, the University of the Philippines Diliman (UPD) has the highest number of applications approved, mostly under the space technology applications area (Figure 12). The volume of applications received from other institutions can be attributed to the Information Education Campaign (IEC) conducted by the staff of Human Resources and Institution Development Division (HRIDD) headed by Engr. Ermie M. Bacarra (see Appendix 2 - Table 1).

Likewise, a group training for Grade 1 public school teachers was also approved, attended by a total of five hundred sixty five (565) teachers from various public elementary schools in the country. The teachers were trained in the use of mathematical courseware under the SEI project “iTEACH Math (Improving Technology-Enhanced Activities for Creative Honing of Mathematics)” (see Figures 14-18).



Fig. 14 Participants in Baguio City during their pretest



Fig. 15 Participants in Davao acted as Grade 1 pupils during NISMED's lesson-implementation incorporating an activity in the Courseware



Fig. 16 Participants in Cebu City exploring the lessons in the Courseware



Fig. 17 Participants in Cagayan de Oro City during their posttest



Fig. 18 NISMED trainers facilitating post lesson discussion after the demonstration-teaching in Cebu and Cagayan de Oro

Total disbursements as of December 12, 2014 amount to Thirty Seven Million, One Hundred Thirty Two Thousand, Seven Hundred Ninety Eight and 09/100 Pesos (PhP 37,132,798.09) or thirty nine percent (39%) of the total amount released to PCIEERD. An addition of Fifteen Million, Five Hundred Fifty Eight Thousand, Nine Hundred Seven and 15/100 Pesos (PhP15,558,907.15) for twenty nine (29) applications approved as of December 12, 2014, brings the total amount released and committed at Fifty Two Million, Nine Hundred Seventy Eight Thousand, Eight Hundred Forty Four and 35/100 Pesos (PhP 52,978,844.35) or fifty five percent (55%).

Summary of amount disbursed and committed

Total Amount Received	PhP 96,000,000.00
Funds disbursed	PhP 37,132,798.09
Funds approved and committed as of Dec. 12, 2014	PhP 15,558,907.15
Total Amount Released and Committed	PhP 52,691,705.24
Balance as of Dec. 12, 2014	PhP 43,308,294.65

Challenges

The implementation of the project was met with a number of challenges. First, the requisite return service obligation posed a hindrance to a number of interested individuals. As provided by RA 7917 beneficiaries of the grant should render a three-year return service regardless of the duration of the training attended or the amount of grant received.

Secondly, for the first year of the project implementation, the grant was limited only to researchers, faculty and scholars of the National Science Consortium (NSC) and the Engineering Research and Development for Technology (ERDT) Consortium both of which have also their respective programs that allow certain faculty and graduate students to go abroad for trainings and or sandwich program.

Thirdly, the age limit of below fifty years old also marginalized active and prolific researchers who are above fifty years old. Thus uptake for the grant initially started at a very slow rate.

Actions Taken

Due to the limited progress of the project and relatively small number of applications received during its first year, PCIEERD opened the BCDA programs not only to the faculty and scholars of the NSC and ERDT but to various State Universities and Colleges (SUCs) around the country as well and the DOST R&D Institutes (RDIs), Regional Offices (ROs), Sectoral Planning Councils, and Service Institutes in areas supportive of the National R&D Agenda where there is inadequacy of expertise in the identified areas.

With regard to the age requirement, the program was made open to all active and capable personnel of the abovementioned institutions as long as they can still put into practice the knowledge and skills that they have gained from their training abroad. Thus, the Implementing Guidelines of the BCDA-Funded Project was revised to “preferably, not more than 50 years old.”

Furthermore, with the aim to reach a wider participation and increase the number of potential applicants, Information Education Campaign (IEC) was conducted by the staff of Human Resources and Institution Development Division to various parts of the country (see Appendix 2, Table 1) in addition to information dissemination through posters and written communications.

Appendix 1. GRANTEES WHO HAD COMPLETED THEIR TRAINING

 <p> Name of Grantee: Dr. Rhodora M. Gonzales Title of Training: Design and Implementation of Spatial Databases Duration of Training: June 9-27, 2014 Venue: University of Twente, Enschede, Netherlands Sending Institution: UPD Discipline: Data Analysis </p>	 <p> Name of Grantee: Mr. Philip Christian C. Zuniga Title of Training: Vienna Summer of Logic Duration of Training: July 9-24, 2014 Venue: Vienna University of Technology, Austria Sending Institution: UPD Discipline: Data Analysis </p>
 <p> Name of Grantee: Dr. Kevin F. Yaptenco Title of Training: Training on Near Infrared Spectroscopy and Chemometrics for Non-destructive Testing of Food and Food Products Duration of Training: June 1-August 15, 2014 Venue: USDA Engineering and Wind Erosion Research Unit (EWERU), Manhattan, Kansas, USA Sending Institution: UPD Discipline: Data Analysis </p>	 <p> Name of Grantee: Ms. Ma. Shiela V. de Jesus Title of Training: Genome Analysis of Human Endogenous Retroviruses: A bioinformatics Approach Duration of Training: October 30-November 9, 2013 Venue: Nagoya City University, Graduate School for Medical Sciences, Nagoya, Japan Sending Institution: UST Discipline: Genomics </p>
 <p> Name of Grantee: Dr. Prospero C. Naval, Jr. Title of Training: Advanced Statistics and Data Mining (ASMA) 2014 Duration of Training: June 23-July 7, 2014 Venue: Escuela Tecnica Superior de Ingenieros Informaticos, Universidad Politecnica de Madrid Sending Institution: UPD Discipline: Data Analysis </p>	 <p> Name of Grantee: Ms. Gayvelline Calacal Title of Training: Forensic Genomics Duration of Training: September 9- October 4, 2013 Venue: University of North Texas Health Science Center, USA Sending Institution: UPD Discipline: Genomics </p>
 <p> Name of Grantee: Ms. Romarie Lorenzo Title of Training: Training Workshop on Video Analytics Duration of Training: September 9- October 19, 2013 Venue: Osaka University and Hokkaido University, Japan Sending Institution: UPD Discipline: Data Analysis </p>	 <p> Name of Grantee: Ms. Jazelyn M. Salvador Title of Training: 4-week Certificate Program in Forensic Genetics and DNA Database Technology Duration of Training: September 9- October 4, 2013 Venue: University of North Texas Health Science Center, USA Sending Institution: UPD Discipline: Genomics </p>



Name of Grantee: Ms. Grace F. Estillore
Title of Training/Research: Fate and Transport of Heavy Metals in Groundwaters
Duration of Training: November 11, 2013 – January 10, 2014
Venue: Hokkaido University, Japan
Sending Institution: UPD
Discipline: Waste Treatment Techniques



Name of Grantee: Ms. Alma Lorelie DJ. Abejero
Title of Training: Utrecht Summer School in Toxicology and Environmental Health
Duration of Training: August 16-31, 2014
Venue: Universiteit Utrecht, Utrecht, Netherlands
Sending Institution: UPLB
Discipline: Waste Treatment Technique



Name of Grantee: Dr. Lawrence V. Madriaga
Title of Training: ASTM Standard Rubber Test Methods
Duration of Training: October 2-11, 2013
Venue: Akron Polymer Training Center, University of Akron, Ohio, USA
Sending Institution: MIT
Discipline: Rubber Science



Name of Grantee: Dr. Jose H. Bergantin, Jr
Title of Training: Bioanalytical nanotechnology techniques
Duration of Training: October 1-31, 2013
Venue: Universitat Autònoma de Barcelona, Bellaterra, Barcelona, Spain
Sending Institution: UST
Discipline: Nanotechnology Technique



Name of Grantee: Dr. Bryan B. Pajarito
Title of Training: ASTM Standard Rubber Test Methods
Duration of Training: October 2-11, 2013
Venue: Akron Polymer Training Center, University of Akron, Ohio, USA
Sending Institution: UPD
Discipline: Rubber Science



Name of Grantee: Dr. Lilia M. Fernando
Title of Training: Nano-biosensors for Diagnostics
Duration of Training: April 2- June 2, 2014
Venue: Michigan State University, East Lansing, Michigan, USA
Sending Institution: UPLB
Discipline: Nanotechnology Technique



Name of Grantee: Ms. Brigida A. Visaya
Title of Training: Rubber Benchmarking Mission and International Training Program: Advanced Training on Rubber Products Manufacture and Testing
Duration of Training: March 23- April 5, 2014
Venue: Rubber Research Institute of India (Kerala) Rubber Producers' Society Plantations and Nursery (Kerala)
All India Rubber Industries Association (Mumbai)
Sending Institution: ITDI
Discipline: Rubber Science



Name of Grantee: Dr. Christine C. Hernandez
Title of Training: High-Throughput Microscopy Imaging and LC-MS Dereplication Techniques for Natural Products Drug Discovery
Duration of Training: December 3-21, 2013
Venue: University of California Santa Cruz, California, USA
Sending Institution: UPD
Discipline: Microscopy Imaging



Name of Grantee: Ms. Melissa Anne T. Gabriel
Title of Training: Atomic Force Microscopes (AFM) Applications Workshop
Duration of Training: August 25-29, 2014
Venue: Institute Pasteur de Lille, France
Sending Institution: UPV
Discipline: Microscopy Imaging



Name of Grantee: Dr. Eugene Rex L. Jalao
Title of Training: Business Intelligence and Data Warehousing Program
Duration of Training: September 23-December 13, 2013
Venue: Online
Sending Institution: UPD
Discipline: Business Intelligence



Name of Grantee: Dr. Teddy F. Tepora
Title of Training: Converting Technology to Wealth: Technology Transfer Training
Duration of Training: October 21 – 30, 2014
Venue: IC2 Institute, The University of Texas, USA
Sending Institution: CavSU
Discipline: Technology Transfer



Name of Grantee: Mr. Aldrin Calderon
Title of Training: Converting Technology to Wealth: Technology Transfer Training
Duration of Training: October 21 – 30, 2014
Venue: IC2 Institute, The University of Texas, USA
Sending Institution: CavSU
Discipline: Technology Forecasting



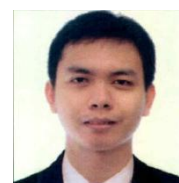
Name of Grantee: Mr. Norly B. Villar
Title of Training: Converting Technology to Wealth: Technology Transfer Training
Duration of Training: September 1- November 2, 2014
Venue: IC2 Institute, The University of Texas, USA
Sending Institution: PCIEERD-RITTD
Discipline: Technology Transfer



Name of Grantee: Mr. Percival Magpantay
Title of Training: Resilient and Stable Sensor Networks for Energy and Environmental Monitoring
Duration of Training: August 2-September 30, 2013
Venue: University of California Berkeley, California, USA
Sending Institution: UPD
Discipline: Sensor Technology



Name of Grantee: Ms. Lucy A. Lastimosa
Title of Training: Impact Evaluation of Technical Cooperation and Development Projects and Programmes
Duration of Training: November 3-7, 2014
Venue: Italy
Sending Institution: PCAARRD
Discipline: Technology Transfer



Name of Grantee: Mr. Jeark A. Principe
Title of Training: Build a Small Radar System
Duration of Training: June 10-14, 2013
Venue: MIT Campus, Cambridge, MA, USA
Sending Institution: UPD
Discipline: Space Technology Applications



Name of Grantees: Mr. Juan Paolo Espiritu
 Mr. Ariston Gonzales
 Mr. Paul Leonard Hilaro
 Mr. Roel John Judilla
 Mr. Joel Joseph Marciano, Jr.
 Mr. Julian Marvick Oliveros
 Mr. Alvin Retaramar

Title of Training: Microsatellite Development
Duration of Training: September 16- October 4, 2013
Venue: Hokkaido University and Tohoku University, Japan
Sending Institution: UPD
Discipline: Space Technology Applications



Name of Grantee: Mr. Janno Vergara
Title of Training: Microsatellite Development
Duration of Training: November 14-28, 2014
Venue: Hokkaido University, Japan
Sending Institution: UPD
Discipline: Space Technology Application



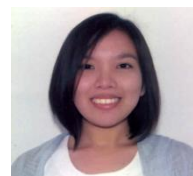
Name of Grantee: Ms. Ellen Mae Leonardo
Title of Training: Microsatellite Development
Duration of Training: November 14-28, 2014
Venue: Hokkaido University, Japan
Sending Institution: UPD
Discipline: Space Technology Application



Name of Grantee: Ms. Kaye Kristine Vergel
Title of Training: Microsatellite Development
Duration of Training: November 14-28, 2014
Venue: Hokkaido University, Japan
Sending Institution: UPD
Discipline: Space Technology Application



Name of Grantee: Mr. Raymund B. Rasco
Title of Training/Research: Simultaneous Treatment of Perchlorate and Nitrate Using Sulfur-Oxidized Bacteria
Duration of Training: December 14, 2013- May 31, 2014
Venue: Dong-A University, Busan, South Korea
Sending Institution: UPD
Discipline: Sandwich Program



Name of Grantee: Ms. Siddhartha B. Valle
Title of Training/Research: Fate and Transport of Heavy Metals in Groundwaters
Duration of Training: November 11, 2013 – January 10, 2014
Venue: Hokkaido University, Japan
Sending Institution: UPD
Discipline: Sandwich Program



Name of Grantee: Ms. Meriam Gay V. Bautista
Title of Training: Intensive Course on Electromagnetic SEMCAD Simulation Tool and Conference Organization
Duration of Training: November 24- December 6, 2014
Venue: WiMed Research Center, Dept. of Engineering, Macquarie University, North Ryde, Australia
Sending Institution: MSU-IIT
Discipline: Biomedical Engineering



Name of Grantee: Ms. Jaime M. Hendrix
Title of Training/Research: Characterization and Treatment by Photocatalytic Oxidation of Indoor Air Pollutants in Laboratory Scale
Duration of Training: December 14, 2013 – May 31, 2014
Venue: Dong-A University, Busan, South Korea
Sending Institution: UPD
Discipline: Sandwich Program



Name of Grantee: Ms. Mae Lowe L. Diesmos
Title of Training: Detection and Quantification of the
Emerging Infectious Disease Chytridiomycosis in Amphibians
Using Quantitative Polymerase Chain Reaction
Duration of Training: November 14 to December 12, 2014
Venue: Department of Biology, San Francisco University
Sending Institution: UST
Discipline: Molecular Biology



Name of Grantee: Mr. Reynold Curampez
Title of Training: Synthesis of Nanocomposite Bipolar
Membrane for Reverse Electrodialysis Application
Duration of Training: October 7 – November 6, 2014
Venue: USA
Sending Institution: UPD
Discipline: Biotechnology

Appendix 2. GRANTEES WITH ON-GOING TRAINING

 <p> Name of Grantee: Atty. Anne Marie Celeste Jumadla Title of Training: MSc in Global Innovation Management Duration of Training: October 1, 2014 – September 30, 2015 Venue: Technology & Innovation Mngt. Dept., Technical University of Hamburg-Harburg, Germany Sending Institution: ADMU Discipline: Technology Transfer </p>	 <p> Name of Grantee: Mr. Benjamin Jonah Magallon Title of Training: Special Research Attachment Duration of Training: October 19 – March 31, 2015 Venue: Tohoku University, Japan Sending Institution: UPD Discipline: Space Technology Applications </p>
 <p> Name of Grantee: Mr. John Leur Labrador Title of Training: Special Research Attachment Duration of Training: October 19, 2014 – March 31, 2015 Venue: Tohoku University, Japan Sending Institution: UPD Discipline: Space Technology Applications </p>	 <p> Name of Grantee: Ms. Liezel Atienza Title of Training: Effectiveness of Bioactive Compounds in Indigenous Food for Prevention and Treatment of Diabetes Mellitus, Diabetes Induced Metabolic Disorders and Related Complications Duration of Training: October 1, 2014 – September 30, 2015 Venue: Washington State University, Pullman, Washington, USA Sending Institution: UPLB Discipline: Biotechnology </p>
 <p> Name of Grantees: Mr. Juan Paolo Espiritu Mr. Ariston Gonzales Mr. Gerwin Guba Mr. Julian Marvick Oliveros Mr. Harold Paler Title of Training: Microsatellite Development Duration of Training: October 19, 2014–March 31, 2015 Venue: Hokkaido University and Tohoku University, Japan Sending Institution: UPD Discipline: Space Technology Applications </p>	 <p> Name of Grantee: Mr. Ramer Bautista Title of Training: Resilient and Stable Sensor Networks for Energy and Environmental Monitoring Duration of Training: August 2–September 30, 2013 Venue: University of California Berkeley, California, USA Sending Institution: UPD Discipline: Sensor Technology </p>
 <p> Name of Grantee: Mr. Christian Adam Espiritu Title of Training: DNA Aptamer Selection for Diagnostic Biosensor Devt. in Detection of Trichomonas Vaginalis Duration of Training: September 1, 2014 – May 31, 2015 Venue: Universitat Rovira I Virgili, Spain Sending Institution: UPD Discipline: Molecular Biology </p>	 <p> Name of Grantee: Ms. Loida Medina Title of Training: Genetic Polymorphisms of Blomia tropicalis and IgE Reactivity in a Selected House Dust Mites Allergic Pop. Duration of Training: November 30, 2014 – December 21, 2014 Venue: The Siriraj Dust Mite Center for Services and Research, Mahidol University, Bangkok, Thailand Sending Institution: UST Discipline: Molecular Biology </p>

Appendix 3. NEWLY APPROVED GRANTEES

 <p> Name of Grantee: Dr. Miriam Baltazar Title of Training: Next Generation Sequencing Duration of Training: April 12-21, 2015 Venue: Wellcome Trust Genome Campus, Hinxton, Cambridge Sending Institution: CavSU Discipline: Genomics </p>	 <p> Name of Grantee: Dr. Esperanza Maribel Agoo Title of Training: Technical Training at the Millenium Seed Bank Duration of Training: July 1 – 31, 2015 Venue: Millenium Seed Bank, Kew Royal Botanic Gardens, London, UK Sending Institution: DLSU Discipline: Genomics </p>
 <p> Name of Grantees: Ms. Donna May Papa Title of Training: Morphological, Molecular and Genomic Techniques in the Study of Bacterial Viruses Duration of Training: April 1 – June 30, 2015 Venue: Universite Laval, Quebec, Canada Sending Institution: UST Discipline: Genomics </p>	 <p> Name of Grantee: Mr. Jacus Nacis Title of Training: Molecular Genetics Training Workshop and Immersion Programme Duration of Training: 1st Quarter of 2015 Venue: National University of Singapore, Singapore Sending Institution: FNRI Discipline: Genomics </p>
 <p> Name of Grantee: Ms. Irene Pajares Title of Training: Yeast as Cell Factories for Production of Recombinant Proteins and Metabolites Duration of Training: May 1 – August 31, 2015 Venue: Dept of Biotechnology and Bioscience, University of Milan Bicocca, Italy Sending Institution: UPLB Discipline: Genomics </p>	 <p> Name of Grantee: Dr. Maria Cristina Ramos Title of Training: Use of Caenorhabditis elegans as a Model for Drug Discovery Duration of Training: June 15 – August 15, 2015 Venue: Institute of Nutrition, Friedrich-Schiller-University Jena Sending Institution: UST Discipline: Genomics </p>
 <p> Name of Grantee: Ms. Vanessa Joy Timoteo Title of Training: Molecular Genetics Training Workshop and Immersion Programme Duration of Training: 1st quarter of 2015 Venue: National University of Singapore, Singapore Sending Institution: FNRI Discipline: Genomics </p>	 <p> Name of Grantee: Ms. Raquel Rubio Title of Training: Advanced Genotoxicity Testing: Theoretical and Practical Training Duration of Training: May 1 – 29, 2015 Venue: University of Oslo, Norway Sending Institution: UPD Discipline: Genomics </p>



Name of Grantee: Dr. Glicería B. Ramos
Title of Training: Epigenetics
Duration of Training: April 14-24, 2015
Venue: National Institute of Health, Bethesda, Maryland, USA
Sending Institution: DLSU
Discipline: Genomics



Name of Grantee: Dr. Hosea Matel
Title of Training: Post-doctoral Research on Cloning and Characterization of Enzymes from Yacon for Oligofructose Production
Duration of Training: June 1 – November 30, 2015
Venue: Dept. of Plant Sciences, University of California Davis, California
Sending Institution: CavSU
Discipline: Genomics



Name of Grantee: Mr. Alexander Mosqueda
Title of Training: Hydrothermal Treatment of Municipal Solid Waste and Biomass
Duration of Training: June 2 -29, 2015
Venue: Tokyo Institute of Technology
Sending Institution: MSU-IIT
Discipline: Waste Treatment Techniques



Name of Grantee: Dr. Ruby Apilado
Title of Training: Governance and Food Safety in Internation
Duration of Training: March 9-27,2015
Venue: Center for Devt. Innovation, Wageningen, Netherlands
Sending Institution: FNRI
Discipline: Nutrigenomics



Name of Grantee: Dr. Einstine Opiso
Title of Training: Postdoctoral Fellowship on Physico-Chemical and Microstructural characterization of hardened cement paste blended with coal fly ash, bagasse ash and lime sludge
Duration of Training: July 1, 2015 – March 31, 2016
Venue: Laboratory of Environmental Geology, Hokkaido University
Sending Institution: CMU
Discipline: Waste Treatment Technique



Name of Grantee: Ms. Fatima Rodriguez
Title of Training: Wastewater Treatment Plants Design and Engineering
Duration of Training: March 30 – April 14, 2015
Venue: UNESCO-IHE Institute of Water Education, Netherlands
Sending Institution: DMMMSU
Discipline: Waste Treatment Techniques



Name of Grantee: Mr. Macario Cordel, II
Title of Training: Deep Learning in Artificial Neural Network
Duration of Training: April 27-August 24,2015
Venue: Katholieke Universiteit Leuven, Belgium
Sending Institution: DLSU
Discipline: Data Analysis



Name of Grantee: Ms. Jhoirene Clemente
Title of Training: Reoptimization for Closest Substring Problem
Duration of Training: January 10 – December 10, 2015
Venue: Swiss Federal Institute of Technology, Zurich, Switzerland
Sending Institution: UPD
Discipline: Data Analysis



Name of Grantee: Mr. Edwin Arboleda
Title of Training: Near Infrared Spectroscopy Application Training Course
Duration of Training: 1st Part - April 21-25, 2015
 2nd Part - May 10 – 15, 2015
Venue: PDK Projects, Winnipeg, Canada
 Eigenvector Research, Seattle, Washington
Sending Institution: CavSU
Discipline: Data Analysis



Name of Grantees: Dr. Ruel Mojica
Title of Training: Techno 2015 – An Innovative Training Program
Duration of Training: June 15 – August 15, 2015
Venue: Impact Centre, University of Toronto – St. George Campus, Ontario, Canada
Sending Institution: CavSU
Discipline: Technology Transfer and Commercialization



Name of Grantees: Dr. Bernadeth Ticar
Title of Training: High Yield Extraction, High Performance Anion-Exchange Chromatography with Pulsed Amperometric Detection for Fucoidan Composition Analysis its Bioactive Assessment
Duration of Training: March 15 – April 30, 2015
Venue: Gyeongsang National University Tongyeong Campus, South Korea
Sending Institution: WVCST
Discipline: Biomedical Engineering



Name of Grantee: Dr. Jaime Montoya
Title of Training: Health Systems Management Program
Duration of Training: May 6 – 20, 2015
Venue: Galilee International Management Institute, Israel
Sending Institution: PCHRD
Discipline: Biomedical Engineering



Name of Grantee: Dr. Francisco Elegado
Title of Training: Building Confidence on the Validity of Developed Nanobiosensors for Listeria and E. coli
Duration of Training: March 1 – May 31, 2015
Venue: Nanobiosensors Lab., Michigan State University, USA
Sending Institution: BIOTECH-UPLB
Discipline: Nanotechnology Techniques



Name of Grantee: Mr. Jordan Madrid
Title of Training: Reversible Addition Fragmentation Chain Transfer Mediated Graft Polymerization onto Various Base/Trunk Polymers
Duration of Training: March 3 – May 2, 2015
Venue: Hacettepe University, Ankara, Turkey
Sending Institution: PNRI
Discipline: Nanotechnology Techniques



Name of Grantee: Mr. Jan Lorie Robil
Title of Training: Molecular Genetics of Reproductive Devt in the Model Plant Arabidopsis thaliana
Duration of Training: April 1 -31, 2015
Venue: Nara Institute of Science and Technology, Japan
Sending Institution: ADMU
Discipline: Molecular Biology



Name of Grantee: Ms. Aileen Custodio
Title of Training: Heterologous Expression and Synthetic Biology of Biosynthetic Gene Clusters in Actinobacteria
Duration of Training: March 1 – June 28, 2015
Venue: Manchester Institute of Biotechnology, University of Manchester, UK
Sending Institution: BIOTECH-UPLB
Discipline: Molecular Biology



Name of Grantee: Ms. Princess Angelie Casas
Title of Training: Species Delimitation and Phylogeography of *Drepanosticta flavomaculata* Damselflies (Odonata, Zygoptera) of Mindanao
Duration of Training: February 1 – July 31, 2015
Venue: National Taiwan Normal University, Taiwan
Sending Institution: MSU-IIT
Discipline: Molecular Biology



Name of Grantee: Ms. Maureen Sabit
Title of Training: Aeroallergen and Pollen Research Methods with Principles of Data Analysis and Quality Control
Duration of Training: January 13 – March 17, 2015
Venue: University of Cordoba, Spain
Sending Institution: UST
Discipline: Molecular Biology



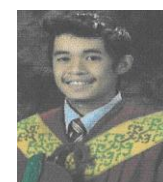
Name of Grantee: Ms. Nyzar Mabeth Odchimar
Title of Training: Ethnobotany, Toxicity, Phytochemical Pharmacological Screening of Natural and Callus Culture of Selected Medicinal Plants Used by Talaandig Tribe of Brgy. Songco, Lantapan, Bukidnon
Duration of Training: March 20 – June 20, 2015
Venue: University of Sri Jayewardenepura, Sri Lanka
Sending Institution: MSU-IIT
Discipline: Molecular Biology



Name of Grantee: Ms. Jhoan Rhea Pizon
Title of Training: Ethnobotany, Cytotoxicity, Phytochemistry, Pharmacological Assessment of Natural and Callus Cultures of Selected Medicinal Plants Used by the Subanen of Lapuyan, Zamboanga del Sur
Duration of Training: March 20 – June 20, 2015
Venue: University of Sri Jayewardenepura, Sri Lanka
Sending Institution: MSU-IIT
Discipline: Molecular Biology



Name of Grantee: Ms. Dana Joanne Von Trono
Title of Training: Ethnobotany, Phytochemistry, Pharmacology, and Toxicity Assessment of Natural and Callus Cultures of Selected Medicinal Plants Used by Manobo Tribe in Bukidnon
Duration of Training: March 20 – June 20, 2015
Venue: University of Sri Jayewardenepura, Sri Lanka
Sending Institution: MSU-IIT
Discipline: Molecular Biology



Name of Grantee: Mr. Philip Noel Banaag
Title of Training: DNA Barcoding of Pholcid Spiders (Pholcidae: Araneae) at Mt. Pinukis, Pagadian, Zamboanga del Sur, Philippines
Duration of Training: May 1 – 31, 2015
Venue: Biodiversity Institute of Ontario, University of Guelph, Ontario, Canada
Sending Institution: MSU-IIT
Discipline: Molecular Biology



Name of Grantees: Mr. Eddie Mondejar
Title of Training: DNA Barcoding of Pholcid Spiders (Pholcidae: Araneae) at Mt. Pinukis, Pagadian, Zamboanga del Sur, Philippines
Duration of Training: May 1 – 31, 2015
Venue: Biodiversity Institute of Ontario, University of Guelph, Ontario, Canada
Sending Institution: MSU-IIT
Discipline: Molecular Biology



Name of Grantee: Mr. Noel Tan Gana
Title of Training: Fungal Biodiversity 2015
Duration of Training: February 2 – 13, 2015
Venue: Centraalbureau Voor Schimmelcultures (CBS) Fungal Biodiversity Center, Utrecht, Netherlands
Sending Institution: UPLB
Discipline: Molecular Biology



Name of Grantee: Dr. Rezin Bahia

Title of Training: Immunohistochemistry and Microscopy (IHCM) Course








Duration of Training: March 14 – 19, 2015

Venue: Marine Biological Laboratory, Woods Hole, Massachusetts, USA

Sending Institution: CavSU

Discipline: Microscopy and Imaging

DOST RDIs

 <p>RDI: PNRI Title of Training: Capacity Building for Science, Technology and Innovation Towards a Self-Sustaining Research and Development Institute of the DOST Duration of Training: Mission 1: April 14-18 and May 5-9, 2014 Venue: Mission 1: South Korea and Japan Participants: Dr. Soledad Castañeda Ms. Maria Celerina Saligan</p>	 <p>RDI: FNRI Title of Training: Capacity Building for Science, Technology and Innovation Towards a Self-Sustaining Research and Development Institute of the DOST Duration of Training: Mission 1: April 14-18 and May 5-9, 2014 Mission 2: January 12-16, 2015 Venue: Mission 1: South Korea and Japan Mission 2: Canada Participants: Dr. Mario V. Capanzana Ms. Teresa S. Mendoza</p>
 <p>RDI: PTRI Title of Training: Capacity Building for Science, Technology and Innovation Towards a Self-Sustaining Research and Development Institute of the DOST Duration of Training: Mission 1: April 14-18 and May 5-9, 2014 Venue: Mission 1: South Korea and Japan Participants: Dir. Celia B. Elumba Ms. Nora B. Manganlindan</p>	 <p>RDI: MRIDC Title of Training: Capacity Building for Science, Technology and Innovation Towards a Self-Sustaining Research and Development Institute of the DOST Duration of Training: Mission 1: April 14-18 and May 5-9, 2014 Venue: Mission 1: South Korea and Japan Participants: Mr. Jonathan Q. Puerto Ms. Mercedita G. Abutal Mr. Agustin M. Fudolig</p>
 <p>RDI: FPRDI Title of Training: Capacity Building for Science, Technology and Innovation Towards a Self-Sustaining Research and Development Institute of the DOST Duration of Training: Mission 1: April 14-18 and May 5-9, 2014 Mission 2: January 12-16, 2015 Venue: Mission 1: South Korea and Japan Mission 2: Canada Participants: Dr. Romulo T. Aggangan Mr. Alberto V. Nicolas</p>	 <p>RDI: ASTI Title of Training: Capacity Building for Science, Technology and Innovation Towards a Self-Sustaining Research and Development Institute of the DOST Duration of Training: Mission 1: April 14-18 and May 5-9, 2014 Mission 2: December 7-13, 2014 Venue: Mission 1: South Korea and Japan Mission 2: Singapore and Australia Participants: Engr. Denis F. Villorente Narcisa Juvilyn C. Castañeda</p>
 <p>RDI: ITDI Title of Training: Capacity Building for Science, Technology and Innovation Towards a Self-Sustaining Research and Development Institute of the DOST Duration of Training: Mission 1: April 14-18 and May 5-9, 2014 Venue: Mission 1: South Korea and Japan Participants: Ms. Lydia M. Ablaña Ms. Annabelle V. Briones</p>	

Appendix 2 - Table 1. IEC on BCDA, BSP and PCIEERD HRD Programs as of December 12, 2014

DATE	LOCATION	INSTITUTION	NAME	APPLICATION RECEIVED		APPROVED APPLICATION		IN PROCESS	DIS APPROVED
				BCDA	HRDP	BCDA	HRDP		
13-Aug-14	DAVAO CITY	Ateneo de Davao University (ADDU)	Glenda Sacbibit						
20-Aug-14	CEBU CITY	University of San Carlos (USC)	Glenda Sacbibit	3	1		2	2	1
17-Sep-14	CAVITE	Cavite State University (CAVSU)	Ermie Bacarra Arnel Bisnar	5		2		3	
18-Sep-14	MANILA	Technological University of the Phil (TUP)	Jonathan Munoz Ermie Bacarra Glenda Sacbibit						
22-Sep-14	BENGUET	Benguet State University (BSU)	Glenda Sacbibit Annaliza Monterey						
24-Sep-14	NUEVA ECIJA	Central Luzon State University (CLSU)	Jonathan Munoz Arnel Bisnar		1		1		
25-Sep-14	BICOL	Bicol State University (BSU)	Glenda Sacbibit						
29-Sep-14	PALAWAN	Palawan State University (PSU)	Jonathan Munoz						
29-Sep-14	LEYTE	Visayas State University (VSU)	Arnel Bisnar		1		1		
1-2 Oct-2014	PANGASINAN	Pangasinan State University (PSU)	Ermie Bacarra Marie Christie Santos		1			1 (requested to submit requirements)	
	VIGAN	University of Northern Philippines (UNP)							
7-8 Oct-2014	ILIGAN CITY	Mindanao State University- IIT (MSU-IIT)	Ermie Bacarra	7	2	7			2
	BUKIDNON	Central Mindanao University (CMU)		1	2	1	1	1	
				16	8	10	5	7	3

PROJECT MANAGEMENT STAFF



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Ms. Annaliza R. Monterey
Project Assistant III, HRIDD



Mr. Arnel M. Bisnar
SRS II, HRIDD