

QUARTERLY PHYSICAL REPORT OF OPERATION
As of 4th Quarter 2014

Department : DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
 Agency : ECOSYSTEMS RESEARCH AND DEVELOPMENT BUREAU
 Operation Unit :
 Organizational Code (UACS) :

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	Continuing Appropriations
	Off-Budget Account

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		1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	TOTAL	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	TOTAL		
A.1 GASS													
General Management and Supervision													
- Financial Reports submitted (no.)		17	17	17	18	69	21	21	24	24	90	-21	Financial Reports submitted to COA and DENR <u>Monthly Report (October to December)</u> 1. Statement of Government Equity 2. Statement of Cash Flow 3. Report of Income (NG books) 4. Breakdown of Foreign Travel 5. Monthly Report of Disbursements (DBM) 6. Financial Performance 7. Trial Balance 8. Bank Reconciliation
- Budgetary, procurement and other reports posted in the Transparency seal (compliance to PhilGeps conditions) (no.)		9	9	9	9	36	6	2	7	20	35	+1	For the period January to June 2014, ERDB has posted the Invitation of Bid/Request for Expression of Interest (REI), Notice to Proceed and the approved /awarded contract as follows: 1. Request for Price Quotation-SC Vacuum Packing Machine 2. Request for Price Quotation-Computer Laptop, Printer 3. Request for Price Quotation-LED Projector 4. Request for Price Quotation-GPS with Camera 5. Invitation to Bid-Supply and Delivery of ICT Equipment and Peripherals 6. Invitation to bid-Rebidding for the Rehabilitation of Comfort Rooms and Fireline Supply Pipes 7-8 Invitation to bid for the supply and delivery of IT equipments and for the construction of proposed Tree Seed Building 9. Printing of Brochures - July 11, 2014 10. Laboratory Equipment and fixtures FY 2014 - Aug. 15, 2014 11. Invitation to bid for the goods and services, East-Asian Australian Flyway (EAAF) RD Congress (Sept. 1, 2014) 12. Hauling of 200,000 Seedlings (Sept. 10, 2014) 13. Invitation to bid for the supply and installation of Laboratory Fixtures (Sept. 19, 2014) 14. Request for Price Quotation (Sept. 24, 2014) 15. Rehabilitation and Painting of ERDB building exteriors (Sept. 25, 2014)

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- Annual Procurement Plan CY 2015 submitted (no.)					1	1							+1	16. Negotiated procurement under Section 55.11 of IRR. Hauling of Seedlings - October 16, 29014 17. RFQ - Audio Video Editing of Interviews and sending to 50 PFRB members - October 15, 2014 18. RFQ - supply and Delivery of Kauayan tinik and Giant Bamboo seedlings - October 15, 2014 19. Supply and Delivery of Seedlings (Indigenous forest tree species) - October 9, 2014 20. Facilitators - EAAF R & D Congress - October 7, 2014 21. Flash Drive (4GB) - EAAF R & D Congress - October 3, 2014 22. Upgrading of Equipment Portable Multi-Parameter Water Quality Tester - October 3, 2014 23. RFQ - Food/Meals/Venue - Borongan, Samar - October 30, 2014 24. RFQ - LPG Refill - 50kgs. - October 30, 2014 25. RFQ - Software Expert cum Graphics Designer - October 30, 2014 26. RFQ - Computer Upgrading - October 30, 2014 27. RFQ - Generator - October 30, 2014 28. RFQ - 1 year subscription ESET Endpoint Security - October 30, 2014 29. ITB - Repair and Installation of Modular Collapsible Greenhouse - October 23, 2014 30. ITB - Supply, Delivery and Installation of Laboratory Equipment - October 21, 2014 31. RFQ-Audio Equipment - Nov. 8, 2014 32. RFQ-IT Equipment- Nov. 8, 2014 33. RFQ-FOOD and VENUE - Nov. 7, 2014 34. RFQ-Food and Venue, Oriental Mindoro - Nov. 6, 2014 35. RFQ-Food and Venue (Laguna) - Nov. 6, 2014 Target activity for 4th Quarter ERDB Consolidated Annual Procurement Plan CY 2015 will be submitted before end of January 2015.
- Liquidation of cash advances (monthly report)		3	3	3	3	12	3	3	3	3	12			Monthly report on the liquidation of cash advances and TEVs cover only the period January to December 2014.

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- Citizens Charter updated and posted (no.)					1	1				1	1		Citizens Charter was updated.
- Statements of Assets and Liabilities (SALN) submitted (no.)			124			124		124			124		SALN of ERDB employees were 100% submitted as of the June 2014.
- Monthly Technical Seminar Series (MTSS) conducted (no.)		2	3	3	3	11	3	3	4	3	13	-2	Twelve (12) Monthly Technical Seminar Series (MTSS) were conducted as of the period with the following topics: 1. Forest Restoration: A Practical Approach for a More Stable Forest Ecosystem, January 22, 2014 2. Invertebrate Faunal Diversity Assessment of Pasig River and Authorship, February 28, 2014 3. Status of Small Scale Gold Mining in CAR, Regions 5 and 11 and the Science of Communication, March 28, 2013 4. Locomotion in Star Urchin, April 2014 Writing for the WEB: New Platform ; Concepts 5. Tree Rehabilitation, May 23, 2014 Common Defects and Stress Factors Leading to Tree Decay 6. Recent Survey of Casuarina in the Philippines June 11, 2014 7. Estimation of Carbon Sequestration Rates of Forest Tree Species in the Philippines; GPS & Geotagging July 8, 2014 8. R & D for Migratory Waterbirds, August 8, 2014. 9. The Promise of Stem Cell Therapy, August 13, 2014 10. Seminar on Sustainable Management Utilization of Bamboo Resources for ASEAN Countries in China, September 15, 2014 11. Micropropagation of Two (2) Economically Important Forest Tree Species - October 27, 2014 12. Towards Understanding the ENR Policy Development October 29, 2014 13. Information Dissemination on Ebola Virus, Nov. 4, 2014 Gender Participation in Mangrove Rehabilitation and Conservation, Nov. 19, 2014
- Work place cleaned up (no.) (ERDB building and premises)		1	1	1	1	1	1	1	1	1	1		Employees did general cleaning and upgrading of Seed Production Areas (SPAs), Material Recovery Facility (MRF), clonal facilities, Los Banos Experimental Station (LBES), major production facilities, library and the rest of the offices in line with the observation of the

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A.II Support to Operations														cleaning of rooms every last Friday of the month based on the Memorandum re Synchronized Cleaning of Rooms which was issued in October 2008.
a) Data management including systems development and maintenance														
1. Generate and update RDE databases, information/technologies and statistics														
- ENR-RDE Information systems developed/enhanced (no.)		4	4	4	4	4	5	5	5	5	5	-1	Continuing activity ERDB enhanced/maintained four (5) information systems. 1. ERDIS - ENR RDE Information System (study profile, study leader profile, accomplishments, abstracts) 2. ETGIS - ERDB Technology Generated Information System (Technology profile, TAP) 3. LRIS - Library Resources Information System Catalogue of books, journals, and other reference materials. 4. DTS - Document Tracking system 5. ERDB Intranet	
2. Updating, maintenance and management of websites and LAN														
- Website updated/maintained (no.)		1	1	1	1	1	1	1	1	1	1		Continuing activity	
Internet connection via DSL maintained (no.)		1	1	1	1	1	1	1	1	1	1		Regular updating of the website is continued.	
3. Review and validation of reports on ENR statistics														
- Sectoral statistics reviewed/consolidated and validated (no.)		6		6		12	6		6		12		Statistical Reports CY 2013 (Forms 1-6) of ERDB and ERDS were consolidated and submitted to DENR on March 15, 2014. Statistical Report CY 2014 (Form 1) of ERDB and ERDS was consolidated and submitted to DENR on August 15, 2014.	

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- Statistical Month Celebration participated (no.)					1	1				1	1		Attended the opening and closing ceremony of the Statistical Month Celebration on October 3 and 24, 2014, respectively.
- DENR Statistical Committee Meetings attended (no.)		variable				variable	1	1	1	1	4		Attended 1st, 2nd and 3rd Quarter Statistical Committee meetings for the period January to September 2014 at DENR.
b) Production and dissemination of technical popular materials in the conservation and development of natural resources including environmental education													
Packaging and publication of ENR generated technologies/information (technical and popular publications)													
- ENR Technical and Popular publications packaged and produced (no.)													
Sylvatrop (no. copies)					1 700 copies	1 700 copies				1 700 copies	1 700 copies		Target activity for 4th Quarter A total of 700 copies of SYLVATROP Vol. 23, with six (6) articles were released and distributed to subscribers, requesting libraries and other DENR offices. In addition, SYLVATROP Vol. 24 issue has also been edited and laid out with four articles approved for publication.
Canopy (no. copies)		1 (draft layout & editing, etc)	1	1	1 200 copies	1 200 copies	1 (draft layout & editing, etc)	1	1	1 200 copies	1 200 copies		CANOPY International Vol. 40 nos. 1 & 2 (200 copies) The color-proof of the 16-page publication has been finalized and ready for printing.
RISE (new issues)			2	1		3		2	1		3		RISE Vol. 2 Nos. 1 to 12, 1990 Compilation of selected forest species is now ready for printing. A new issue on the planting and important uses of guyabano was laid out, edited and forwarded to the author for review.
RISE (reprinting of old issues)			1	1		2		1	1		2		

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ERDB Infojournal (no. of copies) (20 copies/issue)		1 20 copies	2 40 copies	1 20 copies	2 40 copies	6 120 copies	1 20 copies	2 40 copies	1 20 copies	2 40 copies	6 80 copies		Continuing activity Six (6) bi-monthly issues of the ERDB Infojournal (Volume 8 Nos. 1-6) were printed and distributed to ERDB employees. The final copies were uploaded in the ERDB website.
ERDB Annual Report (CY 2013) (no. of copies)			1 200 copies			1 200 copies		1 200 copies			1 200 copies		ERDB Annual Report CY 2013 was completed and produced in 200 copies on June 23, 2014. These were circulated to ERDB partner agencies and clientele.
Audio Visual Services - Major activities documented		4	4	4	4	16	7	4	5	4	20	-4	Major activities documented as of the period: 1. ERDB General Assembly, January 6, 2014, ERDB Auditorium 2. AKECOP meeting, January 14, 2014, Sang Hoon Lee Korean country, ERDB 3. Levelling-off workshop on the Improvement of Operation and Management of ERDB Clonal Nurseries, February 20, 2014, ERDB Conference Room 4. Charcoal Briquetting Training, February 27, 2014, Tumana, Marikina. 5. GAD Women's Month kick-off celebration, March 04, 2014, ERDB 6. World Water Day Kick-off Celebration 2014, March 17, 2014, Angat Dam, balmacaan/lpo Dam, Bulacan/La Mesa Dam, Quezon City 7. Documentation of the New Establishment Plantation of Rehabilitation Area, March 24-28, 2014, Bagacay Western Samar 8. DENR-ERDB Research Sector Strategic Planning Workshop cum Management Conference, Centro Hotel, Puerto Princesa, Palawan, April 01-04, 2014 9. National Forum on Formulation of Ecotourism Tracking Tool in the Philippines, ERDB Auditorium, Villa Escudero, Tiaong, Quezon, May 19-20, 2014. 10. Practical Photography Training: Taking Good Photos on the Field, Red auditorium, June 04-05, 2014

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b) Maintenance of ENR Library - ENR Library maintained (no.)		1	1	1	1	1	1	1	1	1	1		11. Vulnerability Assessment Workshop 2014, Lima Park Hotel, Malvar, Batangas, June 17-19, 2014 12. Consultation Forum on the Formulation of Ecotourism Tracking Tool in the Philippines, ERDB auditorium, July 12, 2014 13. Levelling off on the Enhanced Gender Analysis Tools and preparation of GAD Road Map (2015-2017), One Tagaytay Place Hotel, August 14-15, 2014 14. Levelling off workshop on the Implementation of Mangrove and Beach Forest Development and Management, Cocoon Boutique Hotel, Quezon City, Sept. 8-11, 2014 15. Workshop on the finalization of WFP 2015 and Operationalization of the Research Centers, ERDB auditorium, Sept. 24-25, 2014 16. GAD- "Handa Ka Na Ba sa Oras ng Kalamidad, ERDB Auditorium, Sept. 26, 2014 17. Capacity building - Wastong Pagtatanim Gamit ang Mycorrhiza, El Cielito BSP International Nov. 24-28, 2014 18. Workshop on Vulnerability Assessment to Climate Change Impacts: Data analysis and GIS application on report writing, El Cielito, BSP International, Nov. 25-28, 2014 19. Bird Migration for the EAAF Congress R & D on Wetlands and Migratory Waterbirds, Nov. 30 - Dec. 5, 2014 20. 3rd Research Sector Management Conference, Legaspi City, Dec. 10-12, 2014 Continuing activity Continued maintenance of ERDB Library. - Attended to 2,636 library users' needs - Acquired 1,386 copies of newspapers - Received, stamped and recorded 667 volumes of journals/magazine/newsletters and 26 titles of books. - Revised 558 encoded entries in LRIS - Clipped and compiled in album form a total of 2,861 ENR articles from the newspapers - Encoded and printed 1,759 record sheets of periodicals; 1,426 indexed articles; 1,368 cll number labels, 249 catalog entries. - Scanned and printed 83 newspaper articles for clippings - Downloaded 194 e-books and articles

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c) Legal Services													
1. Review of MOAs/MOUs/contracts/policies, - MOAs/MOUs/contracts/ policies reviewed (no.)		100	100	100	80	380	129	92	120	100	441	-61	One hundred (100) Contracts of Services were reviewed during the period.
III. Operations													
Formulation and Monitoring of ENR Sector Policies, Plans, Programs and Projects	MFO1												
1. Formulate/Update and adoption of RDE Framework - RDE Framework assessed and updated (no.)		1	1	1	1	1	1	1	1	1	1		Ongoing activity RDE Framework was updated and is now with the service provider for final review.
2. Conduct planning and reprogramming workshop with DENR Central Office and regional ERDS/RDE centers - ERDB Budget Proposal FY 2015 prepared (no.)			1			1		1			1		ERDB Budget proposal for 2015 was already submitted to DENR on March 25, 2014.
- ERDB Work & Financial Plan for FY 2015 prepared (no.)					1	1				1	1		Target activity for 4th Quarter ERDB Work and Financial Plan CY 2015 was submitted on 27 November 2014.
- RDE Centers 2015 Budget Proposal evaluated & consolidated (no)			6			6				6	6		Ongoing activity Prior preparation and submission of Research Center's 2015 Budget Proposal, each Research Center submitted their respective Action RDE Program which was reviewed by ERDB Technical Review Board (ETRB). This action program proposal will be implemented once the structured ERDB will be fully operationalized.

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- RDE Centers 2015 Work & Financial Plans evaluated & consolidated (no.)					6	6				6	6		RDE Centers Work and Financial Plans for Cy 2015 are still being reviewed for evaluation and consolidation
- Planning & programming workshop/meetings conducted/ attended (no.)		2	2	2	2	8	3	3	3	3	12	-4	Planning and Programming workshops/meetings attended: 1. Workshop on the Rat Plan and Budget Execution for FY 2014 La Breza Hotel, Quezon City, January 27, 2014 2. ERDB Presentation on the ENR framework Plan, DENR, Quezon City, February 20, 2014 3. Consultation Workshop for the Preparation of Budget Proposal for FY 2015, Crowne Royal, Balanga, Bataan March 4-7, 2014 4. Presentation and Deliberation of DENR 2014 Budget Proposal DBM, Manila, May 19, 2014 5. Dry-run re: Budget Hearing, DENR, Quezon City, DBM Manila May 20, 2014 6. Workshop re: Conduct of Mid-year Assessment and Planning, Monitoring and Evaluation, Timberland Hotel, San Mateo, Rizal, June 18-20, 2014 7. Senate Budget Hearing, Sept. 8, 2014 8. Plenary Deliberation of DENR's Proposed FY 2015 Budget, Batasang Pambansa Complex, Quezon City 9. Budget Hearing, September 26, 2014, Batasang Pambansa Complex, Quezon City 10. National Planning Workshop on the Finalization of FY 2015 WFP and Preparation of 3-year Forward Estimates for FY 2016-2018 October 20-24, 2014, One Tagaytay Place Hotel. 11. Review of the FY 2015 Regional WFPs in coordination with Bureau Planning Officers and Residential Tree Patent Issuance (RA10023) 12. Senate Plenary budget Hearing of the 2015 DENR Proposed Budget Nov. 25, 2014, Senate, Pasay City 13. Briefing/Workshop on Program Expenditure Classification (PREXC) Approach, Dec. 16, 2014 Century Park Hotel, Manila

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3. Conduct of Annual In-House Review of Completed and ongoing RDE programs/ projects - AIHR of completed and ongoing programs/projects conducted (no.)			5 RDE Centers	1 (ERDB)		6			1		1	+5	Due to the implementation of the rationalized ERDB, Inhouse review (ERDS and ERDB) targeted for the period was not pursued. Instead, a mid-year assessment of the project's accomplishments under the 4 major R & D programs for CY 2014 was conducted on July 27 to August 1, 2014 at Fort Ilocandia, Laoag City.
4. Attend local/global fore in line with the country's/agency's commitments to various multilateral environmental agreements - meetings/fora/symposia/ conferences attended/ participated (no.)		2	2	2	2	8	3	3	5	4	15	-7	1. High Level National Conference re Management Effectiveness and Capacity Assessment (MECA) of Protected Areas in the Philippines, Ortigas Center, January 15, 2014 2. National Scoping Workshop on the Economics of Ecosystems and Biodiversity (TEEB), Cocoon Boutique, Timog, Quezon City March 6, 2014 3. Inter-Agency Coordination Meeting on Livelihood from the Yolanda Affected Areas, ODARR NAC Penthouse, Global City March 6, 2014 4. Wealth Creation from the Philippine biodiversity Resources, FASPO, April 16, 2014 5. Mapping Typhoon Yolanda's Impact on Philippine Mangroves: Impacts and Recovery Workshop, Tacloban City, May 13-14, 2014 6. ASEAN Experts Group Meeting on Herbal and Medicinal Plants, Siem Reap, Cambodia, June 8-15, 2014 7. Proposed National Program on Wealth Creation on Biodiversity, July 15, 2014 8. FORIS Project, 4th National Steering Committee Meeting, July 18, 2014 9. Meeting on Forest Restoration (9B+Weiser), August 29, 2014 10. Meeting/Briefing on Major Environmental Laws and Key Programs of DENR with Cong. Sy Alvarado, Sept. 10, 2014

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- membership to scientific and technical committees/ organizations participated (no.)		2	2	2	2	8	3	3	5	3	14	-6	11. Stakeholders Workshop for the Management of PMEF as a Genetic Resource Area and National Training Center for Mangrove, Sept. 18, 2014 12. 1st TWG meeting on HB Nos. 460 and 3525 and HB No. 4206 (re Mangroves), Oct.1, 2014, Mitra Hall, House of Representatives 13.National Workshop on R & D Agenda for Biodiversity, Watershed, and Climate change (Dr. Rodel Lasco), Oct. 8, 2014, Malacañang, 14.Invited Speaker during the International Workshop on "Forest Seed and Plant Conservation in East Asia", October 14- 17, 2014 at Pyeongchang Province, Korea 15.Regional Research Committee-TWG Meeting, NCST, Amafel Bldg. Aguinaldo Highway, Dasmariñas, Cavite, Nov. 25, 2014 1. National Organic Agriculture Board Meeting, Bureau of Agriculture and Fisheries, Quezon City, January 13, 2014 2. Asia Pacific Network for Global Change Research (APN) Scientific Planning Group Meeting (SPG), Cambodia, March 17-22, 2014 3. Philippine Bamboo Industry Development Council (PBIDC) Meeting, Makati City, March 28, 2014 4. National Organic and Agricultural Board Meeting (NOAB) on organic farming, Widus Hotel, Clark, April 9, 2014: May 23, 2014; Dept. of Agriculture - BARPS, April 14-15, 2014 5. PCAARRD Governing Council Meeting, DOST, April 26, 2014 and June 3, 2014 6. ILTER 2014 Biennial Meeting by APAFRI, UP Diliman, June 5, 2014 7. Inception Meeting PAN ASIA Risk Reduction (PARR) Fellowship Program c/o START Secretariat (APN related), July 25, 2014 8. SEARCH Committee Meetings, July and August 2014 9. PCARRD Governing Council Meeting, August 5, 2014 10.DOST Biosafety Committee Meeting, August 16, 2014 11.2nd Technical Workshop on the Universal goals and National Targets of the Post 2015 Development Agenda, Sept. 16, 2014 12. DOST-BIOSAFETY 66th Committee Meeting, October 18, 2014 , Conference room 3, PNRI, Diliman, Quezon City

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5. Provision legislative assistance to Congress - assistance provided to Congress		variable				variable	5	5			10		13.1st Ph-US Joint S & T Committee Meeting Opening Ceremony October 28, 2014, Diamond Ballroom, Diamond Hotel, Manila 14.Regional Research Committee-TWG Meeting, NCST, Amafel Bldg. Aguinaldo Highway, Dasmariñas, Cavite, Nov. 25, 2014 Requests for review/comments on the following: 1. House Bill No. 140 or "The Asset Act of 2013" - January 2014 2. House Bills No. 501 Laguna Lake Development Authority (LLDA) Act of 2013 - January 2014 3. House Bills No. 473 on the Philippine Fruits Development Act of 2013 - January 2014 4. House Bills No. 501, 473, and 2909 on the Allocation of funds from the utilization of offshore natural resources, - January 2014 5. Draft Executive Order on Payment on environmental Services - February 19, 2014 6. Proposed Amendments to the Economic Provisions of the 1987 Philippine Commission, April 14, 2014 7. House Bill 720 "An Act Promoting the use of Urban Farming in the Country's Metropolitan Areas to Address Food Security Concerns and Regenerate The Ecosystem Function Appropriating Funds Therefore and For any Other Purposes" 8. House bill 743 "An Act Promoting Urban Farming and Providing Funds and Incentives Thereof", May 24, 2014 9. House Bill 3879 "An Act Establishing the National Rehabilitation and Reconstruction Development Authority (NRRDC) as the Central Planning and Rehabilitation of Disaster Stricken Areas in the Philippines, Providing the Authority with the Power to Administer an Early Recovery and Rehabilitation Program Trust Account and for Other Purposes., May 26, 2014 10. Position Paper of the DENR to House Bill No. 140 "An Act Advancing and Sustaining Science, Engineering and Technology Research and Education, Creating the Asset Scholarship Center, Providing for its Financing and Mandating it to Institutionalize Reforms in the Procurement and Fund Disbursement System in Science, Engineering and Technology Scholarship Programs and for Other Purposes", May 23, 2014

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Implementation of R and D Programs/Projects													
Projects implemented (no.)	MFO1	6	6	6	6	6	6	6	6	6	6		
1. Adaptation strategies to climate change impacts in main island coastlines and small island foreshore areas													
- Information on adaptive capacity of biophysical attributes of main island coastlines and small foreshore areas (no. of regions)		1	1	1	1	1	1	1	1	1	1		Ongoing activity (Target to be delivered in 4th quarter) Continued gathering of mangrove biophysical data in the project sites Regions 1, 4A, 6, 8, and 9, for monitoring the impacts of climate change to biological component of the coastal ecosystems. Continued monitoring of forest structure and growth rates based on tree height, diameter, and stem density. Macrobenitic were analyzed. Soil characteristics and geographic coordinates of plots were also undertaken. Activity is 90% completed as of the period, still waiting for the datasets of Region 4A.
- Integrated regional adaptive capacity of biophysical attributes coping mechanisms of maintained coastlines and small island foreshore areas (no.)		1	1	1	1	1	1	1	1	1	1		Ongoing activity (Target to be delivered in 4th quarter) Preparing reports of regions for consolidation. Activity is 90% completed as of the period, still waiting for the reports of Region 4A.
2. Wildlife vulnerability and adaptation to climate change in Caramoan National Park (R5) and Tabunan Protected Area (R7)													
- Baseline population data as affected by climate change (no.)		2	2	2	2	2	2	2	2	2	2		Surrogate data collection was continued during the quarter in Caramoan National Park and nearby barangays, Bikal and Guijalo in Caramoan, Camarines Sur. Likewise, vegetation survey was conducted by taking note of fruit trees and plant materials preferred by the butaan.
- Climate change impacts on habitat characteristics (no.)		1	1	-	-	1	1	1	1	1	1		The climatic data of Mandaue, Cebu were analyzed using linear regression. These data were also subjected to Spearman rho correlation. The correlation coefficient for rain, temperature, wind

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3) Biomass and carbon sequestration of four (4) economically important bamboo species in the Philippines - information on the biomass and carbon contents of 2 bamboo species packaged (no.)					1	1						+1	speed and humidity were 0.393, 0.312, 0.238 and 0.761 with their corresponding significance at 0.057, 0.138, 0.262 and 0.000 respectively. Humidity was found to have a strong positive linear relationship through the years with correlation coefficient of 0.761 (p-value=0.000) Ongoing activity (Target for 4th quarter) Prior packaging of information on the biomass and carbon contents of Bolo and Buho, gathering of data was continued. in the projects sites in Regions 6, 7, 10, and 11. Collection of bamboo poles (10 poles/species/site) of the two (2) species was likewise continued. As of the period, one hundred eighty (180) bamboo samples of each component parts the leaves, branches and pole were oven dried, cut and grinded at the ERDB laboratory. Composite samples of at least 200 grams were collected and brought to IRRI Analytical Laboratory for micro-grinding (talc powder form). Still waiting for the result of the carbon content analyses from IRRI. Activity is 85% completed as of the period and is expected to be 100% completed within 1st Quarter CY 2015.
4) Greenhouse gas (GHG) determination on mangrove soil - Baseline information of fluxes/ emissions of CO ₂ , N ₂ O and CH ₄ in mangrove soil (no.)		-	-	-	1	1				1	1		Target activity for 4th quarter Baseline information of GHG (carbon dioxide (CO ₂), nitrous oxide (N ₂ O), and methane (CH ₄)) in an intact and an anthropogenically mangrove sites were generated. The greenhouse gas emissions and its relationship with different environmental parameters were statistically analyzed using Pearson product moment analysis.
5) Vulnerability assessment of priority watersheds and coastal areas in the Philippines - Vulnerability assessment report per watershed prepared (with maps) (no.)		-	-	-	14	14						+14	(Target for 4th quarter) Among the hazards identified are flooding, landslides and soil erosion. Contributing factors are deforestation, river siltation and unregulated quarrying. For ERDB targets (5 watersheds) terminal

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6) Social impacts of sea level rise in selected coastal communities - Information on impacts of sea level rise to coastal communities (no.)		-	-	-	1	1					1	1	reports are in progress. Spatial information on maps are still being completed (17 maps/watershed). Only Region 7 has submitted a CD copy of the terminal report, hence the activity is only 75% completed as of the period. Constant follow-up on the submission of reports of the remaining 7 regions (Regs. 2, 4B, 5, 6, 8, 9, 10) will be done to facilitate the completion of the report within 1st Quarter CY 2015. (Target for 4th quarter) Results of reconnaissance survey conducted in the municipality of Real, Infanta, Pagbilao, Gen. Nakar, Padre Burgos, Unisan, Catanauan, and Calauag, Quezon revealed that changes in the environment particularly sea level rise had caused damage to properties, lost of non-monetary cultural, lost of livelihood/economic activity, increased food risks and health problems. The respondents believed that the causes of sea level rise include frequent storm/typhoons, shoreline retreat/recede, land subsidence, shoreline erosion, and melting of ice. Focus Group Discussion with LGUs of Real, Infanta, Pagbilao, Catanauan, and Calauag in Quezon Province were made to validate the information obtained from households.
2) R&D Program on Sustainable Development, Management and Conservation of Natural Resources Projects implemented (no.)		17	17	15	14	17	17	15	14	14	17		
1) Pilot testing of alternative species for community-based fuelwood production - Information on the growth of planted fuelwood species generated (no.)		3	3	3	3	3	3	3	3	3	3		Continued the data gathering on the growth performance of the three (3) fuelwood species outplanted in the different sites in three (3) regions implementing the project. Reg.1 - Ilocos Sur, species planted: kakawate, fringon, and Akleng parang Reg. 6 - Guimaras, species planted: Sibukao, Anchoan dilau, Ipil-ibil Reg. 7 - Cebu, species planted: Kakawate, Robles, and Ipil-ibil Records showed that mortality rate of the planted seedlings in Region 1 was very high.

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2) Profitability analysis of sustainable agroforestry practices within the selected CBFM sites in the Philippines - Information package on profitability analysis of agroforestry practices in CBFM areas (no.)														Terminal report and IEC Materials were already drafted including four (4) brochures to present agroforestry practices of each of the four regions (Regions 5, 7, 8 and 11) and one (1) booklet or compendium showing all the agroforestry farms that were considered in the project.
3) Application and piloting of sustainable ENR technologies in the rehabilitation of typhoon affected areas - Demo area on sustainable bamboo technology established (no.) - Integrated information on pilot plantation establishment packaged (no.)												+1	Monitoring of the three (3) demo areas on sustainable bamboo technology in Regions 4A, 8 and 10 (Rodriguez, Rizal; Tacloban, Leyte and Pagatpat, Cagayan de Oro) was done quarterly. 100% survival was recorded in the bamboo demo areas in Region 10, while in Region 4A, survival rate continued to decrease because typhoon Mario washed out the newly planted seedlings. Ongoing activity (Target for 4th quarter) Integrated information on pilot plantation establishment packaged is still 67% completed as of the period. Only datasets on height increment, survival rate and shoot production of demo areas in Regions 4A and 10 were analyzed. Region 8 was not able to submit their accomplishment reports (Annual Report) due to aftermath of typhoon Ruby. Constant follow-up will be done thru text messages, telephone calls and e-mails to complete the packaging of the information by January 2015.	
4) Trial Plantation of non-commercial species of bamboo, Rattan, and medicinal plants - Trial plantations established (no.)														A total of 6 hectares trial plantation of six medicinal tree species (banaba, bignai, dita, igyo, kamachile and lipote) were established. Maintenance of these plantations are given to the municipality of Sariaya and PAMB 4A as stipulated in the MOA. These plantations now serve as demonstration areas.

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- Manual on economically important species developed (no.)					1	1				1	1		(Target for 4th quarter) A draft manual was submitted to DENR-OSEC on November 27, 2014 as part of the ERDB deliverables for CY 2014 which highlights the importance of bamboo, rattan and medicinal/economically important tree species found in the Philippines. Information on the existing market, demands and supply, production process and plantation establishments are also included.
5) Formulation of Ecotourism Tracking Tool in the Philippines													
- Ecotourism tracking tools validated in 4 sites (no.)		1 2 sites	1 2 sites			1 4 sites			1 3 sites		1 3 sites		Ongoing activity Pre-testing and validation of the Draft Tool in Ecotourism destinations in Regions 2, 5 and 13 were completed as of the period. The sites visited are as follows: Region 2 1. Callao Caves Tourist Zone 2. Palau Island 3. Iligan Sanctuary Region 5 1. Mayon Volcano National Park (MVNP) 2. Cagsawa ruins Park 3. Albay Parks and Wildlife 4. Donsol 5. Bulusan Volcano National Park (BVNP) 6. Prieto Diaz Mangrove Tour 7. Caramoan Region 13 1. Tinuy-an Falls, Bislig, Surigao del Sur 2. Enchanted river, Hinatuan, Surigao del Sur 3. Agusan Marsh Wildlife Sanctuary 4. Sohoton Park Bukas Grande Island PL 5. Delta Discovery Park, Butuan City The team was not able to validate the draft Ecotourism tracking tool in potential ecotourism destinations in Regions 4A.

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- Ecotourism forum conducted			1	1		2		1	1		2		The National Forum on the Formulation of Ecotourism Tracking Tool in the 'Philippines was held last May 19-20 at ERDB Auditorium and Villa Escudero Plantations and Resort . Forty (40) Ecotourism experts attended to critique the draft Tool.
- Ecotourism tracking tools developed (no.)			1	1	1	1		1	1	1	1		Ecotourism Tracking Tool in Monitoring and Evaluation of Ecotourism Sites or Projects in the Philippines was developed and submitted to DENR-OSEC on November 27, 2015 as one of ERDB deliverables in CY 2014.
6) Development of site classification systems for abandoned fishponds under Fishpond Lease Agreements (FLA)													
- Information on the criteria and indicators based from classification systems for abandoned fishponds				1		1			1		1		As of the period, the project had already completed the results and summary of the biological components (mangrove, macrobenthos) and water quality parameters so with the analysis, discussions and interpretation of results of the socio-economic interview in the three (3) sites: Lian, Batangas; Infanta, Quezon; and Barotac, Viejo, Iloilo province in relation to the level of knowledge and awareness on the following concerns: a) mangrove laws and ordinances, rehabilitation measures; b) fishpond profiling, aquaculture practices and trainings conducted; c) background on environment (past and present); d) socio-economic impact of the fishponds (during and after operation).
- Policy input drafted (no.)			1			1				1	1		Draft DENR Memorandum Circular No. 2014 - __ on the Adoption of the Manual on the Biophysical and socio-economic indicators for the reversion of abandoned/underutilized and undeveloped fishponds under the Fishpond Lease Agreements (FLA) to Mangrove Ecosystems was already submitted to the DENR Central Office including the Completed Staff Work on November 27, 2014 as one of ERDB deliverables in CY 2014

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7) Improved rehabilitation Strategies, schemes and technologies for areas adversely affected by mining activities and highly vulnerable and severely eroded areas in watersheds													
- Integrated rehabilitation technologies for watershed and mining areas with tissue analysis		1	1	1	1	1	1	1	1	1	1		(Target for 4th quarter) Final data gathering of different parameters were accomplished. Results showed that combination of cogon mat technology and aura in mining area in Reg. 6 exhibited the highest mean height and diameter increment. This suggests the combination thrives well in the area despite the prevailing poor site condition. In Region 6 watershed area, the species combination of Auri and Narra seedlings had the higher mean and diameter increment compared to other species combination tested. While in Region 11, the combination of coconet technology and Falcata gave the highest height and diameter increment. Coconet technology also gave the lowest erosion rate.
- IEC materials (brochures) for dissemination					1	1						+1	Target activity for 4th quarter Layout of the brochure/IEC material was prepared which features lessons learned, experiences, results and recommendations in rehabilitating mining and watershed areas. Preparation of the project terminal report was also started.
8) Application of mycorrhiza and other soil amelioration in improving reforestation and agroforestry in the uplands													
- Integrated soil amelioration technologies for reforestation and agroforestry areas with tissue analysis packaged (no.)		1	1	1	1	1	1	1	1	1	1		Final data gathering was completed for integration in the terminal reports from the six regions The compiled terminal report served as a basis for the preparation of the IEC materials.
- IEC materials (brochures) for dissemination (no.)					1	1						+1	Preliminary layout of the IEC material (brochure) was prepared. This will serve as a medium for transferring the most effective and low cost soil amelioration technologies for the different priority species. The brochure will be readily available for dissemination in January 2015.

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9) Alternative rehabilitation technology in limestone areas using direct seeding approach													
- Direct seeding trial plots established (ha)		0.5	0.5	1	2	2							
- Information on appropriate species for direct seeding generated (no.)		1	1	1	1	1							
10) Removing barriers to Invasive Species Management in Production and Protection in Southeast Asia													
Component 4: National pilots on the prevention, control and management of priority forest invasive alien species (IAS)													
- Information on biological indicators from established plots monitored (no.) (3 species each of flora and fauna)		6	6	6	6	6	2	2	2	2	2	+4	Ongoing activity (Target for 4th quarter) Two (2) species of flora were identified and now being monitored for the impacts of treatment. Collected soil samples are being extracted using the Berlese Funnel set up in Koronadal City. Result of the extraction will be the basis for biological indicator for the fauna if possible. Activity is 33.33% completed as of the period.
- Appropriate control measure/habitat restoration protocol for <i>P. aduncum</i> developed (no.)					1	1						+1	Ongoing activity (Target for 4th Quarter) Control measures were changed from four (4) treatments, 3 replicates per treatment to ten (10) treatments + 1 control, 3 replicates As of the period, all treatments used are seen effective. However, as to what control or treatment is appropriate is still undetermined. Habitat restoration developed will be carried out in 2015.

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11) Bamboos for Green Environment and Green Economy in the Philippines Project 1: Establishment of Bamboo Community for small and Medium Scale Enterprise - Profiles of beneficiaries/ barangay (no.) Project 2: Rapid Environmental Rehabilitation and Climate Change Impact Mitigation Through Bamboo Greening - Information on the bamboo nursery and plantation established (no. of sites)				4	4	4			2	2	2	+2	In Region 1, DMMMSU and ERDB are still on the process of preparing for Memorandum of Agreement (MOA). Target was not met because the project had just started in August 2014. Will continue the site selection and identification in 2015.
				2	2	2			1	1	1	+1	A total of eight (8) hectares in Barangay Laganak, Balatan, Camarines Sur were planted with bamboo seedlings. An additional seven and four hectares shall be established in Balatan (or in other areas in case there is no available within Balatan area) and DMMMSU, respectively, in 2015. Target was not met because the project had just started in August 2014. Will continue the site selection and identification in 2015.
12) Survey, isolation and identification of rhizobia from indigenous leguminous species - Pure cultures of rhizobia isolated and tested (no.)		2	2	2	2	8		2	3	3	8		Root nodule collection of narra, camachile and bani was conducted in Laguna, Bulacan, Nueva Ecija, Quezon, Pangasinan and Cebu. Nodules were disinfected and beneficial bacteria were isolated through laboratory processes. Rhizobia isolates were purified and properly stored and will be inoculated in selected test plants to test its efficacy.

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13) Assessment of environmental impacts of invasive alien species (IAS) on freshwater ecosystems - Baseline data on biophysical assessment of sites (no. of sites)					2	2				2	2		(Target for 4th quarter) Newly implemented project for 2014. Assessment of Lake Buhi and Taal Lake was completed during the period. Results of water quality assessment done for two (2) sites showed that water of both lakes are still within the Class B standard as set by DENR-EMB (AO 34,1990). Fish catch sampling was also done in the 2 sites. Freshwater IAS caught 'were tilapia, ayungin, biya, karpita, bangus, catfish, dugong and buring.
14) Formulation of environmental flow procedure and criteria for water allocation - Information on the components of environmental flows (no.)		1	1	1	1	1	1	1	1	1	1		Ongoing activity Among the numerous methodologies of environmental flow determination, four (4) were selected for potential testing such as hydrology-based, hydraulic-rating, habitat simulation and holistic approaches. These would be tested using modeling softwares such as BASINs 4.0 and indicators for Hydraulic Alteration (IHA) alongside with remote sensing techniques and GIS operations. For ground surveys, methodologies from the Rapid Bioassessment for Rivers and Streams of the Environmental Protection Authority (EPA) and Rapid Bioassessment Protocols for Streams and Wadeable Rivers: Periphyton, Benthic, Microinvertebrates, and Fish of the US environmental Protection Agency will be used for hydraulic and macro-benthic surveys.
15) Bioecological assessment of suspected peatlands - Information on the biophysical attributes of suspected peatland (no.)		3	3	3	3	3				3	3		(Target for 4th quarter) As of the period, biodiversity assessment was done in all sites: (La Laguna Marsh, Lopez, Quezon; Calauan, Laguna; Brgys. Bambanin and Leido, Victoria, Oriental Mindoro; Lapaz, Agusan del Sur; Talacogon, Agusan del Sur; Mt. Pulag, Benguet). Analysis of soil samples collected in all sites was also completed. There were common species identified as indicator species of peatland swamp as follows: Bangkal, Putat, Lanipao, and Sagu/Lumbia.

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16) Impact of mining projects on community terrestrial biodiversity														
- Socio-economic profile of the community (no.)					1	1					1	1		(Target activity for 4th quarter) Assessment of SDP impacted barangay of Zambales Diversified Metals Corporation (ZDMC) was completed during the period. Interview of 130 randomly selected households were completed. According to the majority of the respondents, the positive impact of having ZDMC in their area includes provision of employment opportunities, education and health services while negative impacts include environmental degradation, loss of vegetation and soil erosion.. Consolidation, processing and analysis of the results of the interview as well as the biodiversity assessment of flora and fauna were completed during the period. In the general assessment, 56% of the respondents in Lucapon South were in favour of mining operations if ZDMC, while 26% were neutral and 20% were against. While in Uacon, only 15% were in favor 73% against and 12% neutral.
Biodiversity profile (flora and fauna) (no.)					1	1					1	1		(Target for 4th quarter) It is observed that a number of wildlife species still thrive in the area albeit the current mining operations. Implementation of progressive mining helps mobile wildlife species to migrate to immediate vicinities that were not used for the current mining operations. Unfortunately, most of the mammals known to occur are heavily hunted for food by the local community. Mammals that are threatened/vulnerable due to hunting in the area are Philippine Monkey, Philippine Deer and Philippine Warty Pig.
17) Influence of small scale gold mining (SGM) activities to land and water conditions in mining areas														
- Preliminary information on small scale gold mining areas assessed (no. of sites)		3	3	3	3	3	2	2	2	2	2	2	+1	Newly implemented project for 2014. Results of insitu water quality assessment showed that both rivers assessed in Benguet (Itogon) and Camarines Norte (Paracale) have poor water quality falling under the range 25-50 water quality index. Results of macrobenthic sampling conducted showed that river in

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3) R and D Program on Environmental Management and Pollution Control														
Projects implemented (no.)		3	3	3	3	3	3	3	3	3	3			Benguet has no macrobenthos due to the low pH value (very acidic) and strong current of the river. While in Region 5, river assessed was found to have two (2) species (Monhytera and Pleucoceridae).
1) Development of bioremediation for water pollution control in selected rivers														This does not include one (1) project on Solid Waste Management which is funded by GAD.
- Bacterial isolate selected (no.)		1	1	1	1	1	1	1	1	1	1			Ongoing activity Bacterial isolate SER was identified to Serrata marcescens by UPLB-BIOTECH. It was tested for field trials by incorporating it in waste water treatment facility to bio remediate Chromium using Atomic Absorption Spectrophotometry (AAS). Results of ASS by DOST Region 4A revealed a decrease in Chromium concentration. The initial concentration of chromium is 8.66 mg/L. After 48 hours of treatment the chromium concentration was detected to be 1.84 mg/L. The data also showed that the highest absorption/biosorption of heavy metals occurred from 0-12 hours of treatment.
- Protocol for bioremediation developed (no.)					1	1				1	1			A protocol for bioremediation has already been drafted.
2) Assessment of the effluents/discharges of fastfood restaurants in compliance to the provisions of the Clean Air Act within the municipalities and cities surrounding the Laguna Lake Basin														
- Information on wastewater treatment facilities documented (no.)		15	15	15	15	15	15	15	15	15	15			Ongoing activity Eleven (11) waste water samples from grease traps and service outfall of fifteen (15) fastfood restaurants selected as sampling sites particularly Jollibee-San Pedro, Siniloan and Tanay, Chowking-Sta. Cruz and Tanay, Shakey's, Max. Greenwich, KFC, Mc Donald's, Ho Chai Lai, Uncle Inong, Scrapyard and Balaw-Balaw were collected. Most of the fast foods did not meet the required effluent standards for

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- Policy recommendation on effluents standards developed (no.)					1	1					1			Class "C" water. The classified standard was used with the assumptions that the waste water from fastfood will eventually be discharged to the Laguna Lake. Only one (1) of the fifteen (15) fast food/quick service restaurants operated with waste water treatment
3) Identification of biological indicators for water quality														Target activity for 4th Quarter Policy recommendation on effluents standards through a DENR Memorandum Circular entitled Enhancing/Strengthening the Implementation of RA 9275 specifically within the Laguna de Bay Region" were already drafted and submitted to DENR on December 2014 for review and possible implementation.
- Information/datasets (biophysical, physico-chemical and biological) on selected sites characterized (no.)		3	3	3	3	3	2	2	2	2	2	+1	Ongoing activity Three (3) rivers were considered as sampling sites but only two (2) were surveyed during the year as follows: 1. Imus River 2. Parañaque River Biological samples such as benthic invertebrates, zooplankton and phytoplankton were collected, processed and identified in different segments of the two rivers. The computed biotic and diversity indices revealed that Imus river is very polluted These were validated by the occurrence of pollution tolerant forms of phytopankton, zooplankton and benthic invertebrates in the river. Likewise, water quality index revealed that the current state of health of Imus river is bad during dry season while critical during wet season. For Parañaque river, 2 sampling stations were found to be in a bad to a very bad state indicating a serious deterioration.	

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4) R and D Program on Forest Tree Improvement													
Projects implemented (no.)		6	6	6	6	6	6	6	6	6	6		
1) Germplasm Collection, Seed Production and Seed banking of Superior Forest Trees													
- Germplasm collected (no. of species)		2	2	2	2	8	1	2	2	2	7	+1	Ongoing activity As of the period, collected fruits from the twelve (12) forest tree species in Laguna and Quezon Protected Landscape, Pagbilao, Quezon, and Makiling Forest Reserve, Los Baños, Laguna were brought to the seed laboratory for processing and testing. 1. Laneteng gubat (<i>K. gitingensis</i>) - 2,820 seeds 2. Balakat gubat (<i>B. luzonica</i>) - 58,200 seeds 3. Baniti (<i>D. ramifora</i>) - 2,110 seeds 4. Lipote (<i>S. polycephalooides</i>) - 19,160 seeds 5. Alupag (<i>E. didyma</i>) - 3,972 6. Kalumpit (<i>T. microcarpa</i>) - 27,033 seeds 7. Igyo (<i>Dysoxylum guadichaudianum</i>) - 3,016 seeds 8. Philippine Teak (<i>Tectona philippinensis</i>) 9. Banuyo (<i>Wallaceodendron celebicum</i>) 10. Kalantas (<i>Toona calantas</i>) 11. Malapapaya (<i>Polyscias nodosa</i>) 12. Bagtikan (<i>Parashorea malaanonan</i>) These seeds were tested as to actual seed count, moisture content, germination and seed health. Activity is 88% completed as of the period because the remaining target species, Banuyo is still on its fruiting stage and collection of seeds will be done last week of December 2014 or January 2015.
- Phenological calendar of priority forest tree species updated (no.)					1	1				1	1		(Target for 4th quarter) Phenological characteristics of forty two (42) forest tree species on the different areas visited were observed and recorded in the Phenological Calendar for CY 2014.

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2) Forest tree domestication, breeding and conservation of priority indigenous forest tree species														
Component 1: Provenance trials of molave and narra														
- Seeds collected and distributed to ERDS/RDE Centers (no. of sites/region)		4				4	4							Distribution of seeds (molave and narra) from 16 provenances was 100% completed as of the period. These were distributed to the four (4) implementing regions such as Regions 3,CARAGA, 6, and 7, representing climatic types 1, 2, 3 and 4, respectively. Within the year, all regions have established molave trial plantation. Performance of narra seedlings under provenance trials was also assessed. Relatively high survival rates were recorded in all sites.
Component 2: Progeny tests cum seedling seed orchards														
- Progeny trial cum seedling seed orchard established and maintained (1 per region) (no.)		15	15	15	15	15			7	7	7	+8	Ongoing activity As of the period, only seven (7) regions have completed the establishment of Progeny Trial Plntation of Yemane (Reg. 1 and 12), Ipiil (Reg. 4B), Narra (Reg. 7), Bagalunga (Reg. 9), Molave (Reg. 11), and White Lauan (CARAGA). Site preparation/ delineation and outplanting are in progress in Regs. 2, 4A, 5, 6 and 10. While implementation of the project in CAR, Regs. 3, and 8 are subjected to termination due to probable delay of plantation establishment.	
Component 3: Clonal tests cum clonal seed orchards														
- Clonal seed orchard established & maintained (1 per region) (no.)		15	15	15	15	15			7	7	7	+8	Ongoing activity As of the period, only seven (7) regions , Regions 1, 4B, 7, 9, 11, 12 and CARAGA were able to establish clonal seed orchards. Site preparation and/or outplanting activities are being continued in Regions 2, 4A, 5, 6 and 10. implementation of the project in CAR, Regs. 3, and 8 are subjected to termination because they cannot establish their clonal trial plantation at the end of 2014.	
Component 4: Establishment of Ex-situ conservation sites														
- Ex-situ gene conservation area established & maintained (no.)					3	3		2	1	3	3		(Target for 4th quarter) Establishment of ex-situ conservation area in Region 2 was 100% completed as of the period. Monitoring and data gathering both in the established ex-situ conservation areas in Regions 6 and 12 were	

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Component 5: Assessment of genetic diversity of priority forest trees through DNA analysis													accomplished. Seedlings in Region 6 were more sturdy and healthy and an average of 81.07% survival was recorded. The best performing species were narra, lipote and molave. While in Region 12, it was observed that Red lauan, toog and ipil were the best performing species. Overall, an average of 88.67% survival was recorded.
- Species with DNA assay analyzed (no.)		2	2	2	2	2	2	2	2	2	2		Continuing activity Two (2) species which were subjected to DNA analysis were dao and kauayan tinik collected from the former DNA projects.
- DNA extraction protocol for 2 species developed (no.)		2	2	2	2	2	2	2	2	2	2		Development of protocol for genetic diversity assessment of Dao using Random Amplified Polymorphic DNA (RAPD) markers and protocol for genetic diversity assessment of kauayan tinik using Simple Sequence Repeat (SSR) markers was completed as of the period..
3) Development, validation and pilot testing of vegetative propagation techniques in the nursery for priority forest tree species													
Component 1: Macropropagation techniques (hedge garden establishment and macro-propagation protocol development)													
- propagation protocols developed (no.)													
ERDB		3	3	3	3	3	3	3	3	3	3		Ongoing activity (Target for 4th quarter)
ERDS (3 species / region)		48	48	48	48	48							The species selected for this year's macropropagation protocol development are Amugis, Mangkono and Tabon-Tabon. Initial rooting experiments of Amugis and Mangkono have already been set up with 4 treatments (i.e. IBA 100ppm, IBA 300 ppm, IBA 500ppm and CONTROL (zero rooting hormone) at 4 replicates per treatment laid out in Complete Randomized Design (CRD) using 1:1 pure fine and coconut coir dust mixture ration under non-mist system. The experiment for Tabon tabon had just started during the period. Gathering of data will be done in 4th quarter.

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Component 2: Micropropagation techniques for priority species													
- Hedge garden maintained		3	3	3	3	3	3	3	3	3	3		Three (3) hedge gardens are now being maintained with stock plants of Philippine teak (<i>Tectona philippinensis</i>), batikuling (<i>Litsea leytenis</i>) and bagras (<i>Eucalyptus deglupta</i>) which are source of explants for laboratory trials. To date, there are 67 Philippine teak, 42 batikuling and 67 bagras stock plants being maintained at the nursery.
- Shoot multiplication protocol developed (no.)		2	2	2	2	2	2	2	2	2	2		For the development of protocol, sterilization procedure and shoot induction treatment were initially identified for Philippine teak and batikuling. The best culture media for shoot induction was Murashige and Skoog (MS) media containing activated charcoal (AC), 1/0 ppm BA and 0.01 ppm NAA. For Batikuling, different sterilization procedures and culture media were applied and used but still no response on the explants. High contamination rate and browning of cultures were the major problems.
- Existing micropropagation protocol validated (no.)		1	1	1	1	1	1	1	1	1	1		Existing micropropagation protocol specifically shoot multiplication trials for bagras was validated. Tissue-cultured plantlets of bagras (<i>E. deglupta</i>) were already transferred to plastic containers for gradual acclimatization
4) Evaluating the effects of different nursery cultural practices on the growth and performance of priority forest tree species													
- Recommended best fertilizers and nursery practices for tree species tested (no.)		1	1	1	1	4	1	1	1	1	4		Biofertilizers protocol has been completed 100% for the four (4) species tested (Kalumpit, Molave, Apitong, and Dita). Based on the results, the biofertilizers protocols and their combination developed for the 4 species are as follows: 1. Kalumpit - Vermicompost @ 10g/bag - Mycorrhiza + Vermicompost @ 2.5g and 5g/bag - Chicken manure + Vermicompost @ 20g and 10g/bag - Chicken manure + Mycorrhiza + Vermicompost @ 10g, 2.5g and 5g/bag - Mycorrhiza @ 2.5g/bag

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5) Application of propagation protocols developed and best nursery cultural practices for the production of priority indigenous forest tree species - Propagation protocols pilot-tested (no.)													2. Molave - Chicken manure + Mycorrhiza + Vermicompost @ 10g, 2.5g and 5g/bag - Chicken manure + Mycorrhiza @ 10g and 2.5g/bag - Mycorrhiza + Vermicompost @ 2.5g and 5g/bag - Vermicompost @ 10g/bag - Chicken manure @ 20g/bag 3. Apitong - Chicken manure + Mycorrhiza @ 10g and 2.5g/bag - Mycorrhiza + Vermicompost @ 2.5g and 5g/bag - Chicken manure + Mycorrhiza + Vermicompost @ 10g, 2.5g and 5g/bag 4. Dita - Chicken manure + Vermicompost @ 20g and 10g/bag - Mycorrhiza + Vermicompost @ 2.5g and 5g/bag - Chicken manure + Mycorrhiza + Vermicompost @ 10g, 2.5g and 5g/bag - Mycorrhiza @ 2.5g/bag Growth measurement was done after 6 months. Ongoing activity Developed protocol for mangium (Acacia mangium); tuai (Bischofia javavica); Malungai (Pometia pinnata) and Akleng Parang was applied to 30 seedlings using Randomized Complete Design in four (4) replicates. The seedlings were subjected into different soil amelioration as follows: 1. Sterilized soil (SC) 2. Sterilized soil with vermicompost and mycorrhiza (SVM) 3. No-sterilized soil (NSC) 4. Non-sterilized soil + vermicompost + mycorrhiza (NSVM) Seedlings were subjected to regular watering and weeding. Pests and diseases attack were also observed. The project's experimental seedlings at ERDB Special Project Area were damaged by typhoon Glenda, thus limited activities were conducted during the period.
		3	3	3	3	3					3		

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6) Development and Management of Database and Information System														
- List of seed sources/plus trees identified and assessed (no.)					1	1					1	1		Ongoing activity (Target for 4th quarter) Actual field validations were conducted in 12 regions and collected the information on seed sources and potential plus trees (Regs. 1, 2, 3, 4A, 6, 7, 9, 10, 11, 12, 13 and CAR). A total of 320 seed sources and individual plus trees were validated, identified and assessed in the mentioned 12 regions. All of these were inputted in the RDPFTI Information System.
- Database accessible through the web (no.)					1	1					1	1		(Target for 4th quarter) Enhancement and continuous upgrading/updating of the information system containing forty two (42) species of indigenous forest trees were done. The IS accessible only through the Local Area Network (LAN).
Laboratory Services														
- Laboratory Services		8	8	8	8	8	8	8	8	8	8	8		Continuing activity Eight (8) laboratories upgraded with State-of-the-Art equipment for efficient delivery of services. 1. Seed Laboratory 2. Entomology Laboratory 3. Botany Laboratory cum Herbarium 4. Zoology Laboratory 5-6. Analytical Laboratory - Chemistry Laboratory - Soils Laboratory 7. Microbiology Laboratory 8. Biotechnology Laboratory (Forest Molecular)

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MFO2														
A.03.e Clonal Nursery and Production of Quality Planting Materials of Premium and Indigenous Forest Species for the National Greening Program (NGP)														
1. Production of quality planting materials of different indigenous forest tree species														
- quality planting materials/seedlings produced (no.)		500,000				500,000				552,923	552,923	-52,923	As of Decembe4 2014, a total of 552,923 quality planting materials were reproduced accounting to more than 100% accomplishment of its 500,000 target production.	
2. Maintenance/Operations of Clonal Nursery Complex														
- clonal Nursery maintained (no.)		1	1	1	1	1	1	1	1	1	1		Clonal nursery complex of ERDB (Special Project Area and Jamboree site) is being maintained to assure the quality planting materials propagated in the facility.	
3. Mass Production, Product Promotion and Marketing of Mycorrhizal Inoculants for the National Greening Program														
- mycorrhizal mass production areas established/maintained (no.)		4	4	4	4	4	4	4	4	4	4		Mycorrhizal production areas (4) in ERDB, Zambales, Bohol and Agusan del Norte have been completed, maintained and on the process of production and harvesting of mycorrhiza inoculants.	
- Mycorrhizal inoculants produced (tons)		200	200	200	200	800 tons	150.9 tons	159.2 tons	157.9 tons	367 tons	835 tons	-35	As of the period 2014, ERDB has produced a total of 835 tons of mycorrhizal inoculants for distribution to all regions. Including that of NRDC, a total of 958.937 tons of mycorrhizal inoculants were produced for the year.	
4. Establishment of Forest Tree Seed Center (FTSC) in Luzon														
- Forest Tree Seed Center established (no.)		1	1	1	1	1						+1	Construction of Forest Tree Seed Center (FTSC) located at ERDB, College, Laguna was started only last week of September due to the changes in design and planning. It is expected to be 90% completed by January 2015.	

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- Seeds collected (kg.)		variable				variable				137,985,279	137,985,279		A total of 137,985,279 seeds of forest species were collected nationwide (CAR to CARAGA) from the established seed sources.
5. Establishment of Benchmark activities on Socio-economic, Biological, Physical and spatial Component of NGP sites nationwide													
- NGP sites surveyed/assessed (no.)		4 (2 sites/ region)	4 (2 sites/ region)	4 (2 sites/ region)	4 (2 sites/ region)	32	7 sites	9 sites	16 sites	32 sites	32		Ongoing activity A total of 32 sites in 15 regions (excluding NCR) were baselined / benchmarked.
- Integrated benchmark data/ information for 16 NGP sites socio-economic, biological, physical and spatial) packaged (no.)		4	4	4	4	4	4	4	4	4	4		Ongoing activity Baseline data include four (4) parameters such as socio-economic, biological, physical and spatial. Benchmark information gathered from NGP sites were consolidated and is 20% completed as of the period.
6. Project Monitoring and Supervision (PMS) relative to NGP													
- NGP project activities monitored (no.)		6	6	6	6	6	6	6	6	6	6		Continuing activity Monitoring of the six (6) NGP project activities were continued during the period as follows: 1. Overall management, supervision, monitoring, maintenance and operation of Clonal nurseries as past of the implementation of NGP-PQPM activities 2. Production of quality planting materials 3. Maintenance of seed sources (Seed Production Areas and Individual Plus Trees) as sources of Quality planting materials 4. Establishment of Forest Tree Seed Center 5. Operation of facilities and production of mycorrhizal inoculants 6. Benchmarking of NGP sites
A.03.b Forest Development, Rehabilitation and Protection													
- Extension Officers hired (no.)		4	4	4	4	4	4	4	4	4	4		Four (4) extension officers were continuously hired during the period.

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Technology Transfer and Extension Services													
1) Extension Services													
a) Assessment of ENR technologies													
- Technology(ies) assessed (no.)		3	3	3	3	12	3	4	8	15	15	-3	Technologies assessed as of the period which are all "Information type" are as follows: 1. Production of Malunggay (<i>Moringa oleifera</i>) Seedlings through Tissue Culture; 2. Landscape Approach to River Ecosystem Assessment and Water Quality Classification; 3. Seed Yield of <i>Acacia mangium</i> and <i>Eucalyptus urophylla</i> from Seed Production Areas in Bansud, Oriental Mindoro 4. Rationalization on the Disposition of Pasture Grazing Lands in the Philippines 5. Impacts of Climate change on the Extent and Magnitude of Flooding in Mag-Asawang Tubig-Bucayao River Basin in Oriental Mindoro 6. Indigenous Coping Mechanisms to Climate Change Adaptation of Main and Small Island Ecosystems 7. Assessment of small Scale Mining Practices in Regions CAR, 5, and 11. 8. Plant diversity profile of the Lobo Watershed in Lobo, Batangas 9. Silvicultural Management regimes for the sustained production of quality Palasan 10. Genetic diversity of Limuran populations from three (3) sites in Luzon Island, Philippines using Random Amplified Polymorphic DNA (RAPD) markers 11. Assessment of tree species diversity and structure of selected government reforestation projects 12. Seed health testing of bungalon and api-api from Southern Luzon Mangrove areas. 13. Landslide and fire vulnerability assessment of Pudong Watershed within the upper Amburayan river basin in Kapangan Benguet, Philippines 14. Aboveground mass and carbon stock assessment of forest plantations in Mindanao 15. Determination of the presence of Allelopathic compounds in some plantations of Yemane in the Philippines

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b) Production of IEC materials on ENR Technologies														
- IEC materials produced and disseminated (no.)														
* Media Releases		2	3	4	2	11	5	3	5	5	18	-7	Seventeen (17) articles were published in ERDB website and the ERDB Info Journal as of the period: 1. ERDB General ASSEMBLY Meeting held 2. ERDB prepares for Women's Month Celebration 2014 3. ERDB Women's Month 2014, a tribute to the strong and resilient "Juanas" 4. TDD conducts training on writing for ERDB researchers 5. ERDB joins 2014 World Water Day 6. DepEd-NCR visits ERDB to adopt its technology 7. ERDB, ERDS, SUCs and POs converge for provenance trial 8. ERDB PARTNER BOND project conducts training in Talim Island 9. First Division Youth for Environment Summit in Basco, Batanes 10. ERDB Partners with B+WISER to harmonize Guidelines on Mangrove and Beach Forest Development and Management 11. ERDB and SUCs Revisit Agreement on National Greening Program's Quality Seedlings 12. ERDB joins 399th Foundation Day of Los Baños 13. ERDB's Researches to be Presented in the 24th IUFRO World 14. Island biodiversity, this year's theme on the International Day for Biological Diversity 15. IEC and Barangay Ordinance on bamboo launched 16. ERDB undertakes benchmarking in Pagudpud, Ilocos Norte 17. LBSC holds Techno Forum: Handa KNB sa Oras ng Kalamidad? 18. 10th NBW opening ceremony held at CHED	
* Exhibits		1	2	2	1	6	4	3	2	3	12	-6	As of the period, ERDB had participated in seven (7) exhibits showcasing different technologies. Listed below are the events wherein ERDB put up exhibits: 1. Women's Month Celebration (ERDB Lobby, March 1-31, 2014) 2. UPLB College of Agriculture Fair and Exhibit (UPLB-CA Grounds, (March 4-8, 2014)	

QUARTERLY PHYSICAL REPORT OF OPERATION
As of 4th Quarter 2014

Department : DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
 Agency : ECOSYSTEMS RESEARCH AND DEVELOPMENT BUREAU
 Operation Unit :
 Organizational Code (UACS) :

	Current Year Appropriation
	Supplemental Appropriations
	Continuing Appropriations
	Off-Budget Account

PROGRAM/PROJECT/ACTIVITY/ CODE	UACS CODE	PHYSICAL TARGETS					PHYSICAL ACCOMPLISHMENTS					VARIANCE AS OF 4TH QUARTER	REMARKS
		1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	TOTAL	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	TOTAL		
* Technology Manuals				1	1	1			1	1	1		3. League of Municipalities of the Philippines General Assembly Meeting (Manila Hotel, Rojas Blvd. Manila, March 16-19, 2014. 4. CFNR Alumni Homecoming, UPLB-CFNR, April 21-25, 2014 5. Vulnerability Assessment, ERDB Lobby, May 2014 6. 116th Philippine Independence Day Celebration, San Lorenzo Ruiz Memorial Park, June 11-12, 2014 7. National Workshop on Harmonizing the Guidelines for Mangrove and Beach Forest Development and Management, Century Park Hotel, June 26-27, 2014 8. NSTW 2014, SMX Convention Center, July 24-27, 2014 9. LBSCFI Syensaya 2014, UPLB Copeland Gym, Sept. 10-12, 2014 10. National Statistical Month celebration at DENR, Quezon City (Oct. 3-24, 2014) 11. 10th NBW celebration, CHED, Nov. 24-28, 2014 12. EAAF Congress, Shangri-la's Mactan Resort and SPA, Dec. 1-5, 2014 Target activity for 3rd quarter One thousand (1000) copies of the Research Compendium of Rehabilitation Strategies for Damaged Critical and Marginal Watershed Areas was printed and delivered on September 18, 2014.
* Other Printed Materials		2	3			5	3	2			5		One thousand (1000) copies each of ERDB bookmark, nilad bookmark, charcoal briquetting fan, and flyers of rattan and nilad were printed and delivered and distributed to various clients during exhibits, capacity building activities and technology forum as well as to walk-in-visitors.
c) Technology Dissemination													
i) Technology Forum													
- Technology forum conducted (no.)			1		1	2		1		1	2		1. Forum on Rattan Technology, Hotel Centro, Puerto Princesa City, June 11, 2014 2. Forum on Batikuling Propagation, Paete, Laguna, Dec. 5, 2014

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ii) PARTNER-BOND													
- Technology disseminated (no.)		6	6	6	6	6	6	6	6	6	6		Ongoing Activity 1. Propagation of different bamboo species 2. Production of rattan seedlings 3. Mycorrhizal Inoculation 4. Charcoal briquetting using plant wastes 5. Clonal propagation of native forest tree species 6. Vulnerability assessment
- LGU/PO partnership established (no.)			1	1		2		1	1		2		ERDB developed linkages with Samahang Mangingisda ng Brgy. Ginoong Sanay and Samahang Mangingisda ng Brgy. Pinagdilawan both of Talim Island, Binangonan, Rizal.
iii) Post Evaluation of Transferred Technologies													
- Post evaluation report submitted (no.)		2	2	2	2	2	2	2	2	2	2		Ongoing activity Post evaluation reports on charcoal briquetting technology transferred by ERDB and that of ERDS, (NCR-Charcoal Briquetting; CAR-Mycorrhiza; Reg. 4A-Propagation of Batikuling; Reg. 11- Bamboo propagation) were completed during the period.
2) Establishment and Maintenance of Demonstration Areas													
- Demo areas maintained (no.)		8	8	8	8	8	8	8	8	8	8		Continuing activity Eight (8) demonstration areas being maintained by ERDB 1. Agroforestry - Different agroforestry crops such as black pepper, cassava, pineapple, coffee, lanzones and rambutan were maintained and produced. 2. Bambusetum - The 6 hectare area was maintained and bamboo stocks were regularly produced to ensure the steady supply of bamboo propagules 3. Palmetum - A total of 15 species of palms present in the area were maintained. Collection and propagation to increase the diversity of the species and augment the need for planting materials of Red clientele is also a continuing activity in the area.

QUARTERLY PHYSICAL REPORT OF OPERATION
As of 4th Quarter 2014

BAR No. 1

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PROGRAM/PROJECT/ACTIVITY/ CODE	UACS CODE	PHYSICAL TARGETS					PHYSICAL ACCOMPLISHMENTS					VARIANCE AS OF 4TH QUARTER	REMARKS
		1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	TOTAL	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.	TOTAL		
- New Demo areas established (no.)					3	3					2	+1	<p>4. Medicinal Genebank - A total of 165 medicinal plants classified trees, shrubs, herbs, vines, grasses, palms and ferns with curable value were maintained at the genebank. Propagation of other medicinal plants known to have curative values is now a continuing activity in the area.</p> <p>5. Rattan - The plantation of 55 species of rattan is being maintained.</p> <p>6. Nursery Area - Premium quality seedlings of indigenous and exotic forest trees and bamboo species were raised to ensure the availability of planting stocks and augment the need of the government, private entities and other ERDB partners in the conservation and reforestation projects. Other propagated forest tree species were contributed to the quality planting requirement of the NGP.</p> <p>7. Ornamental Plants - Different species of ornamental plants, including host and nectar plants of butterfly to sustain the the existence of flowering plants that add color and beauty to the environs of the station were propagated</p> <p>8. Special Project Area (SPA) - Different facilities of the SPA, including the clonal propagation facilities, nursery for forest tree species and ornamentals, butterfly garden, bambusetum, mycorrhizal germplasm bank, material recovery facility and charcoal demonstration area were managed and maintained species and ornamentals, butterfly garden, bambusetum, mycorrhizal germplasm bank, material recovery facility and charcoal demonstration area were managed and maintained</p> <p>Target activity for 4th Quarter ERDB's newly established demonstration areas on piloting of sustainable ENR technologies for the rehabilitation of typhoon affected areas; and ex-situ conservation stands of threatened forest tree species were 100% completed.</p>

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