Workshop Report

2017 MID-YEAR ASSESSMENT AND PLANNING WORKSHOP

UNDP-GEF Supported DA-BSWM Project on the Implementation of Sustainable Land Management (SLM) Practices to Address Land Degradation and Mitigate the Effects of Drought

BUREAU OF SOILS AND WATER MANAGEMENT

JULY 17-19, 2017
HOTEL KIMBERLY, TAGAYTAY CITY

Workshop Report

<table>
<tr><td colspan="2">Name of the Workshop: 2017 Mid-Year Assessment and Planning Workshop for the UNDP-GEF Supported DA-BSWM Project on the Implementation of Sustainable Land Management (SLM) Practices to Address Land Degradation and Mitigate the Effects of Drought</td><td>Duration/Date: 3 days [July 17-19, 2017]</td><td>Venue:
Hotel Kimberly, Tagaytay City</td></tr>
<tr><td colspan="4">Background:
• With funding from the Global Environment Facility (GEF), the United Nations Development Program (UNDP), in cooperation with the Department of Agriculture - Bureau of Soils and Water Management (DA-BSWM), is implementing the Project on Sustainable Land Management (SLM) Practices to Address Land Degradation and Mitigate Effects of Drought (also known as Sustainable Land Management Project or SLMP), from 2015 to 2018. The project aims to strengthen the SLM frameworks to address land degradation challenges; and mitigate the effects of drought in order to contribute to the enhancement of an integrated natural resource management in the country.
• With pilot sites at Abuyog, Leyte and Malaybalay, Bukidnon, project stakeholders conducted an Inception Workshop in late 2015 and a Year-end Assessment and Planning Workshop in December 2016.
• During this Workshop, project stakeholders formulated the 2017 Annual Work and Financial Plan (AWFP). As the SLMP is negotiating its 2nd year of implementation, a semestral assessment has been designed to discuss and document, among partners and implementers, its accomplishments at mid-year and effect adjustments to the 2017 Annual Work Plan as maybe necessary.</td></tr>
<tr><td>Objectives:
(1) To refresh us about SLM project deliverables
(2) To assess performance at mid-year
(3) To learn more technical inputs
(4) To adjust plans for the last half of the year</td><td colspan="2">Main Contents: (see Annex 1)
Reporting of Accomplishments, Implementation Issues & Recommendations (Bukidnon LTWG, Leyte LTWG & SLM Project Consultants, BSWM Initiatives on SLM Technologies and Land Degradation Assessment and Mapping; Towards Community-based Adoption of SLM and Linking with National Programs; Planning workshops</td><td>Methodologies:
Power-point presentations; plenary discussions, workshops; working boards and writing cards;</td></tr>
<tr><td colspan="2">Participants: 42 (16 women) see Annex2
12 organizations, 9 BSWM offices & 4 Project Consultants

Facilitators/Moderators:
(1) Engr. Rey Gerona

Guest:
(1) Mr. Bayani Barcenas,</td><td colspan="2">Workshop Management:
1) 1) Mariell A. Evasco – Project Assistant
2) 2) Tracy Subaldo – Field Coordinator (Malaybalay)
3) 3) Benjamin Franco R. Gaon – Field Coordinator (Abuyog)
4) 4) Marietta Oamil – Admin and Finance Assistant
5) 5) Zarah Louise S. Dagandan – Documentor</td></tr>
<tr><td colspan="2">Workshop Outputs:
(1) Mid-Year Assessment for Outcome 1 (Annex 3)
(2) Mid-Year Assessment for Outcome 2 (Annex 4)
(3) July-December 2017 Work Plan for Bukidnon LTWG (Annex 5)
(4) July-December 2017 Work Plan for Leyte LTWG (Annex 6)
(5) Agreements on Issues and Concerns Raised During the Workshop (Annex 7)
(6) Workshop Proceedings (Annex 8)</td><td colspan="2">Next Steps:
(1) Clarify and finalize Work Plans of Abuyog and Malaybalay LTWGs for July 2017-December 2017 (by PMO and focal persons until end of August)
(2) Implement agreements reached on issues and concerns raised during the workshop, see Annex 7 (by PMO and focal persons, consultants)
(3) Study possibility of conducting a Mid-Term Evaluation or Review (PMO)
(4) Conduct Year-end Assessment and Planning Workshop (PMO)</td></tr>
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Annex 1

Workshop Contents and Actual Schedules

Date/Time	Activity/ Topic	Responsible Person
Day 0: 16 July (Sunday)		
	Arrival and billeting of participants	Workshop Management
Day 1: 17 July (Monday)		
7:00-8:00	Breakfast	Workshop Management
8:00-9:00	Registration	Workshop Management
	Opening Program	
10:15-10:20	• Invocation and National Anthem	Ms. Mariell Evasco
10:20-10:25	• Introduction of participants, guests & moderator	Ms. Mariell Evasco
10:25-10:45	• Welcome remarks	Dir. Angel Enriquez, National Project Director, UNDP GEF5 SLM Project
10:45-10:50	• Opening Message	Grace Tena, National Focal Person, UNDP - ISD Unit
10:50-11:00	Overview of the Workshop (rationale, objectives, expected outputs, methodologies, activities & schedules)	Engr. Rey Gerona, Workshop Organizer
	Presentation of the 2017 Annual Work Plan (Targets & Important Assumptions)	
	ASSESSMENT: Reporting of Accomplishments, Implementation Issues & Recommendations	
11:00-12:00	• Bukidnon Project Team	Ms. Jacqueline Julia Lagamon, Focal Person, Bukidnon LWG
12:00-12:30	• Leyte Project Team	Ms. Nenita Sultan, Focal Person, Leyte LWG
12:30-1:30	Lunch break	
1:30	• Updates on the Consultants' Deliverables	
1:30-2:30	1) On CLUP & Question and Answer	Dr. Candido Cabrido, CLUP Specialist
2:30-4:58	2) On SLM & Question and Answer	Dr. Rogelio Concepcion, SLM Specialist
4:58-5:30	3) On Training & Question and Answer	Dr. Alexander Flor, Training Specialist
5:30-5:45	4) On GIS & Question and Answer	Mr. Dennis Muzones, GIS Specialist
	TECHNICAL INPUT 1: BSWM Initiatives on SLM Technologies and Land Degradation Assessment and Mapping	
5:45-6:00	1) Compilation of Documented SLM Good Practices	Engr. Samuel Contreras, Chief, SCMD
6:00-6:15	2) Soil Erosion and Moisture Index Mapping	Engr. Pablo Montalla, Chief, Geomatics
6:15-6:30	3) Soil Fertility Management	Engr. Oscar Carpio
5:10-5:30	4) Laboratory Analysis in Support to Land Degradation Mapping	Ms. Edna Lynn Floresca, Chemist IV, LSD
5:30-5:45	5) Small Scale Irrigation and Small Water Impounding Projects	Engr. Ernesto Brampio, Engineer IV, WRMD
5:45-6:05	6) Soil Carbon Mapping	Mr. Baldwin Pine, Agriculturist II, SCMD

	TECHNICAL INPUT 2: Towards Community-based Adoption of SLM and Linking with National Programs	
6:05-6:45	1) Production Loan Easy Access Program	ACPC Representative
Day 2: 18 July (Tuesday)		
6:00-7:00	Breakfast	Workshop Management
7:00-8:00	Registration	Workshop Management
8:00-8:05	Opening Prayer	Mr. Benjamin Gaon
8:05-8:15	Recapitulation	Rey Gerona
8:15-10:30	2) Juan Magsasaka't Mangingisda National Database System	Director Clint Hassan, DA-ICTS
	PLANNING	
10:30-11:00	Summary of the Assessment Results and Technical Inputs: Where Are We Now and Where Should We Be Heading To?	Rey Gerona
11:00-12:00	Plenary Discussion: Issues/Concerns and Recommendations, Clarifications and Agreed Actions	Rey Gerona
12:00-1:15	Luncheon Management Meeting	Dir. Angel Enriquez, Chair
1:15-3:30	Workshop: July-December 2017 Bi-Annual Work Plan Adjustments	Participants
3:30-4:30	Presentation of Workshop Outputs	Workshop Group Leaders
	Closing Program	
4:30-4:45	• Summary of Workshop results	Rey Gerona
4:45-4:50	• Next Steps	
4:50-5:00	• Closing Remark	Dr. Gina Nilo
Day 3: 19 July 2017 (Wednesday)		
	Departure of Participants	

Notes:

(1) Except for the “Opening” and “Closing” sessions, topics and their corresponding time slots were adjusted to allow flexibility as required by the Workshop processes.
(2) Snacks were served while participants were on the working process
(3) “Ice breakers” and administrative/logistical announcements were given in between times

Annex 2

List of Participants, Guests and Facilitators

1. Participants

1.1. DA-ICTS 1) Cocoy Remorozo 2) Clint D. Hassan 1.2. UNDP 1) Grace Tena 1.3. DAR 1) Elizer Balleras 1.4. HLURB 1) Evelyn Gatchalian 1.5. LMP 1) Gilbert Repizo 1.6. ATI 1) Vicente Dayanghirang 1.7. BSWM-LAB 1) Gina P. Nilo (Focal Person) 2) Edna Lyn Floresca 1.8. BSWM-SCMD 1) Samuel Contreras 2) Baldwine Pine 3) Bony Dela Cruz 4) Mamerto Martinez 1.9. BSWM-SSD 1) Leo Retamar 2) Sarah Salgado 1.10. BSWM-ALMED 1) Feriola Serrano 1.11. BSWM-GSITD 1) Pablo Montalla 2) Irvin Samalca 1.12. BSWM-WRMD 1) Ernesto Brampio	1.13. BSWM-Bukidnon 1) Florentino Agustin 1.14. BSWM-Bulacan 1) Oscar Carpio 1.15. BSWM – Accounting 1) Narcisa Bramis 1.16. PAO- Bukidnon 1) Jacqueline Julia Lagamon 2) Deneb Joel Ganancial 1.17. PAO-Leyte 1) Nenita Sultan 2) Dina Pitao 1.18. SUARC 1) Lilia Cabusao 1.19. MAO – Abuyog 1) Antonieta C. Arandia 2) Romeo Encluna 1.20. MPDO – Abuyog 1) Rodulfo M. Cabias 1.21. TAFA – President 1) Leonides P. Valida 1.22. SLWM Specialist 1) Rogelio Conception 1.23. CLUP Specialist 1) Candido Cabrido Jr. 1.24. CAPDEV Specialist 1) Alexander Flor 1.25. Database GIS Specialist 1) Dennis Muzones

2. Workshop Management Team (PMO) 1) Mariell A. Evasco – Project Assistant 2) Tracy Subaldo – Field Coordinator (Malaybalay) 3) Benjamin Franco R. Gaon – Field Coordinator (Abuyog) 4) Marietta Oamil – Admin and Finance Assistant 5) Zarah Louise S. Dagandan – Documentator	**3. Guest** 1) Bayani Barcenas **4. Facilitator** 1) Rey Gerona

Annex 3:

2017 Annual Work Plan & Mid-Year Accomplishments:

Outcome 1: Effective cross-sectoral enabling environment at the national and local level in place to promote integrated landscape management

Project Output/Indicator	Baseline		Target this Year (2017)	Mid-Year Accomplishment (June 2017)	End of Project Target
	Year	Quantity/ Quality			
Output 1.1 Multi-sectoral stakeholders committee strengthened at national level to oversee and give technical advice on the integration of SLM into LGU's development plans.					
1.1.1 An Integrated Land Management Framework incorporating SLM practices and technologies	2015	Presence of guidelines in mainstreaming CCA – DRR and biodiversity conservation in CLUP	1. Key Elements of the Integrated Land Management Framework drafted	Achieved	Integrated Land Management Framework completed and entry points to mainstream the Framework in DA, DENR, DILG, DAR and NEDA identified
			2. Integrated Land Management Framework pilot tested for mainstreaming in DA and DENR	Not Yet	Draft policy issuance of the Integrated Land Management Framework
Output 1.2 Approved guidelines on SLM mainstreaming into national and local land use plans and investment programs (field tested under Outcome 2)					
1.2.1 Enhanced CLUP guidelines to mainstream SLM	2015	No existing procedural guidelines on mainstreaming SLM in land use, agricultural and forestry development plans	1. Entry points in mainstreaming SLM in CLUP identified	Achieved	Supplemental guidelines on mainstreaming have been applied in to pilot municipalities and further enhanced based on experience and findings of the testing exercise
			2. Draft Supplemental Guidelines in mainstreaming SLM in CLUP drafted	Not Yet	Policy issuance in CLUP regarding the Supplemental Guidelines
Output 1.3 Information management system to support SLM integration into LGU's development plans and improving informed land use allocation decisions					
1.3.1 Relevant policy issuance for the mainstreaming of SLM in local land use including forest land use and development planning processes	2015	Pledge of commitment signed by DA, DAR and DENR in support to the implementation of the National Action Plan to Combat Desertification, Land Degradation and Drought (NAP-DLDD 2010-2020)	1. Draft Joint Memorandum Circular completed	Not Yet	Issuance of Joint Memorandum Circular or Special Order on SLM mainstreaming by DA, DENR and DAR
			2. Draft Memorandum Order or Administrative Order completed	Not Yet	Issuance of Memorandum Order or Administrative Order on SLM mainstreaming by DILG to priority LGUs
1.3.2 Data base and decision support information system operational and accessible to LGUs	2015	Existing LADA web portal with maps at national and regional scales	Design for upgrading maps, Land Degradation Index, and relevant data gathered and inputted	Not Yet	Developed a GIS-based LADA maps incorporating SLM practices and technologies with information/maps accessible and relevant to CLUP preparation of LGUs
				Not Yet	Developed a user guide for the upgraded database

Output 1.4 Training-of-trainers from BSWM, DA Regional Offices, DENR and DAR and the PAOs and MAOs/CAOs capacitated in training extension officers from the LGU's in promotion of SLM practices and technologies					
1.4.1 Competency development program for LGUs on SLM technology application and mainstreaming developed and implemented	2015	New and young scientist from BSWM, DA Regional Offices, DENR and DAR lacked hands-on training on SLM	1. Competency gaps identified	Not Yet	Training of SLM practitioners by the MAOs, ATI extension workers, DA-BSWM, and DENR on SLM technology applications conducted
			2. Competency development program guide developed	Not Yet	
			3. Training Manuals produced	Not Yet	
			4. Training for Trainors and for LGUs, ATI, DABSWM, and DENR conducted	Not Yet	
			5. Potential trainors from DILG and HLURB are identified and trained on various SLM management and physical technologies for mainstreaming SLM into the CLU	Not Yet	
1.4.2 Increase scores of indicators of the following capacity results in the Capacity Development Scorecards of DABSWM, DENR-FMB and HLURB from the start-up of Project up to end of Project a) Capacity for engagement (CR1); b) Capacity to generate access, and use information and knowledge (CR2); c) Capacity for strategy, policy, and legislation development (CR3); d) Capacity for management and implementation (CR4); e) Capacity to monitor and evaluate (CR5)	2015	Average capacity scores for DA-BSWM CR1 – 2 (Inds. 1-3) CR2 – 2 (Inds. 4-8) CR3 – 2 (Inds. 9-11) CR4 – 2 (Inds. 12-13) CR5 – 2 (Inds. 14-15) DENR-FMB CR1 – 1.67 (Inds. 1-3) CR2 – 2 (Inds. 4-8) CR3 – 2 (Inds. 9-11) CR4 – 2.5 (Inds. 12-13) CR5 – 1 (Inds. 14-15) HLURB CR1 – 1 (Inds. 1-3) CR2 – 2 (Inds. 4-8) CR3 – 2 (Inds. 9-11) CR4 – 2.5 (Inds. 12-13) CR5 – 1 (Inds. 14-15)	Number of capacity trainings of DA-BSWM, DENR-FMB, and HLURB based on other outputs	Not Yet	At least an average increase in 5 capacity results (CR1-CR5) by 0.33 to 1 for BSWM with a high score of 3 in the following indicators: Indicator 3, 4, 5, 7 and 13
				Not Yet	At least an average increase in 5 capacity results by 0.5 to 0.8 for DENR-FMB with a high score of 2 to 3 in the following indicators: Indicators 3, 4, 5, 8, 10 and 12
				Not Yet	At least an average increase in 5 capacity results by 0.2 to 1.33 for HLURB with a high score of 2 to 3 in the following indicators: Indicator 1, 10, 11, 12 and 14

Planned Activities								Accomplishment (June 2017)	Planned Budget				
Output/Activity/ Description		Deliverable/Sub-Activity	Timeframe				Responsible Party (Lead) Partner Agencies		Funding Source	Budget Code	Budget Description	Amount	
			Q 1	Q 2	Q 3	Q 4						Peso	USD P1=$44
Outcome 1. Effective cross-sectoral enabling environment at the national and local level in place to promote integrated landscape management													
Output 1.1 Multi-sectoral stakeholders committee strengthened at national level to oversee and give technical advice on the integration of SLM into LGU's development plans.													
1.1.1	Integrated Land management Framework pilot-tested for mainstreaming in DA and DENR	a. First draft of Integrated Land Management Framework (ILMF)					DA, DAR, DENR, DILG, NEDA	Achieved	6200/ GEF	71300	Local Consultants	1,142,500.00	25,965.91
		a.1 Presentation of the draft ILMF to BSWM, HLURB and other partner government agencies						Not Yet		75700	Learning Cost	16,000.00	363.64
		a.2 Revision and submission of Final ILMF Report						Not Yet					
		b. Report on the piloting for mainstreaming of ILMF in DA and DENR						Not Yet					
		b.1 Gathering of plans and programs of DA, DENR and DAR related to land resources management.						On-going					
		b.2 Analysis of gaps and entry points in mainstreaming the crucial elements of ILMF						On-going					
		b.3 Preparation of method for mainstreaming ILMF in the selected plans and programs of DA, DENR and DAR						On-going					
		b.4 Conduct of ILMF mainstreaming in selected plans and programs of DA, DENR and DAR						Not Yet		75700	Learning cost	16,000.00	363.64
		b.5 Preparation of report on mainstreaming ILMF in selected plans and programs of partner government agencies						Not Yet					
		b.6 Presentation of mainstreaming report to BSWM, DA, DENR and DAR						Not Yet		75700	Learning cost	16,000.00	363.64

		b.7 Revision and submission of final ILMF and mainstreaming report						Not Yet					
		c. Pilot Testing of the ILMF						Not Yet					
Output 1.2 Approved guidelines on SLM mainstreaming into national and local land use plans and investment programs													
1.2.1	Draft Supplemental Guidelines in mainstreaming SLM in CLUP drafted	a. Draft guidelines on Mainstreaming SLM into CLU					DA, DENR, DAR, HLURB	Not Yet	6200/ GEF				
		a.1Review of HLURB CLUP guidelines						Not Yet					
		a.2 Identification of elements (data and information) to be mainstreamed including their entry points in the CLUP planning process						On-going					
		a.3 Preparation of methods for analysis and expected outcome						Not Yet					
		a.4 Writing of draft guidelines and procedures for SLM integration, analysis and interpretation of results						Not Yet					
		a.5 Presentation of mainstreaming guidelines to HLURB, BSWM, DA, DENR and DAR						Not Yet		75700	Learning cost	10,000.00	227.27
		a.6 Revision and submission of final guidelines						Not Yet					
		b. Report on the pilot testing of Draft Supplemental Guidelines in the two target municipalities						Not Yet					
		b.1 Preparation of training workshop program on the application of the mainstreaming guidelines in the CLUP of two pilot municipalities						Not Yet		75700	Learning cost	150,000.00	3,409.09
		b.2 Conduct of workshops to mentor and coach the planning officers of the two pilot municipalities in the mainstreaming process						Not Yet		75700	Learning cost	150,000.00	3,409.09

		b.3 Provide technical assistance to the planners of the pilot LGUs in preparing their mainstreaming report						Not Yet					
		b.4 Presentation of mainstreaming report to HLURB, BSWM, DA, DENR and DA						Not Yet		75700	Learning cost	20,000 .00	454.55
		b.5 Revision and submission of final mainstreaming report						Not Yet					
1.2.1	Draft Joint Memorandum Circular complete	a. Reports on the drafting of the JMC to mainstream the SLM in local land use including forest land use and development planning processes						Not Yet					
		a.1 Initial discussion with the policy division of the key agencies for the drafting of JMC						Not Yet					
		a.2 Conduct of meetings on the drafting of JMC						Not Yet		75700	Learning cost	20,000.00	454.55
		a.3 Present and submit the draft JMC						Not Yet					
1.2.3	Draft Memorandum Order or Administrative Order completed	a. Reports on the drafting of the JMC to mainstream the SLM in local land use including forest land use and development planning processes						Not Yet					
		a.1 Initial discussion with the policy division of the key agencies for the drafting of MO/AO						Not Yet					
		a.2 Conduct of meetings on the drafting of MO/AO						Not Yet		75700	Learning cost	20,000.00	454.55
		a.3 Present and submit the draft MO/AO						Not Yet					

Output 1.3 Information management system to support SLM integration into LGU's development plans and improving informed land use allocation decisions													
1.3.1	Design for upgrading maps, Land Degradation Index, and relevant data gathered and inputted	a. Submission and Acceptance of design for upgrading existing GIS holdings, gathered data and the Composite Land Degradation Index (CLDI)					BSWM Geo-informatics	Not Yet	6200/ GEF	71300	Local Consultants	177,300.00	4,029.55
		a.1 Meeting/Discussion/ Consultation with the Project's SLM and CLUP Consultants towards the building of the GIS and ancillary database according to the SLM and the SLM mainstreaming into the CLUP frameworks (ILMF) to..						Not Yet		75700	Learning cost	15,000.00	340.91
		* Consult and identify with the lead consultants the specific spatial and non-spatial data requirements outside that of the BSWM holdings;						Not Yet		72800	Information Technology Equipment	100,000.00	2,272.73
		* Consult and identify with the consultants on how to best proceed and update the limitations in the BSWM dataset;						Not Yet					
		* Meet/Discuss with the CLUP and SLM consultants the framework, type and kind of analysis that the spatial and ancillary data will be subjected into;						Not Yet		71400	Contractual Services-Individual	202,860.00	4,610.45
		* procedures on the data gathering, representation and updating of the Composite Land Degradation Index maps (CLDI)						Not Yet					
		*Determine other decision maps for SLM and for the CLUP;						Not Yet					
		* Consult with the SLM and CLUP consultants regarding the project monitoring system for the updating of the CLDI.						Not Yet					

		a.2Meeting/Discussion/ Consultation with relevant national government line agencies, partners and other programmes which are similar/parallel in thrust and work with the project towards the acquisition of the required thematic and ancillary dataset;						Not Yet		75700	Learning cost	15,000.00	340.91
		* Coordinate and meet with the concerned national government agencies regarding the acquisition of the desired datasets;						Not Yet					
		*Coordinate with special projects and programmes regarding the acquisition of the desired datasets;						Not Yet					
		*Prepare a short list of the acquired datasets and their condition;						Not Yet					
		a.3 Prepare the design to upgrade the Project data holdings;						Not Yet		75700	Learning cost	15,000.00	340.91
		* Coordinate and determine how the missing data can be sourced by identifying agencies and/or programmes that might have such data in their archive;						Not Yet					
		* Coordinate with the proper division within BSWM in the acquisition and/or derivation of the said information						Not Yet					
		* Jointly undertake the acquisition and/or derivation of the missing datasets;						Not Yet					

		*In consultation and coordination with BSWM decide on the format of digital and spatial data representation;						Not Yet					
		* Document the procedures and process undertaken in acquiring, producing and/or generating the missing/gaps in the dataset, and;						Ongoing					
		*Update the dataset and come -up with an updated list of data						Ongoing					
		a.4 Discussion towards identifying the format of the GIS database						Not Yet					
		* In Consultation with the lead consultants, PMO and BSWM inquire on how the final product will be utilized;						Not Yet					
		* In consultation with the PMO, Consultants and BSWM design a format for data representation and visualization with the intention for mainstreaming SLM with greater reach and impact for intended audience.						Not Yet					
		* Write-up, Finalization and Submission of the Database document outlining how datasets will be updated and the creation of the CLDI maps.						Not Yet					
Output 1.4 Training-of-trainers from BSWM, DA Regional Offices, DENR and DAR and the PAOs and MAOs/CAOs capacitated in training extension officers from the LGUSs in promotion of SLM practices and technologies.													
1.4.1	Competency gaps identified	a. Identify and Assess Competency Gaps					BSWM, DENR - FMB, HLURB	Not Yet	6200/ GEF				
		a.1 Review existing SLM Modules						Ongoing		71300	Local Consultants	540,700.00	12,288.64
		a.2 Conduct stakeholder analysis						Not Yet		75700	Learning Cost	50,000.00	1,136.36

		a.3 Meet with agency stakeholders						Not Yet		75700	Learning Cost	75,000.00	1,704.55
		a.4 Visit project sites/engage stakeholders.						Not Yet		75700	Learning Cost	56,000.00	1,272.73
		a.5 Prepare Competency Gap Report						Not Yet					
1.4.2	Competency development program guide developed	a. Prepare Competency Development Program Guide						Not Yet					
		a.1 Draft revised list of competencies						Not Yet					
		a.2 Design and Write Capdev program						Not Yet					
1.4.3	Training Manual produced	Develop Updated SLM Training Manual						Not Yet					
1.4.4	Training for Trainors and for LGUs, ATI, DA-BSWM, and DENR conducted	a. Training of Trainors						Not Yet					
		a.1 Coordinate with LGUs, ATI, BSWM, FMB						Not Yet		75700	Learning cost	20,000.00	454.55
		a.2 Conduct TOT on SLM for Stakeholders						Not Yet		75700	Learning cost	225,000.00	5,113.64
		a.3 Evaluate TOT						Not Yet		71600	Travel	560,000.00	12,727.27
		a.4 Draft accomplishment/ evaluation report						Not Yet		75700	Learning cost	20,000.00	454.55
1.4.5	Potential trainors from DILG and HLURB are identified and trained on various SLM management and physical technologies for mainstreaming SLM into the CLUP	a. Training for the implementation of the Supplemental Guidelines in mainstreaming SLM in CLUP (DILG & HLURB)						Not Yet					
		a.1 Coordinate with DILG and HLURB						Not Yet		75700	Learning cost	20,000.00	454.55
		a.2 Conduct TOT on SLM for CLUP						Not Yet		75700	Learning cost	150,000.00	3,409.09
		a.3 Evaluate TOT						Not Yet		71600	Travel	280,000.00	6,363.64
		a.4 Draft accomplishment/evaluation report						Not Yet		75700	Learning cost	20,000.00	454.55

1.4.6	Number of capacity trainings of DA-BSWM, DENR-FMB, and HLURB based on other outputs	Training Manual on Adaptive Land Management						Not Yet		71400	Contractual Services-Individual	750,669.00	17,060.66
		(BSWM, DENR-FMB among others (ATI, LGUs, CS, NGOs, Academe)						Not Yet		71400	Contractual Services-Individual	1,099,210.00	24,982.05
								Not Yet		75700	Learning cost	300,000.00	6,818.18
Outcome 1 Sub-Total												6,252,239.00	142,096.34

Annex 4:

2017 Annual Work Plan & Mid-Year Accomplishments:

Outcome 2: Long term capacities and incentives in place for local communities and LGUs to uptake SLM practices in two (2) targeted municipalities in the Philippines.

Project Output/Indicator	Baseline		Target this Year (2017)	Mid-Year Accomplishment (June 2017)	End of Project Target
	Year	Quantity/ Quality			
Output 2.1 Comprehensive land use plans (CLUPs) updated/revised for targeted city and municipality with serious LD issues.					
2.1 Plant/soil cover in the agricultural land area covering 2,866 ha and forest cover in Barangay Silae	2015	Plant/soil cover to be established during project implementation in the first year 721.65 ha of forest land area	1. Plant/soil cover established	On-going	Increase in plant/soil cover ratio from the baseline
			2. IEC campaign jointly by DENR (FMB and BMB) and DA on the selection of species for agro forestry and identification of species that are potential host to pest and diseases	Not Yet	No net loss of forest cover in Barangay Silae
			3. Forest tree crops with wealth generation potential to be introduced in the area (tree planting) in close collaboration with BMB and FMB	Not Yet	
Output 2.2 SLM best practices implementation in target City and Municipality					
2.2 Dry Matter (DM) and Organic Matter (OM) Content from 5 sample sites randomly selected from the agricultural land area (151 ha) and forest (12.61 ha) land area of Barangay Tadoc	2015	Sample sites and baseline Dry Matter and Organic Matter to be determined during Year 1 of implementation 12.61 ha of forest land area Baseline DM and OM of soils in 5 sample sites of the 151 ha agricultural land obtained	Baseline DM and OM of soils in 5 sample sites of the 151 ha agricultural land obtained	Not Yet	Average increase from the baseline in DM and OM of soils in 5 sample sites representing soil fertility of the 151 ha agricultural land area
					No net loss of forest cover in Brgy. Tadoc
Output 2.3 National and LGU extension services capacitated to incorporate SLM to LDI and drought risk areas and deliver targeted support to targeted City and Municipality and farmers with similar agricultural threats					
2.3 National and LGU extension services capacitated to incorporate SLM to LDI and drought risk areas and deliver targeted support to targeted City and Municipality and farmers with similar agricultural threats	2015	No LDI monitoring system in use	1. Land Degradation Index determined for the 2 project sites and LDI monitoring system developed	Not Yet	Stable or improved composite LDI monitoring system across 20,000 ha in the two municipalities
			2. LDI monitoring system applied and improved in the target LGUs	Not Yet	Agriculture: 3,038 ha Forestry: 734.26 ha Mixed System – 16,227.74 ha

2.4.1 Increased in % of SLM guidance delivered by extension services	2015	Lack of SLM modules on the existing Farmer's Field School (FFS)	1. SLM training modules compiled, reviewed, updated and produced	Not Yet	100% SLM guidance delivered by extension services through integration of complete SLM modules in the season-long FFS
			2. SLM training modules integrated in the ATI FFS	Not Yet	
			3. 300 farmers trained in SLM technology through the FFS	Not Yet	350 farmers trained in SLM technology through the FFS
2.4.2 Farming households adopt sustainable agricultural practices and integrated SFM/SLM	2015	There are total 2,924 farming households in the 2 target sites (3 Brgys. out of 46 Brgys. in Malaybalay City and 13 Brgys. out of 63 Brgys. in Abuyog)	At least 350 households adopt sustainable agriculture practices and integrated SFM/SLM practices		At least 585 of the farming households in 2 targeted municipalities (3 Brgys. out of 46 Brgys. in Malaybalay City and 13 Brgys. in Abuyog) adopt sustainable agriculture practices and integrated SFM/SLM practices
Output 2.4 Secure additional finances for SLM investments and align existing financial contributions in the forestry and agricultural sectors to support SLM practices in at least two selected municipalities					

Planned Activities								Accomplishment (June 2017)	Planned Budget				
Output/Activity/ Description		Deliverable/Sub-Activity	Timeframe				Responsible Party (Lead) Partner Agencies		Funding Source	Budget Code	Budget Description	Amount	
			Q 1	Q 2	Q 3	Q 4						Peso	USD P1=$44
Outcome 2: Long term capacities and incentives in place for local communities and LGUs to uptake SLM practices in two (2) targeted municipalities in the Philippines													
Output 2.1: Comprehensive land use plans (CLUPs) updated/revised for targeted city and municipality with serious LD issues.													
2.1.3	Plant/soil cover established	a. Identification of other demo sites						Ongoing	6200/ GEF				
		b. Collection of baseline information thru soil sample collection, topographic survey and formulation of farm plan for the newly identified demo sites						Ongoing					
2.1.1	IEC campaign jointly by DENR (FMB and BMB) and DA on the selection of species for agro forestry and identification of species that are potential host to pest and diseases	a. Dissemination of IEC materials to increase the number of Plant/soil cover in the agricultural land area in Barangay Silae						Not Yet					
		a.1 Conduct Executive meeting						Not Yet		75700	Learning cost	50,000.00	1,136.36
		a.2 Distribution of promotional materials						Not Yet		74200	Audio Visual & Printing Production Costs	75,000.00	1,704.55
		a.3 Development of instructional materials on agro forestry for basic education (elementary and high school)						Not Yet		75700	Learning cost	30,000.00	681.82

2.1.2	Forest Tree crops with wealth generation potential to be introduced in the area (tree planting) in close collaboration with BMB and FMB	Link the project with DENR BMB and FMB							Not Yet		75700	Learning cost	30,000.00	681.82
Output 2.2 SLM best practices implementation in target City and Municipality													
		a. Continuous monitoring of the five sample sites							Ongoing	6200/ GEF				
		b.Additional monitoring sites using transect sampling that reflects land degradation on wet and dry events							Not Yet		71600	Travel	15,000.00	340.91
		c. Introduce improved method to monitor land degradation							Not Yet		72800	Information Technology Equipment	30,000.00	681.82
2.2.1	Land Degradation Index determined for the 2 project sites	a. Submission and acceptance of the report on developed LDI monitoring system							Not Yet					
		a.1 Special consultation meeting with Project Management and BSWM researchers and experts regarding:							Not Yet		75700	Learning cost	10,000.00	227.27
		*Information/data availability and gaps for the assessment of land degradation and development and implementation of LDI for monitoring land degradation.							Not Yet					

		* Tapping the services of the LADA Working Group as recommended by the 2013 Report on Land Degradation in the Philippines to “complete, acquire, update, input and process the Land degradation indicators and data sets”.						Not Yet					
		*Conduct of soil classification and land use systems mapping in two project sites and develop a) Soil classification and Land use system map and b) Erosion index map c) Water Balance Analysis						Not Yet		75700	Learning Cost	10,000.00	227.27
		*Conduct of special research on Humus Degradation and Temperature Regimes to linked project outcomes with Climate Change and Climate change adaptation						Not Yet		75700	Learning Cost	10,000.00	227.27
		b. Conduct Participatory training - workshop on land degradation tools and procedures for mapping, data collection and processing of the degradation indicators (type, degree and extent of land degradation).						Not Yet					
		b.1 Prepare training materials for procedures for land degradation assessment and establishment of LDI from the land degradation indicators and the estimation of composite LDI for landscape-Land use system in each barangay.						Not Yet					

		b.2 Identify Focal persons in the project						Achieved					
		b.3 Identification and selection of voluntary Reference Degradation Farm Sites in representative Barangay as LDI test sites.						Not Yet		75700	Learning Cost	5,000.00	
		b.4 Conduct participatory training/coaching and preparation/establishment of 3D map of the selected barangay of sentinel farms by local communities, school children, women and farmers.						Not Yet		75700	Learning costs	360,000.00	8,181.82
										71600	Travel	400,000.00	9,090.91
		c. Conduct periodic Peer Expert Consultation with Champion institutions and Experts on land degradation processes and priority LDI parameters and related environmental concerns.						Not Yet		75700	Learning costs	25,000.00	568.18
								Not Yet		71600	Travel	122,000.00	2,772.73
		d. Presentation of the draft guideline for the assessment of land degradation, LDI preparation and analysis and implementation LDI monitoring system						Not Yet		75700	Learning costs	20,000.00	454.55
2.2.2	LDI monitoring system applied and improved in the target LGUs	a. Submission and acceptance of the report on LDI pilot testing in the project sites with LGU						Not Yet					
		a.1 Conduct follow up training with the field project staff on the actual processing of land degradation indicators (type, degree, and extent) into a composite degradation status/index of landscape-LUS of the reference barangay in the project site:						Not Yet		75700	Learning costs	90,000.00	2,045.45
										71600	Travel	440,000.00	10,000.00

		*Prepare guidelines for the use of LDI to monitor changes in land degradation in selected Reference/Sentinel Barangays						Not Yet				
		*Selection of sentinel barangays for the implementation of LDI Pilot Testing to monitor land degradation in different Landscape-Land Use System in the Project.						Not Yet				
		* Conduct of processing of land degradation data and the creation of LDI of selected reference farm for LDI pilot testing						Not Yet				
		a.2 Consultation meeting with GIS and CLUP experts on the uses, transfer of data for the preparation of land degradation indicators and LDI maps.						Not Yet		75700	Learning cost	10,000.00	227.27
		a.3 Presentation of the Draft results of LDI pilot testing re the validity and selection of final LDI parameters						Not Yet		75700	Learning cost	20,000.00	454.55
		a.4 Interpretation of available information using remote sensing, GIS and ground truthing activities within and outside the project sites in Malaybalay and Abuyog						Ongoing		71600	Travel	411,000.00	9,340.91
										72200	Equipment and furniture	500,000.00	12,545.45
		a.5 Conduct of penological monitoring of the crops in the techno-demo sites						Achieved		71600	Travel	552,000.00	12,545.45
		b. Conduct of Local Technical Working Group meetings						Achieved					
		C. Conduct of Reorientation activity						Not Yet					
		d. Conduct of Site Identification						Ongoing					

		e. Conduct of soil classification, Water and Biodiversity sampling						Not Yet					
		f. Conduct of Training on LDI						Not Yet					
Output 2.3 National and LGU extension services capacitated to incorporate SLM to LD and drought risk areas and deliver targeted support to targeted City and Municipality and farmers with similar agricultural threats													
2.3.1	SLM training modules compiled, reviewed, updated and produced	a.Inventory of existing SLM modules identified, revised and updated					BSWM, LGU, ATI	Not Yet	6200/ GEF				
		a.1 Conduct of inventory of existing SLM modules from the various agencies and to revise and update the module						Not Yet		75700	Learning cost	20,000.00	454.55
2.3.2	SLM Training modules integrated in the ATI FFS	a. SLM Modules for incorporation into the FFS produced						Not Yet					
		a.1 Writeshop/workshop to develop and incorporate FFS on the SLM Module						Not Yet		75700	Learning cost	225,000.00	5,113.64
		a.2 Production of SLM modules that will be incorporated into the Farmers Field School (FFS)						Not Yet		71600	Travel	300,000.00	6,818.18
2.3.3	300 farmers trained in SLM technology through the FFS	a. Training on Farm Planning with SLM technologies complete						Not Yet					
		a.1 Establishment of TDF and Training on Farm Planning with SLM technologies in the 2 project sites						Achieved		72300	Agricultural and forestry products	600,000.00	13,636.36
										72400	Communications and audiovisual equipment	400,000.00	9,090.91
										72500	Stationery & other office supplies	270,000.00	6,136.36
		a.2 Conduct of FFS to train farmers on SLM technologies						Not Yet					

2.3.4	At least 350 households adopt sustainable agriculture practices and integrated SFM/SLM practices	a.Redesign the TDF to address specific land degradation problems						Not Yet					
		a.1 Collection of agro-socio and production economics data in areas outside of the project site in Malaybalay and Abuyog						Ongoing		71600	Travel	137,000.00	3,113.64
		a.2 Data interpretation and maps generation						Ongoing		72800	Information Technology Equipment	250,000.00	5,681.82
		a.3 Conduct of orientation about SLM in nearby barangays						Not Yet		75700	Learning cost	100,000.00	2,272.73
2.3.5	TDFs Established	a.Site expansion to redistribute to other pilot sites						Not Yet		71400	Contractual Services-Individual	286,100.00	6,502.27
		a.1 Conducted topographic and present land use survey						Not Yet		73400	Rental and Maintenance of other Equipment	153,000.00	3,477.27
		a.2 Presentation of results (farm development plan) and stakeholders' consultation						Not Yet		75700	Learning cost	40,000.00	909.09
		a.3 Unveiling of the SLM Project Techno-demo sites in Malaybalay and Abuyog						Not Yet		75700	Learning cost	100,000.00	2,272.73
		b. Soil sampling, profiling and topographic Land Survey						Ongoing					
		Financial Reporting						Not Yet		74100	Audit	81,144.00	1,844.18

Output 2.4 Secure additional finances for SLM investments and align existing financial contributions in the forestry and agricultural sectors to support SLM practices in at least two selected municipalities													
	Conduct of monitoring activities by UNDP in Abuyog							Achieved					
	Conduct of Mid-Year Assessment of the Project							Achieved					
Outcome 2 Sub-Total												**6,177,244.00**	**140,391.91**

Annex 5:

Annual Work Plan (AWP)-July 2017-December 2017
Bukidnon Team

Outcome 2: Long term capacities and incentives in place for local communities and LGUs to uptake SLM practices in two (2) targeted municipalities in the Philippines.

PLANNED ACTIVITES								PLANNED BUDGET				
Output/Activity/Description		**Deliverable/ Sub-activity**	TIMEFRAME				Responsible Party (Lead) Partner Agencies	Funding Source	Budget Code	Budget Description	Amount	
			Q1	Q2	Q3	Q4					Peso	Dollar ($1=44.00)
Output 2.1: Comprehensive land use plans (CLUPs) updated/revised for targeted city and municipality with serious LD issues.												
2.1.1	Plant/soil cover established	Soil cover										
	2.1.1.1 Identify other demo sites	List of other sites										
	2.1.1.2 Collect baseline information thru soil sample collection, topographic survey and formulation of farm plan for the newly identified demo sites	Baseline information										
2.1.2	Conduct IEC campaign jointly by DENR (FMB and BMB) and DA on the selection of species for agro forestry and identification of species that are potential host to pest and diseases	Dissemination of IEC materials to increase the number of Plant/soil cover in the agricultural land area in Barangay Silae										
	2.1.2.1 Conduct Executive meeting	Meeting Report										

	2.1.2.2 Distribute promotional materials	Distribution Report										
	2.1.2.3 Develop instructional materials on agro forestry for basic education (elementary and high school)	Instructional materials										
2.1.3	Forest Tree crops with wealth generation potential to be introduced in the area (tree planting) in close collaboration with BMB and FMB	Link the project with DENR BMB and FMB										
Output 2.2 SLM best practices implementation in target City and Municipality												
	a. Continuous monitoring of the five sample sites	Monitoring Reports										
	.b. Additional monitoring sites using transect sampling that reflects land degradation on wet and dry events	List of additional monitoring sites										
	c. Introduce improved method to monitor land degradation	Improved Method Introduction Report										
2.2.1	Land Degradation Index determined for the 2 project sites	Submission and acceptance of the report on developed LDI monitoring system										

	2.2.1.1 Conduct Special consultation meeting with Project Management and BSWM researchers and experts regarding[1]:	Special Consultation Meeting Report										
	2.2.1.2 Conduct Participatory training - workshop on land degradation tools and procedures for mapping, data collection and processing of the degradation indicators (type, degree and extent of land degradation).	Training-Workshop Report										
	2.2.1.3 Prepare training materials for procedures for land degradation assessment and establishment of LDI from the land degradation indicators and the estimation of composite LDI for landscape-Land use system in each barangay	Training materials										

[1] Information/data availability and gaps for the assessment of land degradation and development and implementation of LDI for monitoring land degradation, Tapping the services of the LADA Working Group as recommended by the 2013 Report on Land Degradation in the Philippines to "complete, acquire, update, input and process the Land degradation indicators and data sets"; Conduct of soil classification and land use systems mapping in two project sites and develop a) Soil classification and Land use system map and b) Erosion index map c) Water Balance Analysis; Conduct of special research on Humus Degradation and Temperature Regimes to linked project outcomes with Climate Change and Climate change adaptation

	2.2.1.4 Identify Focal persons in the project	List of focal persons										
	2.2.1.5 Identify and select voluntary Reference Degradation Farm Sites in representative Barangay as LDI test sites	Report										
	2.2.1.6 Conduct participatory training/coaching and preparation/establishment of 3D map of the selected barangay of sentinel farms by local communities, school children, women and farmers	Training/coaching Report										
	2.2.1.7 Conduct periodic Peer Expert Consultation with Champion institutions and Experts on land degradation processes and priority LDI parameters and related environmental concerns	Report										
	2.2.1.8 Present the draft guideline for the assessment of land degradation, LDI preparation and analysis and implementation LDI monitoring system	Draft Guideline										

2.2.2	LDI monitoring system applied and improved in the target LGUs	Submission and acceptance of the report on LDI pilot testing in the project sites with LGU										
	2.2.2.1 Conduct follow up training with the field project staff on the actual processing of land degradation indicators (type, degree, and extent) into a composite degradation status/index of landscape LUS of the reference barangay in the project site:	Follow-Up Training Report										
	2.2.2.1.1*Prepare guidelines for the use of LDI to monitor changes in land degradation in selected Reference/Sentinel Barangay	Guidelines										
	2.2.2.1.2 *Select sentinel barangays for the implementation of LDI Pilot Testing to monitor land degradation in different Landscape-Land Use System in the Project	List of sentinel barangays										

	2.2.2.1.3* Conduct of processing of land degradation data and the creation of LDI of selected reference farm for LDI pilot testing	Report										
	2.2.2.2 Conduct Consultation meeting with GIS and CLUP experts on the uses, transfer of data for the preparation of land degradation indicators and LDI maps.	Consultation-meeting Report										
	2.2.2.3 Present the Draft results of LDI pilot testing re the validity and selection of final LDI parameters	Presentation Report										
	2.2.2.4 Interpret available information using remote sensing, GIS and ground truthing activities within and outside the project sites in Malaybalay	Report										
	2.2.2.5 Conduct penological monitoring of the crops in the techno-demo sites	Penological Monitoring Report									276,000.00	
	2.2.2.6 Conduct Local Technical Working Group meetings	LTWG Meeting Reports										

	2.2.2.7 Conduct Reorientation activity	Reorientation Report										
	2.2.2.8 Conduct Site Identification	Report										
	2.2.2.9 Conduct soil classification, Water and Biodiversity sampling	Report										
	2.2.2.10 Conduct of Training on LDI	Training Report										
Output 2.3 National and LGU extension services capacitated to incorporate SLM to LDI and drought risk areas and deliver targeted support to targeted City and Municipality and farmers with similar agricultural threats												
2.3.1	SLM training modules compiled, reviewed, updated and produced											
	2.3.1.1 Conduct Inventory of existing SLM modules from various agencies	Inventory report									10,000.00	
	2.3.1.2 Compile, review and update SLM modules	Updated SLM modules										
	2.3.1.3 Produce updated SLM modules	No. of Updated SLM modules produced										
2.3.2	SLM Training modules integrated in the ATI FFS	FFS-inregrated SLM modules										
	2.3.2.1 Conduct Writeshop/workshop to develop and incorporate FFS on the SLM Module	Write-shop/ workshop Report									112,500.00	
	2.3.2.2 Produce SLM modules that will be incorporated into the Farmers Field School (FFS)	SLM modules									150,000.00	

2.3.3	300 farmers trained in SLM technology through the FFS	List of trained farmers										
	2.3.3.1 Conduct training on Farm Planning with SLM technologies	Training Report									300,000.00	
	2.3.3.2 Establish TDF	TDF										
	2.3.3.3 Conduct FFS to train farmers on SLM technologies	FFS Report									50,000.00	
2.3.4	At least 350 households adopt sustainable agriculture practices and integrated SFM/SLM practices	List of households adopting										
	.2.3.4.1 Redesign the TDF to address specific land degradation problems	TDF Redesigning Report										
	2.3.4.2 Collect agro-socio and production economics data in areas outside of the project site in Malaybalay	Report										
	2.3.4.3 Interpret Data and generate maps	Data Interpretation Report, Maps									75,000.00	
	2.3.4.4 Conduct orientation about SLM in nearby barangays	Orientation Report									50,000.00	
2.3.5	TDFs Established											
	2.3.5.1 Site expansion to redistribute to other pilot sites											
	2.3.5.1.1 .Identify and validate potential site	Site profile report										

	2.3.5.2 Conduct topographic and present land use survey	Survey Report									42,000.00	
	2.3.5.3 Present results (farm development plan) and stakeholders' consultation	Stakeholders Consultation Report										
	2.3.5.4 Unveil SLM Project Techno in demo sites in Malaybalay	TDF profile										
	2.3.5.5 Conduct Soil sampling, profiling and topographic Land Survey	Survey Report										
	2.3.5.6 Regular monitoring of TDF	Monitoring Reports										
	2.3.5.7 Identify and validate additional/ expansion sites within the barangay	List of sites										
	2.3.5.8 Provide technical assistance for the promotion and adaptation of SLM practices	Report										
Output 2.4 Secure additional finances for SLM investments and align existing financial contributions in the forestry and agricultural sectors to support SLM practices in at least two selected municipalities												

2.5 Local TWG Management Activities												
2.5.1	Conduct LTWG Workshop	Workshop Report									25,000.00	
2.5.2	Conduct monitoring activities	Monitoring Reports									100,000.00	
2.5.3	Prepare Monitoring Report	Monitoring Report										
2.5.4	Provide assistance to SLM consultants' activities	Report									25,000.00	
											1,115,500.00	

Annex 6:

Annual Work Plan (AWP): July 2017-December 2017
Leyte Team

Outcome 2: Long term capacities and incentives in place for local communities and LGUs to uptake SLM practices in two (2) targeted municipalities in the Philippines.

PLANNED ACTIVITES								PLANNED BUDGET				
Output/Activity/Description		Deliverable/ Sub-activity	TIMEFRAME				Responsible Party (Lead) Partner Agencies	Funding Source	Budget Code	Budget Description	Amount	
			Q1	Q2	Q3	Q4					Peso	Dollar ($1=44.00)
Output 2.1: Comprehensive land use plans (CLUPs) updated/revised for targeted city and municipality with serious LD issues.												
2.1.1	Plant/soil cover established											
	2.1.1.1 Identify other demo sites	List of other demo sites										
	2.1.1.2 Collect baseline information thru soil sample collection, topographic survey and formulation of farm plan for the newly identified demo sites	Baseline information										
	2.1.1.3 Conduct training	Link the project with MPDO, MLGU and HLURB			Aug.-Nov.					50 pax x 250 x 5 days	50,000.00	
	2.1.1.4 Review CLUP	Review Report			Aug.-Nov.						40,000.00	
	2.1.1.5 Formulate/finalize	Final CLUP			Aug.-Nov.							

2.1.2	Conduct IEC campaign jointly by DENR and DA on the selection of species for agro forestry and identification of species that are potential host to pest and diseases	Dissemination of IEC materials to increase the number of Plant/soil cover in the agricultural land area in Barangay---			Aug.-Nov.		Team Leader	6200/ GEF			20,000.00	
	2.1.2.1 Conduct Executive meeting	Meeting Report										
	2.1.2.2 Distribute promotional materials	Distribution Report										
	2.1.2.3 Develop instructional materials on agro forestry for basic education (elementary and high school)	List of developed instructional materials										
2.1.3	Introduce Forest Tree crops with wealth generation potential in the area (tree planting) in close collaboration with DENR and DA	Link the project with DENR and DA			Aug.-Nov.						30,000.00	
Output 2.2 SLM best practices implementation in target City and Municipality												
	a. Continuous monitoring of the five sample sites	Sample Site Monitoring Reports										

	b. Additional monitoring sites using transect sampling that reflects land degradation on wet and dry events	List of additional monitoring sites										
	c. Introduce improved method to monitor land degradation	Report on improved method introduction										
2.2.1	Land Degradation Index determined for the 2 project sites	Submission and acceptance of the report on developed LDI monitoring system										
	2.2.1.1 Conduct Special consultation meeting with Project Management and BSWM researchers and experts regarding[1]:	Special Consultation Meeting Reports										

[1] Information/data availability and gaps for the assessment of land degradation and development and implementation of LDI for monitoring land degradation, Tapping the services of the LADA Working Group as recommended by the 2013 Report on Land Degradation in the Philippines to "complete, acquire, update, input and process the Land degradation indicators and data sets"; Conduct of soil classification and land use systems mapping in two project sites and develop a) Soil classification and Land use system map and b) Erosion index map c) Water Balance Analysis; Conduct of special research on Humus Degradation and Temperature Regimes to linked project outcomes with Climate Change and Climate change adaptation

	2.2.1.2 Conduct Participatory training - workshop on land degradation tools and procedures for mapping, data collection and processing of the degradation indicators (type, degree and extent of land degradation).	Training-workshop Report										
	2.2.1.3 Prepare training materials for procedures for land degradation assessment and establishment of LDI from the land degradation indicators and the estimation of composite LDI for landscape-Land use system in each barangay	Training materials										
	2.2.1.4 Identify Focal persons in the project	List of focal persons										
	2.2.1.5 Identify and select voluntary Reference Degradation Farm Sites in representative Barangay as LDI test sites	List of sites										

	2.2.1.6 Conduct participatory training/coaching and preparation/establishment of 3D map of the selected barangay of sentinel farms by local communities, school children, women and farmers	Training/ coaching Reports											
	2.2.1.7 Conduct periodic Peer Expert Consultation with Champion institutions and Experts on land degradation processes and priority LDI parameters and related environmental concerns	Consultation Reports											
	2.2.1.8 Present the draft guideline for the assessment of land degradation, LDI preparation and analysis and implementation LDI monitoring system	Draft guidelines											
2.2.2	LDI monitoring system applied and improved in the target LGUs	Submission and acceptance of the report on LDI pilot testing in the project sites with LGU											

	2.2.2.1 Conduct follow up training with the field project staff on the actual processing of land degradation indicators (type, degree, and extent) into a composite degradation status/index of landscape LUS of the reference barangay in the project site:	Follow-Up Training Report										
	2.2.2.1.1*Prepare guidelines for the use of LDI to monitor changes in land degradation in selected Reference/Sentinel Barangay	Guidelines										
	2.2.2.1.2 *Select sentinel barangays for the implementation of LDI Pilot Testing to monitor land degradation in different Landscape-Land Use System in the Project	List of sentinel barangays										
	2.2.2.1.3* Conduct of processing of land degradation data and the creation of LDI of selected reference farm for LDI pilot testing	Report										

	2.2.2.2 Conduct Consultation meeting with GIS and CLUP experts on the uses, transfer of data for the preparation of land degradation indicators and LDI maps.	Consultation Meeting Report											
	2.2.2.3 Present the Draft results of LDI pilot testing re the validity and selection of final LDI parameters	Presentation Report											
	2.2.2.4 Interpret available information using remote sensing, GIS and ground truthing activities within and outside the project sites in Malaybalay	Report											
	2.2.2.5 Conduct penological monitoring of the crops in the techno-demo sites	Penological Monitoring Report											
	2.2.2.6 Conduct Local Technical Working Group meetings	LTWG Meeting Reports											
	2.2.2.7 Conduct Reorientation activity	Activity Report											
	2.2.2.8 Conduct Site Identification	Site identification Report											
	2.2.2.9 Conduct soil classification, Water and Biodiversity sampling	Report											
	2.2.2.10 Conduct of Training on LDI	Training Report											

Output 2.3 National and LGU extension services capacitated to incorporate SLM to LDI and drought risk areas and deliver targeted support to targeted City and Municipality and farmers with similar agricultural threats												
2.3.1	SLM training modules compiled, reviewed, updated and produced	No. of updated SLM modules produced										
	2.3.1.1 Conduct Inventory of existing SLM modules from various agencies	Inventory report										
	2.3.1.2 Compile, review and update SLM modules	Updated SLM modules										
	2.3.1.3 Produce updated SLM modules	No. of produced SLM modules										
2.3.2	SLM Training modules integrated in the ATI FFS	FFS-integrated SLM modules										
	2.3.2.1 Conduct Writeshop/workshop to develop and incorporate FFS on the SLM Module	Write-shop/ Workshop Report										
	2.3.2.2 Produce SLM modules that will be incorporated into the Farmers Field School (FFS)	SLM modules										
2.3.3	300 farmers trained in SLM technology through the FFS	List of 300 trained farmers										
	2.3.3.1 Conduct training on Farm Planning with SLM technologies	Training Report										
	2.3.3.2 Establish TDF	TDF										

	2.3.3.3 Conduct FFS to train farmers on SLM technologies	FFS Report										
2.3.4	At least 350 households adopt sustainable agriculture practices and integrated SFM/SLM practices	List of 350 adopting households										
	.2.3.4.1 Redesign the TDF to address specific land degradation problems	Report										
	2.3.4.2 Collect agro-socio and production economics data in areas outside of the project site in Malaybalay	Report										
	2.3.4.3 Interpret Data and generate maps	Data Interpretation Report & Maps										
	2.3.4.4 Conduct orientation about SLM in nearby barangays	Orientation Report										
2.3.5	TDF Established	TDF										
	2.3.5.1 Site expansion to redistribute to other pilot sites											
	2.3.5.1.1 Establish new TDF	New TDF										
	2.3.5.1.1.1 Soil sampling and profiling	Report								plane fare	50,000.00	
	2.3.5.2 Conduct topographic and present land use survey	Survey Report										

	2.3.5.2.1 Produce nutrient mgt. map, water balance map & cropping pattern maps	Maps			Aug.-Nov.						200,000.00	
	2.3.5.3 .Identify and validate potential site	Report										
	2.3.5.4 Procurement of planting materials for Brgy. Tadoc, Canmarating & Sta. Fe	Procurement Report			Aug.-Nov.					Tadoc-190,000; Canmarating & Sta. Fe - 210,000	400,000.00	
	2.3.5.5 Present results (farm development plan) and stakeholders' consultation	Stakeholders Consultation Report										
	2.3.5.6 Unveil SLM Project Techno in demo sites in Abuyog	TDF										
	2.3.5.7 Conduct Soil sampling, profiling and topographic Land Survey	Survey Report										
	2.3.5.8 Regular monitoring of TDF	Monitoring Report										
	2.3.5.9 Identify and validate additional/ expansion sites within the barangay	List of additional sites										
	2.3.5.10 Provide technical assistance for the promotion and adaptation of SLM practices	TA Provision Report										
Output 2.4 Secure additional finances for SLM investments and align existing financial contributions in the forestry and agricultural sectors to support SLM practices in at least two selected municipalities												

2.5	LTWG Management Activities											
2.5.1	Conduct Team Workshop	Team Workshop Report			Aug.-Dec.					150 pax x 350 x 4 (meals)		
2.5.2	Conduct Team monitoring	Team Monitoring Report			Aug.-Nov.					15 pax x 3,000 x 5 (travel)		
2.5.3	Provide Hands-on TA	TA Provision Report			Aug.-Nov.					10 pax x 350 x 4 (meals)		
2.5.4	Conduct IEC activities	IEC Activity Report			Aug.-Nov.					procurement of supplies and materials		
2.5.5	Make monitoring/progress report	Monitoring/ Progress Report			Aug.-Nov.					procurement of supplies and materials		
	TOTAL										1,250,000.00	

Annex 7

Agreements on Issues and Concerns Raised During the Workshop

1. PMO to distribute more copies of Project Brief to LTWGs
2. PMO to provide regular updates on submitted requests by LTWGs
3. LTWGs to submit Activity proposals 2 months before the schedule
4. PMO to make “strategy/methodology” until September (i.e., sequences of project activities)
5. No honorarium
6. No labor cost
7. Transportation cost ok
8. No fund downloading
9. “Don’t think about “extension”, just implement planned activities”

Annex 8

MID-YEAR ASSESSMENT AND PLANNING WORKSHOP

UNDP-GEF Supported DA-BSWM Project on the Implementation of Sustainable Land Management (SLM) Practices to Address Land Degradation and Mitigate the Effects of Drought

BUREAU OF SOILS AND WATER MANAGEMENT

JULY 17-19, 2017
HOTEL KIMBERLY, TAGAYTAY CITY

MID-YEAR ASSESSMENT AND PLANNING WORKSHOP

UNDP-GEF Supported DA-BSWM Project on the Implementation of Sustainable Land Management (SLM) Practices to Address Land Degradation and Mitigate the Effects of Drought

Brief Description of the SLM Project

Land degradation in the Philippines is largely caused by the susceptibility of its soils to erosion due to the hilly and mountainous landforms in many parts of the country. The widespread clearing of forest lands in steeply sloping and rolling topography leaves the bare soil highly vulnerable to accelerated erosion of topsoil caused by heavy rainfall and consequential erosive force of water run-off. The practice of kaingin (or shifting cultivation) and other forms of unsuitable upland farming in cleared forest areas further worsens the erosion problem and loss of fertile and productive top soils. Land degradation in the Philippines is manifested by (i) the loss of productive topsoil through water erosion, (ii) loss of soil fertility due to over-cultivation, (iii) loss of vegetation cover due to illegal logging and widespread forest tree cutting, and (iv) expansion of slash and burn agriculture in critical slopes. Other kinds of degradation which cover a relatively smaller part of the landscape include (i) water logging due to poor drainage and water management, (ii) soil salinization due to over-harvesting of ground water near coastal areas, and (iii) soil pollution from excessive pesticide application and contamination by industrial and household wastes.

To address the problem on land degradation in the country, it is necessary to build a conducive environment for sustainable land management consisting of a comprehensive decision-making and monitoring compliance system at national and local levels and mobilizing the baseline programme to engineer a paradigm shift from unsustainable to sustainable land use while improving the livelihoods of farming communities. This project is focusing principally at the systemic and institutional levels, and hence strengthening of the enabling regulatory, institutional and financial framework that governs efforts to address land degradation in the Philippines. It aims to mainstream Sustainable Land Management (SLM) policies and programs into the development plans of local government units (LGUs) through the guidance of government agencies such as the Department of Agriculture (DA), Department of Environment and Natural Resources (DENR), Department of Agrarian Reform (DAR), Department of Interior and Local Government (DILG), and Housing and Land Use Regulatory Board (HLURB) to strengthen complementation among these government institutions concerned with land degradation and ensure that the incidence and spread of land degradation in vulnerable ecosystems will be avoided and/or reduced. The SLM Project is expected to improve the land productivity and socioeconomic well-being of small farmers. To achieve this, the project follows a participatory cross-sectoral approach involving all key stakeholders in project design and implementation. The promotion of SLM measures and technologies for adoption by vulnerable farming communities is the primary focus of the field investments of the project. Through the establishment of SLM demonstration sites, farmers will be able to learn and adopt various methods of soil conservation farming and water resources conservation that will improve their crop production and income.

Overview of the 2017 Mid-Year Assessment and Planning Workshop

The Department of Agriculture - Bureau of Soil and Water Management (BSWM) has been implementing a three-year Sustainable Land Management Project (SLMP) since 2015. The SLMP was originally designed to implement SLM practices that will address land degradation and mitigate effects of drought and systematically contribute to the enhancement of integrated natural resource management in the country. The workshop was a very instrumental event in mainly ascertaining the progress of the project, building an understanding among stakeholders with regards to issues and gaps to be resolved, serving as an opportunity for learning and constructive dialogue, and identifying the crucial next steps that need to be done in order to deliver on the promises of the project.

42 participants attended the assessment and planning workshop representing the project cooperators from various national government agencies, Provincial and City/Municipal LGUs of the two demonstration sites in Bukidnon and Leyte, and the United Nations Development Programme (UNDP) County Office serving as Implementing Agency (IA) of the Global Environment Facility (GEF). Please see **Annex A for the complete list of participants.**

The overall agenda of the Mid-Year Assessment and Planning Workshop were as follow:

1. To refresh and reorient stakeholders on the project commitments, targets, and deliverables
2. To conduct a mid-year assessment of the program and discuss accomplishments, implementation issues and measures to address them
3. To learn more technical inputs
4. To adjust plans for the remaining half of the year
5. To come up with a revised Annual Work Plan (AWP)

The workshop proceeded with a highly interactive and cooperative atmosphere through a systematic series of plenary presentations, immediate synthesis of discussions, elaborate discourses and small and large group meetings. Please see **Annex B for the workshop schedule**.

Dr. Gina Nilo, the SML Project Focal Person, with the generous support of the Project Management Office (PMO), organized the workshop, while Ms. Tracy Gail Sabaldo, Bukidnon Field Coordinator of the SML Project served as the master of ceremonies. Mr. Rey Gerona, a project development specialist and M&E practitioner from the Japan International Cooperation Agency Philippines Office (JICA), skillfully and resourcefully facilitated the two-day workshop.

Workshop Proceedings

I. Day 1: July 17 2017

1. Preliminaries

Ms. Tracy Gail Sabaldo led the welcoming of the participants to the event, which was immediately followed by the opening prayer and singing of the National Anthem, led by Ms. Mariell Evasco. After the introduction and welcoming of participants, Dr. Gina Nilo, the BSWM National Focal Person formally opened the event. She expressed her gratitude to everyone who was able to participate including all the representatives, partners and cooperating agencies of the Project Board, BSWM colleagues, consultants and facilitator.

Ms. Tracy Sabaldo welcomes the participants to the event

Dr. Gina, in behalf of Dir. Angel Enriquez who was not able to attend the event, also ensured that Dir. Enriquez's welcome remarks were relayed to the participants. In her speech, Dir. Enriquez extended her gratitude especially to Ms. Grace Tena, the Focal Person from UNDP, Ms. Jacqueline Lagamon, the Focal Person from the Bukidnon LTWG, Ms. Nenita Sultan, the Focal Person from Leyte LTWG and Director Clint Hassan of the DA-ICTS.

Dr. Gina Nilo giving her opening remarks

She also thanked the UNDP GEF for funding the project and recognizing its importance in addressing a pressing issue in the country, which is land degradation. Dir. Enriquez emphasized the event’s significance as well in assessing the progress of the project and identifying issues and challenges.

She expressed her desire of having a continuously harmonious relationship with the local partners from Bukidnon and Leyte as everyone works towards achieving the end goal. Please see **Annex C for the full welcome remarks.**

Ms. Grace Tena, as the UNDP representative, expressed her pleasure and gratitude as she welcomed everyone to the event. Similarly, she underscored the importance of the mid-year assessment and planning workshop in reviewing project objectives, and addressing and identifying the challenges that arise.

Ms. Grace Tena giving her opening remarks

She clarified that despite the delays, it is important to keep in mind that the project is trailblazing and pioneering --- it is a small UNDP project with a huge vision. As she expressed her excitement towards reaching the output, Ms. Tena also said that she is expecting an innovative model out of the project, as it is experimental in nature. She hopes that the project will eventually reach a nationwide scale and reminded everyone of the project’s relevant contribution to the realization of the Sustainable Development Goals.

Ms. Tena also acknowledged that a lot of work still needs to be done and encouraged the sustained participation of all who are involved. She acknowledged the important role of government agencies in providing technical assistance and the LGUs’ important contribution serving as the project’s front liners. She encouraged and challenged everyone to remember that there are no limitations to stay within the bounds of the results framework, and if it is necessary, stakeholders must run the extra mile. Ms. Tena mentioned that there exists a potential to develop a proposal out of this current project and hopefully the project can be showcased to a lot of partners and gain more support. Finally, in her message of encouragement, she cheered everyone to move forward and move faster.

Right after the welcome and opening remarks, Mr. Rey Gerona, the event facilitator, gave a clear yet brief overview of the workshop.

In discussing the project background, he illustrated that since the accomplishment of the 2015 Inception Workshop and the 2016 Year-end Assessment and Planning Workshop, the 2017Mid-Year Assessment and Planning Workshop is looking to accomplish four (4) objectives:

Mr. Rey Gerona gives a workshop overview

- To refresh stakeholders on SLM commitments
- To assess performance at mid-year
- To learn technical inputs
- To adjust plans for the last half of the year

It was highlighted that the Mid-year workshop has two (2) major objectives:

- Accomplish a 2017 mid-year assessment
- Develop a revised version of the Annual Work Plan

Mr. Gerona mentioned the importance of knowing and assessing where the project is now with regards its targets where ideally, 50% should already have been accomplished. He also presented the following methods by which the two-day workshop would reach the objectives:

- Presentations
- Plenary discussions
- Interactive lectures
- Workshops
- Writing boards

Initially, a rule was set against exceeding the time limit allotted for the program. However, due to the amount of knowledge being exchanged and highly interactive discussions which were all essential for the project's sake, extensions were later on permitted. Due to time limitations, facilitator Gerona indicated to everyone that there will be working snacks. He also made it a point to encourage everyone to ask and stay interactive.

2. ASSESSMENT: Reporting of Accomplishments, Implementation Issues & Recommendations

A. Malaybalay, Bukidnon Project Team

Ms. Jacqueline Lagamon talks about the accomplishments and recommendations of the Bukidnon Project Team

Ms. Jacqueline Julia Lagamon, the Focal Person for the Bukidnon Local Working Group (LWG) presented what has been done for the past six months in their Bukidnon project site. She underscored the accomplishments done within the 1st and 2nd quarter of 2017. According to her, one major accomplishment was the conduct of the Topographic Mapping Survey which happened last January 16-22, 2017. Another proud accomplishment is the improved, finalized and approved farm plan which was submitted to the BSWM this year. Another major achievement was the establishment of a 4.5-hectare Techno Demo Farm (TDF), for which the land preparation was done last January.

She highlighted a major activity which was to distribute planting materials to SUARC members. The distribution from the project funds however, was not accomplished. In January, expansion sites were validated. They were able to classify active and inactive members, and identify SUARC members and farms for site expansion. A Bisaya version of the criteria for site selection was presented so that there will be a clearer mode of communication among locals. Initial site validation for the expansion (or additional) TDFs was also accomplished. They were also able to submit a report/canvas forms for the procurement of planting materials and fertilizers to the PMO last June. Ms. Lagamon noted that they are still waiting for a supplier. Planting materials were also distributed last January to the TDF despite the absence of approval. There were 430 plants consisting of bananas, fruit trees, rambutan and many more, which all came from the LGUs.

Part of the outputs that needed to be delivered was the Composite Land Degradation Index Monitoring System which still needs to be developed and installed in Malaybalay and in Abuyog. A primary or basic penological monitoring of crops was done in the project site last March, but Ms. Lagamon believes that this cannot count as an accomplishment just yet. The formulated, approved, and adopted monitoring system has not been accomplished yet as well. Team reviews of the workshop for training modules still need to be done. Ms. Lagamon stated they they are also planning to establish and organize a LTWG, which she also mentioned last December.

Ms. Lagamon stated that the formulation of the FFS module is always being discussed since they really want to push through with this acitivity, it is just that they are waiting for the approval to proceed. The planned trainings for Malaybalay also includes capacity building and seminar among SUARC members for the team building, since this would be a way of addressing the internal issues at hand as well. The activity proposal on SLM was also accomplished, alongside the 2017 AWP that was submitted to the PMO. She underscored the need for the FFS module, believing that it will make technology transfer much easier and help with the establishment of the TDF.

Ms. Lagamon shared that a lot of work still needs to be done in Bukidnon. She indicated that legal documents, such as the Memoradum of Agreement (MoA) between the partners, especially with LGUs, is yet to be released. Thus, the facilitation of the Memorandum of Understanding (MoU) is important in lieu of the MoA. Attachment of the Farm Plan and AWP will allow for the finalization of this legal document. Ms. Lagamon still highlights the importance of the MoA in containing the important budgetary requirements and statements.

Procurement of administrative support and materials needed for training and operations in Bukidnon still needs to be acquired. The adoption of sustainable agricultural practices by 300 households has not been attained yet since a fully established TDF is still underway. Ms. Lagamon emphasized that the unveiling of the SLM project is one of the major and urgent activities that is still not achieved. Moreover, orientation of SLM practices to nearby barangays has not been started yet, that is why expansion will be momentarily put on hold. A developed IEC is still waiting to be accomplished. Knowledge sharing and learning expeditions with farmers from other areas cannot be done just yet because the TDF in Brgy. Silae is still being developed.

Ms. Lagamon, after discussed some of their accomplishments and plans, proceeded to discuss the issues and concerns of Malaybalay. She expressed her sentiments regarding how within the LGU, they as though they have not done so much. In line with this, she forecasted that there might be some possibilities that the 2018 deadline cannot be achieved. Some reasons for this forecast was mentioned. The reasons include:

1) The absence of signed legal document that would serve as guide for the implementation
2) Expected accomplishments vs. the planned activities (2016-2017) were not fully achieved due to delayed actions of PMO from central office
3) No clear direction (proposed AWP – Malaybalay were not followed)
4) Absence of legal document for the creation of LTWG
5) As agreed during the 2016 Yearend Assessment, funds for 2017 will be downloaded to LGU
6) No farm inputs were received by co-cooperator from SLMP
7) No materials and equipment for the daily operations, meetings, trainings, and workshop at the local level

In line with these issues and concerns, the Bukidnon Project Team forwarded some recommendations:

1) Request for project extension (3 years)
2) Follow and implement the approved AWP as proposed
3) Fast-track the approval of the proposals, documents, and request, etc.
4) Push through the downloading for fast implementation of the project in LGU

Finally, Ms. Lilia extended her gratitude for the help being granted to their community through the project. However, she expressed that she is feeling quite confused with concerns the kind of help they will actually be receiving and the timeframe of the project. In line with this, she humbly requests a project document with these specifications and clarifications.

For a complete **presentation of the Bukidnon Project Team, please see Annex D.**

B. Abuyog, Leyte Project Team

The presentation for the Leyte Project Team was led by Ms. Nenita Sultan, the Focal Person for the Leyte LWG, who began the presentation with a humor. According to Ms. Sultan, due to rotational brownout and power shortages in Leyte caused by the recent earthquake did not allow them to create a comprehensive e-visual for the presentation. Nevertheless, she proceeded to present their updates. Initially, Ms. Sultan expressed that the Leyte Project Team mirrors the sentiments and opinions of the Bukidnon Project Team. She then highlighted the prime importance and need for the approval of the MoA as a general observation.

Ms. Nenita Sultan discussing the accomplishment and issues of the Leyte Project Team

She extended her gratitude to the co-implemetors and partners involved in the project and requested that transparency and better communication be practiced for a more guided operation of the project and so that the defects can be addressed

The two major accomplishments of the Leyte Project Team are as follows:

1) Identified Techno-Demo Farm (TDF) in Abuyog
2) Conduct of SLM/ Soil Conservation Training in Tacloban

There were also able to accomplish the soil sampling, conduct of Topographic Mapping survey and trainings. Ms. Sultan noted that in Leyte, they have no assigned field coordinator, unlike in Malaybalay, Bukidnon. This absence also accounts for the lack of guidance that the Leyte Project Team is experiencing. She pointed out that they have no access yet to vital papers such as project guidelines, project description, and other binding documents for the contracting parties. Despite the lapses, the provincial government, with the help of various organizations, made their own initiatives to conduct trainings and release farm tools to the Tadok association. Seeing that there had been problems in communication, Ms. Sultan also made it a point to clarify that it is their task, duty, and responsibility to offer assistance to the project implementing group in identifying target recipients so that the resources will not be put to waste.

Ms. Sultan further elaborated the implementation issues and concerns of the Leyte Project Team as well. The first concern was that they noticed a lack of partnership agreements (i.e., MoU, MoA) that spell out the roles and responsibilities of parties involved. Ms. Sultan expressed that these partnership agreements should have already been accomplished before the project implementation, and that these agreements be available at the national level. The second concern is that there is no downloading of funds to the LGU, to which their remark was that the LGU can still perform other on-site activities. The third concern is the non-adherence to submitted AWP. Fourth was that the basis for the establishment of Local Technical Working Group (LTWG) is not defined. It was noted that there is no source of funding to support the continuos LTWG meetings. Fifth, the implementation strategy and methodology is also not clearly defined. Six, the distribution of planting materials has been long overdue. Lastly, appealing to financial support, concerns arise regarding the farmers’ cost of labor.

The Leyte Project Team also had the same concerns and recommendations as the Bukidnon Project Team.

Issues and Concerns:

1) The absence of signed legal document that would serve as guide for the implementation
2) Expected accomplishments vs. the planned activities (2016-2017) were not fully achieved due to delayed actions of PMO from central office
3) No clear direction (proposed AWP – Malaybalay were not followed)
4) Absence of legal document for the creation of LTWG
5) As agreed during the 2016 Yearend Assessment, funds for 2017 will be downloaded to LGU
6) No farm inputs were received by co-cooperator from SLMP
7) No materials and equipment for the daily operations, meetings, trainings, and workshop at the local level

Recommendations:

1) Request for project extension (3 years)
2) Follow and implement the approved AWP as proposed
3) Fast-track the approval of the proposals, documents, and request, etc.
4) Push through the downloading for fast implementation of the project in LGU

Towards the end of her presentation, Ms. Sultan expressed her gratitude and a call for more cooperation among stakeholders.

For the **complete presentation of the Leyte Team, please see annex E.**

Ms. Grace Tena, shortly after the presentation given by the two Project Teams, shared some of her thoughts. She stated that she shares and understands the frustration felt by the two teams because of the lack of clarity in several aspects of the project. However, she stressed that the project being done is innovative, which means it has neither been completed nor tested before, and it matters to do it right for the first time.

In response to the observation that much attention was given to the development of TDFs, Ms. Tena reminded everyone that the TDF is not equivalent to the entire project. Rather, the TDF is a tool or vehicle which is essential for the whole project to successfully materialize. In fact, the TDFs should be built after the data (i.e. type, extent, degree of land degradation among others). The TDFs are meant to benefit from the inputs from the consultants. The Land Degradation Index (LDI) is still underway. It is important to establish a baseline first so that the technology needed to be applied to the TDF can be expertly identified as well as its impact on land degradation condition of the area.

Additionally, Ms. Tena acknowledged some reasons for the delays in the project implementation. For one, there have been challenges in choosing qualifies project staff. Furthermore, the quality of communication needs to be improved such that the partners who are serving as front liners will be informed of the project status and will have a clear understanding of what the project is truly all about.

Dr. Gina Nilo proceeded to thank the local teams for their inputs. She expressed how delighted she was to learn from the presentations and know how eager everyone is to accomplish the project. She also stressed the TDF is only one of the many outputs that the project is looking to achieve. She also hopes for the SLM to be adopted by communities and soon take on a national scope. In terms of the delays, she reminded everyone to consider the redesigning processes that are currently underway.

3. Updates on Consultants' Deliverables

A. Comprehensive Land Use Plan (CLUP)

Dr. Candido Cabrido Jr. was the first consultant to give his presentation. Prior to delivering his presentation on the "Integrated Land Management Framework and Mainstreaming," Dr. Cabrido shared that he is working at the policy planning and investment level. He also shared hopes of being able to begin a bigger project after the accomplishment of the current project at hand. He also provided a brief discussion to clarify some misconceptions about the project. According to Dr. Cabrido, the project has two major components. The first one is the policy planning and investment, and the second is the SLM technology development and pilot-testing. He noted how disproportionate attention was given to the latter component of the entire project.

Dr. Cabrido presents the progress and ongoing efforts on the CLUP

According to Dr. Cabrido, the BSWM, and other agencies such as DAR and DENR already have some matured SLM technology. However, the weakness of the government is in the strategic marketing of the SLM. Hence, the products are not well-disseminated and utilized. This strategic marketing is vital in the process of making products visible and translating these products into intellectual capital through commercializing and effectively packaging them. Dr. Cabrido urged everyone to join in the effort of calling the attention of policy makers so that these important developments would not remain under-utilized.

Dr. Cabrido was asked to develop a framework, translate it into a plan, and mainstream the plan into the national government departments and LGUs. If successful, the project can also reach the Philippine Council for Sustainable Development of NEDA, which will in turn adopt the nationwide application of the products and create the chance to mainstream it to the budgeting process and acquire more funds.

The aim is to convince policy makers so that stakeholders can gather support by the time that the project will be scaled up to the national level. Dr. Cabrido also said that the project looks to develop enabling instruments to win investors and policy makers. At the ground level, cooperation with LGUs is established. An enabling instrument of the project includes the ILMF, which will be developed into a policy framework to be mainstreamed into both national and local level.

Dr. Cabrido discussed the key deliverables of his study as well as the updates on their progress:

Deliverable	Status
Formulation of Integrated Land Management Framework	90% completed
Guidelines for mainstreaming ILMF in NGAs (DA, DENR and DAR) strategic plans + mainstreamed ILMF	Not started yet
Piloting of ILMF plan preparation in 2 LGUs through hands-on training	Not started yet
Guidelines for mainstreaming ILMF in LGU plans (CLUP, CDP, AIP)	40% completed
Piloting of mainstreaming guidelines in 3 NGAS and 2 LGUs through hands-on training	Not started yet

Dr. Cabrido also informed every one of the completed chapters of the ILMF final draft report (please see **Annex F for the complete presentation of Dr. Candido).**

The **rationale** of the study includes:

1) Lack of systematic means of integrating SLM in the policies, plans and programs of key agencies (DA, DENR and DAR) and LGUs (provincial, city and municipal)
2) Need to develop an Integrated Land Management Framework (ILMF) to provide a template and guide for planning and implementing SLM
3) ILMF plan serves as instrument for mainstreaming SLM in the strategic plans of NGAs and local development plans (CLUP, CDP, AIP) of LGUs

The **scope** of the study includes:

1) Formulation of Integrated Land Management Policy Framework (ILMPF) as a template for SLM planning by LGUs. Need to develop an Integrated Land Management Framework (ILMF) to provide a template and guide for planning and implementing SLM
2) Preparation of Planning Guide Matrix for Analyzing Major Causes and Impacts of Different Land Degradation Types

3) Preparation of Planning Guide Matrix for Analyzing Gaps and Constraints and Identifying Policies, Programs and Projects in Addressing Land Degradation Types, their Impacts and Major Causes

4) Preparation of Planning Guide Matrix for Analyzing Gaps and Constraints in SLM Implementation at the Local Level

5) Preparation of Planning Guide Matrix on SLM Technologies

6) Adoption of the ILMPF in DA, DENR and DAR planning involving SLM (Identify plans of DA, DAR and DENR where to mainstream ILMF)

7) Preparation of the ILMF Planning Process for Adoption by LGUs

8) Mainstreaming of ILMF plan in the local development plans of LGUs (CLUP, CDP and AIP)

9) Preparation of Training Materials and Conduct of Training on ILMF planning for pilot LGUs and representatives from DA, BSWM, DENR, FMB, and DAR

The study **focused** on land degradation types and the following specifics:

1) Soil erosion
2) Nutrient depletion
3) Loss of prime agricultural lands through conversion
4) Loss of forest lands through conversion
5) Soil crusting and compaction
6) Soil pollution, salinization, and acidification

According to Dr. Cabrido, the remaining deliverables will be finished by March, and will be turned over to BSWM and the LGUs. The **next steps** as identified by Dr. Cabrido are as follows:

1) Identify and gather strategic plans of DA, DAR and DENR for ILMF mainstreaming
2) Guidelines for mainstreaming ILMF/SLM in DA, DAR and DENR strategic plans
3) Data inputs from BSWM: SLM practices and technologies (brief description with pictures)– management of soil fertility, soil pollution, salinization and acidification.
4) Prepare detailed guidelines and procedures for mainstreaming ILMF in CLUP, CDP and AIP
5) Preparation of ILMF plan by Abuyog and Malaybalay through hands-on training and workshops, coaching and mentoring by CLUP consultant.
6) Pilot testing of guidelines and procedures for mainstreaming ILMF in the CLUPs of Abuyog and Malaybalay

Revised Schedule of Deliverables

5.0 Schedule of Deliverables and Key Activities

The main deliverables, corresponding key activities, and schedule of report submission by the Comprehensive Land Use Planning Specialist are provided in Table 4.

Table 4. Main Deliverables, Key Activities and Schedule

Deliverables	Key Activities	Accomplishments	Reasons for Delay	Revised Due Date
Inception Report	-Consultation meeting with BSWM and HLURB -Review of Project documents and other important reports -Preparation of draft inception report and presentation to BSWM, HLURB and other partner government agencies -Revision and submission of Final Inception Report	Inception report completed and submitted to BSWM and UNDP		Submitted and approved September 15, 2016
First draft of Integrated Land Management Framework (ILMF)	-Review of related documents and other references -Conceptualization of ILMF -Preparation of draft ILMF and presentation to BSWM, HLURB and other partner government agencies -Revision and submission of Final ILMF Report	-Reviewed related documents -Initial ILMF report presented to Project Progress Review held at BSWM on March 8, 2017 -Completed draft detailed report on ILMF	Delayed submission of Final ILMF report due to scarcity of data inputs and non-response of DAR and DA to official data request	December 15, 2016 Revised due date July 30, 2017
Draft guidelines on Mainstreaming SLM into CLUP	-Review of HLURB CLUP guidelines -Identification of elements (data and information) to be mainstreamed including their entry points in the CLUP/CDP planning process -Preparation of methods for analysis and expected outcomes -Writing of draft guidelines and procedures for ILMF/ SLM integration, analysis and interpretation of results. -Presentation of mainstreaming guidelines to HLURB, BSWM, DA, DENR and DAR -Revision and submission of final guidelines	-Reviewed HLURB CLUP guidelines -Initial mainstreaming guidelines report presented to Project Progress Review held at BSWM on March 8, 2017	Delayed submission of detailed mainstreaming guidelines due to delayed HLURB feedback on initial mainstreaming guidelines incomplete ILMF report	March 30, 2017 Revised due date August 30 2017

Report on the piloting for mainstreaming of ILMF in DA and DENR	-Gathering of plans and programs of DA, DENR and DAR related to land resources management. -Analysis of gaps and entry points in mainstreaming the crucial elements of ILMF -Preparation of method for mainstreaming ILMF in the selected plans and programs of DA, DENR and DAR -Conduct of ILMF (PPAs) mainstreaming in selected plans and programs of DA, DENR and DAR -Preparation of report on mainstreaming ILMF (PPAs) in selected plans and programs of partner government agencies -Presentation of mainstreaming report to BSWM, DA, DENR and DAR -Revision and submission of final ILMF and mainstreaming report		Projected delay in the gathering of data from DA and DAR Meetings with resource persons from DA, DAR and DENR still have to be conducted	August 15, 2017 Revised due date October 2017
Report on the pilot testing of Draft Supplemental Guidelines in the two target municipalities	-Preparation of training-workshop program on the application of the mainstreaming guidelines in the CLUP or CDP of two pilot municipalities -Conduct of workshops to mentor and coach the planning officers of the two pilot municipalities in the mainstreaming process -Provide technical assistance to the planners of the pilot LGUs in preparing their mainstreaming report -Presentation of mainstreaming report to HLURB, BSWM, DA, DENR and DAR -Revision and submission of final mainstreaming report			December 15, 2017 No projected change
Final ILMF including the identification of entry points to mainstream the ILMF in DA, DENR, and DAR.	-Revision of the draft ILMF based on the results of pilot testing in the selected plans and programs of DA, DENR and DAR. -Identification of entry points and definition of expected outcomes in mainstreaming ILMF in the plans and programs of DA, DENR and DAR. -Presentation of ILMF to HLURB, BSWM, DA, DENR and DAR -Revision and submission of final ILMF and mainstreaming report			May 15, 2018 No projected change
Supplementary guidelines in mainstreaming SLM in the CLUP and potential investment and incentives for local adoption of SLM	-Review and revision of the guidelines for mainstreaming SLM in the CLUP or CDP based on the results of pilot testing -Presentation of the revised mainstreaming guidelines and packaging it into Supplemental Guidelines by HLURB -Assessment and recommendations on enabling instruments, potential investment and incentives for the wider adoption by LGUs of SLM mainstreaming guidelines.			July 15, 2018 No projected change

B. On Capacity Development and Training

Training Specialist Dr. Alexander Flor began his session with an interactive one-minute ice breaker. Dr. Flor recalled working with JICA, and Mr. Rey Gerona as his Task Manager in specific, 12 years ago wherein he was engaged to do a post-evaluation of a capacity development project in the health sector. The said project was on capacity development for HIV-AIDS. In 2005, he was tasked to measure the impact, and not just the outcome of the project. According to Dr. Flor, Mr. Gerona led him to look into an impact which was not apparent in the original plan. The unintended impact which was very important allowed for the screening of SARS, HIN1 virus, and MERS.

Dr. Flor drew parallels between this anecdote and the project at hand as he encouraged everyone to consider what could possibly be the unintended impact of the SLM project and its biggest contributions to the whole body of SLM development and knowledge. In fact, this unintended impact which was not stated in the project document, is being called the SLM2. This, according to Dr. Flor, is what is really being pilot-tested and developed.

The **rationale** of Dr. Flor's assignment are as follows:

1) Alarming rate and scale of extreme weather patterns that necessitate: a second look at existing sustainable land management (SLM) practices
2) Introduction of innovative features that would accommodate farmer participation in land degradation monitoring
3) The need for
    - reassessment of capacity development needs
    - review of current SLM modules
    - identification of competency gaps in delivering SLM technologies to farmers

Dr. Flor discussing the objectives of his assignment in CapDev and Training

The **objectives** of Dr. Flor's assignment are the following:

1) To review current modules in SLM technology and assess these given new capacity development needs;
2) To determine competency gaps in the delivery of the modules based on new capacity development needs and the frameworks developed by project consultants;
3) To develop a competency development program based on new frameworks;
4) To develop a manual for the training of SLM technology based on the project's framework; and
5) To conduct training employing the competency development program and manual.

Dr. Flor's deliverables and expected date of submission are as follows:

Deliverable	Expected Date of Submission
Inception Report	17 March 2017
Report on the Identification & Assessment of Competency Gaps on SLM Technology Application & Mainstreaming for Targeted LGUs	28 April 2017
Competency Development Program Guide	31 August 2017
SLM Training Manual	6 November 2017
Report on the Conduct of Training-Of-Trainers (TOT) for LGUs, ATI, DA-BSWM and DENR	31 January 2018
Report on the Conduct of Training on Potential Trainers from DILG and HLURB on Various SLM Management and Physical Technologies for Mainstreaming SLM into the CLUP.	29 June 2018

The first two deliverables have already been submitted.

Dr. Flor proceeded to enlighten everyone about SLM2 from a capacity development point of view. Adaptive Land Management (ALM), according to him is quite a new phrase and an original for this project, introduced by Dr. Rogelio Concepcion last February. ALM as discussed by Dr. Flor, is approach to managing agricultural land resources that enhances the farmer's ability to maintain land productivity by adapting to economic, environmental & social circumstances. ALM focuses on the farm family, such that sustainability is measured by the farm family's ability to adapt to disasters and climate change among others. It is set apart from the SLM as it is transformative because it defines the dynamic relationship of the farm family to their land. Moreover, according to Dr. Flor, while SLM highlights land management technologies, ALM emphasizes land management processes and its temporal and spatial dimensions. Finally, SLM2 is the integration of SLM and ALM. It is consistent with global SLM criteria while adopting other elements brought about by climate change, indigenous knowledge and farm family considerations.

Dr. Flor also showed everyone the differences between the conventional SLM and ALM:

	CONVENTIONAL SLM	ALM
Goal	Check land degradation Rehabilitate degraded land	Maintaining long-term land productivity for the farm family
Basis	Science of land, water and air	Functional relationship between land degradation, crop yield and income
Interventions	Research-based technologies	Technologies contextualized within farm family circumstances; adaptation strategies
Dissemination	Government extension agencies	Localized sharing of traditional knowledge
Economics	Farm	Off-farm and Non-farm
Parameters	Natural and human induced degradation	Environmental, economic, social factors that determine degradation
Dimensions	Physical	Temporal, Spatial
Success Indicator	Increased/ sustained fertility of soil	Ability of the farm family to adapt
Land degradation	Linear process	Both seasonal and historical
Monitoring Data	Physico-chemical properties	Geospatial, physical and bioindicators
Index Used	Land Degradation Index (LDI)	Adaptive Land Degradation Index
Main Monitoring Actors	Technicians Researchers	Community Monitors Technicians Analyze

Dr. Flor also shared some SLM2 and CLDI competency areas. These include:

1. Measuring Climate Based Seasonal Farmland Degradation. Project partners should be able to:

    1.1. Recognize that in one observation site, land degradation indicators changes from dry season to wet season

    1.2. Recognize that in one observation site, land degradation indicators changes from dry season to wet season

1.3. Acknowledge that dry season event as "invisible land degradation (e.g. pH, soil carbon, N, P and K nutrient losses or nutrient toxicity which requires right laboratory facilities)

1.4. Conduct soil, water and plant biodiversity sampling

1.5. Identify and record invasive and new weeds and pests

1.6. Collect crop yield and net family income data and relate these with land degradation.

2. Rendering, Analyzing and Interpreting Picture-based, Climate Event Farm Land Degradation Assessment Maps. Project partners should be able to:

2.1. Provide evidence-based land degradation assessment and mapping through color variations on land surfaces as indicators of soil moisture and soil depth.

2.2. Explain that greener surfaces indicate more moisture, nutrients, carbon, and relatively deep enough to give wider and larger feeding zones for plants.

2.3. Employ color variations as guides for systematic transect sampling for assessing soil carbon sequestration and mapping "best land use boundaries to mitigate land degradation"

2.4. Detect ridge and upper side slopes for restoration or return for former forest use as patches of green and brown or discontinuous matrix, on the colored photograph.

2.5. Detect the mid-slope where active losses and gains of transported soil and moisture have acquired as a mosaic of green and brownish green colors on the photograph.

2.6. Detect foot slopes which acquire more sediments and have slight correction on its slope as green and continuous green matrix, where the farmer may continue with his ways of farming with some added soil and water conservation measures

2.7. Detect waterways, forming like corridors with linear erosion at the middle and patches of green

2.8. Detect the water corridor which acts as the reservoir of the microwatershed

2.9. Map and draw farmland degradation types, degree and extent on the picture of the micro-watershed.

Towards the end of his presentation, Dr. Flor also shared some components of the Training Course on Composite Land Degradation Index Monitoring System for Agency Partners/Stakeholders. For Dr. Flor’s **complete presentation, please see Annex G.**

C. On Geographic Information System (GIS)

Mr. Dennis Muzones, the GIS Specialist, opened his session by first telling everyone that his presentation will be a technical one. In consideration of everyone else of course who might be unfamiliar with the technicalities of GIS, he will be proceeding to the meat of his discussion so that everyone will understand more easily.

Mr. Muzones givesan elaborate discussion on the Geographic Information System

The first question according to Mr. Muzones is how can land degradation be shown or determined in a map. A technique is adopted by the mapping component which was borrowed from the French Scientific Committee on Desertification. Mr. Muzones shared that this technique has three phases. The first is to gather data, and the second is to fill in the land degradation data based on three indicators: 1) the type of land degradation in the area; 2) extent of land degradation; and 3) degree or intensity of the degradation.

Mr. Muzones also shared that the first part in the French approach in mapping land degradation is looking at the Physiographic units or landscape. This is where one would look into the natural driving forces that drive land degradation. Some examples include the topographic landscape, climatic conditions, the kind of soil is developed from the area's geologic origins, and the slope and elevation of the area which contribute to the hazard of erosion. He further clarified that the French approach is not limited to the physical conditions alone. The map can also be subdivided into another set of parameters. The map also looks at the Mode of exploitation, type of exploitation, population density, and survey results. Land cover is also considered, how the land is used, the presence of disturbance, among others.

Mr. Muzones shared that the spatial data preparation for the determination and identification of degradation indicators (field data gathering and organization) is the fieldwork phase of the study. It is composed of two (2) operations. The first is the determination of the degradation subtypes, their extents and degrees. The second is transposing the results obtained at the test sites into the physiographic mapping/unit map.

Regarding the first operation, Mr. Muzones noted the importance of identifying and specifying the category, type, and subtype of the land degradation occurring in an area.

Category	Type	Subtype
Other degradations (D for Diverse)	**Urbanization and other construction projects** (Dc, c for construction)	
	Open pit and quarry mining (Dm, m for mining)	
	Radioactive pollution (Dr, r for radioactivity)	
	Degradation due to wars and conflicts (Dw, w for war)	Presence of antipersonnel mines (Dw-m, m for mine)
		Presence of explosive remnants of war (Dw-e, e for explosive)
		Land deformation due to bombing (Dw-b, b for bomb)
		Massive defoliant sprays (Dw-d, d for defoliant)
		Use of depleted uranium munitions (Dw-u, u for uranium)*
	(E for Eolian)	Silting (Es, s for *sand*)
		Dune formation (Ed, d for *dune*)
	Plough and mechanical erosion (M for Mechanical)	Plough erosion due to cropping practices (Mp, p for practice)
		Surface scraping during land clearing (Mc, c for clearing)
		Various pollutions *(pro parte)* (Cp, p for pollution)
	Biological degradation (B for Biological)	Reduction in soil organic matter content (Bm, m for organic matter)
		Reduction in soil macrofauna quantity (Bq, q for quantity)
		Reduction in macrofauna biodiversity (Bd, d for biodiversity)

The second part is mainly concerned with the extent of the land degradation. Learning about the extent of degradation involves three operations. The first is measuring the extent of degradation in a landscape by visual monitoring or on remote-sensing images. Next is locating and mapping the observations. The last step is calculating the area involved.

There are five questions that can be asked to assess the extent of degradation:

1) Is the area of land to be surveyed small or large?
2) Is the type of degradation visible to the naked eye or not? In the field and/or on remote sensing images?
3) Is the type of degradation always invisible or does it only become visible when there is a high degree of degradation (e.g. salinization becomes visible when it reaches an advanced stage)?
4) Is the type of degradation related to the type of soil, exploitation strategy or kind of land use (rainfed cropping, irrigated cropping, grazing, etc.?)
5) Is the type of degradation related to the landscape pattern (peaks, slope, plains, etc.)?

Mr. Muzones also highlighted indicators that are helpful in identifying the invisible components of land degradation. These indicators include:

1) Land cover and land use
2) Soil type
3) Cropping practices
4) Historical data

In identifying or assessing the degree of degradation, Mr. Muzones shared two methods. The fist is identifying soil properties that are markers of its degree of degradation and that could have a negative impact on crop yields. The second one is based on the assumption that a reduction in yields or in the level of land sustainability, for a given type of use, indicates that the land is degraded. This method deduces that the land is variably degraded as a function of the noted loss of productivity.

The second phase, as discussed earlier, is the transposing of the results obtained at the test sites into the physiographic unit map. Once the spatial and necessary data has been prepared, the Composite Land Degradation Index (CLDI) will be calculated next. The final phase is mostly carried out in the GIS laboratory and it involves three operations namely: calculating the composite index for each polygon, drawing up the final map, and compiling a database.

Mr. Muzones have already accomplished the first three deliverables. He also updated everyone regarding the ongoing status of the processing of data sets in Malaybalay and Abuyog.

Deliverables/Outputs	Estimated Completion Time	Target Due Dates
Submission and Acceptance of the Inception Report	10 days	August 4, 2016
Submission and Acceptance of the report identifying gaps in the existing database	40 days	November 4, 2016
Submission and Acceptance of the design for upgrading existing GIS holdings, gathered data and the Land Degradation Index	40 days	May 4, 2017
Submission and Acceptance of GIS-based LADA maps incorporating SLM for incorporation into CLUP	50 days	April 4, 2018
Submission and Acceptance of User Guide for updating current GIS database	20 days	July 4, 2018

For M**r. Muzones' complete presentation, please see Annex H.**

D. On Sustainable Land Management (SLM)

Dr. Conception, the SLM-CLDI Specialist, explained to everyone that his major task is concerned with the monitoring of land degradation. According to him, land degradation is one of the most interesting but very difficult subjects because what is being monitored is something that is yet to be seen by the naked eye. Dr. Conception talked about mapping and establishment of LDI monitoring for the establishment of Adaptive Land Management for SLM pilot sites in Silae, Malaybalay, Bukidnon and Tadoc, Abuyog, Leyte.

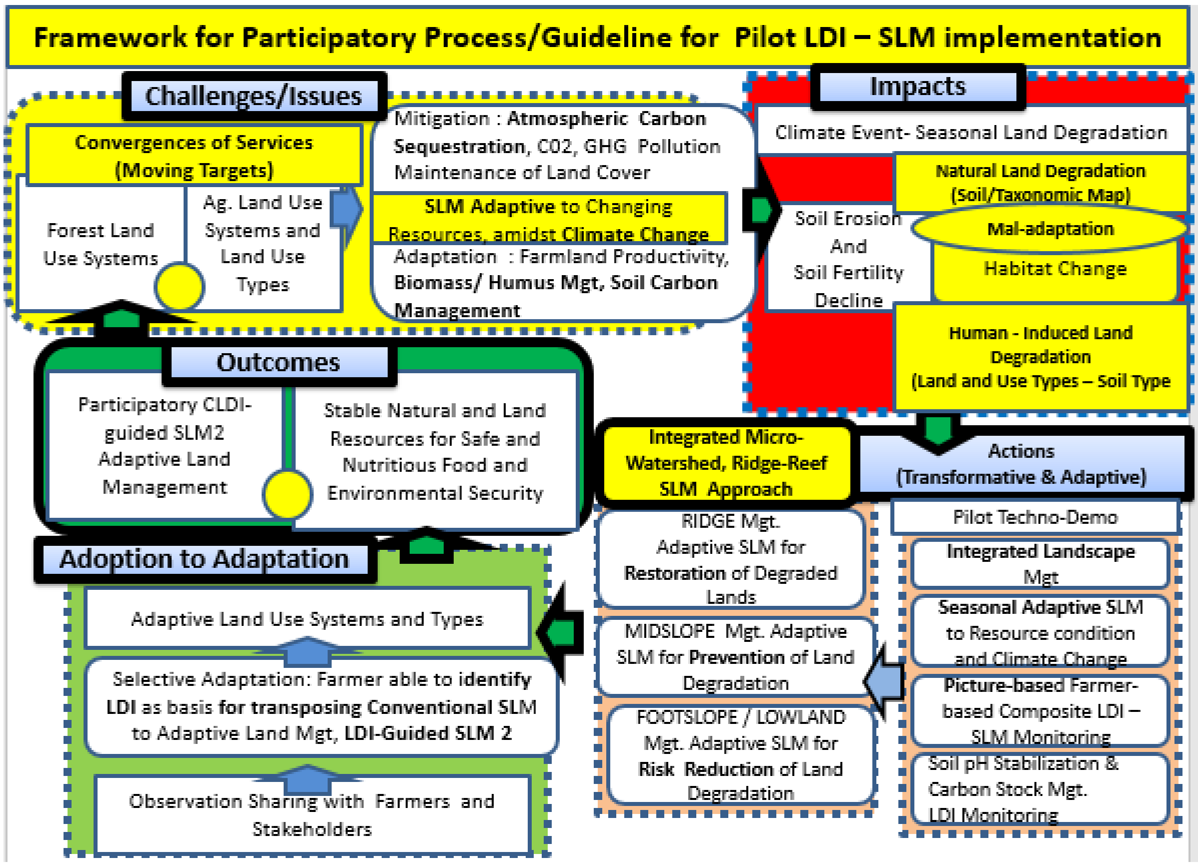
Dr. Conception provides a very educational and detailed presentation on SLM

Dr. Conception enumerated the urgent issues in CLDI-SLM implementation which are the following:

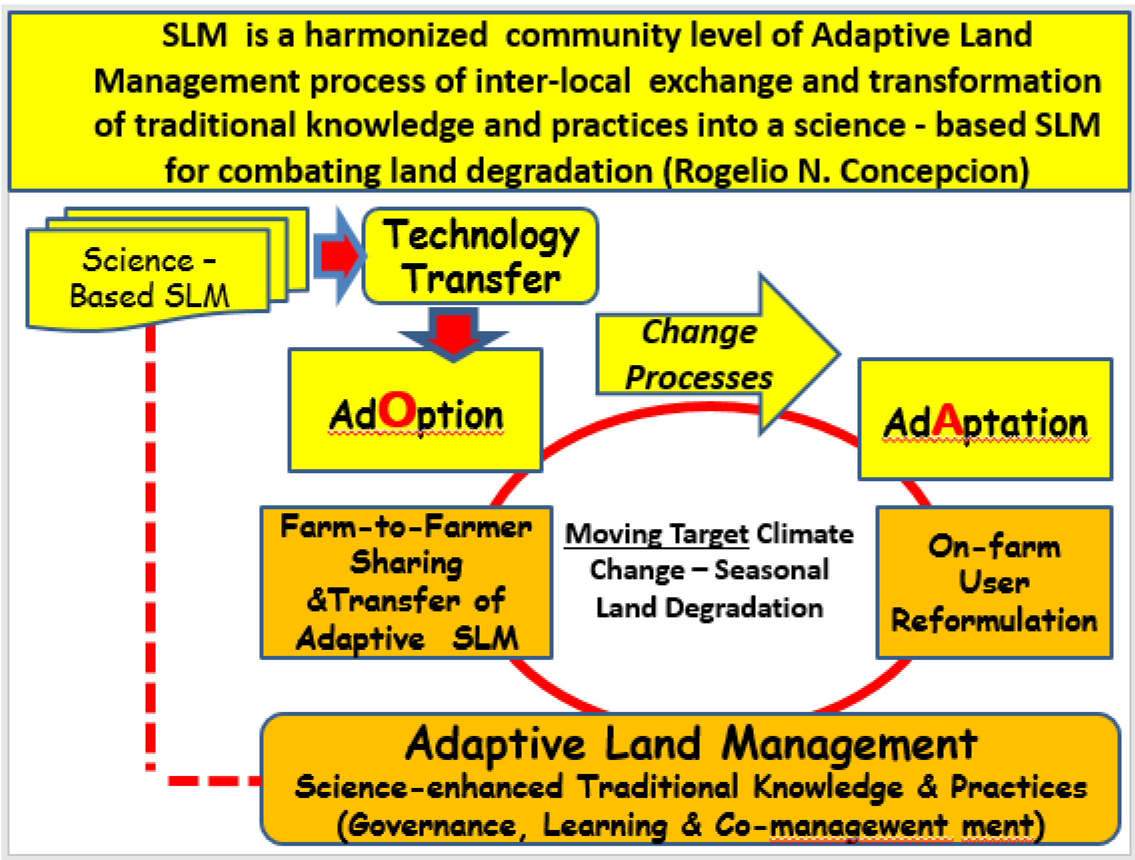
1) Common to selected sites is the need to redesign/reformulate selection strategies for maintaining the spirit of partnership that was put in place at the start of the project.
2) Delivery of inputs appropriate to the sites are urgent. Redesigning of farm plan has been properly done.
3) BSWM staff to provide with dispatch support needed (mapping and sampling and farmer interviews).
4) Co-financing will need to be proper timeline for implementation. Most desirable are the SWISS and Water Detention/Mgt structures, the best and most effective community-based SLM of the BSWM.

5) Mobilization of the GEOMATIC, Soil Conservation and Water Management, ALMED and Soil Survey group as the immediate step for mainstreaming and support to co-financing of the project activities.

Dr. Conception also shared and educated everyone on the framework essential to the understanding of the intervention:



Dr. Concepcion also explained as well that understanding these frameworks will be instrumental especially in policy determination. He discussed that the SLM technology that is initially integrated into the technology transfer is not yet enough to ensure that the technology will push agriculture in the Philippines. There will still be other processes. The technology transfer will be adopted by the farmer. However, this adoption is not sustained or thoroughly followed. In these cases, the capacity of the farmer proves not equal to the recommendation. When change processes take place, the farmer learns and familiarizes himself with the technology and adaptation will happen. In the On-farm user reformulation, the farmer works on his own knowledge and capacity as he reformulates the technology on his own, based on the characteristics of his land and his production objectives. The process then leads to Adaptive Land Management which is a mental and physical process of the farmer and communities to manipulate the resources in order to achieve their productivity objectives. Farmer-to farmer sharing then occurs. This is the phase involves a kind of transformative technology development where corrective processes take place. This is where exchange of opinions, knowledge, experiences (successes and failures) among farmers happen regarding their own specific adaptive conditions. The cycle will then return to redesigning the technology to be utilized.



Because there are LGUs that have limited access to GIS technologies due to lack of computer facilities and are therefore challenged with conducting land degradation mapping, Dr. Conception also provided a matrix format analysis.

Moreover, Dr. Concepcion also underscored the importance of the Picture-based Seasonal CLDI-SLM Monitoring System. This is especially significant in understanding the invisible side of degradation during the hotter seasons wherein changes in physical, chemical, and biological life occur.

- The establishment of LDI- SLM monitoring is best achieved at the farmer's level to ensure that the temporal and spatial land management interventions and their changes with climate events are properly related to any forms of land degradation that impact on crop yields and farmers income.
- Picture – based LDI-SLM monitoring is the visual form of baseline for LDI-SLM monitoring and measuring spatial and temporal changes of land degradation
- Pictures act as the bridge for communicating "invisible" LD which can be observed from changes in color of soil, plant, and appearance of invasive weeds, and loss of bio-diversity (earthworms, bees, grasshoppers, butterfly and dragon fly, etc)
- The farmers trained in the conduct of recording and monitoring land degradation is paramount. They have opportunities to have daily visual observations on the response of plants to any changes in soil degradation indicators (pH and Carbon stock).

Dr. Concepcion also presented an analysis of lowland and upland fertilizer usages for imbalance fertilization (soil fertility decline). He showed the pilot site in Malaybalay to illustrate seasonal LDI monitoring of SLM. He also presented the new and redesigned pilot sites in Abuyog. Dr. Conception informed everyone as well regarding the catch-up strategies for the implementation and selection of site for SLM1 reformulation for LDI-guided SLM2 Adaptation.

For Dr. Conception's full presentation, **please see Annex I.**

4. Technical Input 1: BSWM Initiatives on SLM Technologies and Land Degradation Assessment and Mapping

A. Compilation of Documented SLM Good Practices

In his opening, Engr. Samuel Contreras, the Project Leader, said that there is an existing wealth of knowledge as far as SLM is concerned. However, this knowledge is not used in decision making due to knowledge gaps in terms of area covered, economics of SLM, and impacts of SLM. In line with this, they embarked on an ongoing process to document several SLM good practices to provide land users with relevant information. A global or tool platform for knowledge management and decision support on SLM. This tool is recommended by UNCCD. It actually is the primary recommended database on SLM reporting, as recognized in 2014 by USCCD.

He explained the that these different WOCAT tools are anchored on the concept that knowledge of land users who practice SLM should be shared to another land users. The goal is to generate knowledge products that could be used by planners and translate them to a form that is understandable by farmers for better implementation of SLM at the field level. In the process of documentation, they looked into the landscape and assessed what are the available practices from the highlands down to the coastal. They were able to document about 34 SLM technologies and 9 approaches. These documented technologies and approaches were found to cover 7 functions:

1) Soil Fertility Management
2) Water Management
3) Runoff Management and Erosion Control (Structural measures)
4) Runoff Management and Erosion Control (Vegetative measures)
5) Enrichment Planting and Protection of Vegetative Cover
6) Fire and Wind Breaks
7) Biological Pest Control

According to Engr. Contreras, they project is due to be finalized in September, and they are approaching the finish line.

The website, accessible at http://www.bswm.da.gov.ph/philcat-slm, contains information about the project itself and the database of important SLM practices that were documented. Engr. Contreras briefly demonstrated to everyone how the website functions. Important information about the practice, its implementation, who implements it, what environment it was successfully proven, economic benefits and concluding statements can be found in the website as well.

The SLM map is also featured in the website. One can click on an area and see particular SLM intervention that was documented in the area. Furthermore, a compilation of the documented SLM best practices, called PH SLM case studies, is already undergoing the printing process. Engr. Contreras hopes that this gets done this July. Because the case studies will appear technical to farmers, they aimed to translate these into IEC materials. 17 are prepared in English. It is targeted to translate these materials in Tagalog, Ilocano, and Bisaya. The printing is aimed to be completed within the month of July 2017.

A decision support tool to select SLM options is provided using excel. This will provide users with a basket of SLM options which are easily accessible. The first sheet shows the instruction on how to use the spreadsheet.

In his conclusion, Engr. Contreras noted that soil and water conservation should be examined in the general framework of sustainable development goal that addresses the following:

- environmental challenges (e.g. climate change, land degradation, bio-diversity loss),
- attainment of economic targets, and
- provision of social needs;

He also emphasizes that we need the following:

- Effective knowledge management and decision support tools to contribute in up-scaling, replicating and mainstreaming SLM practices into Local Government Development Plan;
- Enabling environment in terms of a unified soil/water-related policies, institutional arrangements, financing and marketing support, and incentive mechanisms to broaden the implementation of sustainable land management, specifically soil and water conservation.

For Engr. Contreras' **full presentation, please see Annex J.**

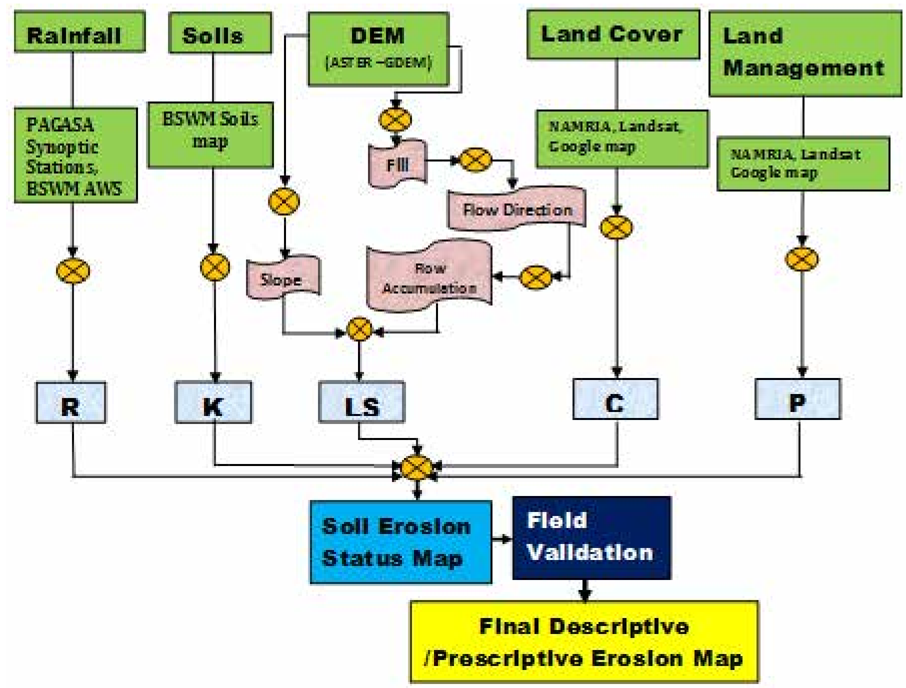
B. On Soil Erosion and Moisture Index Mapping

Engr. Pablo Montalla, Chief of Geomatics, presented his lecture titled "Geomatics-based Spatial Assessment of Potential Soil Erosion Risk and Topographical Moisture Index in the Municipality of Abuyog and Malaybalay". Engr. Montalla explained that they used Remote Sensing and GIS applications or technologies. These applications are often considered as cost-effective procedures for the collection of data over large areas that would otherwise require a very large input of human and material resources. He also discussed the relevance of predicting soil erosion and presented the three different ways in which soil erosion can basically be conducted:

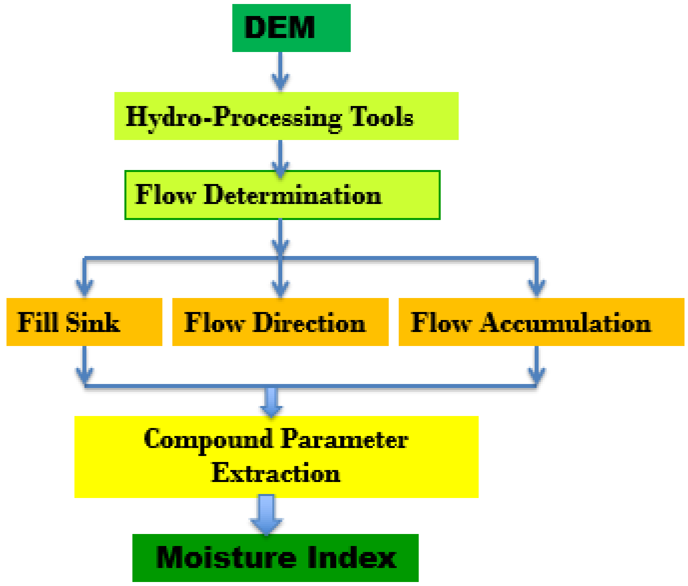
1) The first is to measure soil erosion rates at different locations using some measuring device or erosion plots. This might be very expensive task.
2) The second approach is the execution of erosion field surveys with identifiable features that were formed due to erosion processes using soil loss indicators.
3) The third and most common method for spatial erosion assessment is through integrating spatial data on erosion factors. Widely-used is the Universal Soil Loss Equation (Wischmeier and Smith, 1978). This is the cost effective method in understanding the distribution of erosion problem.

The Topographic Wetness Index is used for the indicators of potential groundwater. TWI is commonly used to quantify topographic control on hydrological processes and reflects the potential groundwater caused by the effects of topography, thus higher TWI represented higher groundwater potential value. The index was a function of both slope and the upstream contributing area per unit width orthogonal to the flow direction also called specific catchment area. A higher TWI indicated a gentler slope and larger slope area. He presented as well the methodology they used to conduct their study. Among the parameters they used to look into water-induced soil erosion were soil erodibility, rainfall erosivity, spatial variables.

Below is the flowchart of methodology for soil erosion assessment and mapping based on the Geomatics approach:



Engr. Montalla also presented the flowchart of methodology for Topographic Wetness Index:



The materials used in the study are as follows:

Softwares:

- ArcGIS 10.4(ArcHydro, HEC-HMS Tools)
- QGIS
- SAGAGIS
- ILWIS

Data sources:

- BSWM- Data and Maps(Soils Map and AWS)
- PAGASA (Meteorological and Hydrological Data)
- NAMRIA(Land cover map, 2010)
- DENR (River Basin information)

He also discussed the soil erosion model and the factors of the erosion model including rainfall erosivity, soil erodibility, slope length and steepness and crop cover and conservation practice. For Engr. Montalla's **full presentation, please see annex K.**

C. On Soil Carbon Mapping

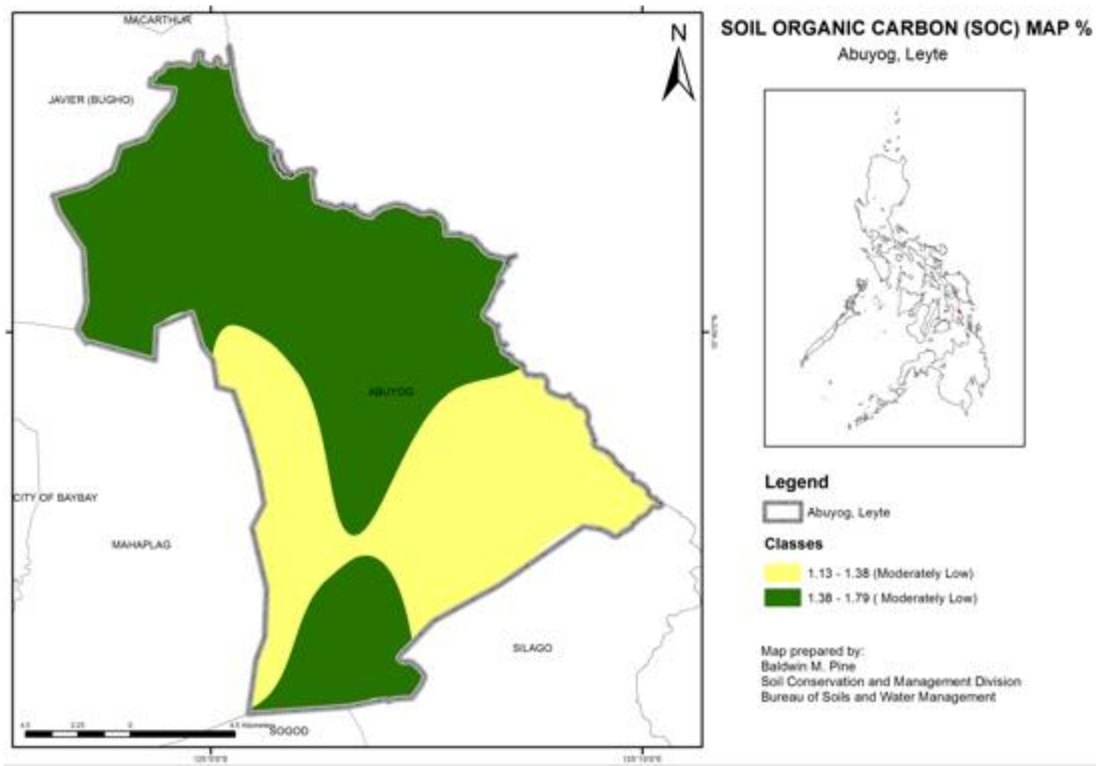
Mr. Baldwin Pine, from the Soil Conservation and Management Division of BSWM, explained that these efforts on soil carbon mapping counts as our country's commitment to FAO. As an overview, he informed everyone that FAO member countries are involved in various global activities in improving knowledge and information exchange about soils. Additionally, the quality of soil carbon information at global level is still limited, most of the existing national information has not yet been shared for global compilation. The aim is for the Philippines to also have Soil Organic Carbon national datasets.

Mr. Pine presented the methods as well that he used in order to come up with an SOC map. This included:

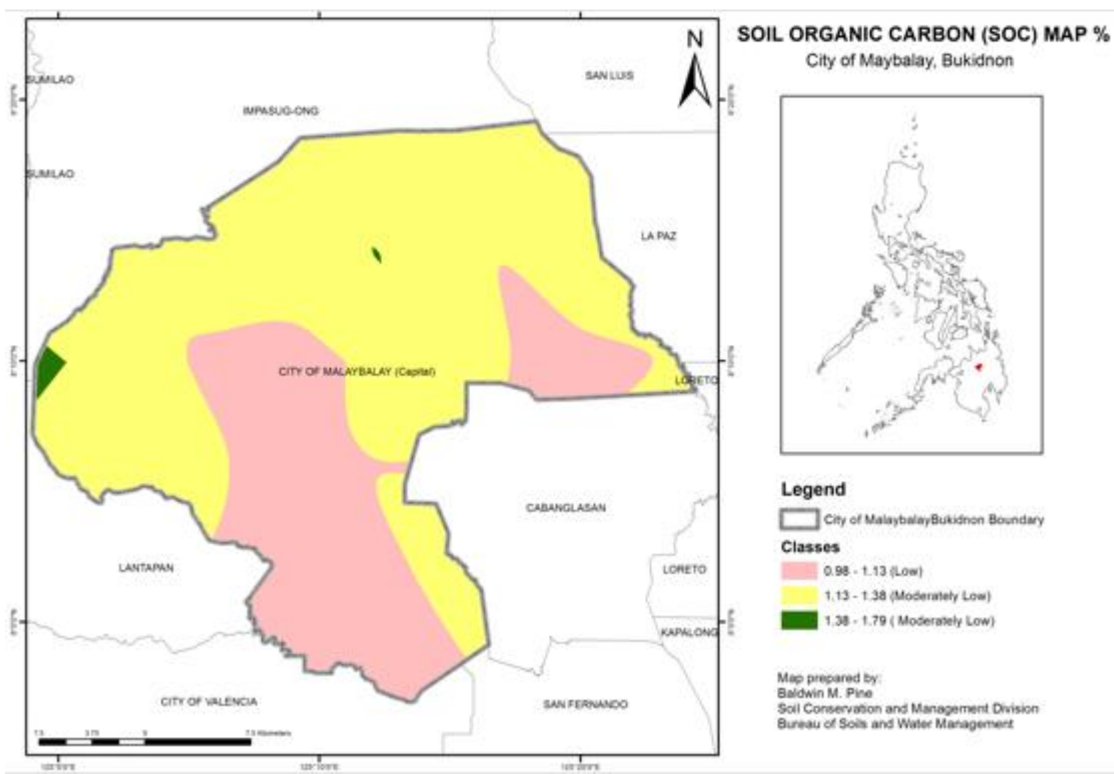
1) Preparing National Datasets (Creating and Organizing Data Tables)
2) Setting-Up Computational Environment (R Studio, R Language, R Packages, ArCMap, Spline tool)
3) Preparing Covariates (Obtaining and Processing Environmental Covariates)
4) Method Selection (Data Mining and Geo-statistics)
5) Results (Validation/ Ground Truthing)

Mr. Pine then came up with SOC map for the whole Philippines, which is still undergoing refinement. Generally, the Philippines has low organic carbon according to him.

He presented the SOC map of Abuyog, showing its moderately low organic carbon percentage:



For Malaybalay, the organic carbon was found to range from low to moderately low:



For Mr. Pine's **full presentation, please see Annex L.**

D. On Laboratory Analysis in Support to Land Degradation Mapping

Dr. Floresca began her presentation by citing the basic soil parameters for carbon mapping. These include organic carbon, bulk density, and soil texture. These have been analyzed using conventional methods in the BSWM. Now, the dry combustion method, an alternate standard method for organic carbon is available. The technology for this is provided by UNDP-GEF. This method is done through the use of a CHNS analyzer and a soil grinder that accompanies it. The equipment arrived last May, and was assembled the following month. The CHNS, according to studies gave results comparable to conventional manual methods. Among its advantages is that it allows simultaneous analysis of various elements such as carbon, nitrogen, hydrogen, and sulfur. She also expressed how important she finds it that the device is environment friendly.

Training for the CHNS Analyzer had already been conducted. The first one was done in July 7, 2017. In the training, demo of assembling and disassembling of parts was done, as well as system check, and dry-run of soil sample and CNS standard. With regards to the next steps, Dr. Floresca is looking forward to foreign training, visits from suppliers, conduct of method verification, procurement of additional materials, analysis and delivery of analytical results and for the technology to be included in ISO 17025 scope of accreditation.

For Dr. Floresca's **full presentation, please see annex M.**

E. On Small Scale Irrigation and Small Water Impounding Projects

Engr. Ernie Brampio one of the staff from the Water Resources Management Division, presented their work which was mainly involved with the design of Small Scale Irrigation Projects (SSIP). He firstly discussed the legal bases for the project implementation. Among others, it included the mandate for BSWM to provide assistance in relation to dams, lead the implementation of the SSIPs, and provide overall direction on planning and implementation of SSIPs. He also gave an overview with concerns to the implementation of SSIP. According to Engr. Brampio, the funds for SSIPs implementation are directly downloaded by DBM to the different DA-RFOs for their implementation. The implementation of SSIPs from year 2014 onwards have already been downloaded to the regional offices. The work being done as of present is mainly on technical assistance.

The climate map of the Philippines was presented, as this is where the implementation of SSIPs are based. It shows the four climate types in the Philippines. According to Engr. Brampio, the uneven rainfall distribution pattern in terms of place and time and the topography makes the water management very challenging. The excess rainfall to low lying areas make it vulnerable to flooding and drought to upland areas especially dry months. The implementation of SSIP is affected by type of climate. SWIP are usually implemented in Type I climate (two pronounced seasons; Dry from Nov-Apr and wet the rest of the year), and Type 3 climate (season not so pronounced; Relatively dry from Nov-Apr and wet the rest of the year), while Diversion Dams are very appropriate in Type II (no dry season with maximum rainfall from Nov-Jan) and IV climates (rainfall more or less distributed throughout the year).

SSIPs include Small Water Impounding Project (SWIP), Small Farm Reservoir (SFR), Small Diversion Dams (SDD), and Small Water Pumps (open source and ground water source). Dr. Brampio gave the most emphasis on the water impounding project as, according to him, it is the best type of intervention especially when it comes to flooding during rainy season and supplemental irrigation during the drier months. The SWIP is truly multifunctional. It proves to be an important intervention as well in soil water conservation, recharging of ground water, livestock production and fish ponds. Other interventions include Sprint Development (SD), Pump Irrigation Systems using renewable energy source for prime movers (solar pump, wind pump, and ram pump) and Pressurized Irrigation System (drip and sprinkler).

SWIPs have a coverage area of 15 hectares whose beneficiaries would include Registered Farmer's organizations or a group of 15 farmers who are willing to be organized. Small Farm Reservoirs on the other hand are used to collect rainfall and run-off for immediate and future agricultural use. Its covers an area with an at least 0.5 production area per unit. Qualified beneficiaries include individual farmers with an at least 0.5 ha production area. For group of farmers with a minimum of 2.5 ha production area and have a common site for SFR, they may be provided with SFR equivalent to 5 units. National and Regional Research Centers of DA and SUCs and research and demonstration farms of LGUs are also counted. Small Diversion Dams are designed to divert portion of stream flow to point use. It has a service area of at least 15 hectares. Qualified beneficiaries include Registered Farmer's organizations or a group of 15 farmers who are willing to be organized. Shallow Tubewells (STWs) consists of a tube or pipe vertically set into the ground at a depth of 6 to 20 meters. STWs are designed to lift water from shallow aquifer for irrigation using pump and engine set, and have at least 1.0 to 3.0 ha production areas within the shallow groundwater. Beneficiaries are responsible for the installation of their tube wells; and operation and maintenance of their system. Spring Development (SD), consists of concrete storage tank or intake structure, and PE pipes or concrete canals for distribution by gravity. Production area of at least 0.5 ha for HVC 1.0 ha for other crops per farmer.

Alternative Prime Movers for Pump Irrigation Systems consist of pump and prime movers using renewable energy sources, storage tanks and piped distribution systems. In these systems, the water sources are already developed (e.g. river, lakes, and wells) that require energy to lift water to point of use. These include Hydraulic ram pump, Solar pump, and Wind pump. Coverage area include those with developed/existing dependable water sources. At least 3 farmers with minimum 3.0 ha irrigable area and Research Centers of DA, LGUs and SUCs, are the qualified beneficiaries or proponents. Engr. Brampio informed everyone as well regarding the organizational arrangement involved in the project implementation. He discussed the roles and responsibilities of implementing agencies including the BSWM, DA-RFOs, LGUs, and the Farmers Association.

Finally, he discussed the remaining concerns and issues with the project, alongside the devised strategies to approach them.

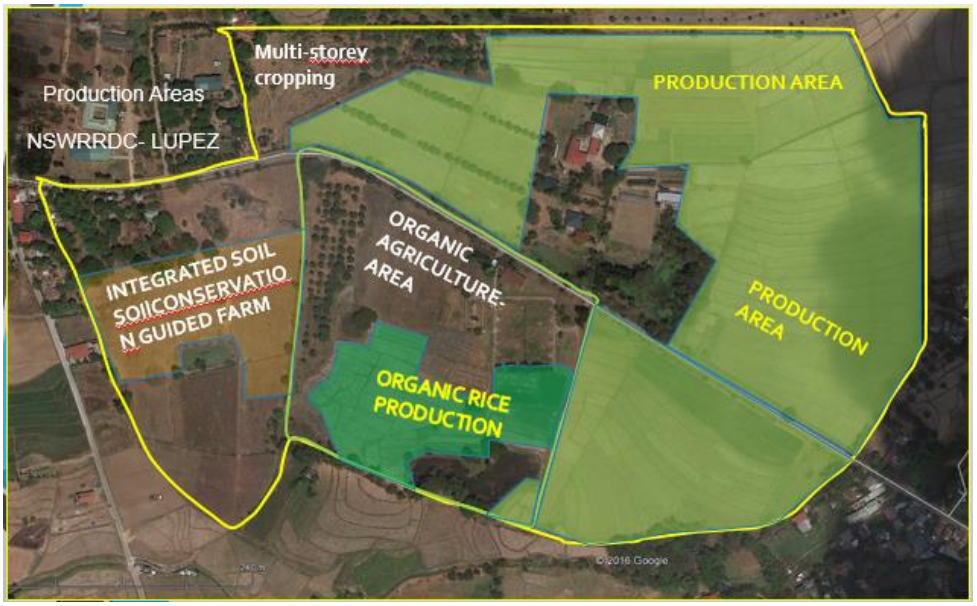
Issues	**Strategies**	**Remarks**
Right of Way Problems in SWIP	Include the cost of land acquisition in the project cost	Subject for approval by the DA-S
Secure of ECC/EIS	Assist the concerned stakeholders in the prep of docs for ECC/EIS	SWIPs are considered critical Projects
Water Right Permits	Talked to NWRB, regarding the Possibility of collaboration re: SSIPs	No final decision from NWRB
Insufficient technical staff to Implement SSIPs	Capacity building activity like technical trainings	Transfer of trained staff to other assignments
Overlapping of coverage area (NIA and DA)	Coordination meeting, geo tagging of covered area	Ongoing activity

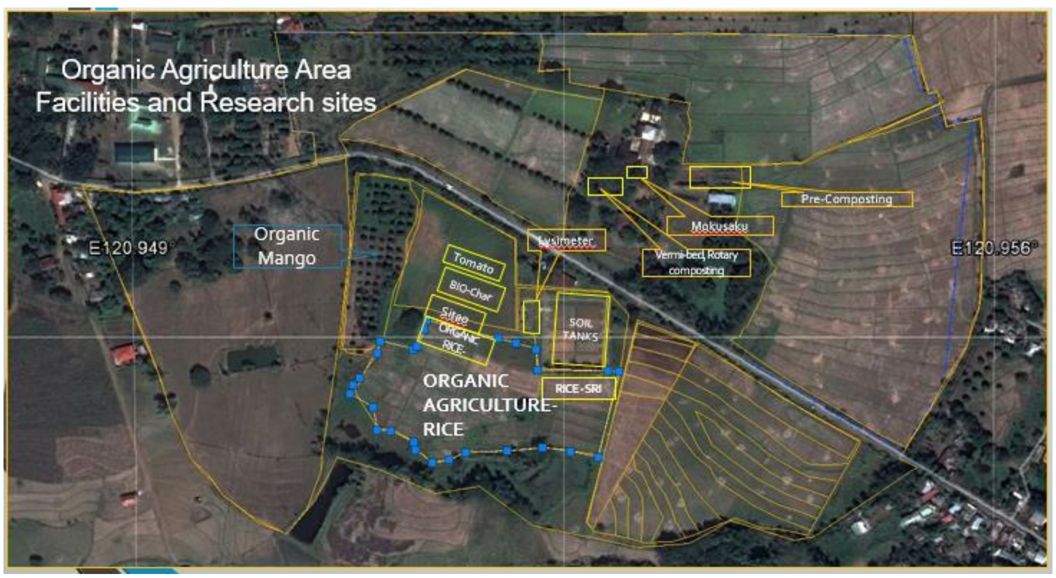
For Engr. Brampio's **complete presentation, please see Annex N.**

F. On Soil Fertility Management Technology – Oscar Carpio

In a succinct presentation, Engr. Oscar Carpio gave updates on the progress of the soil fertility management technology led by the National Soil and Water Resources Research and Development Center for Lowland Upland Pedo Ecological Zone. So far, in line with support operations, 30 hectares of Research and Development Center. According to Engr. Carpio, they had 13 personnel maintaining the 30 hectares. Operation of farm machinery and equipment (tractors, 3 power tillers, and reapers) have already been accomplished as well as the maintenance of developed water sources. They have delivered 100% of the IEC Materials that needed to be produced. Organic–based corn crop production, vegetable crop production (green house and open field) agricultural waste recycling technology (vermiculture vermicomposting), and integrated soil conservation guided farm have been techno-demonstrated and established. They have also exceeded the planned targets for the training related activities. 10 OJT students were accommodated by the Center, and they able to accomplish the hosting of the Bureau's tree planting activity involving 50 people. They provided venue for the hands-on workshop on the soil fertility and suitability training of BSWM with 50 participants. Lastly, they were able to conduct briefing of BASC 75 students on the components and principles of operation of agromet (AWS). Furthermore, they have maintained and techno-demonstrated EMRC for rice production, crop production of dragon fruit, and the Integrated Soil Conservation Guided Farm. Research and development efforts are still ongoing. New developments on production-related R&D include three accomplishments: Soil tank study, screening and selection of potential vermi-composting substrates, and verification trials on SRI. Continued production-related R&D efforts include long term monitoring on the changes of soil properties under OAP system, and three superimposed research. Techno-demonstrations on vermicomposting, vermi-culture technology and mokusaku wood vinegar making have also been accomplished.

Engr. Carpio shared an illustration identifying the production areas, Organic Agriculture areas, and research sites:





A complete illustration of production areas, research facilities, techno-demo farms, and water resources development sites are provided in Mr. Carpio's presentations. For **Mr. Carpio's presentation, please see annex O.**

G. On the Juan Magsasaka't Mangigisda National Database System

Director Clint Hassan of the ICTS began his presentation by helping everyone understand what really is the Farmers and Fisherfolks' Database System. He explained that the technology is a computer system whose purpose is to register and validate whether a Filipino citizen is a farmer or a fisherfolk. The information that will then be gathered will serve as the basis of the DA in deciding whom to give interventions for the agriculture and fisheries sectors. It is the project's aim to also give ID cards to our farmers and fisherfolks. The database system is an upgraded version of the Registry System for Basic Sectors in Agriculture (RSBSA).

Soon, all of the information that will be gathered in the Database will be uploaded online, in real time. Only authorized personnel will be given access to the system and its information.

He then updated everyone on the accomplished and pending preparatory activities of the project.

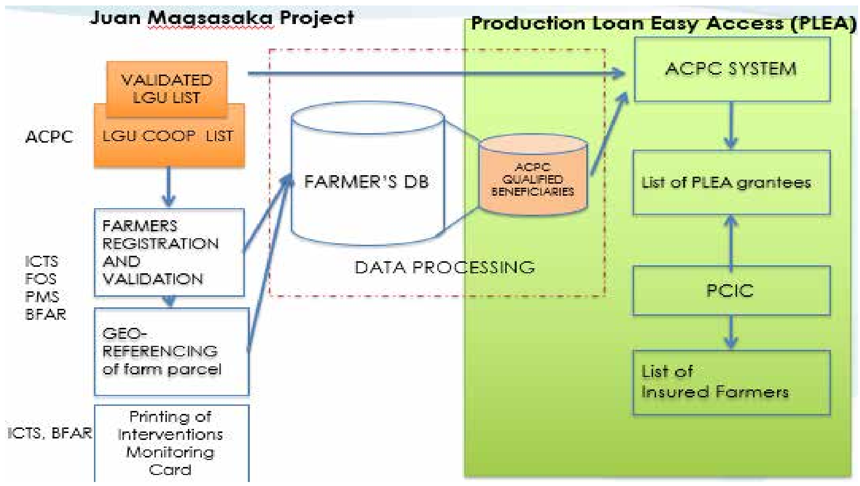
In Malimono, Surigao del Norte:

Activities	Date of Implementation
Dry Run – Mobile App	June 5
Field Validation	June 13-16
Printing of Interventions Monitoring Card	June 19-20
Granting of Loans	
Granting of Insurance	
Distribution of Interventions Monitoring Card	June 21
Launching of PLEA with Sec	June 23

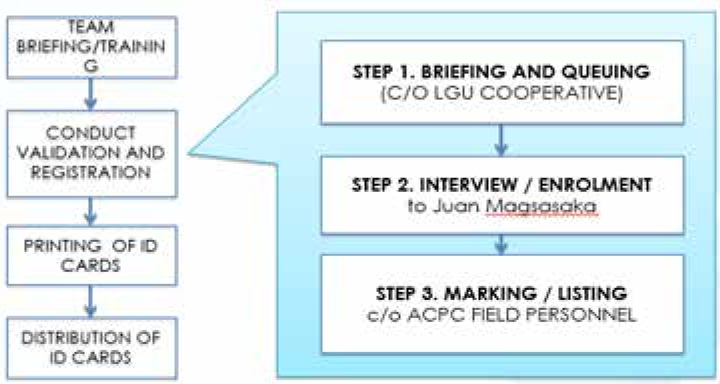
In Bongabon, Nueva Ecija:

Activities	Date of Implementation
Final Instruction to the Team Dry Run – Mobile App	**July 7 and 10, July 11**
Field Validation	**July 12-13**
Printing of Interventions Monitoring Card	**TBD (c/o ACPC)**
Granting of Loans	**TBD (c/o ACPC)**
Granting of Insurance	**TBD (c/o PCIC)**
Distribution of Interventions Monitoring Card	**TBD (c/o BFAR, ICTS, RFO, LGU)**

Dir. Hassan also presented the framework:



As well as the methodology or the Field Implementation Approach:



Dir. Hassan also said that the system is very user-friendly and they did not even need to conduct a training. For Step 1, briefing and queuing, it is the LGU cooperatives who provide queuing numbers to the farmers/fishermen. It was emphasized that only pre-qualified farmers/fisherfolks will be registered. In the second step, which is the interview, the mobile app will be utilized for the enrolment. Farmers/fisherfolks proceed to the interviewer and ID photo and e-signature will be taken. The slip that will be given after will serve as validation that the farmer/fisherfolk had gone through the interview. The slip will be handed over to the ACPC field personnel for Step 3, marking. Qualified beneficiaries are marked. Marking is also important so that the teams' performance can be monitored.

Dir. Hassan shared photo documentations of their registration event wherein almost 75% of the farmers and fisherfolks were already accommodated even before noon. Data collection was finalized around 12 noon. As a result, the team in Malimono, Surigao Del Norte was able to collect 247 farmers and fisherfolks information. Their IDs were released last June 23, 2017 during the launching of PLEA and Juan Magsasaka't Mangingisda National Database System. In Bongabon, Isabela, the team gathered 491 farmers information and their IDs are now being processed.

For the next steps, we are looking toward the implementation of Juan Magsasaka/Mangingisda and PLEA in the following areas:

- Carmen, Cebu
- Wao, Lanao del Sur
- Marawi City
- Banisilan, North Cotabato
- Midsayap, North Cotabato
- Mlang, North Cotabato
- Isabela
- Alamada, North Cotabato
- Pigkawayan, North Cotabato
- South Cotabato
- Bataan
- Tacloban, Leyte

PLEA, alongside PUNLA and Survival and Recover Program or SURE, is one of the many venues or applications wherein Juan Magsasaka't Mangigisda National Database System can be utilized. The Database System can be of used by any project being conducted in the Department of Agriculture. PLEA is a special credit delivery facility that aims to provide easy, fast, and affordable loans for our small-scale farmers and fisherfolks. Its purpose is to make credit access easy and convenient, bring down interest rates, expand credit delivery channels, ensure sustainability of credit, and it is focused on the marginal farmers/fisherfolks.

For Dr. Hassan's **complete presentation, please see annex P.**

4. Summary of Workshop Results: Agreements and Accomplishments

Like everyone hoped for, the plenary session was as productive as it was engaging for all participants. Implementation issues and recommendations were brought up as well as agreed ways to approach the issues.

Mr. Rey Gerona facilitates and listens to the plenary discussions

The first major concern is that the project targets for 2018 may not be achievable. An issue strongly in line with this, and the issue that both the Bukidnon and Leyte Team were very concerned about, was the absence of signed legal documents that would serve as a critical guide or blueprint for the project implementation. It was raised that the problems that accompany this concern include the lack of direction felt by LGUs as the proposed AWP was not followed, deviations from the project document, lack of clarity in the definition of roles and responsibilities, and challenges in achieving target activities. The absence of the legal document for the supposed creation of the LTWG was also raised. Another issue emanating from this major concern is that no materials and equipment for the daily operations, trainings, meetings, and workshops were provided. Co-cooperators were also not able to receive farm inputs from SLMP. It was recalled that during the Yearend Assessment CY 2016, fund for 2017 will be downloaded to LGUs. It was raised that the delays on the part of PMO in the central office had contributed to the shortcomings in achieving the expected outputs for 2016 to 2017. With concerns to the fast-tracking of processes, the PMO justified that some necessary procedures are truly beyond the scope of the office’s control. As much as procurement is concerned, it was also noted that budget exceeding Php 50,000.00 will have to be submitted to the Philippine Government Electronic Procurement System (PhilGEPS). It was also discussed that each activity in the AWP requires to be made into a proposal.

As the group arrived at a positive dialogue, it was agreed upon that the PMO will be distributing more Project Briefs to LTWGs and that the office would also ensure the provision of regular updates on the submitted requests by LTWGs. The PMO would also devise a “strategy/methodology” (i.e. sequences of project activities) document for the planning of the workplan which would undergo refinement until September this year. A vertical approach from input to outcome will be created. The Project Board will be approving the workplan on July 31, 2017 which will also be the venue for strategy making. Overall, the mode of communication and coordination was also advised to be improved. On the part of LTWGs, they are to submit activity proposals two months ahead of actual schedule. It was also agreed upon that there will be no downloading of funds.

Some degree of confusion was stirred regarding the miscommunication with the honorarium for travel fare. While it was agreed upon that while there will be specific allowances for transportation within the project sites, there actually will be no honorarium for travel and no cost of labor of farmer.

The summary of accomplishments for **Bukidnon** include:

1) Finalization the Farm Plan for the TDF

- Conduct of Topographic Mapping Survey January 16-22,2017
- Finalized, approved and submitted Farm Plan June 2017

2) Establishment of the TDF

- Land Preparation conducted by farm cooperator
- contour lines established by LGU, BSWM and co-operator January 2017

3) Validation of expansion site & cooperators:

- Classified active and inactive members
- Identified SUARC members and farms for site expansion
- Presented the Bisaya Version of D&R and criteria for Site selection
- Prepared resolution of Duties and Responsibilities of Land Owner and SUARC;
- Conducted initial site validation last July 7,2017

4) Identification of planting materials and quantity to be distributed

- Farm Plan prepared and finalized for the 4.5 TDF

5) Shortlisting of planting materials and fertilizers fro PMO’s procurement

- Submitted report/canvass forms to PMO on June

6) Distribution of planting materials

- Distributed and Planted mixed fruit & forest trees and Banana from PAO, CAO and City ENRO (total of 430 plants along contour lines and boundaries of TDF) conducted by LGU, BSWM and farmer co-operator on January 2017
- Planted Hybrid Yellow Corn Seeds (8 bags of @ 9kgs for 4.5 ha) on June 4, 2017

- Provided 20 sacks of fertilizer (14-14-14)

7) Conduct of penological monitoring of the crops at the site

- Observed and took pictures of insects and weeds at TDF on May 12, 2017

8) Conduct of meeting to collate training materials/ designs from PAO, CAO, City ENRO, ATI & CMU related to SLM Project

- Conducted Meeting to develop outline of the FFS on SLM on Jan. 13,2017
- Submitted training design for the conduct of formulation of FFS on January 2017

9) Preparation of activity proposal to be submitted at the SLM PMO for approval

- Prepare and submitted proposal for the conduct of team building on Feb 2017

10) Facilitating Legal Documents for the Partnership

- Conducted series of partners' meeting to enhanced the MoU
- Drafted Terms of Reference TOR) of LTWG on April 2017
- Reviewed by LGU Legal Officer on June 27,2017
- Conducted three (3) Meetings with the stakeholders
- Consulted City Legal Officer regarding the proper legal document for inclusion of other stakeholders

11) Office establishment

- Prepared shortlist materials & office equipments

12) Design a signage for the site and SLM office (3 signage)

- Temporary signage (tarp) established

The summary of accomplishments for **Leyte** include:

1) Topographic Mapping Survey conducted on Jan. 16-22, 2017

2) Site monitoring and initial identification of potential site conducted on July 5, 2017

The Workshop for the Adjustment of July-December 2017 Bi-Annual Workplan garnered the following major outputs:

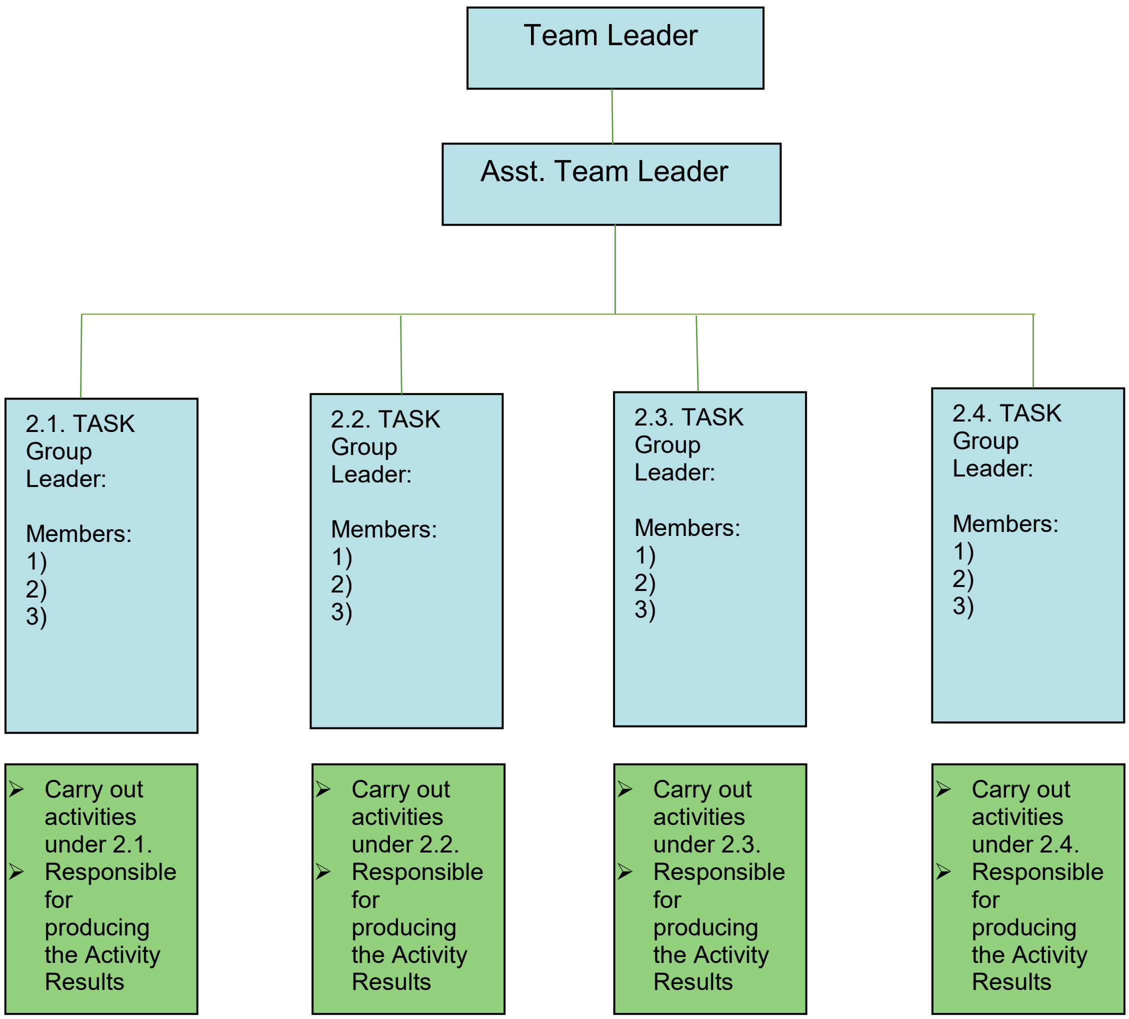
Bukidnon

1. Retained the activities stated in the original AWP
2. Crafted 8 additional sub-activities
3. Added item for LTWG activities (5 main activities)
4. Will be using funds amounting to Php250, 000.00 until December

Leyte

1. Retained the activities stated in the original AWP
2. Crafted 6 additional sub-activities
3. Added item for LTWG activities (5 main activities)
4. Adjusted to a Php1, 250, 000.00 budget

Mr. Gerona also presented a LTWG Implementation Management Structure, showing how horizontal cooperation can help in achieving outputs:



After presenting the major conclusions for the work plan adjustments the ***next steps*** *were identified:*

1) The PMO is to provide a documentation report
2) The PMO will be meeting on the 31st of July, 2017 and present a revised work plan
3) LTWGs will make activity proposals from the work plan and advance requests for funds
4) PMO will provide activity proposal templates
5) PMO and consultants will visit sites

5. Closing Remarks

Dr. Gina Nilo led the closing remarks and she instantly acknowledged everyone for their participation and efforts. To sincerely express her gratitude, she once again mentioned her appreciation for the local partners who travelled all the way to Tagaytay and participated in the event with honesty. Dr. Nilo recalled the importance of having an open communication with the local partners. She sincerely apologized for the shortcomings and told the local partners that they will try their best to improve. She thanked the partner agencies for their presence and active participation. She thanked the two partner agencies who are also members of the Project Board, DAR and HLURB. She acknowledged the consultants as well, the experts who have blessed the project with their wisdom, innovation, and bright minds. She encouraged everyone to continue delivering outstanding outputs, regardless of the amount of grants provided for the project. She recognized the resourcefulness of Mr. Rey Gerona and his skillfulness in organizing the flow of the event. She also thanked the documenter, Ms. Zarah Louise Dagandan, for her presence in the event. She also thanked the divisions of BSWM, and mentioned their important role in carrying forward and mainstreaming the output of the project. Dr. Nilo thanked the two steadfast Field Coordinators, Ms. Tracy Subaldo and Mr. Benjamin Gaon. She introduced Mr. Bayani Barcenas, who will be serving as the Project Manager in the central office. She acknowledged as well the dedication of Ms. Mariell Evasco, the Project Assistant. Lastly, she acknowledged Ms. Marietta Oamil who skillfully handles the financial concerns of the project.

List of Annexes

Annex A: List of participants

Annex B: Workshop schedule

Annex C: Dir. Angel Enriquez's Welcome Remarks

Annex D: Full presentation of the Bukidnon Project Team

Annex E: Full presentation of the Leyte Project Team

Annex F: Full presentation of Dr. Candido Cabrido

Annex G: Full presentation Dr. Alexander Flor

Annex H: Full presentation of Mr. Dennis Muzones

Annex I: Full presentation of Dr. Rogelio Conception

Annex J: Full presentation of Engr. Samuel Contreras

Annex K: Full presentation of Engr. Pablo Montalla

Annex L: Full presentation of Mr. Baldwin Pine

Annex M: Full presentation of Ms. Eda Lynn Floresca

Annex N: Full presentation of Engr. Ernesto Brampio

Annex O: Full presentation of Engr. Oscar Carpio

Annex P: Full presentation of Dir. Clint Hassan

Annex A:

List of Participants, Guests, and Facilitators Mid-Year Assessment and Planning Workshop

July 17-19, 2017 Hotel Kimberly, Tagaytay City

1. Participants

1.1. DA-ICTS

1) Cocoy Remorozo

2) Clint D. Hassan

1.2. UNDP

1) Grace Tena

1.3. DAR

1) Elizer Balleras

1.4. HLURB

1) Evelyn Gatchalian

1.5. LMP

1) Gilbert Repizo

1.6. ATI

1) Vicente Dayanghirang

1.7. BSWM-LAB

1) Gina P. Nilo (Focal Person)

2) Edna Lyn Floresca

1.8. BSWM-SCMD

1) Samuel Contreras

2) Baldwine Pine

3) Bony Dela Cruz

4) Mamerto Martinez

1.9. BSWM-SSD

1) Leo Retamar

2) Sarah Salgado

1.10. BSWM-ALMED

1) Feriola Serrano

1.11. BSWM-GSITD

1) Pablo Montalla

2) Irvin Samalca

1.12. BSWM-WRMD

1) Ernesto Brampio

1.13. BSWM-Bukidnon

1) Florentino Agustin

1.14. BSWM-Bulacan

1) Oscar Carpio

1.15. BSWM – Accounting

1) Narcisa Bramis

1.16. PAO- Bukidnon

1) Jacqueline Julia Lagamon

2) Deneb Joel Ganancial

1.17. PAO-Leyte

1) Nenita Sultan

2) Dina Pitao

1.18. SUARC

1) Lilia Cabusao

1.19. MAO – Abuyog

1) Antonieta C. Arandia

2) Romeo Encluna

1.20. MPDO – Abuyog

1) Rodulfo M. Cabias

1.21. TAFA – President

1) Leonides P. Valida

1.22. SLWM Specialist

1) Rogelio Conception

1.23. CLUP Specialist

1) Candido Cabrido Jr.

1.24. CAPDEV Specialist

1) Alexander Flor

1.25. Database GIS Specialist

1) Dennis Muzones

2. Guest

1) Bayani Barcenas

3. Workshop Management Team (PMO)

1) Mariell A. Evasco – Project Assistant

2) Tracy Subaldo – Field Coordinator (Malaybalay)

3) Benjamin Franco R. Gaon – Field Coordinator (Abuyog)

4) Marietta Oamil – Admin and Finance Assistant

5) Zarah Louise S. Dagandan – Documentator

4. Facilitator

1) Rey Gerona

Annex B: Workshop schedule

Mid-Year Assessment and Planning Workshop
IMPLEMENTATION OF SUSTAINABLE LAND MANAGEMENT PRACTICES TO ADDRESS LAND DEGRADATION AND MITIGATE EFFECTS OF DROUGHT
Tagaytay City
July 17-19, 2017

Date/Time	Activity/ Topic	Responsible Person
Day 0: 16 July (Sunday)		
	Arrival and billeting of participants	Workshop Management
Day 1: 17 July (Monday)		
7:00-8:00	Breakfast	Workshop Management
8:00-9:00	Registration	Workshop Management
	Opening Program	
9:00-9:05	• Invocation and National Anthem	Ms. Mariell Evasco
9:05-9:15	• Introduction of participants, guests & moderator	Ms. Mariell Evasco
9:15-9:20	• Welcome remarks	Dir. Angel Enriquez, National Project Director, UNDP GEF5 SLM Project
9:20-9:30	• Opening Message	Grace Tena, National Focal Person, UNDP - ISD Unit
9:30-9:35	Overview of the Workshop (rationale, objectives, expected outputs, methodologies, activities & schedules)	Engr. Rey Gerona, Workshop Organizer
9:35-9:45	Presentation of the 2017 Annual Work Plan (Targets & Important Assumptions)	Dr. Gina Nilo, National Focal Person
	ASSESSMENT: Reporting of Accomplishments, Implementation Issues & Recommendations	
9:45-10:15	• Bukidnon Project Team	Ms. Jacqueline Julia Lagamon, Focal Person, Bukidnon LWG
10:15-10:45	• Leyte Project Team	Ms. Nenita Sultan, Focal Person, Leyte LWG
	• Updates on the Consultants' Deliverables	
10:45-11:15	1) On CLUP	Dr. Candido Cabrido, CLUP Specialist
11:15-11:30	Open Forum	
11:30-12:00 4:58 p.m.	2) On SLM	Dr. Rogelio Concepcion, SLM Specialist
12:00-12:15	Open Forum	
12:15-1:45	Luncheon Management Meeting	Dir. Angel Enriquez, Chair

1:45-2:15	3) On Training	Dr. Alexander Flor, Training Specialist
2:15-2:30	Open Forum	
2:30-2:45	4) On GIS	Mr. Dennis Muzones, GIS Specialist
2:45-3:00	Open Forum	
	TECHNICAL INPUT 1: BSWM Initiatives on SLM Technologies and Land Degradation Assessment and Mapping	
3:00-3:15	1) Compilation of Documented SLM Good Practices	Engr. Samuel Contreras, Chief, SCMD
3:15-3:30	2) Soil Erosion and Moisture Index Mapping	Engr. Pablo Montalla, Chief, Geomatics
3:30-3:45	3) Soil Fertility Management	Engr. Oscar Carpio
3:45-4:00	4) Laboratory Analysis in Support to Land Degradation Mapping	Ms. Edna Lynn Floresca, Chemist IV, LSD
4:00-4:15	5) Small Scale Irrigation and Small Water Impounding Projects	Engr. Ernesto Brampio, Engineer IV, WRMD
4:15-4:30	6) Soil Carbon Mapping	Mr. Baldwin Pine, Agriculturist II, SCMD
	TECHNICAL INPUT 2: Towards Community-based Adoption of SLM and Linking with National Programs	
4:30-5:00	1) Production Loan Easy Access Program	ACPC Representative
Day 2: 18 July (Tuesday)		
6:00-7:00	Breakfast	Workshop Management
7:00-8:00	Registration	Workshop Management
8:00-8:05	Opening Prayer	Mr. Benjamin Gaon
8:05-8:15	Recapitulation	Rey Gerona
8:15-8:45	2) Juan Magsasaka't Mangingisda National Database System	Director Clint Hassan, DA-ICTS
	PLANNING	
8:45-9:30	Summary of the Assessment Results and Technical Inputs: Where Are We Now and Where Should We Be Heading To?	Rey Gerona
9:30-12:15	Plenary Discussion: Issues/Concerns and Recommendations, Clarifications and Agreed Actions	Rey Gerona
	Lunch break	
1:15-3:30	Workshop: July-December 2017 Bi-Annual Work Plan Adjustments	Participants
3:30-4:30	Presentation of Workshop Outputs	Workshop Group Leaders
	Closing Program	
4:30-4:45	• Summary of Workshop results	Rey Gerona

4:45-4:50	• Next Steps	
4:50-5:00	• Closing Remark	Dr. Gina Nilo
Day 3: 19 July 2017 (Wednesday)		
	Departure of Participants	

Notes:

(1) Except for the “Opening” and “Closing” sessions, topics and their corresponding time slots are subject to changes as flexibility may be required in the Workshop processes.
(2) Snacks may be served while participants are on the working process
(3) “Ice breakers” and administrative/logistical announcements may be given in between times

Annex C: Dir. Angel Enriquez's Welcome Remarks

IMPLEMENTATION OF SUSTAINABLE LAND MANAGEMENT (SLM) PRACTICES TO ADDRESS LAND DEGRADATION AND MITIGATE EFFECTS OF DROUGHT

MID-YEAR ASSESSMENT AND PLANNING WORKSHOP
July 17-18, 2017, Hotel Kimberly, Tagaytay City

WELCOME SPEECH
Director Angel Enriquez

- Ms. Grace Tena, Focal Person from UNDP
- Ms. Jacqueline Julia Lagamon, Focal Person from the Bukidnon Local Working Group
- Ms. Nenita Sultan, Focal Person from Leyte Local Working Group
- Members of the Project Board

It gives me immense pleasure to welcome you all here in Tagaytay for our three-day Mid-Year Assessment and Planning Workshop of the UNDP GEF5 SLM Project.

We would also like to extend our gratitude to the UNDP GEF for funding this project and recognizing its importance in addressing land degradation in the Philippines.

This mid-year assessment and planning workshop aims to assess the progress of the project towards the project objectives and project outcomes. This will also be a venue to address the issues and challenges that are identified and will be identified as this planning workshop goes on for the next two days. I hope that this activity enlightens everyone on the next steps of the project.

I am pleased that this project aims to come up with some innovations in support to BSWM initiatives. First, the integration of SLM to the CLUP. This integration is something we are wanting for a long time as this will ensure sustainable use of our limited land resources and mitigate/combat the effects of land degradation. Secondly, we are coming up with the Composite Land Degradation Index (CLDI) map that will enhance previous efforts of BSWM in terms of the assessment and mapping of land degradation. CLDI not only identifies areas with land degradation issues but also determine the extent and types of land degradation such that appropriate/site specific SLM practices are applied.

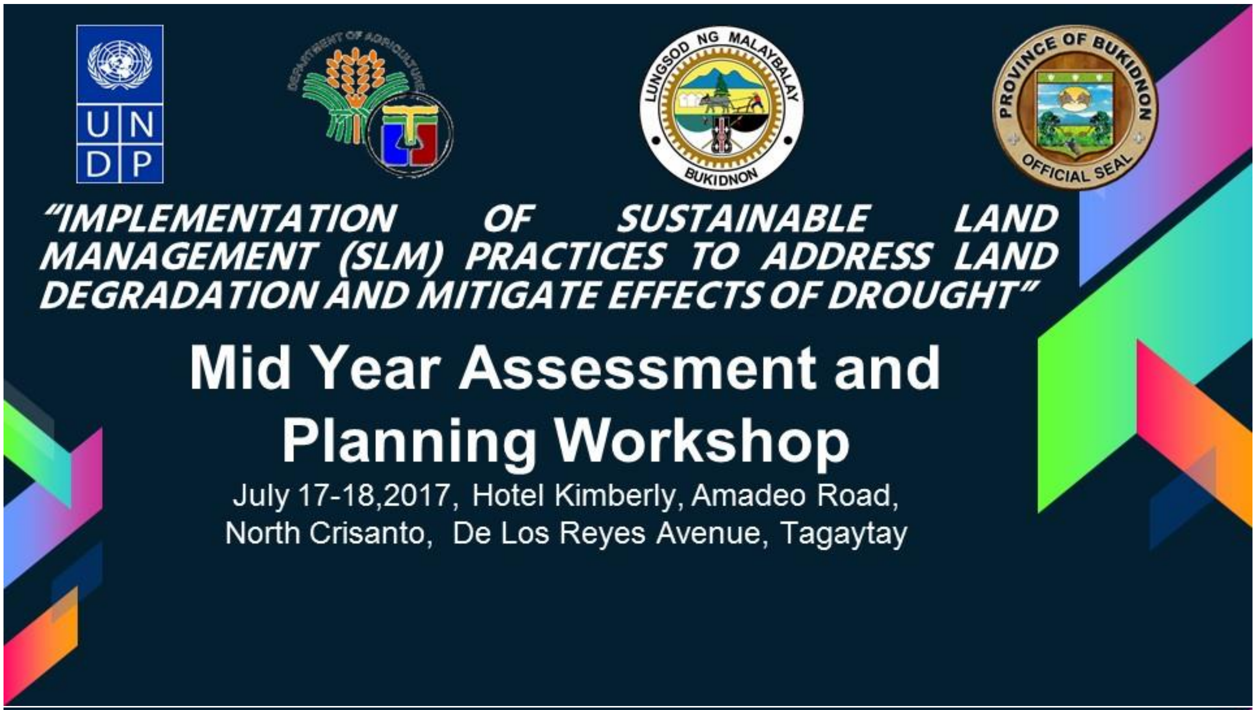
In contrast with the conventional techno demonstration on SLM, this project also ensures that community adoption by farmers and/or farmer cooperatives are engaged. We are now in the process of scaling up the SLM adoption to the SLM adaptation. This means from SLM version 1 to SLM version 2. This project also attempts to enhance adoption of SLM by way of facilitating group of farmers availment of loans and crop insurance and subsequently ensuring that farmer-cooperators' performance are recorded in the national database thru the Juan Magsasaka't Mangingisda National Database System. In this we seek DA-ICTS to support us in this endeavor.

Training and capacity building from the grassroots level i.e. farmers, Agricultural Technicians, and Local Government Units will be tapped as trainers in the Farmers Field School. In this we seek partnership with the DA-ATI, bringing capacity building will also happen at the regional and national level, BSWM, DA-RFOs, DENR, DAR and HLURB in terms of pilot testing of guidelines to integrate SLM into local land use plans and local development plans.

We would also like to recognize the commitment of our local partners from Malaybalay City, Bukidnon and Leyte in the implementation of the project. May we continue to have a harmonious partnership in this endeavor.

Hoping that everyone enjoys their stay and once again welcome to the Mid-Year Assessment and Planning Workshop of the SLM Project.

Annex D: Full presentation of the Bukidnon Project Team



Output/Major Activity/Sub activities		Timeline		Related Result by completing the Activity	Actual Accomplishments	Resources Required
		Start	Finish		2017	
2.1	**Plant/ soil cover in the agricultural land area covering 2,866 ha and forest cover in Barangay Silae**				**Finalization the Farm Plan For The TDF** ○ Conduct Topographic Mapping Survey January 16-22,2017 ○ Finalized, approved and submitted Farm Plan June 2017 **Establishment of the TDF** ○ Land Preparation conducted by farm cooperator ○ Establishment of contour lines by LGU, BSWM and co-operator January 2017	
2.1.1	*Distribute planting materials to SUARC members and to locals of Bgry. Silae*			Distribution report		600,000.00
-	Validate the eligible expansion sites and co-operator	Jan 2017	Jan 2017	Resolution of the adoption of the duties and responsibilities; Identified farm and farmers for other additional sites	○ Classified active and inactive members ○ Identified SUARC members and farms for site expansion ○ Presented the Bisaya Version of D&R and criteria for Site selection ○ Prepared resolution of Duties and Responsibilities of Land Owner and SUARC; ○ Conducted initial site validation last July 7,2017	12,000.00

Output/Major Activity/Sub activities		Timeline		Related Result by completing the Activity	Actual Accomplishments	Resources Required
		Start	Finish		2017	
-	Identify the planting materials and quantity to be distributed	3rd wk Jan 2017	3rd wk Jan 2		○ Farm Plan prepared and finalized for the 4.5 TDF	
-	Submit the shortlist/report to PMO for procurement of planting materials and fertilizers	3rd wk Jan 2017	3rd wk Jan 2017		○ Submitted report/canvass forms to PMO on June	
-	Distribute planting materials	2nd wk of Mar 2017	2nd wk of Mar 2017		○ Distributed and Planted mixed fruit & forest trees and Banana from PAO,CAO and City ENRO (total of 430 plants along contour lines and boundaries of TDF) conducted by LGU, BSWM and farmer co-operator on January 2017 ○ Planted Hybrid Yellow Corn Seeds (8 bags of @ 9kgs for 4.5 ha) on June 4, 2017 ○ Provided 20 sacks of fertilizer (14-14-14)	

Output/Major Activity/Sub activities		Timeline		Related Result by completing the Activity	Actual Accomplishments	Resources Required
		Start	Finish		2017	
2.3	**Composite Land Degradation Index (LDI) monitoring system for monitoring LD is developed and in place for City of Malaybalay and Abuyog Municipality**				-	
2.3.1	Conduct penological monitoring of the crops at the site	Mar 2017	Dec 2017	LDI Monitoring report	○ Observed and took pictures of insects and weeds at TDF on May 12, 2017	
-	Formulate a monitoring system on LDI				-	
-	Approved and adopted monitoring system on LDI				-	
2.4	**Increased in % of SLM guidance delivered by extension services**				-	
2.4.1	*Conduct Team Review of the Workshop on draft training modules*			Minutes of the meetings conducted	-	
-	Conduct meeting to collate training materials/ designs from PAO, CAO, City ENRO, ATI & CMU related to SLM Project			Minutes of the meetings conducted	○ Conducted Meeting to develop outline of the FFS on SLM on Jan. 13,2017 ○ Submitted training design for the conduct of formulation of FFS on January 2017	10,000.00

Output/Major Activity/Sub activities		Timeline		Related Result by completing the Activity	Actual Accomplishments	Resources Required
		Start	Finish		2017	
-	Conduct series of meetings to formulate workshop designs and fanalization of the shortlist of trainings for FFS on SLM	2^{nd} wk of Jan	2^{nd} wk of Jan	Minutes of the meetings conducted	-	30,000.00
-	Conduct workshop to develop the FFS on SLM Module	4^{th} wk of Feb	4^{th} wk of Feb	Draft SLM Module	-	350,000.00
2.4.2	*Conduct Team Building amongst SUARC Members*	3^{rd} wk of Feb	3^{rd} wk of Feb	Training reports	-	250,000.00
-	Prepare activity proposal to be submitted at the SLM PMO for approval	2^{nd} wk of Jan	3^{rd} wk of Feb	Signed activity proposal	○ Prepare and submitted proposal for the conduct of team building on Feb 2017	
-	Ocular visit on the potential service providers during the workshop	4^{th} wk of Jan	4^{th} wk of Jan		-	
2.4.3	*Farmer Field School on SLM*			Packaged FFS on SLM		
-	Coordinate SLM Training Specialist re the initial planned activity	4^{th} wk of Jan 2017	2^{nd} wk of Feb 2017	Finalized module	-	
-	Conduct Writeshop/workshop	2^{nd} wk of Feb 2017	3^{rd} wk of Feb 2017		-	500,000.00
-	Submit the draft module to PMO and Consultant				-	

Output/Major Activity/Sub activities		Timeline		Related Result by completing the Activity	Actual Accomplishments	Resources Required
		Start	Finish		2017	
2.4.4	*Conduct FFS on SLM*	4th wk of Mar 2017	December 2017	Training reports		944,000.00
-	Draft activity proposal for the trainings	3rd wk of Feb 2017	3rd wk of Feb 2017		-	
-	Submit activity proposal to PMO and CAO for approval	4th wk of Feb 2017	4th wk of Feb 2017		-	
2.4.5	*Legal Documents for the Partnership*					
-	Conduct a meeting	2nd wk of Jan 2017	2nd wk of Jan 2017		○ Conducted series of partners' meeting to enhanced the MoU ○ Drafted Terms of Reference (TOR) of LTWG on April 2017	
-	Facilitate signing of the MoU	3rd wk of Jan 2017	3rd wk of Jan 2017		○ Reviewed by LGU Legal Officer on June 27,2017	
2.4.3	*Procurement of the materials & office equipments to be utilized during the training and other administrative support*	2nd wk of Mar 2017	2nd wk of Mar 2017			
-	Shortlist of materials and equipments needed	1st wk of Mar 2017	1st wk of Mar 2017		○ Prepared shortlist *materials & office equipments*	

Output/Major Activity/Sub activities		Timeline		Related Result by completing the Activity	Actual Accomplishments	Resources Required
		Start	Finish		2017	
-	Submit proposal to SLM PMO and NFP for approval	2nd wk of Mar 2017	2nd wk of Mar 2017		○ Submitted shortlist *materials & office equipments on January 2017*	
2.5	**Farming households adopt sustainable agricultural practices and integrated SFM/ SLM**				○ At least 300 households adopt sustainable agriculture practices and integrated SFM/ SLM Practices	
2.5.1	*Joint Memorandum of Agreement (MOA)*			Signed MOA		
-	Draft MOA between the stakeholders	2nd wk of Jan 2017	2nd wk of Jan 2017		○ Conducted three (3) Meetings with the stakeholders ○ Consulted City Legal Officer regarding the proper legal document for inclusion of other stakeholders	
-	Facilitate signature of the MOA	3rd wk of Jan 2017	1st wk of Mar 2017		-	
2.5.2	*Unveiling of the SLM Project Techno Demonstration Site at Bgry. Silae*	3rd wk of Mar 2017	3rd wk of Mar 2017	Launched Demo site	-	50,000.00
-	Draft activity proposal for unveiling activity	1st wk Feb 2017	1st wk Feb 2017		-	

Output/Major Activity/Sub activities		Timeline		Related Result by completing the Activity	Actual Accomplishments	Resources Required
		Start	Finish		2017	
-	Write letters for the invites during the activity (Gov., Mayor, CAO, PAO, DENR, DA 10, ATI and SUARC)	2nd wk of Feb 2017	2nd wk of Feb 2017		-	
-	Distribution of the Farm Inputs and Planting materials	3rd wk Mar 2017	3rd wk Mar 2017		-	250,000.00
-	Design a signage for the site and SLM office (3 signage)	1st of Feb 2017	1st of Feb 2017		○ Temporary signage (tarp) established	
-	Procurement of the materials for the signage	1st of Feb 2017	1st of Feb 2017		-	30,000.00
2.5.3	*Conduct Orientation of the SLM to nearby Barangays*	June 2017	November	Orientation activity reports		150,000.00
	Design a program for the SLM Orientation (Barangay level)				-	
-	Coordinate Mayor and Barangay officials to call for an assembly	June 2017	November		-	
-	Determine a farm for the actual planting demonstration	June 2017	November		-	
-	Distribute planting materials	June 2017	November	IEC on SLM developed and produced	-	

Output/Major Activity/Sub activities		Timeline		Related Result by completing the Activity	Actual Accomplishments	Resources Required
		Start	Finish		2017	
2.5.4	*Develop IEC materials on SLM for distribution (brochures, flyers and articles)*					150,000.00
-	Lay out designs for the IEC Materials	1st wk of April	1st wk of April		-	
-	Submit to PLGU, MLGU and PMO for approval and procurement	2nd wk of April 2017	2nd wk of April 2017		-	
-	Reproduce IEC Materials	2nd May 2017	2nd May 2017		-	
-	Make a generic presentation about soil erosion and SLM technologies to nearby Barangays and Municipalities	2nd wk of April 2017	2nd wk of April 2017		-	
2.5.5	*Conduct Monitoring on the changes related to Soil Erosion*	April 2017	December 2017	Monitoring on Soil Erosion reports	-	42,000.00
2.5.6	*Conduct Learning Expedition & knowledge sharing activity between the demo site groups and between Bukidnon pilot sites and other non pilot sites*	June 2017	August 2017	Learning expedition reports	-	
-	Learning Expedition of the Bukidnon Project Team and selected members of SUARC to Abuyog Leyte	July 2017	July 2017		-	416,000.00

Output/Major Activity/Sub activities		Timeline		Related Result by completing the Activity	Actual Accomplishments	Resources Required
		Start	Finish		2017	
	• Draft and submit proposal to PMO and CAO for approval	June 2017	June 2017		-	
	• Coordinate Leyte Project Team for the activity	June 2017	June 2017		-	
2.5.8	*Learning Expedition of the farmers to successful learning sites in Bukidnon Province*	August 2017	August 2017		-	112,500.00
-	Identify a learning sites in Bukidnon to be visited	July 2017	July 2017		-	
-	Draft and submit proposal to PMO and CAO for approval	July 2017	July 2017		-	

PHOTO DOCUMENTATION OF THE ACTIVITIES CONDUCTED

1st LTWG Meeting on January 13, 2017 at KOICA Training Center, Malalaybalay
Agenda: Outline of FFS on SLM Module
Attendee: PAO, CAO, City ENRO, CMU, ATI-10, REFU 10-NOMIARC & BSWM

Topographic Mapping and Enhancement of the Farm Plan January 16-20, 2017
(BSWM, PLGU, CLGU and farmer cooperator)

Annex E: Full presentation of the Leyte Project Team

"IMPLEMENTATION OF SUSTAINABLE LAND MANAGEMENT (SLM) PRACTICES TO ADDRESS LAND DEGRADATION AND MITIGATE EFFECTS OF DROUGHT PROJECT"

Mid Year Assessment and Planning Workshop

July 17-18,2017, Tagaytay City

ACCOMPLISHMENTS

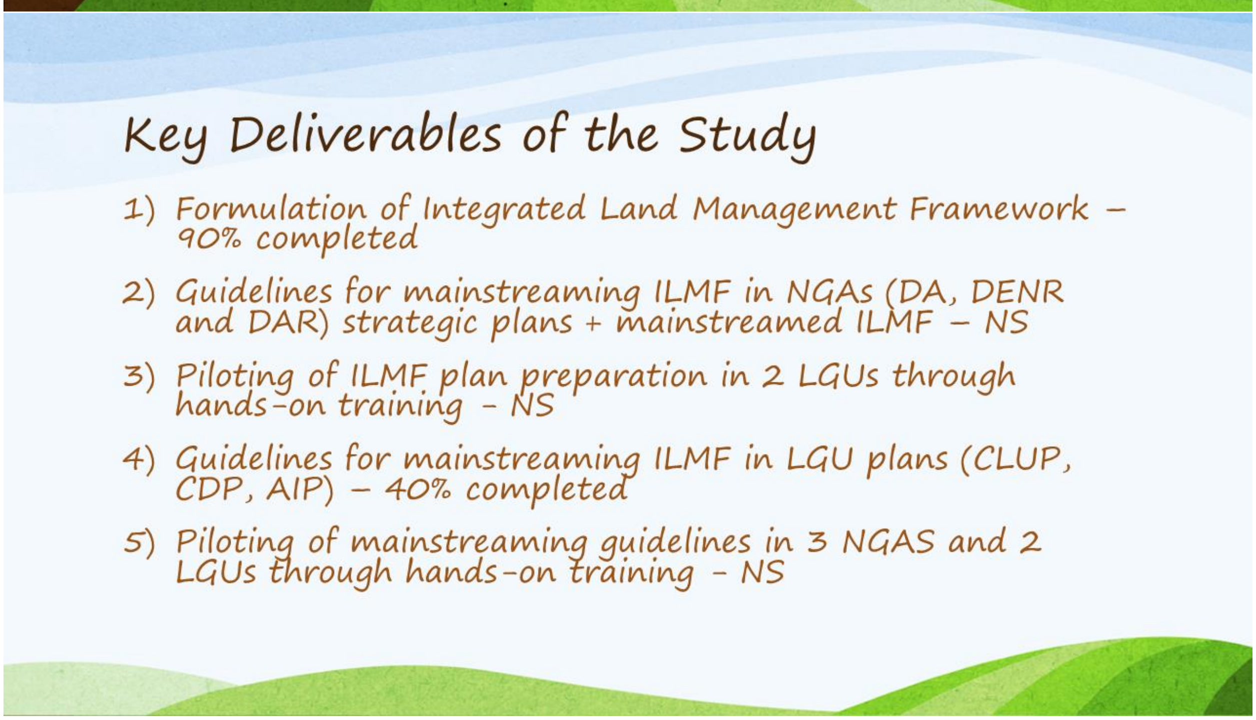
- Identified Techno-Demo Farm (TDF) in Abuyog project site

- Conduct of SLM/ Soil Conservation Training in Tacloban

IMPLEMENTATION ISSUES AND CONCERNS	REMARKS
• Lack of Partnership Agreements (MoU,MoA) which spells out the roles and responsibilities of parties involved	- This should've been done before project implementation - There should also be an agreement (MoA,Mou) at the national level
• No downloading of funds to the LGU	- The LGU can perform other on-site project activities
• Non adherence to submitted AWP	-Proposed Leyte AWP for 2017 was not followed - Items such as honorarium for travel were removed
• Basis for the establishment of Local Technical Working Group (LTWG) not defined	- No source of funds to support continuous LTWG meetings
• Implementation strategy and methodology not clearly defined	-
• Distribution of planting materials long overdue	-
• Cost of labor (farmer)	

ISSUES and CONCERNS	RECOMMENDATIONS
Project targets cannot be achieved by 2018 as targeted	❑ Request for Project extension (3 years); ❑ Follow and implement the approved AWP as proposed; ❑ Fast track the approval of the proposals, documents and request etc. ; ❑ Push through the downloading for fast implementation of the project in LGU
a) Absence of signed legal document (MoU) that would serve as guide for implementation	
b) Expected accomplishments vs. the planned activities (2016-2017) were not fully achieved due to delayed actions of PMO from central office	
c) No clear direction (proposed AWP- Malaybalay were not followed)	
d) Absence of legal document for the creation of LTWG	
e) As agreed during the Year Assessment CY 2016, funds for 2017 will be downloaded to LGU	
f) No farm inputs received by co-operator from SLMP	
g) No materials and equipment for the daily operations, meetings, trainings & workshop at the local level	

Annex F: Full presentation of Dr. Candido Cabrido



Contents of ILMF Draft Final Report – completed chapters

1.0 Context and Rationale of ILMF

2.0 Gaps and Barriers in SLM

3.0 Benefits of ILMF Mainstreaming

4.0 Objectives of ILMF

5.0 Definitions and Components

6.0 Approach and Methods

7.0 Integrated Land Management Policy Framework

Contents of Draft Final Report

7.1 Integrated Land Management Policy Framework (ILMPF)

7.2 ILMPF Analytical Process

7.2 Major Causes and Impacts of Different Land Degradation Types

7.3 Analysis of Gaps and Constraints, Policies, Programs and Projects Addressing Land Degradation Types

7.4 Typical SLM Practices and Technologies

Contents of Draft Final Report

8.0 Planning Process for ILMF at the Municipal Level

9.0 Monitoring and Evaluation of Land Degradation

Annexes

A. Land Resources Accounting: Agriculture and Forestry (?)

B. Climate change vulnerability and disaster risk assessment tool for agriculture sector

C. Detailed Mainstreaming Guidelines

Rationale and Objectives of Study

- Lack of systematic means of integrating SLM in the policies, plans and programs of key agencies (DA, DENR and DAR) and LGUs (provincial, city and municipal)
- Need to develop an Integrated Land Management Framework (ILMF) to provide a template and guide for planning and implementing SLM
- ILMF plan serves as instrument for mainstreaming SLM in the strategic plans of NGAs and local development plans (CLUP, CDP, AIP) of LGUs

Scope of Study

1) Formulation of Integrated Land Management Policy Framework (ILMPF) as a template for SLM planning by LGUs.

2) Preparation of Planning Guide Matrix for Analyzing Major Causes and Impacts of Different Land Degradation Types

3) Preparation of Planning Guide Matrix for Analyzing Gaps and Constraints and Identifying Policies, Programs and Projects in Addressing Land Degradation Types, their Impacts and Major Causes

4) Preparation of Planning Guide Matrix for Analyzing Gaps and Constraints in SLM Implementation at the Local Level

Scope of Study

5) Preparation of Planning Guide Matrix on SLM Technologies

6) Adoption of the ILMPF in DA, DENR and DAR planning involving SLM (Identify plans of DA, DAR and DENR where to mainstream ILMF)

7) Preparation of the ILMF Planning Process for Adoption by LGUs

8) Mainstreaming of ILMF plan in the local development plans of LGUs (CLUP, CDP and AIP)

9) Preparation of Training Materials and Conduct of Training on ILMF planning for pilot LGUs and representatives from DA, BSWM, DENR, FMB, and DAR

Focus of Study: Land degradation types

1) Soil erosion
2) Nutrient depletion
3) Loss of prime agricultural lands through conversion
4) Loss of forest lands through conversion
5) Soil crusting and compaction
6) Soil pollution, salinization, acidification

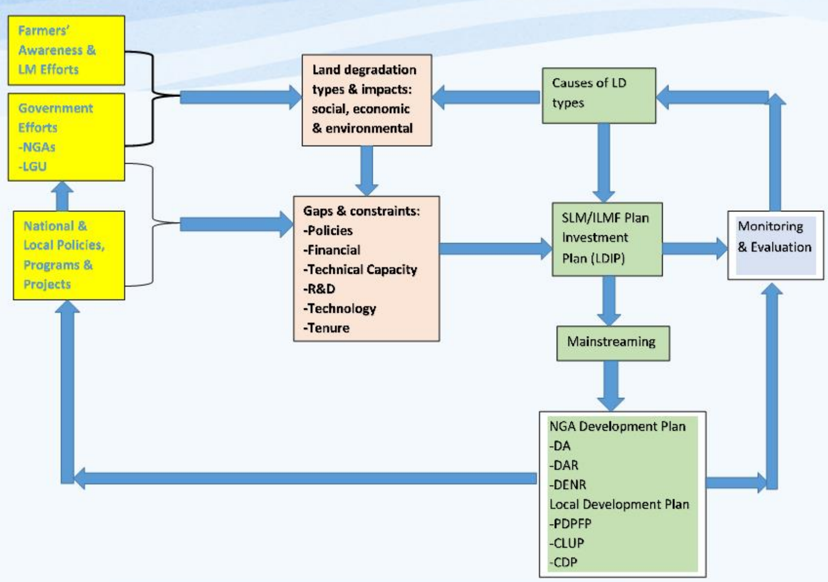


Figure 1. Integrated Land Management Policy Framework

1) Setting the objectives, scope and limitations of land resources management study

2) Assessing the status of land resources' use - land degradation, causes and effects

3) Defining land resources management issues and challenges

4) Preparing land resources development and management plan

5) Mainstreaming land resources management plan in CLUP

6) Monitoring and evaluation of Performance of ILM Programs and Projects

Figure 2. Integrated Land Management Framework Planning Process

Next Steps

- Identify and gather strategic plans of DA, DAR and DENR for ILMF mainstreaming
- Guidelines for mainstreaming ILMF/SLM in DA, DAR and DENR strategic plans
- Data inputs from BSWM: SLM practices and technologies (brief description with pictures)– management of soil fertility, soil pollution, salinization and acidification.
- Prepare detailed guidelines and procedures for mainstreaming ILMF in CLUP, CDP and AIP
- Preparation of ILMF plan by Abuyog and Malaybalay through hands-on training and workshops, coaching and mentoring by CLUP consultant.
- Pilot testing of guidelines and procedures for mainstreaming ILMF in the CLUPs of Abuyog and Malaybalay

Annex G: Full presentation Dr. Alexander Flor

CAPACITY DEVELOPMENT AND TRAINING

GEF-UNDP Sustainable Land Management Practices to Address Land Degradation and Mitigate Effects of Drought

RATIONALE

- alarming rate and scale of extreme weather patterns that necessitate: a second look at existing sustainable land management (SLM) practices
- introduction of innovative features that would accommodate farmer participation in land degradation monitoring
- the need for
  - reassessment of capacity development needs
  - review of current SLM modules
  - identification of competency gaps in delivering SLM technologies to farmers

OBJECTIVES

- to review current modules in SLM technology and assess these given new capacity development needs;
- to determine competency gaps in the delivery of the modules based on new capacity development needs and the frameworks developed by project consultants;
- to develop a competency development program based on new frameworks;
- to develop a manual for the training of SLM technology based on the project's framework; and
- to conduct training employing the competency development program and manual.

DELIVERABLES	EXPECTED DATE OF SUBMISSION
• Inception Report	17 March 2017
• Report on the Identification & Assessment of Competency Gaps on SLM Technology Application & Mainstreaming for Targeted LGUs	28 April 2017
• Competency Development Program Guide	31 August 2017
• SLM Training Manual	6 November 2017
• Report on the Conduct of Training-Of-Trainors (TOT) for LGUs, ATI, DA-BSWM And DENR	31 January 2018
• Report on the Conduct of Training on Potential Trainors from DILG and HLURB on Various SLM Management and Physical Technologies for	29 June 2018

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FRAMEWORK 1. SLM2

- Adaptive Land Management or ALM
  - An approach to managing agricultural land resources that enhances the farmer's ability to maintain land productivity by adapting to economic, environmental & social circumstances
  - Sustainability is measured by the farm family's ability to adapt
  - Is transformative since it defines the dynamic relationship of the farm family to their land
  - While SLM highlights land management technologies, ALM emphasizes land management processes and its temporal and spatial dimensions.
- SLM2 is the integration of SLM and ALM. It is consistent with global SLM criteria while adopting other elements brought about by climate change, indigenous knowledge and farm family considerations.

	CONVENTIONAL SLM	ALM
Goal	Check land degradation Rehabilitate degraded land	Maintaining long-term land productivity for the farm family
Basis	Science of land, water and air	Functional relationship between land degradation, crop yield and income
Interventions	Research-based technologies	Technologies contextualized within farm family circumstances; adaptation strategies
Dissemination	Government extension agencies	Localized sharing of traditional knowledge
Economics	Farm	Off-farm and Non-farm
Parameters	Natural and human induced degradation	Environmental, economic, social factors that determine degradation
Dimensions	Physical	Temporal, Spatial
Success Factor	Increased/ sustained soil fertility	Ability of the farm family to adapt
LD	Linear process	Both seasonal and historical
MonitoringData	Physico-chemical properties	Geospatial, physical and bioindicators
Index Used	Land Degradation Index (LDI)	Adaptive Land Degradation Index
Monitoring	Technicians	Community Monitors

FRAMEWORK 2. Science of Delivery (SOD)

- Demand-driven technologies and services are not enough to bring about a desired result. There must also be *effective delivery* to be useful at the local levels where development results are produced
- SOD should support frontline implementation by collecting local experience and feeding that knowledge back into practice
- SOD should teach delivery skills based on the experience of the most successful practitioners
- SOD should develop theoretical and analytical frameworks that can help explain and adapt successful approaches to solving delivery problems.

SOD FEATURE	CAPDEV RESPONSE	FOUND IN
Capture/Share Local Knowledge	Competencies on indigenous, traditional and local knowledge are included in the training curricula	Competency Gaps Identification
Training on Delivery	Project trainees will include farmers and community leaders as well as technicians from stakeholder agencies such as the LGU, BSWM, ATI, FMB, HLURB	TOT Training Manual
Applied Research	Lessons learned and best practice will be incorporated in the training curricula. The training program will be documented and evaluated in the training reports.	TOT Training Manual Training Reports
Frameworks	Frameworks were included in this section as the basis for the identification of competencies	Competency Gaps Identification

FRAMEWORK 3. UNDP CAPDEV

- Engage stakeholders
- Assess capacity needs and assets
- Formulate a capacity development response
- Implement the response
- Evaluate the response

CAPDEV APPROACH	COMPONENT	DELIVERABLES
Engage stakeholders	Meet stakeholders. Review existing SLM modules	Submission/acceptance of identification and assessment of competency gaps on SLM technology application and mainstreaming for targeted LGUs
Assess capacity needs and assets	Identification of competencies in the delivery of SLM technology to farmers	
Formulate a capacity development response	Competency development program guide	Submission/acceptance of competency development program guide
	SLM training manual	Submission/acceptance of the SLM training manual
Implement the response	Training of Trainors	Submission/acceptance of TOT accomplishment & evaluation reports: 1. For LGUs, ATI, DA-BSWM, DENR 2. For DILG and HLURB
Evaluate the response		

COMPETENCIES

- LDI.
  - SLM Measure used in SLM is the Land Degradation Index or LDI.
- ALDI
  - ALM measure is the Adaptive Land Degradation Index or ALDI.
  - Procedure for arriving at the ALDI is location and season specific.
- CLDI
  - Composite Land Dégradation Index
  - CLDI is the integration of the French Global Model for Streamlined Land Degradation and Sustainable Land Management (including its component for LD assessment and mapping) and ALD
  - integration of LDI and ALDI through the sequenced factoring-in of data results
  - index of choice for SLM2 is CLDI.
  - Since the procedure for arriving at the ALDI is location and season specific, the values for CLDI factors become location and season specific as well.
  - Project stakeholders should develop their capacities in implementing the Composite LDI Monitoring System.

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Annex H: Full presentation of Mr. Dennis Muzones

UPDATING GIS DATA HOLDINGS AND PREPARING THE COMPOSITE LAND DEGRADATION INDEX (CLDI)

PRELIMINARY PPT

Highlights of the Previous Report

1. ***Premise/Situation***
2. ***Mapping Strategy to be followed:***
   a) The report referred to the CSFD document to provide the mapping direction that the GIS component of this project will undertake. The mapping procedure required the following:
      i. Definition of physiographic/mapping units to context and spatially define land degradation;
      ii. identifying the Land Degradation in terms of its TYPE, EXTENT and DEGREE as its manifested in each physiographic/mapping unit, and;
      iii. The derivation of the Composite Land Degradation Index as a function of TYPE, EXTENT and DEGREE.

Highlights of the Previous Report

3. *Available GIS data holding of BSWM*

a) There is no LREP maps/dataset for the entire province of Leyte stored at the BSWM central office;

b) The sets of thematic maps produced from the LREP varied from province to province.

Scope and Limitations of the Activity

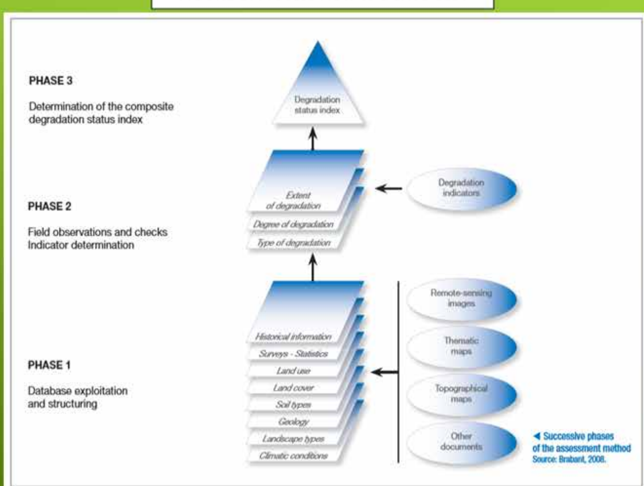
- Terminology clarification
  - I. The term "design" in the project title taken in context of GIS data preparation refers to the plan, convention and manner that would be undertaken to create, prepare and update the necessary datasets.
- Lead and Authority clarification
  - I. The GIS specialist in undertaking and preparing the necessary steps to derive the CLDI shall take its cue and lead from the SLM expert being the team leader and domain (discipline) expert

Description and Update leading to the Expected Output

1. The expected output is basically considered into three (3) categories namely:
   a) Manner of updating the spatial data that is available in the BSWM dataset, and;
   b) Spatial data preparation to handle on-site field data and other relevant information, and;
   c) Summative dataset preparation to derive the CLDI.

Updating/Preparing spatial data (Geometry Component)

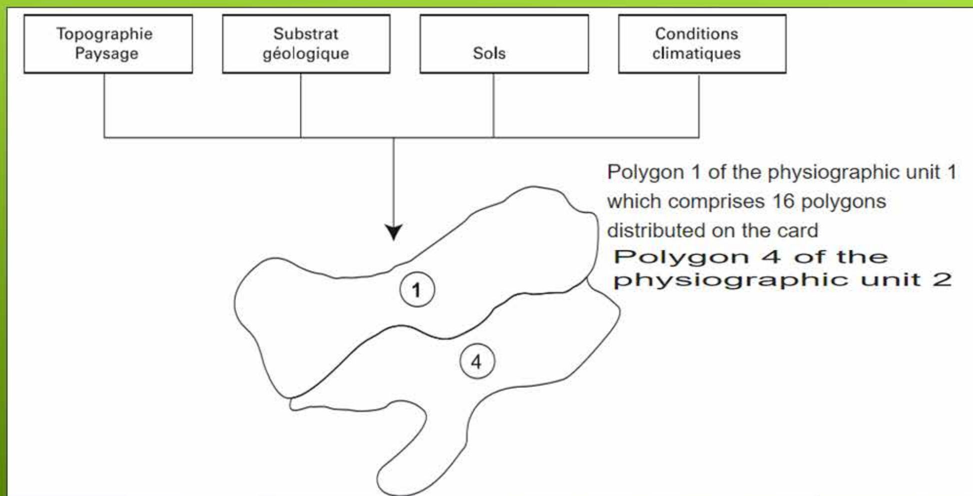
FIGURE 1. Process Flow to Derive CLDI



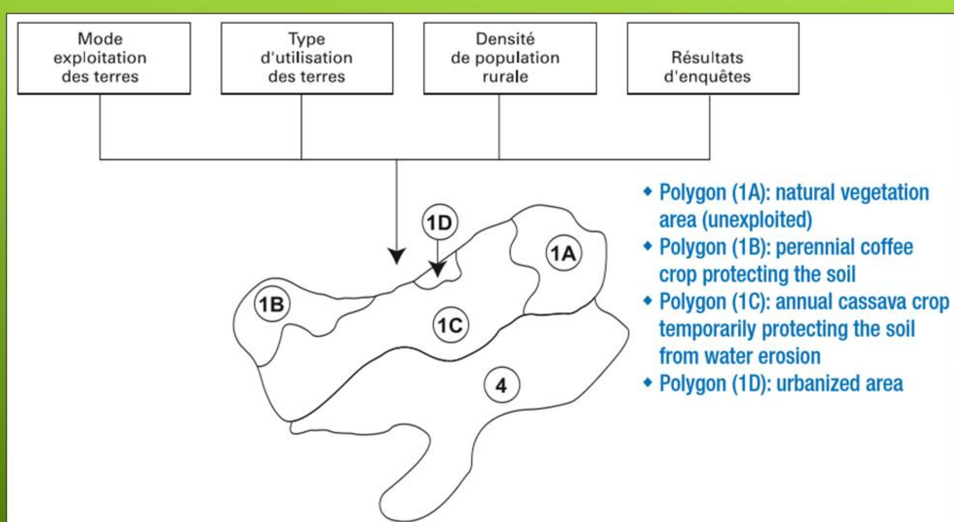
The Geometry Component is *"a land zone having the same type of landscape, the same geological substrate, the same soil or association of soils under similar climatic conditions. Such units are supposed to react to natural agents and to a specific human activity by a certain relatively uniform level of degradation over its entire area" (Brabant, 2008)".*

Examples of such datasets according to CSFD are *"topographical maps, archival and current records on climatic conditions, geological maps, soil maps and works, land cover and land use maps, information on rural population distributions and densities, statistical data on agricultural production, historical data and any other useful documents. Looking for satellite images and aerial photographs captured during the most suitable period of the seasonal cycle is also a key activity in this operation."*

Updating/Preparing spatial data (Geometry Component)



Updating/Preparing spatial data (Geometry Component)



- **Spatial data preparation for the Determination and Identification of Degradation Indicators (Field data gathering and organization)**
    1. This is the fieldwork phase of the study and is composed of two (2) operations namely – the determination of the degradation subtypes, their extents and degrees, and transposing the results obtained at the test sites into the physiographic/mapping unit map.

- **Drawing the TYPE, EXTENT and DEGREE of DEGRADATION**

Operation 1. Determining the degradation subtypes and their extents and degrees

TYPE OF DEGRADATION

Category	Type	Subtype
Other degradations (D for Diverse)	**Urbanization and other construction projects** (Dc, c for construction)	
	Open pit and quarry mining (Dm, m for mining)	
	Radioactive pollution (Dr, r for radioactivity)	
	Degradation due to wars and conflicts (Dw, w for war)	Presence of antipersonnel mines (Dw-m, m for mine)
		Presence of explosive remnants of war (Dw-e, e for explosive)
		Land deformation due to bombing (Dw-b, b for bomb)
		Massive defoliant sprays (Dw-d, d for defoliant)
		Use of depleted uranium munitions (Dw-u, u for uranium)*
	(E for Eolian)	**Silting** (Es, s for *sand*)
		Dune formation (Ed, d for *dune*)
	Plough and mechanical erosion (M for Mechanical)	Plough erosion due to cropping practices (Mp, p for practice)
		Surface scraping during land clearing (Mc, c for clearing)
		Various pollutions *(pro parte)* (Cp, p for pollution)
	Biological degradation (B for Biological)	Reduction in soil **organic matter** content (Bm, m for organic matter)
		Reduction in soil **macrofauna** quantity (Bq, q for quantity)
		Reduction in macrofauna biodiversity (Bd, d for biodiversity)

Drawing the TYPE, EXTENT and DEGREE of DEGRADATION

Operation 1. Determining the degradation subtypes and their extents and degrees

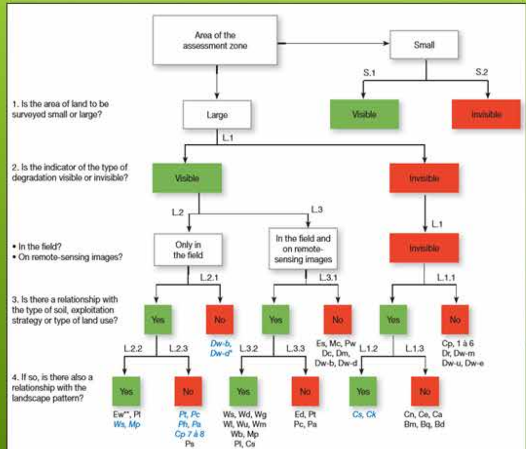
EXTENT OF DEGRADATION

This procedure involves three operations:

❶ measuring the extent of degradation in a landscape by visual monitoring or on remote-sensing images;
❷ locating and mapping the observations;
❸ calculating the area involved.

Five questions can be asked to assess the extent of degradation:

❶ Is the area of land to be surveyed small or large?
❷ Is the type of degradation visible to the naked eye or not? In the field and/or on remote sensing images?
❸ Is the type of degradation always invisible or does it only become visible when the there is a high degree of degradation (e.g. **salinization** becomes visible when it reaches an advanced stage)?
❹ Is the type of degradation related to the type of soil, exploitation strategy or kind of **land use** (rainfed cropping, irrigated cropping, grazing, etc.)?
❺ Is the type of degradation related to the landscape pattern (peaks, slopes, plains, etc.)?



▲ Key for assessing the extent of various degradation subtypes (Source Brabant, 2008)
L: large area • S: small area
* The symbol is in italics (blue) when the type or subtype has a low to medium degree of degradation; it is thus invisible or visible only in the field.
** The symbol is in normal type (black) when the type or subtype has a high to very high degree of degradation; it is thus visible in the field or in the field and on the images.

Drawing the TYPE, EXTENT and DEGREE of DEGRADATION

Operation 1. Determining the degradation subtypes and their extents and degrees

EXTENT OF DEGRADATION

> FOCUS | **Extent of degradation: what can be done when the type of degradation is invisible?**

① Land cover and **land use** indicate exploited and unexploited areas and types of usage that could induce a type of degradation.

② The soil type also provides indications.
It is thus important to know the sensitivity of each soil category to different types of degradation.

③ Cropping practices, which are identified on the basis of statistics and farmer surveys, provide an indication on the use of fertilizers, pesticides, irrigation water quality and on farmers' knowledge concerning degraded areas according to crop yields.

④ Historical data supplied by inhabitants or obtained from archives can reveal whether, types of usage could induce a type of degradation.

Assessment of the extent of degradation on a vast land area

Assessments of areas over 100 km² concern districts, provinces, regions or entire countries. The land can no longer be gridded because of the high cost and time required to obtain results. A procedure must therefore be adopted to determine the extent of degradation—this involves first outlining the physiographic units and then thoroughly studying selected test sites in these units

The results obtained at these test sites are then transposed to the entire area covered by the physiographic units, while analysing remote sensing images and conducting field surveys to confirm the relevance of the transposition hypotheses. Satellite images and aerial photographs are widely used when there are visible types of degradation.

Drawing the TYPE, EXTENT and DEGREE of DEGRADATION

Operation 1. Determining the degradation subtypes and their extents and degrees

▼ Extent classes for a type of degradation.

Extent class	Extent rating	Limits of extent classes for a degradation subtype in the concerned area (in % of the field area)
1	Very low	< 5 %
2	Low	5 – 25 %
3	Medium	25 – 50 %
4	High	51 – 75 %
5	Very high	> 75 %

Drawing the TYPE, EXTENT and DEGREE of DEGRADATION

Operation 1. Determining the degradation subtypes and their extents and degrees

DEGREE OF DEGRADATION

Two methods for assessing the degree of degradation

- **The first method** involves identifying soil properties that are markers of its degree of degradation and that could have a negative impact on crop yields. These markers should be as easy to observe, measure or estimate as possible so that an observer would be able to assess the degree of degradation as objectively as possible.
- **The second method** is based on the assumption that a reduction in yields or in the level of land suitability, for a given type of use, indicates that the land is degraded. Schematically, it could be considered that this method deduces that the land is variably degraded as a function of the noted loss of productivity.

Six basic principles for assessing the degree of degradation

❶ Parameters for assessing the degree of degradation vary according to the type of degradation.

❷ The degree of degradation may be dependent on or independent of the land type.

❸ The soil thickness is an important variable to consider in the 'erosion' category.

❹ Some soils are more sensitive than others to a given type of degradation.

❺ The degree of degradation sometimes depends on the initial conditions.

❻ The degree of degradation is assessed in a conventional farming situation with a low level of inputs and an equivalent level of inputs between degrees of degradation.

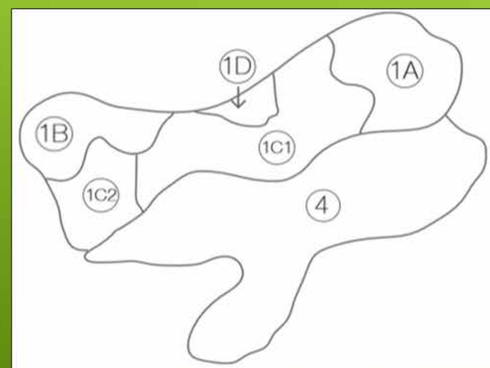
- **Drawing the TYPE, EXTENT and DEGREE of DEGRADATION**

Operation 2. Transposing the results obtained at the test sites

▲ Results of phase 2

Here polygon 1C of the provisional map is subdivided into two polygons (1C1 and 1C2), because the field survey during phase 2 revealed that the degree of degradation was higher in the sector covered by 1C2 because of the presence of small erosion gullies.

Polygon number	Dominant type of degradation (symbol)	Degree of degradation class	Extent of degradation class
Physiographical unit 1			
1A	Water erosion (Ws)	1	1
1B	Water erosion (Ws)	2	1
1C1	Water erosion (Ws)	3	3
1C2	Water erosion (Wd)	4	3
1D	Urbanization (Du)	5	5
Physiographical unit 2			
4	Water erosion (Ws)	3	3



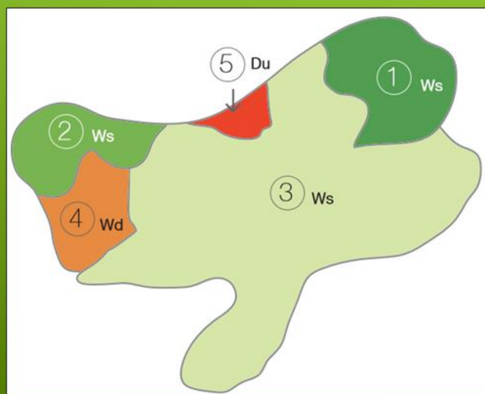
- **Spatial and necessary data preparation to calculate/derive the Composite Land Degradation Index (CLDI)**
  1. The final phase is mostly carried out in the GIS laboratory and it involves three operations namely;
     a) Calculating the composite index for each polygon. The three main indicators (type, degree, extent) attributed to each polygon are combined to obtain a composite index. This index indicates the land degradation status in the concerned polygon;

▼ Drawing up a composite land degradation index

Number of combinations of **extent** (bold) and *degree* (italic) indicators	Total value of the extent-degree combination	Degradation status index rating	Value of the composite degradation status index
1+*1*	2	Very low*	1
1+*2*/**2**+*1* **1**+*3*/**2**+*2*/**3**+*1*	3 4	Low	2
1+*4*/**2**+*3*/**3**+*2*/**4**+*1* **1**+*5*/**2**+*4*/**3**+*3*/**4**+*2*/**5**+*1*	5 6	Medium	3
2+*5*/**3**+*4*/**4**+*3*/**5**+*2* **3**+*5*/**4**+*4*/**5**+*3*	7 8	High	4
4+*5*/**5**+*4* **5**+*5*	9 10	Very high	5

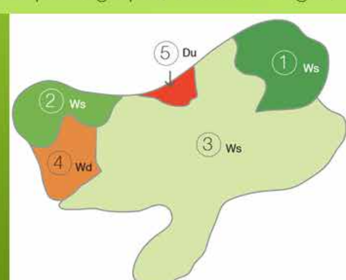
* This could be described as 'Zero to very low', which corresponds to a level of natural erosion, or of natural erosion very slightly aggravated by human activities.

- **Spatial and necessary data preparation to calculate/derive the Composite Land Degradation Index (CLDI)**
  1. The final phase is mostly carried out in the GIS laboratory and it involves three operations namely;
     b) _Drawing up the final map._ The final map is derived by transferring the composite index into each polygon on the map derived from Phase 2. During this operation, the polygon which are overlapped and have the same index in the map can be pooled/combined.



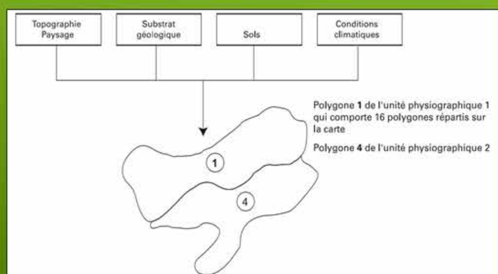
▲ Results of phase 3, operation 2
The two polygons 1C1 and 4 delineated during phase 2 are pooled into a single polygon. They have the same degradation index (3). However, information on the indicators and on other attributes of these two polygons (1C1 and 4) is kept separately in the database.

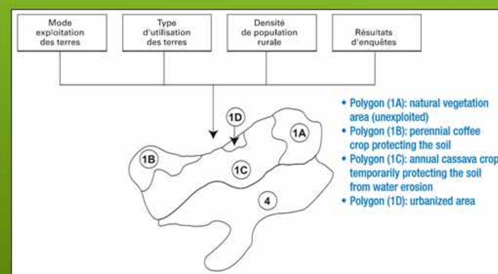
- **Spatial and necessary data preparation to calculate/derive the Composite Land Degradation Index (CLDI)**
  1. The final phase is mostly carried out in the GIS laboratory and it involves three operations namely;
     c) _Compiling a database._ When using GIS, a GIS-managed database is compiled that describes each polygon on the map with the appropriate attributes (identifier, degradation, reference of the topographical map, of aerial photographs, satellite images, environment, etc.).



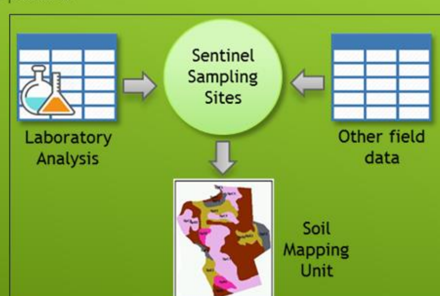
Poly_ID	Attribute 1 Parameter 1	Attribute 2 Parameter 1	Attribute 3 Parameter 1	Attribute 4 Parameter 1	Parameter 1	Attribute 1 Parameter 2	Attribute 2 Parameter 2	Attribute 3 Parameter 2	Attribute 4 Parameter 2	Parameter 2	Degree

- **Updating and Preparing/Deriving the CLDI from current BSWM and Project Data holdings**
  1. Preparing and Updating the GIS Geometries for the Project Areas
     - BSWM being the mapping arm of the Department of Agriculture can reconstruct the said maps and perform the necessary update when the updated information are available;
     - Deriving the necessary Geometry for the determination and identification of Land Degradation types and extent. The project is inclined to use the management unit maps (eg. SMU). To derive an appropriate representation of the area Remote sensing data will be used.



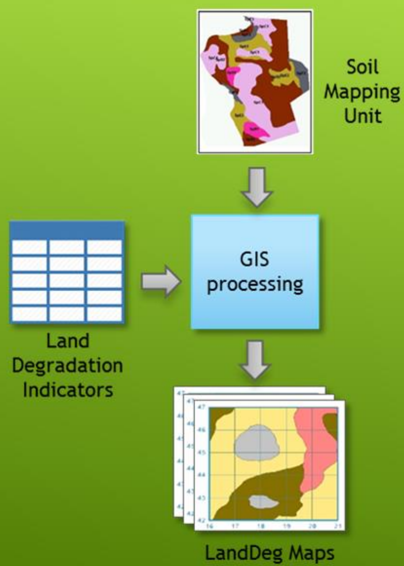


- **Updating and Preparing/Deriving the CLDI from current BSWM and Project Data holdings**
  2. Preparing the GIS table structure for the Derivation/Computation the Land Degradation Indicators.
     - To accommodate the fieldwork data to derive the Extent and Degree of Degradation, the following structure is hereby proposed:



Poly_ID	Attribute 1 Parameter 1	Attribute 2 Parameter 1	Attribute 3 Parameter 1	Attribute 4 Parameter 1	Parameter 1	Attribute 1 Parameter 2	Attribute 2 Parameter 2	Attribute 3 Parameter 2	Attribute 4 Parameter 2	Parameter 2	Degree

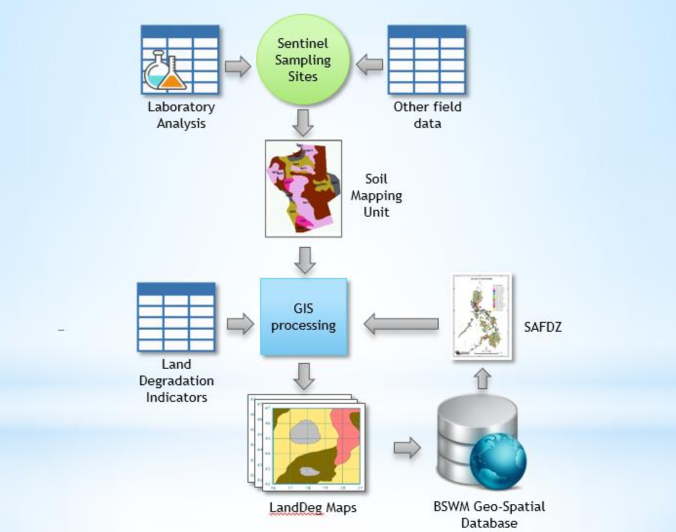
- Compute the CLDI in system outside of the GIS System



Degradation index represented in each polygon by a value and colour

Polygon number	Drawing up the index (degree + extent)	Ranking the degradation status (symbol of the dominant degradation type)	Degradation status index value	Colour
1A	1 + 1 = 2	Very low (Ws)	1	
1B	2 + 1 = 3	Low (Ws)	2	
1C2	4 + 3 = 7	High (Wd)	4	
1D	5 + 5 = 10	Very high (Du)	5	
1C1	3 + 3 = 6	Medium (Ws)	3	
4	3 + 3 = 6	Medium (Ws)		

Draft SLM GIS Workflow



FINDINGS/NEXT STEPS

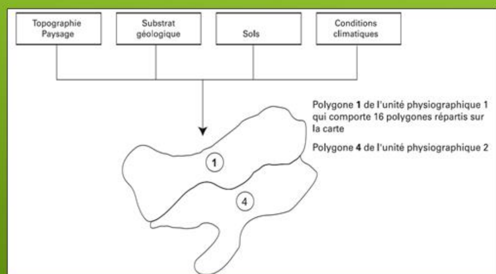
1. Updating the Geometry
   - Update the datasets needed to derive the SMU. This will involve requesting updates on Landcover, IFSAR and other data with the updated boundary data coming from the project sites;
   - Gather other datasets to strengthen the validity of the GIS Geometries;
   - Request review of procedures to be undertaken by the GIS Team to derive the GIS geometries from the SLM expert
   - SLM GIS to turnover the DEM derived data to BSWM. BSWM to generate the Soil Mapping Unit
2. Preparing the Type, Extent and Degree component
   - Coordinate with the fieldwork team on the parameters that will be gathered on-site and how these information will be used to finalize the table structure for utilization by the GIS system;
   - To cover the project area is big, Malaybalay ~ 969 km^2 & Abuyog ~ 688 km^2, to derive the three (3) indicators, recent high resolution remote sensing imageries along are needed;
   - If remotely sensed data will prove difficult to acquire or show degradation, alternative mapping approaches – e.g. Community Mapping or Participatory 3D mapping activities be considered to fill this gap;
   - Arrange and collate field data to compute index values for degradation extent and degree;
   - Represent the three (3) indicators through GIS

FINDINGS/NEXT STEPS

3. Preparing the Composite Land Degradation Index Map
   - Request for a review of the procedures with the SLM expert to adequately address and include the parameters required;
   - Arrange the field datasets for index computation and integration and representation in GIS;
4. For City/Municipality data, arrange and organize datasets for both sites;
   - Continue conversion and extraction of Abuyog Thematic data stored in the MANIFOLD GIS format;
   - Ensure that the core and ancillary datasets required by the CLUP are both available for Malaybalay and Abuyog;

- **Observation(s)**

1. The GIS Geometry importance in the overall land degradation is not adequately explained and valued compared to the Land degradation Indicators of Type, Extent and Degree



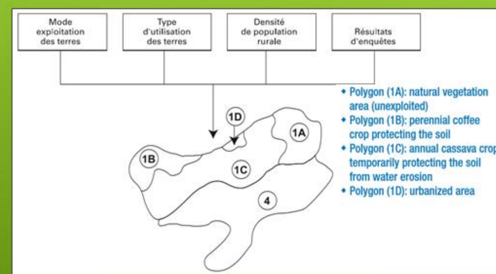


Table 6. Guide in scaling of factors in vulnerability to landslides

PHYSICAL FACTORS*	CLASS	DESCRIPTION
A. SLOPE (30-35%)	1	Slope, in general, is not steep (< 8%)
	2	Slope, in general, is slightly steep (8.1-18%)
	3	Slope, in general, is fairly steep (18.1-30%)
	4	Slope, in general, is moderately steep (30.1-50%)
	5	Slope, in general, is very steep (> 50%)
B. SOIL MORPHOLOGY/ GENESIS (10%)		**SOIL TYPE**
	1	Tropaquepts w/ Entropepts; Udorthents & Tropepts
	2	Tropopsamments w/ Troporthents; Eutrandepts w/ Eutropepts
	3	Tropudalfs w/ Tropepts
	4	Entropepts w/ Dystropepts
	5	Tropudults w/ Tropudalfs; Mountain soils w/ Entisols, Inceptisols, Ultisols and Alfisols

PHYSICAL FACTORS*	CLASS	DESCRIPTION
C. CLIMATE (20%)		
Monthly Rainfall		**MAXIMUM MONTHLY RAINFALL**
	1	Very low monthly rainfall (< 100mm)
	2	Low monthly rainfall (100.1-200mm)
	3	Moderate monthly rainfall (200.1-300mm)
	4	High monthly rainfall (300.1-500mm)
	5	Very high monthly rainfall (> 500mm)
Typhoon Frequency (see Philippine typhoon frequency map)		**TYPHOON FREQUENCY**
	1	Very low frequency
	2	Low frequency
	3	Moderate frequency
	4	High frequency
	5	Very high frequency
*D. GEOLOGY** (20-25%)*		
Lithology		**DESCRIPTION**
	1	Pliocene-Quaternary (QV); Paleocene (Sedimentary & Metamorphic rocks); Pre-juracic
	2	Undifferentiated (UV; KPg1; KPg2)
	3	Oligocene (SPg2); Paleocene-Eocene (SPg1)
	4	Pliocene-Pleistocene (N3+Q1); Upper Miocene - Pliocene (N2)
	5	Recent (R); Quaternary (QAV); Pliollocene - Quaternary (QVP)
Proximity to Fault Lines		**DESCRIPTION**
	1	There are fault lines beyond 8km
	2	There are fault lines within 5-8km
	3	There are fault lines within 2-5km
	4	There are fault lines within 0.5-2km
	5	Fault lines run 0.5km from the area
E. VEGETATION COVER/LAND USE (10%)		**VEGETATION COVER**
	1	The vegetation/cover of the watershed does not favor any landslide (closed forest)
	2	The vegetation/cover of the watershed slightly favor minor landslide (open forest; plantations)

PHYSICAL FACTORS*	CLASS	DESCRIPTION
E. VEGETATION COVER/LAND USE (10%)		**VEGETATION COVER**
	3	The vegetation/cover of the watershed moderately favor landslide (shrubs; natural grassland)
	4	The vegetation/cover of the watershed highly favor minor landslide (agricultural/cultivated; pasture land; built-up)
	5	The vegetation/cover of the watershed highly favor major landslide (bare)
ANTHROPOGENIC FACTORS* (5-10%)**		
A. FARMING SYSTEMS		
	1	The farming systems in the watershed do not favor any landslide
	2	The farming systems in the watershed slightly favor minor landslides
	3	The farming systems in the watershed slightly favor major landslides
	4	The farming systems in the watershed highly favor minor landslides
	5	The farming systems in the watershed highly favor major landslides
B. GROUND DISTURBANCE BY HUMAN ACTIVITIES		
	1	There are no ground disturbances caused by human activities in the watershed (road construction, mining, digging, for any purpose)
	2	There are minimal ground disturbances caused by human activities in the watershed (road construction, mining, digging, for any purpose)
	3	There are few ground disturbances caused by human activities in the watershed (road construction, mining, digging, for any purpose)
	4	There are many ground disturbances caused by human activities in the watershed (road construction, mining, digging, for any purpose)
	5	There are major ground disturbances caused by human activities in the watershed (road construction, mining, digging, for any purpose)

ANTHROPOGENIC FACTORS*** (5-10%)	CLASS	DESCRIPTION
C. OCCUPANCY AND HABITATIONS		
	1	The watershed is not occupied for habitation of upland communities
	2	There are a few and small areas occupied for habitation of upland communities
	3	There are some large areas occupied for habitation of upland communities
	4	There are many and vast areas occupied for habitation of upland communities
	5	There are major and vast areas occupied for habitation of upland communities

Table 7. Guide in scaling of factors in vulnerability to soil erosion

PHYSICAL FACTORS*	CLASS	DESCRIPTION
A. SLOPE (30-40%)		
	1	Slope, in general, is not steep (< 8%)
	2	Slope, in general, is slightly steep (8.1-18%)
	3	Slope, in general, is fairly steep (18.1-30%)
	4	Slope, in general, is moderately steep (30.1-50%)
	5	Slope, in general, is very steep (> 50%)
B. SOIL TYPE (20%)		**SOIL TYPE**
	1	Clayey (> 50% clay) and high on organic matter (OM) (> 2%)
	2	Clayey with low OM
	3	Sandy soil
	4	Silty soil with high OM
	5	Silty soil with low OM

PHYSICAL FACTORS*	CLASS	
C. CLIMATE (20%)		
Monthly Rainfall		**MAXIMUM MONTHLY RAINFALL**
	1	Very low monthly rainfall (< 100mm)
	2	Low monthly rainfall (100.1-200mm)
	3	Moderate monthly rainfall (200.1-300mm)
	4	High monthly rainfall (300.1-500mm)
	5	Very high monthly rainfall (> 500mm)
Typhoon Frequency (see typhoon frequency map)		**TYPHOON FREQUENCY**
	1	Very low frequency
	2	Low frequency
	3	Moderate frequency
	4	High frequency
	5	Very high frequency

D. VEGETATION COVER/LAND USE (20%)		**VEGETATION COVER**
	1	Closed forest canopy
	2	Open forest; old plantations; built-up
	3	Mix of horticulture and annual crops
	4	Planted with annual crops
	5	Bare or cultivated throughout the year
E. CROPPING MANAGEMENT PRACTICES (10-15%)	**FACTOR**	**MANAGEMENT PRACTICES**
	1	Natural forest with little disturbances
	2	Good cropping management practices (hedge-rows, contouring)
	3	With management practices but not consistently practiced
	4	Some management practices
	5	No management practices

- **LIST OF AVAILABLE GIS DATASETS**

▸SAMPLE GIS RESULTS OF PALAPYE STUDY

▸SCHEDULE OF DELIVERABLES

Deliverables/Outputs	Estimated Completion Time	Target Due Dates
Submission and Acceptance of the Inception Report	10 days	August 04, 2016
Submission and Acceptance of the report identifying gaps in the existing database	40 days	November 04, 2016
Submission and Acceptance of design for upgrading existing GIS holdings, gathered data and the Land Degradation Index	40 days	May 04, 2017
Submission and Acceptance of GIS-based LADA maps incorporating SLM for incorporation into CLUP	50 days	April 04, 2018
Submission and Acceptance of User Guide for updating current GIS database	20 days	July 04, 2018


THANK YOU

Annex I: Full presentation of Dr. Rogelio Conception

Urgent Issues in CLDI-SLM implementation

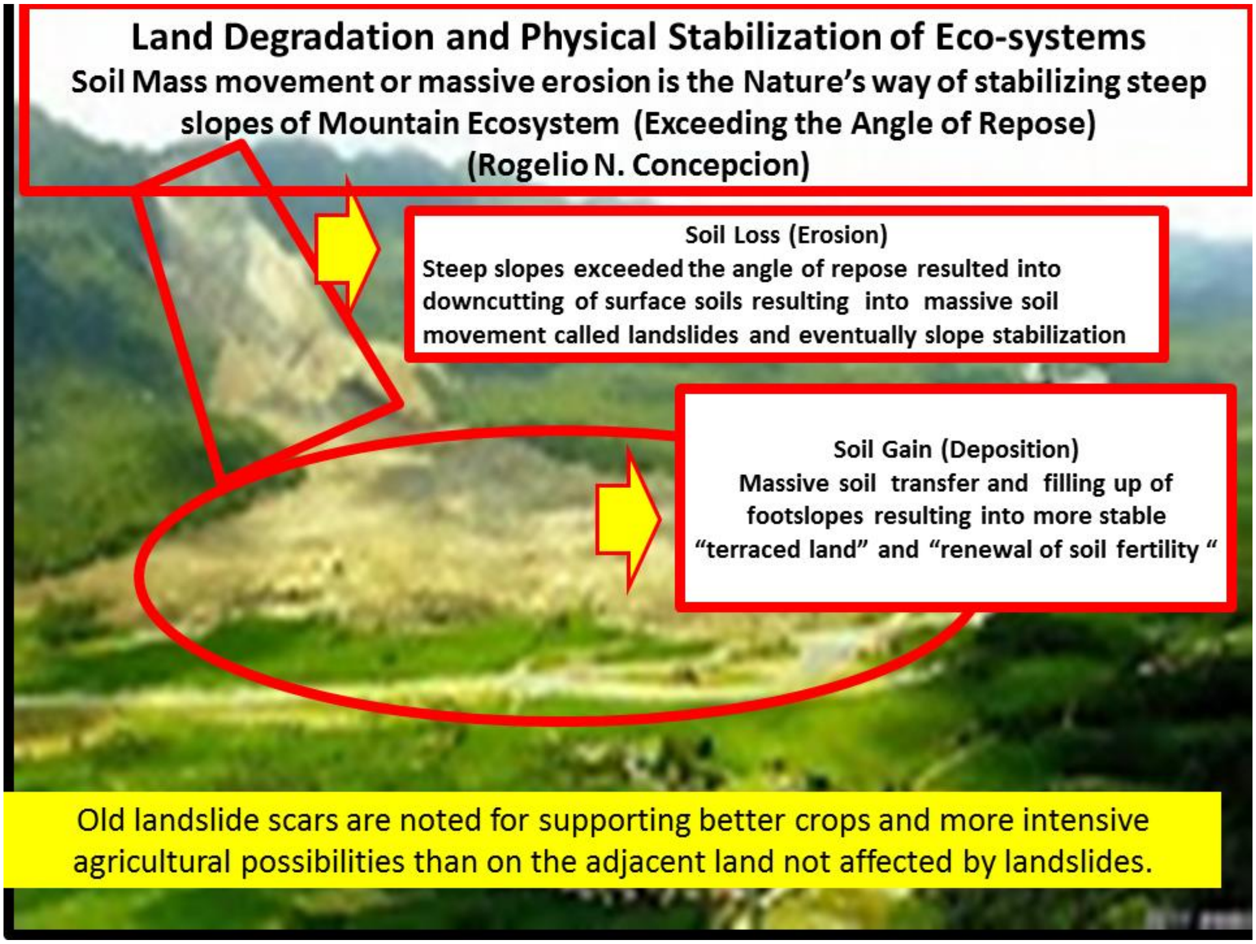
- Common to selected sites is the need to redesign/reformulate selection strategies for maintaining the spirit of partnership that was put in place at the start of the project.
- Delivery of inputs appropriate to the sites are urgent. Redesigning of farm plan has been properly done.
- BSWM staff to provide with dispatch support needed (mapping and sampling and farmer interviews).
- Co-financing will need to be proper timeline for implementation. Most desirable are the SWISS and Water Detention/Mgt structures, the best and most effective community-based SLM of the BSWM.
- Mobilization of the GEOMATIC, Soil Conservation and Water Management, ALMED and Soil Survey group as the immediate step for mainstreaming and support to co-financing of the project activities.

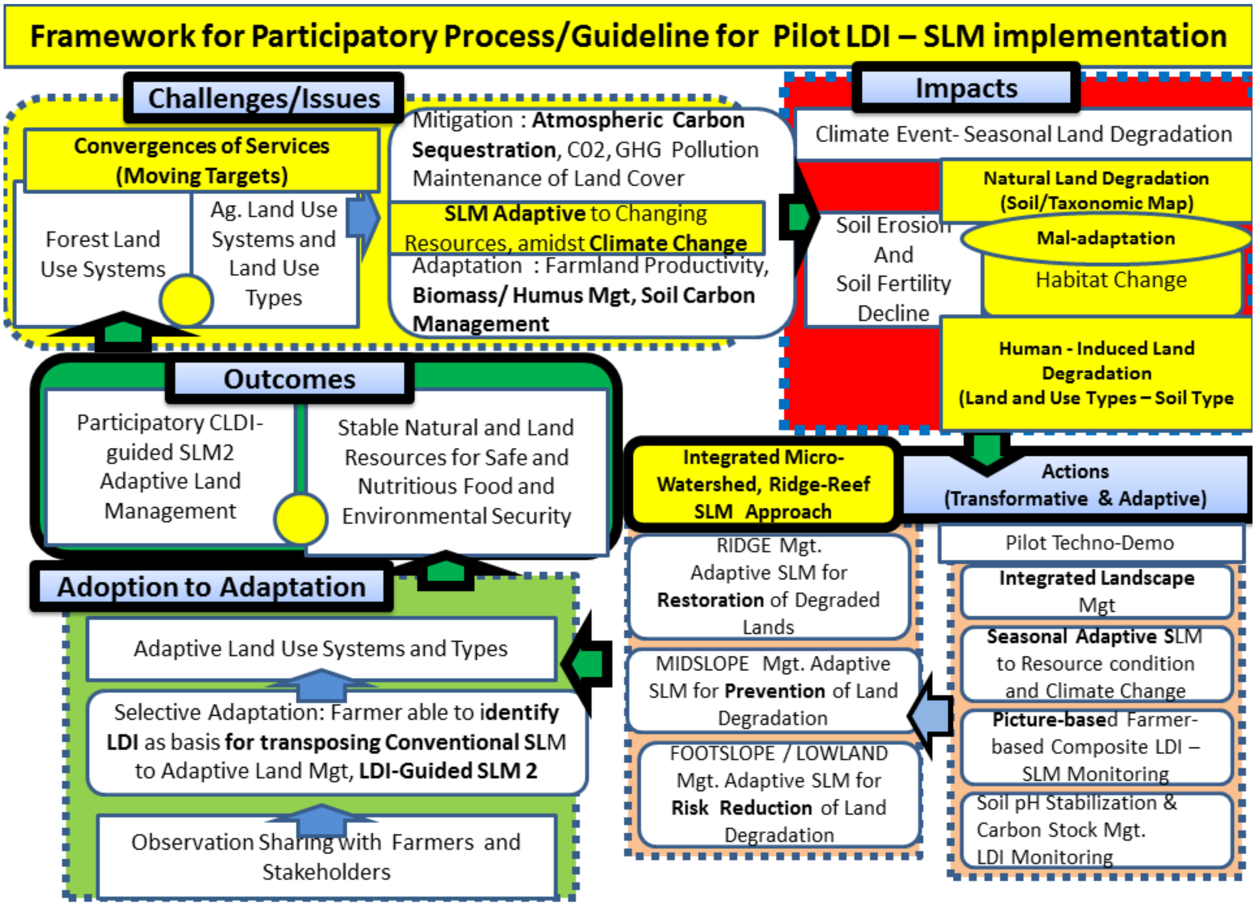
Land Degradation, Global and national Food Security

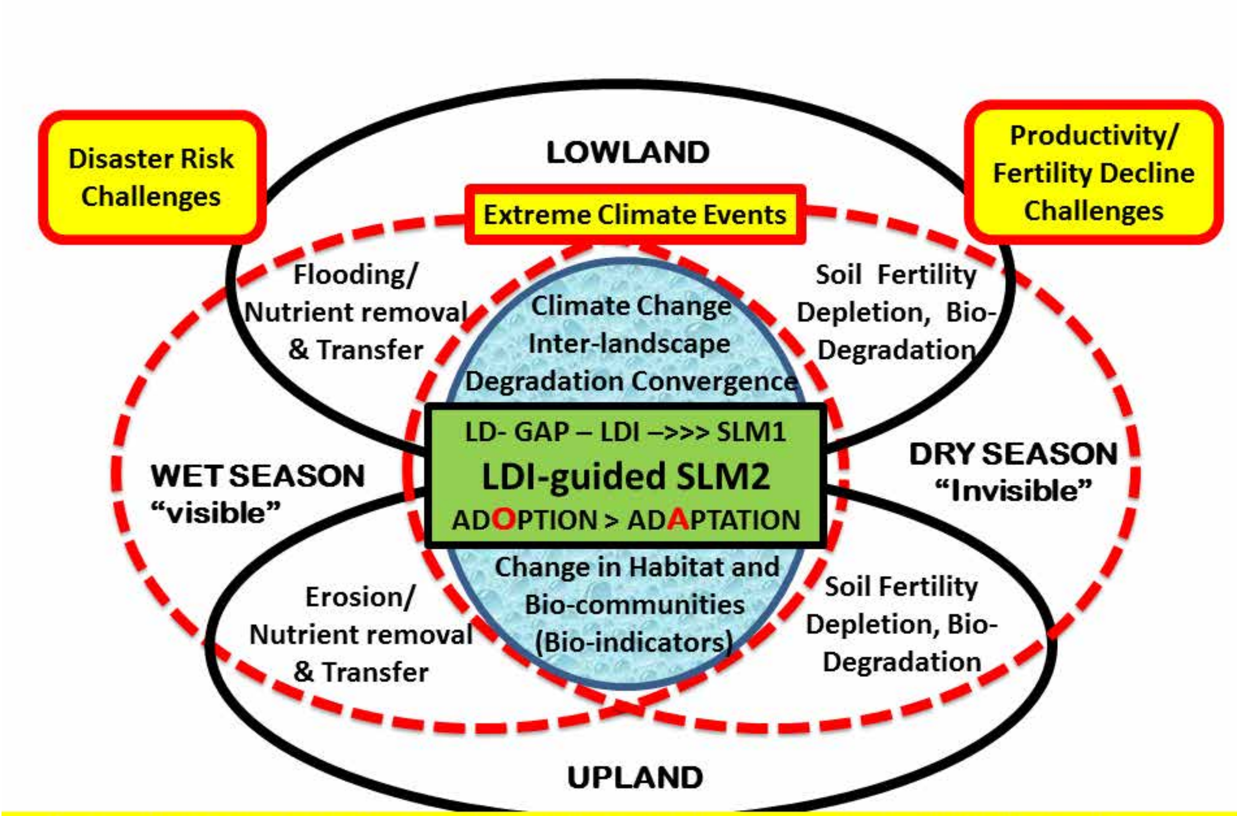
Sustainable Development Goals No. 2 targets, by 2030, the end of hunger and ensuring access by all people, in particular the poor and people in vulnerable situations, including infants, to <u>safe, nutritious and sufficient food all year round</u>; as well as the end of all forms of malnutrition, including achieving, by 2025

- Soil resources in the Philippines have been subjected to erosion and soil fertility decline.
  - A hectare of today can be equivalent to 5000 to 7000 square meters or productivity index of 0.50 to 0.70.
  - Our remaining idleand underutilized lands are actively degrading and agronomic based solutions will aggravated loss of natural productivity: HYVs, are excessive nutrient depleting plants, while GMOs are linked to health and food safety issues
  - Most irrigation systems and key production areas that have been subject to full exploitation have decreased soil carbon content and lower pH which explained increase by ten folds fertilizer needs to sustain yields of new high yield plants.
  - Old irrigation systems in the country now require no less than 8 to 12 bags fertilizers per hectare. The preference of urea has lead to increasing major and micro-nutrients for rice and corn production.

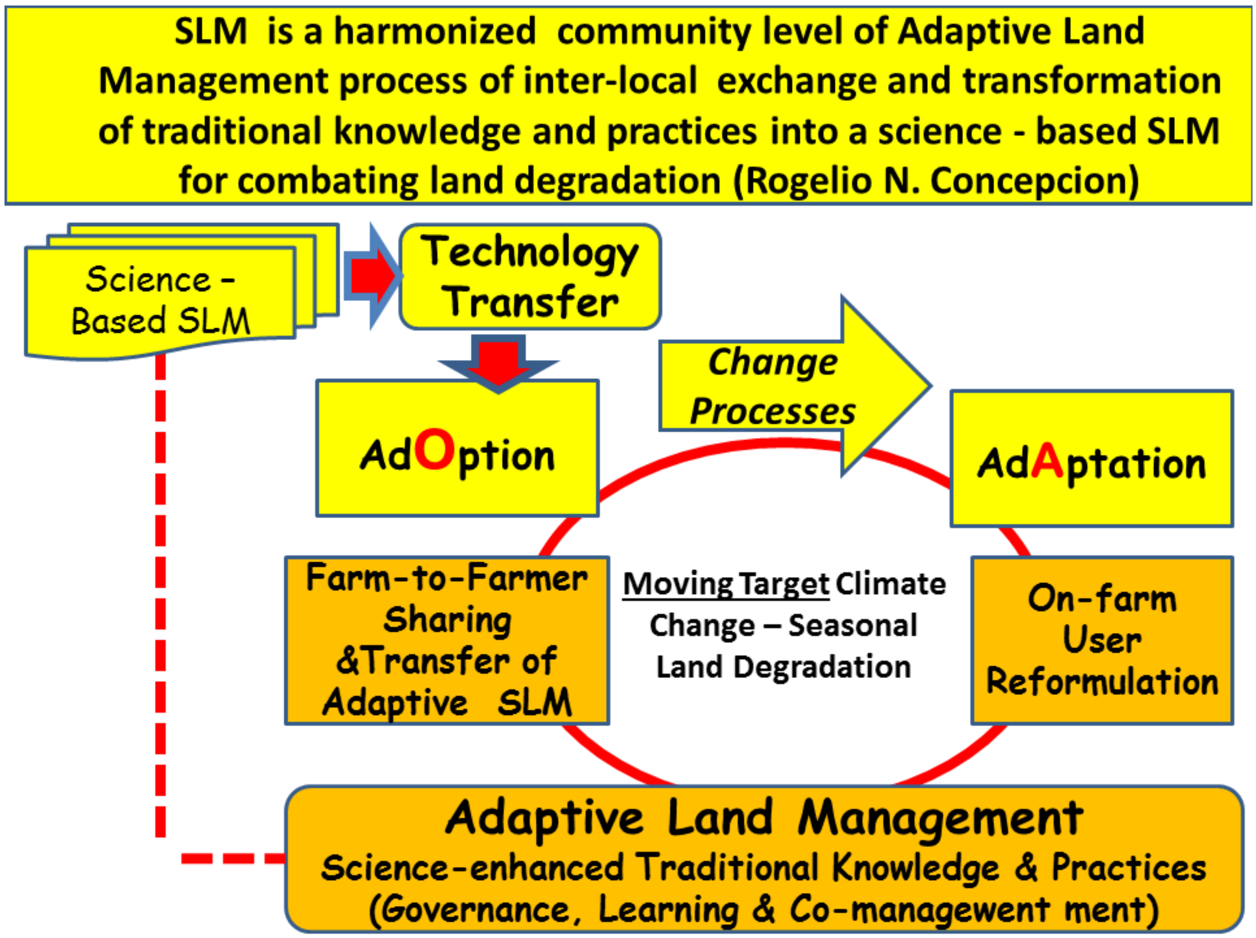

Now, Threatened by Uncontrolled Land Degradation
Mal-adaptation, Land Degradation and Desertification
MOVING TARGET
The Future, Moving Towards Desertification


Land Degradation and Physical Stabilization of Eco-systems
Soil Mass movement or massive erosion is the Nature's way of stabilizing steep slopes of Mountain Ecosystem (Exceeding the Angle of Repose)
(Rogelio N. Concepcion)
Soil Loss (Erosion)
Steep slopes exceeded the angle of repose resulted into downcutting of surface soils resulting into massive soil movement called landslides and eventually slope stabilization
Soil Gain (Deposition)
Massive soil transfer and filling up of footslopes resulting into more stable "terraced land" and "renewal of soil fertility "
Old landslide scars are noted for supporting better crops and more intensive agricultural possibilities than on the adjacent land not affected by landslides.


Framework for Participatory Process/Guideline for Pilot LDI – SLM implementation
Challenges/Issues
Convergences of Services (Moving Targets)
Forest Land Use Systems
Ag. Land Use Systems and Land Use Types
Mitigation : Atmospheric Carbon Sequestration, C02, GHG Pollution Maintenance of Land Cover
SLM Adaptive to Changing Resources, amidst Climate Change
Adaptation : Farmland Productivity, Biomass/ Humus Mgt, Soil Carbon Management
Impacts
Climate Event- Seasonal Land Degradation
Soil Erosion And Soil Fertility Decline
Natural Land Degradation (Soil/Taxonomic Map)
Mal-adaptation
Habitat Change
Human - Induced Land Degradation (Land and Use Types – Soil Type
Outcomes
Participatory CLDI-guided SLM2 Adaptive Land Management
Stable Natural and Land Resources for Safe and Nutritious Food and Environmental Security
Integrated Micro-Watershed, Ridge-Reef SLM Approach
Actions (Transformative & Adaptive)
Pilot Techno-Demo
RIDGE Mgt. Adaptive SLM for Restoration of Degraded Lands
MIDSLOPE Mgt. Adaptive SLM for Prevention of Land Degradation
FOOTSLOPE / LOWLAND Mgt. Adaptive SLM for Risk Reduction of Land Degradation
Integrated Landscape Mgt
Seasonal Adaptive SLM to Resource condition and Climate Change
Picture-based Farmer-based Composite LDI – SLM Monitoring
Soil pH Stabilization & Carbon Stock Mgt. LDI Monitoring
Adoption to Adaptation
Adaptive Land Use Systems and Types
Selective Adaptation: Farmer able to identify LDI as basis for transposing Conventional SLM to Adaptive Land Mgt, LDI-Guided SLM 2
Observation Sharing with Farmers and Stakeholders



Over-all Framework For Seasonal Land Degradation Assessment & LDI Monitoring Land Degradation for SLM 1 to LDI-guided SLM2 Adaptation Development (Rogelio N. Concepcion, PhD, SLM -LDI Consultant, BSWM-UNDP GEF 5 Project)


SLM is a harmonized community level of Adaptive Land Management process of inter-local exchange and transformation of traditional knowledge and practices into a science - based SLM for combating land degradation (Rogelio N. Concepcion)
Science - Based SLM
Technology Transfer
Change Processes
AdOption
AdAptation
Farm-to-Farmer Sharing &Transfer of Adaptive SLM
Moving Target Climate Change – Seasonal Land Degradation
On-farm User Reformulation
Adaptive Land Management
Science-enhanced Traditional Knowledge & Practices
(Governance, Learning & Co-managewent ment)

Initial Identification of Natutral Land Degradation Index to illustrate Matrix Approach for less Endowed LGUs ("Limited access to GIS technologies")

Elevation (msl)	Agriculture/Alienable-Disposable Lands (<18 % slopes)			Public lands/Forest lands (>18 % slopes)			
	Lowland Ecosystem		Upland Ecosystem	Hillyland Ecosystem	Highland Ecosystem (Mountain and Plateau)		
	Fisheries (Aqua-culture)	Annual Food Crops (Irrigated and rain fed Systems)	Upland crops -Tree crops – Livestock System	Agro-forestry (Community Forestry-based Livelihood System)	Mountain		Highlands
					Side slopes (Production Forest System)	Ridge (Protection Forest System)	Plateau (High Value Crops – Livestock System)
	< 3.0 % slope	<8 % slope	<18 % slope	>18 % slope	30-50 % slope	>50 % slope	No slope criteria
<10	Salinity, Acidification, flooding , water-logging, drainage, soil and water pollution, Eutrophication	Salinity intrusion, flooding, drainage, chemical/physical degradation, Urbanization, surface and groundwater water pollution, micro-nutrient related health problems, bio-diversity and water degradation , water-logging, flooding					
10-20							
20-50		Erosion, Top soil humus depletion, bio-diversity and water degradation					
50-100							
100-300			Erosion, bio-chemical degradation, land slide, soil surface sealing (crusting) , hardening, top soil humus depletion				
300-500							
500-1000					Erosion, land slides, top soil humus depletion, Bio-diversity degradation		Erosion, land slides, top soil humus depletion, Bio-diversity degradation
>1000							

Field Documentation of Composite Land Degradation Index for Reformulation of Conventional SLM

Farmer and Picture Based Seasonal CLDI-SLM Monitoring System at the farmers field

1. The establishment of LDI- SLM monitoring is best achieved at the farmer's level to ensure that the temporal and spatial land management interventions and their changes with climate events are properly related to any forms of land degradation that impact on crop yields and farmers income.
2. Picture – based LDI-SLM monitoring is the visual form of baseline for LDI-SLM monitoring and measuring spatial and temporal changes of land degradation
3. Pictures act as the bridge for communicating "invisible" LD which can be observed from changes in color of soil, plant, and appearance of invasive weeds, and loss of bio-diversity (earthworms, bees, grasshoppers, butterfly and dragon fly, etc)
4. The farmers trained in the conduct of recording and monitoring land degradation is paramount. They have opportunities to have daily visual observations on the response of plants to any changes in soil degradation indicators (pH and Carbon stock).

Picture – Based Composite LDI Monitoring For Establishing Seasonal Climate – Event Based Adaptive Land Management – LDI-Guided SLM 2

Analysis of Lowland and Upland Fertilizer Usages for Imbalance Fertilization (Soil Fertility Decline)				
Landscape	**Fertilizer usage (per hectare)**	**Equivalent Nutrient Applied**		
		N	**P**	**K**
Lowland	6 bags complete 14-14-14	42	42	42
	5 bags Urea (45-0-0)	112.5	0	0
	1 bag Muriate of Potash (0-0-60)	0	0	30
	Total Nutrient Applied	154.5	42	72
	Ratio, N to P	3.7		
Upland	2 bags 14-14-14	14	14	14
	6 bags 16-20 – 0	48	60	0
	2 bags Muriate of Potash (0-0-60)	0	0	60
	Total Nutrient Applied	62	74	74
	Ratio, N : P	0.83		
Recommended N : P Ratio : 3 – 4 N : 1P				

Pilot Site, Seasonal LDI Monitoring of SLM: Bgy Silae, Malaybalay City

Farmers are trained to identify and record bio-indicators associated with declining yields.

Sustainable practices: Zero Tillage. Dibble planting method

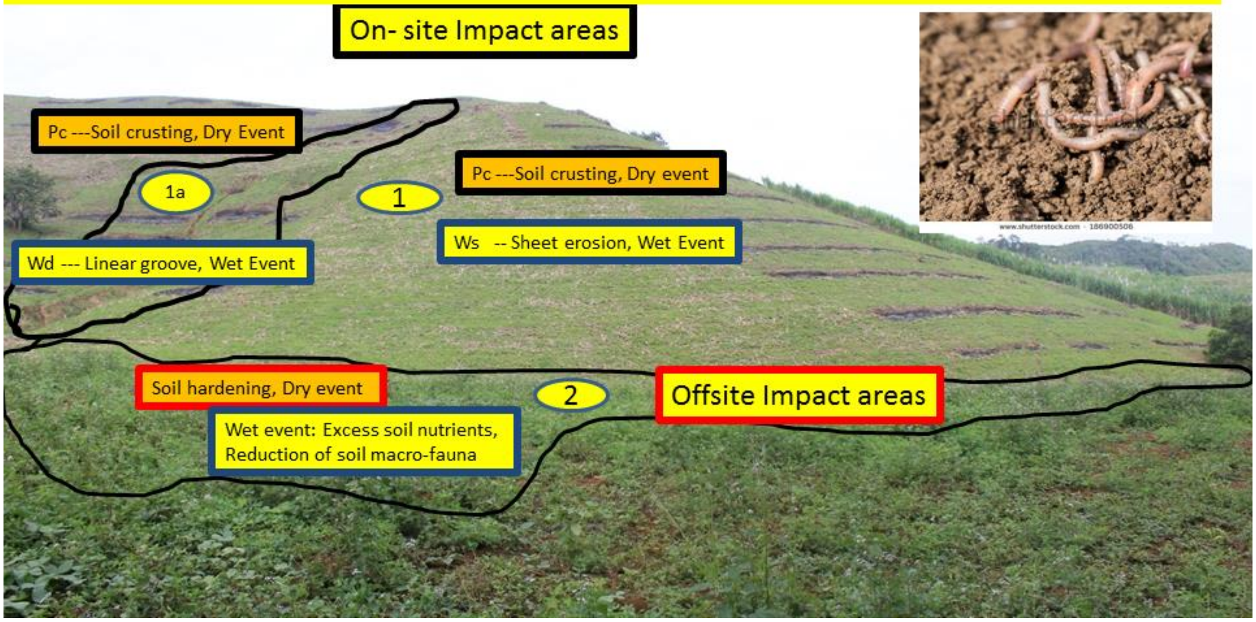
Mal-adaptation practice: Adopted the Round-up Resistant corn variety for zero weeding as part of Marketing arrangement with Corn Traders

Fertilizer inputs for whole farm: 28 bags, 14-14-14, 11 bags Urea, 4 bags Muriate of Potash

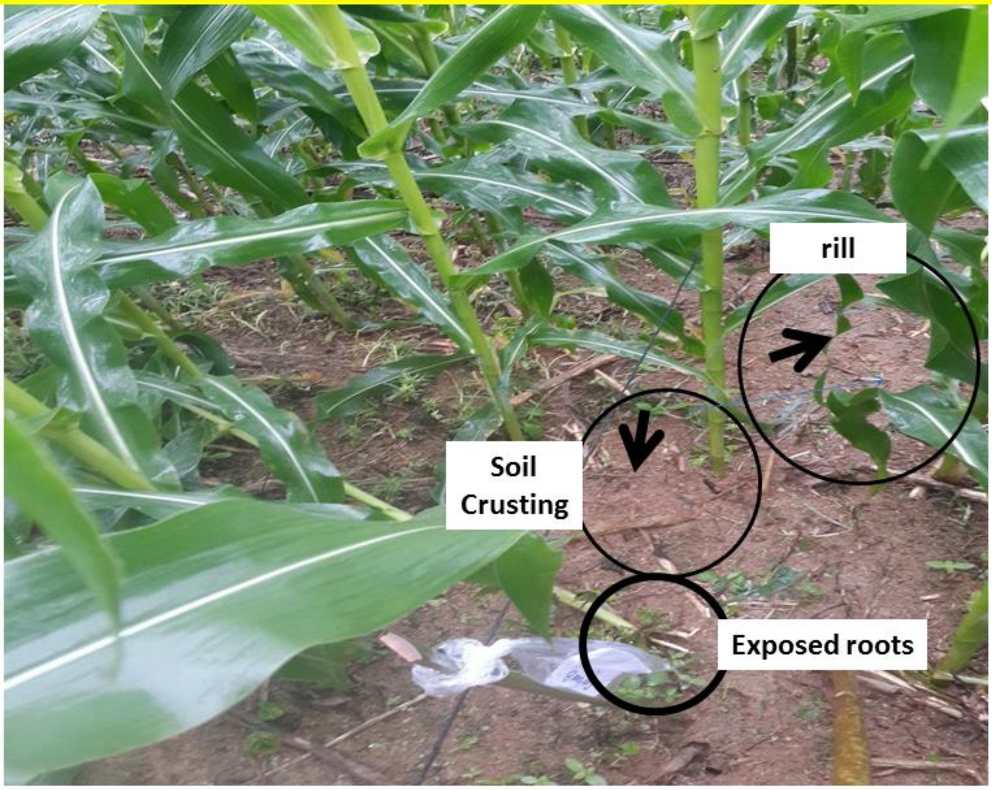
Area of farm – 3.5 hectares

Yield – 5.6 tons m – 4.5 hectares

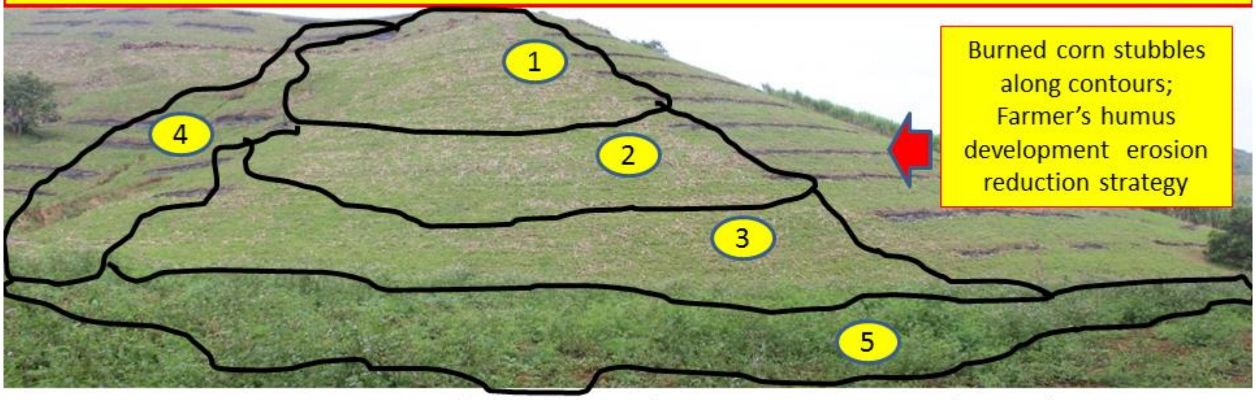
Physiographic Units – 1 Side slopes, 1a, Drainage groove, 2, Foot slope



Indications of Soil Erosion (sheet, crusting, rill groove)



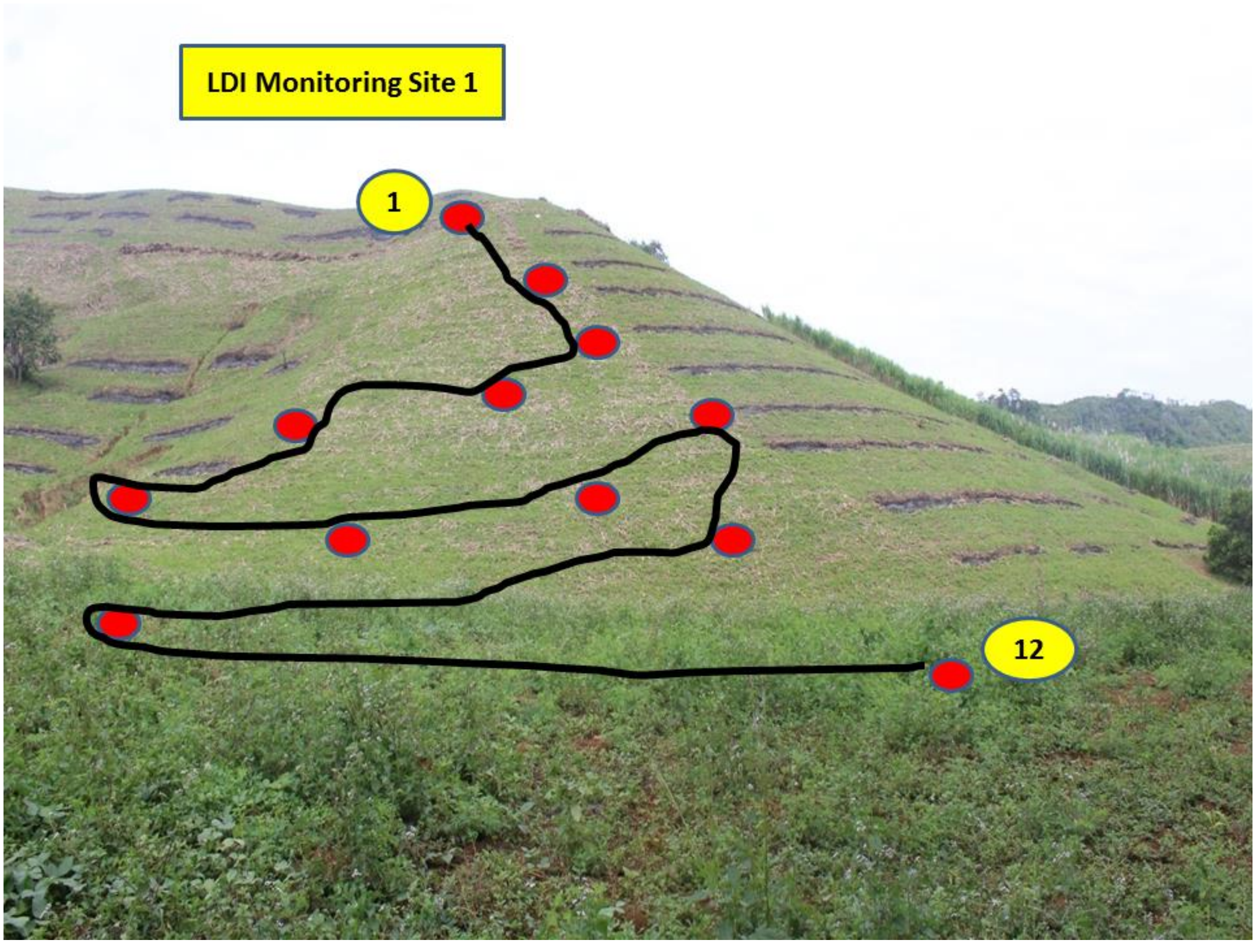
Best Use Micro-watershed (MWS) Carbon Stock Harvesting and Management & LDI Monitoring of ALM Ridge to Foot-slope Stabilization Approach (Rogelio N. Concepcion, PhD, SLM-LDI Consultant, UNDP GF-5 Project)

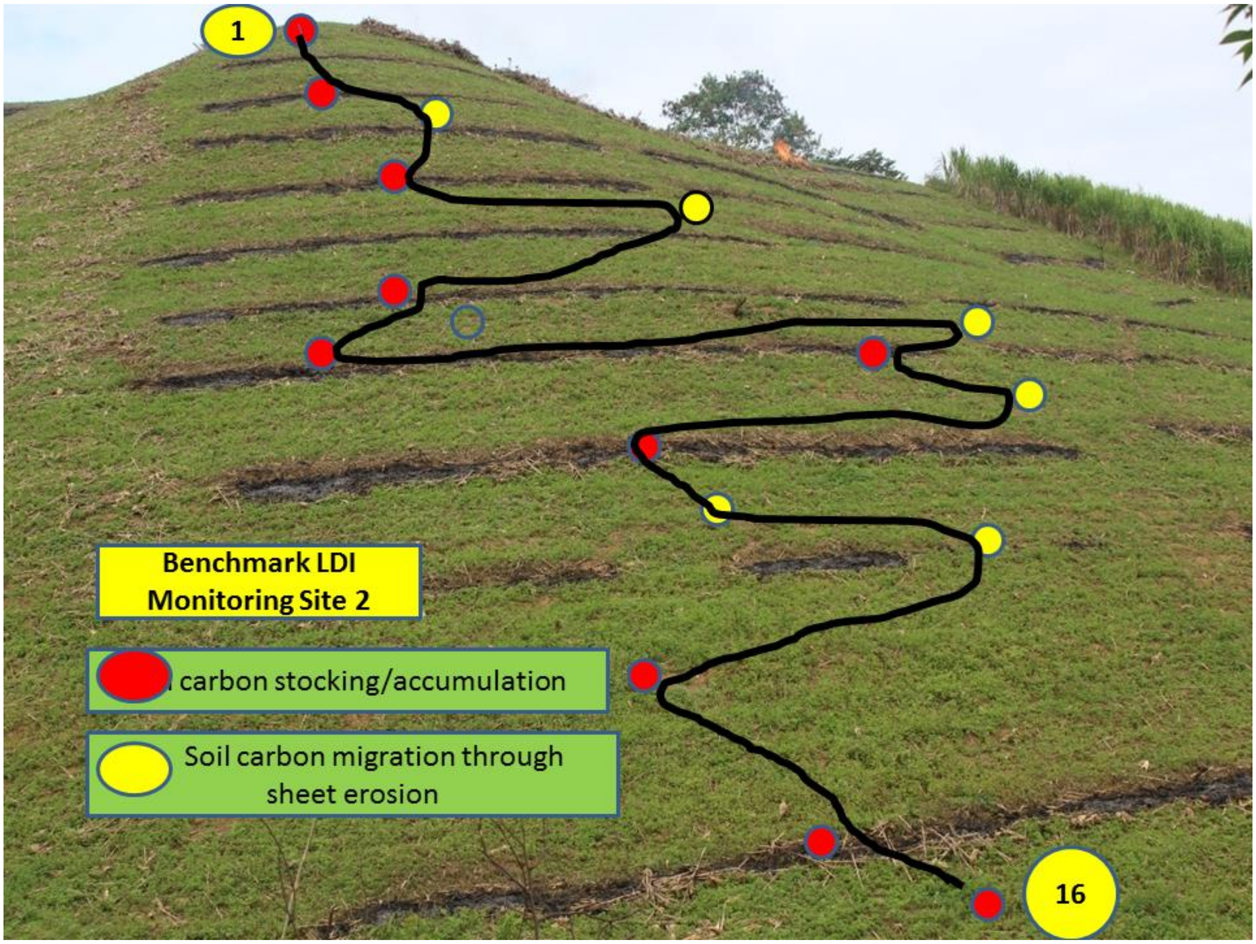


Purpose: LDI Monitoring for Carbon and Crop Improvement and Degradation BSWM-LGU co-financing schemes

1	Land Restoration	RR Corn is replaced by forest trees with biomass collection & humus management strategy
2	LD Prevention:	3 – 4 years Phase out for RR Corn to be replaced by high value Tree crops with biomass collection/humus management strategy
3	LD Risk Reduction	2 - 3 years phasing out of RR Corn in favor of Safe cultivation to high value and safe food and cash crops
4	Gully stabilization	Sedimentation trap for erosion measurement (bamboo as soil stabilizer and income generation
5	Flood Management	Modified SFR, with food and cash crops along the periphery

Best Use Micro-watershed (MWS) Carbon Stock Harvesting and Management: Ridge to Foot-slope Stabilization Approach			
Physiographic Location	**Best Use MWS Carbon Stock and Crop Improvement and Management**	**Area (% of total MWS)**	**Adaptive Land Management Practices/Treatments for biomass harvesting and C-Sequestration**
Ridge (Upper slope)	Restoration of chemically/biologically degraded lands	30 %	No RR corn cultivation. Replaced by Forest trees and nurses trees with multiple uses with forest litter/biomass harvesting technique for soil and air Carbon sequestration and management. Reinforced by Run-off contour detention ditch
Midslope	Prevention of further progress of land degradation	30%	Partial replacement of RR Corn High value trees (fruits, spices, herbal) to serve as medium term replacement for corn production with forest litter/biomass harvesting technique for soil and air Carbon sequestration and management. Reinforced by run-off contour detention ditch
Footslope	Reduction of risks to land degradation	40 %	Existing RR corn seeds/plant materials retained with strategy to showcase alternative/replacement plants with higher economic, food, health and environmental values.
Run-off corridor	Waterways/Gully Stabilization	Less than 10 %	SWIS at the MWS headwaters Bamboo on waterways sideslopes: Sedimentation traps (for monitoring erosion and run-off water management)
Run-accumulator	Flood water detention and management		Modified Small Farm Reservoir, Floodwater harvesting with food crops, banana, etc), water work animals/livestock


LDI Monitoring Site 1
1
12



1
Benchmark LDI
Monitoring Site 2
carbon stocking/accumulation
Soil carbon migration through
sheet erosion
16

Ten (10) Geo-referenced Observation points. Each LDI is multiplied with 10 percent. The maximum sum of the 10 LDI observation sites is 5, where 1 is very low, 2. low, 3, medium, 4, high and 5 very high land degradation.

To compute for the composite LDI of the area, take the sum as follows:

10% (LDI 1) + 10 % (LDI 2) + 10% (LDI 3) + -------------------- 10% (LDI 10)

Key properties to be used for LD monitoring : Soil pH, Soil Carbon: Optional N, P and K for estimating changing fertilizer needs

Summary of Mapping of Silae Pilot Site

Polygon Number	Dominant Type of Degradation (Symbol)	Degree of Degradation Class (50-100 cm soil thickness)	Extent of Degradation
Dry Season Land Degradation			
1	Pc (Surface soil crusting)	2	3 (25-50 %)
1a	Pc (Surface soil crusting)	3	1 (< 5%)
2	Ph (Hardening and Compaction) Bd (Reduction of macro fauna (earthworm	2 4	1 (<5 %) 3 (25-50 %)
Wet Season Land Degradation			
1	Ws (Sheet erosion)	3	3 (25-50 %)
1a	Wd (Linear groove)	1	1 (< 5%)
2	Pw (Water Logging) Bd (Reduction of macro fauna (earthworm)	1 3	1 (<5 %) 3 (25 – 50%)

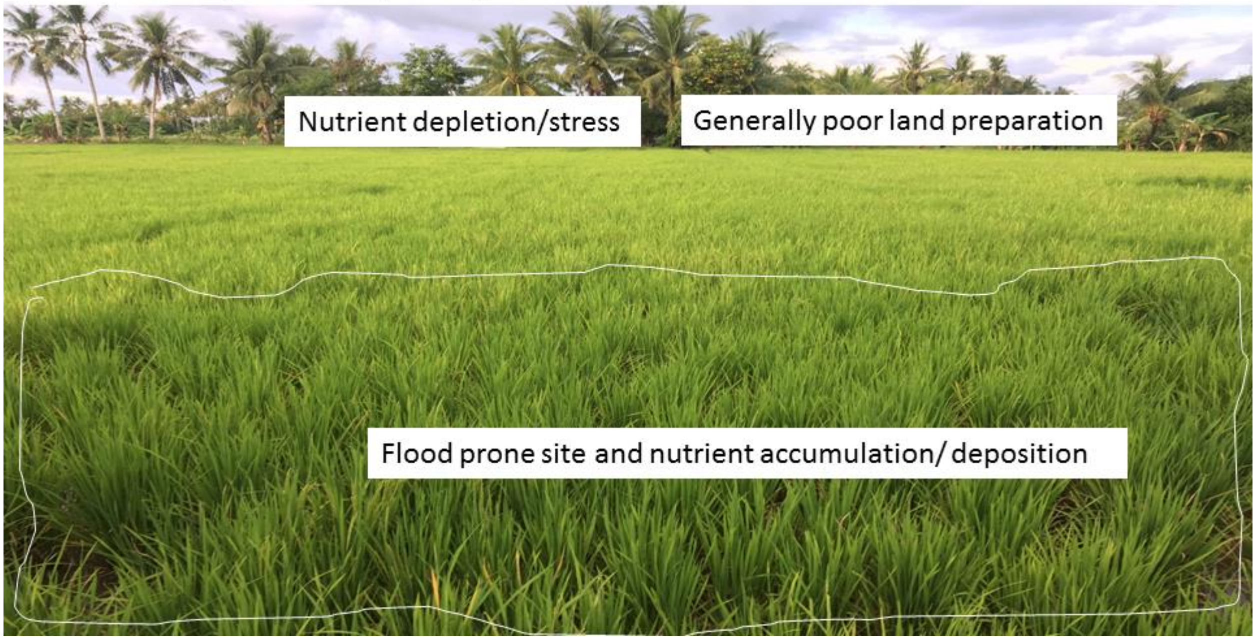
Calculation of the Seasonal Composite Land Degradation Index (LDI)

Polygon Number	Drawing up the index (degree + extent)	Ranking the Seasonal degradation status (symbol) of dominant Degradation type	Degradation Status	Color
		Dry Season		
1	2 + 3 = 5	Medium (Pc)	3	
1a	3 + 1 = 4	Low (Pc)	2	
2	2+ 1= 3	Low (Ph)	2	
	4 + 3 + 7	High (Bd)	4	
		Wet Season		
1	3 + 3 = 6	Medium (Ws)	3	
1a	1 + 1 = 2	Very low (Wd)	1	
2	1 + 1 = 2	Very low (Pw)	1	
	3 + 3 = 6	Medium (Bd)	3	

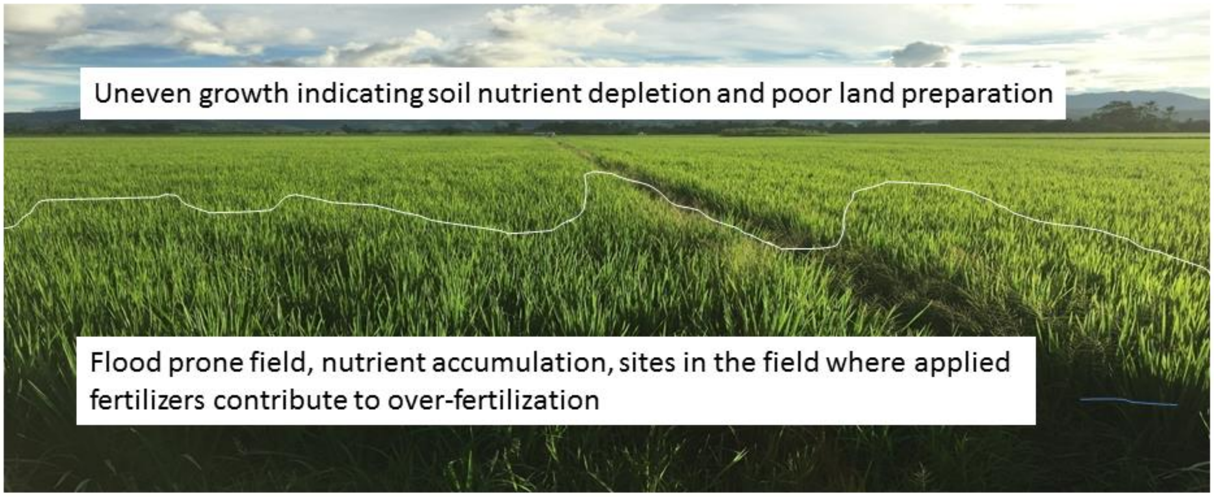
New and Redesigned Pilot Sites, Tadok, Abuyog, Leyte

Site 1. Traditional rice farming practices to Adaptation of LDI-guided Good Practice

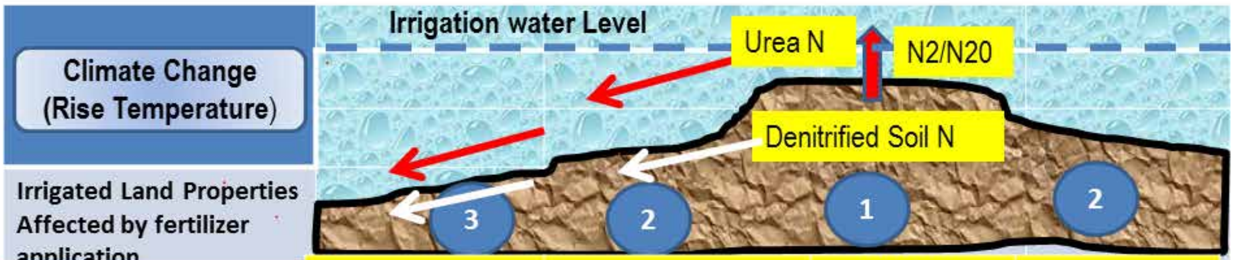
Site 1 – Mang Poldo. Tenant , Tadok, Abuyog, Leyte
Area 1.5 hectares. Seasonally flooded
Farm practices incorporate rice straw into the farm plus 2 bags each of Urea and 21-0-0
Degradation type – Nutrient depletion. Phosphorous depletion due to inadequate and imbalanced fertilizer application
Yield – 4.0 tons per hectare (120 bags for 1.5 hectares



Site 2, Tadok, Abuyog, Leyte: Adopting good farm practices with adaptive benefits to complement LDI-guided technologies of LDI-guided SLM2



Landscape base Monitoring of Chemical Fertilizer and Native Soil Nutrient



❑Depth of irrigation water	Deep	Moderate	Shallow (High tempt – loss of Soil N to atmosphere)	Moderate
❑Pattern of loss and gain of Fertilizer N and Soil N reserves to moving irrigation water	Nutrient accumulation: Gainers of fertilizer and soil N Reserve	Zero net loss /Gain of Fertilizer and Soil N Reserves	Loss of all soil nutrients to irrigation water movement	Zero net loss /Gain of Fertilizer and Soil N Reserves
❑Implications of soil N and applied N & increase in weed problem	Potential problem of over-fertilization	Underestimation of fertilizer application	Yield loss due to high loss of soil nutrients & weed problem	Under-estimation of fertilizer application
❑ Action required to reduce yield losses due to uncontrolled transfer of soil N and applied fertilizers	Streamlined Soil pH and Soil Carbon and Biomass - Yield Monitoring System :			

Paired Sites for LDI – SLM Monitoring of Irrigated Lowland Rice Farms

- In each location, two farmers with different knowledge, initiatives and capacities are identified, interviewed in the site and are selected to determine the gaps in SLM technology and good practices with adaptive benefits and benefits and impacts to ecosystem and communities at multiple levels : household, community, national, and global).
  - Create basis for the estimation of degradation due to difference in management/farming practices , seasonal flooding and climate uncertainties

- The Paired – Farmer-based LDI – SLM monitoring and documentation will enhance and encourage the farmer to farmer review of emerging and potentially relevant changes for improving their respective adaptive technologies and practices. This is an important part of the ADOPTION – ADAPTATION process discussed in the early stage of SLM's consultant's engagement in the project.

- It provides benchmark indicators for the participatory determination of positive and negative changes in the adopted technologies of local farmers and which shall serve in the selection of appropriate technologies that will differentiate SLM1 and LDI-guided SLM2 of the project.

Context for the CATCH – UP STRATEGIES for the implementation and Selection of Sites for SLM1 Reformulation for LDI-Guided SLM 2 Adaptation

1. **Catch up Strategies for the Formulation , Documentation of the Adaptation of SLM 2, the LDI-guided SLM for preventing Soil Fertility Depletion**
   – Identify the sites with farmer-leaders that are practitioners of SLM technologies with adaptive benefits and impacts to ecosystem and communities at multiple levels : household, community, national, and global).

2. Project support is in the form of corrective SLM 1 inputs for the complementary technologies for the adaption of LDI-guided Adaptive SLM2

   a. Trichoderma - enhance rice straw composting is the core of the SLM1

   b. Additional corrective fertilizer inputs for attainment of proper balance between Nitrogen and Phosphorous application. Farmer will be advise on the type and amount of fertilizers and additional fertilizer maybe provided when the recommended rates exceeded in number/rate and total cost from his original practice.

   c. Identify and implement Zinc fertilization program, the soil micro-nutrient that limit the yield of Samar and Leyte provinces and other flood prone rice growing regions in the country
3. Project Activities: LDI will deal with the monitoring of improvement of soil pH, soil carbon, including P and K and crop yield

I. Sta Fe, Catch up Techno-demo: The LDI-guided SLM 2 Adaptation Model Farms: Benchmark for SLM Adaptation

1. Farmer – Site 1 : Model Farmer: Practitioner of full SLM 1 (Soil fertility management by rice straw incorporation (soil carbon stock development) with chemical fertilizers that minimize depletion of native soil fertility. The complementary inputs will support the improvement of SLM1 and the adaptation of the LDI-guided SLM2
2. Farmer – Site 2: New Adopter/practitioner of SLM that will provide baseline estimation of technology gap between SLM 1 and LDI-guided SLM2

II . Tadok, Abuyog, Leyte: LDI –SLM Monitoring Techno- demo for Adaptation for LDI-GUIDED SLM2

1. Farmer – Site 1: Non SLM technology adopter.

   The Challenge – Transforming Traditional Farming Practices to LDI-guided Good Agriculture Practices (GAP)

2. Farmer-Site 2: Adopter GAP with adaptive benefits to complement LDI-guided technologies of LDI-guided SLM2 of the Catch-up Strategies:

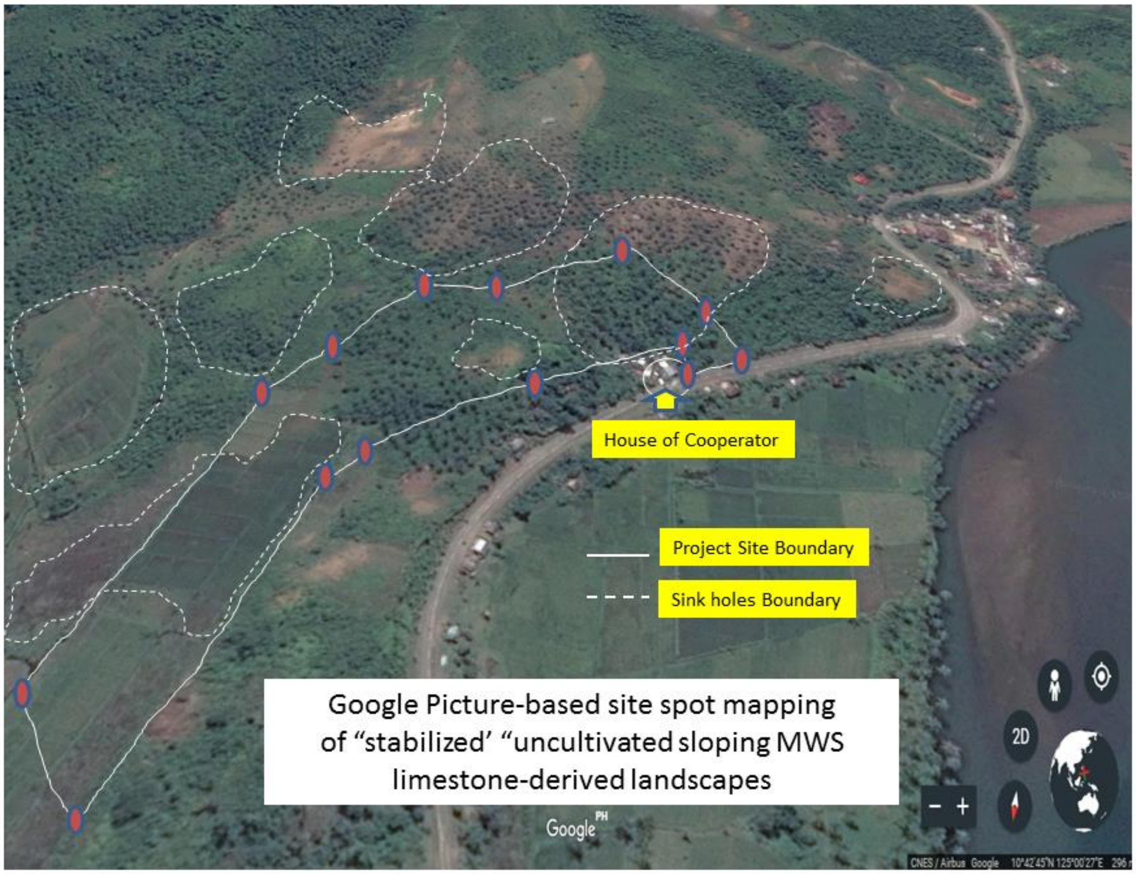
   The Challenge: From GAP to LDI-guided SLM 2 adaptation

III. Tadok, Leyte: Restoration of Stabilized Underutilized Upland farms that are Colonized and Stabilized by Invasive weeds

Strategies: Planting common “high value” fruit trees (Jackfruit) that can compete with invasive weeds

Stabilized Nutrient – depleted Upland Areas
Tadok, Abuyog, Leyye

Restoration of Stabilized Underutilized Upland farms that are Colonized and Stabilized by Invasive weeds


House of Cooperator
Project Site Boundary
Sink holes Boundary
Google Picture-based site spot mapping
of "stabilized' "uncultivated sloping MWS
limestone-derived landscapes
Google
2D

Location : 3 (0-3 % slopes)

Location : 3 (0-3 % slopes)

CLICK MOUSE HERE TO RETURN TO MAP

Lowland, generally sinkholes and waterway corridor with acid sulfate soils constantly flood during wet months

Sheet erosion where plant roots (runners) exploit residual **moisture** along run-off lines

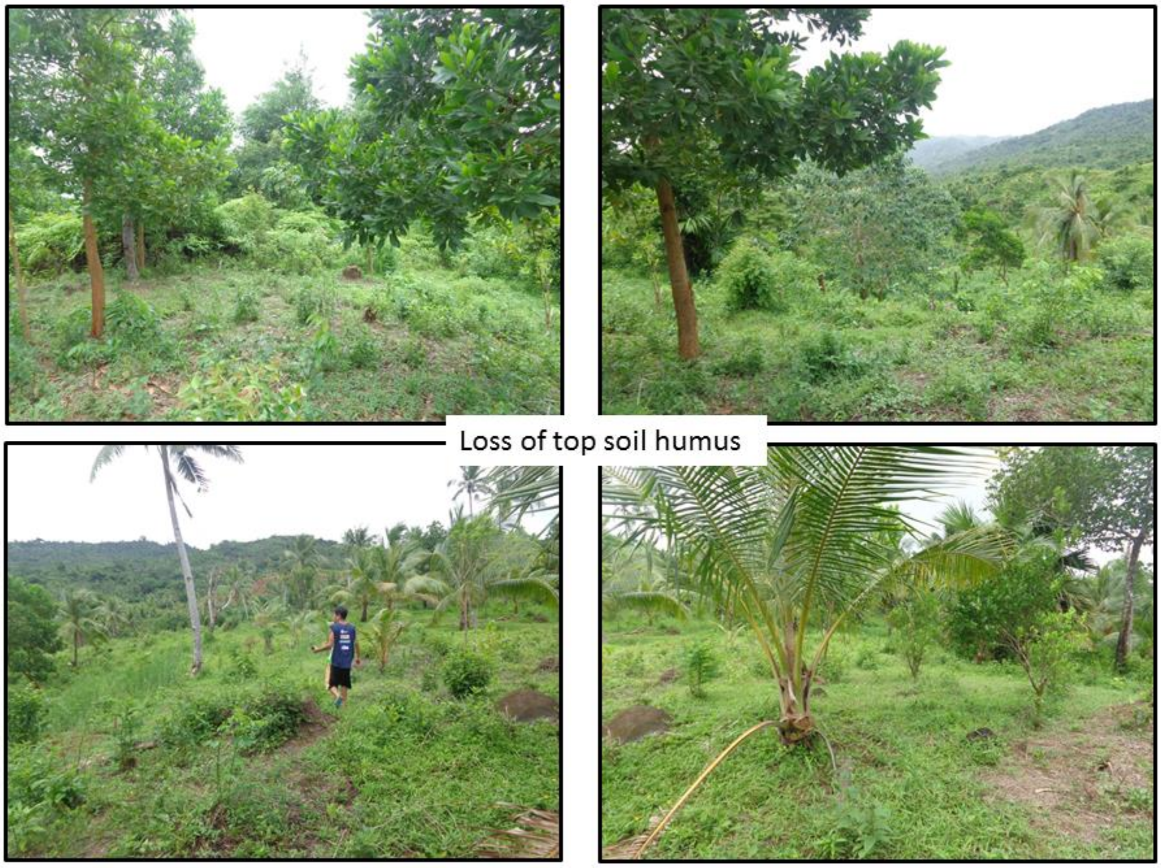
Location : 4 (3-8 % slopes)

CLICK MOUSE HERE TO RETURN TO MAP

Location : 5 (3-8 %slopes)

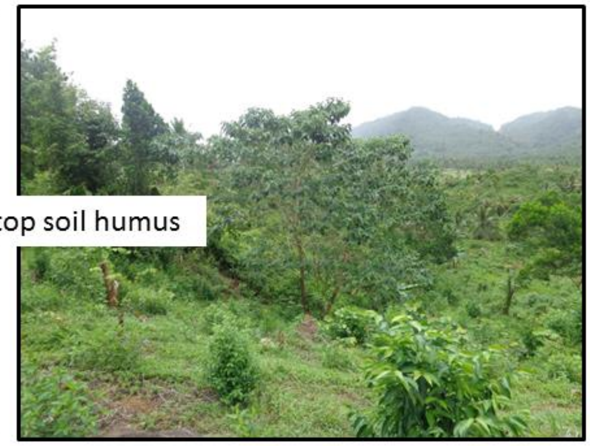
CLICK MOUSE HERE TO RETURN TO MAP

Location : 1 (8-18 percent slopes)



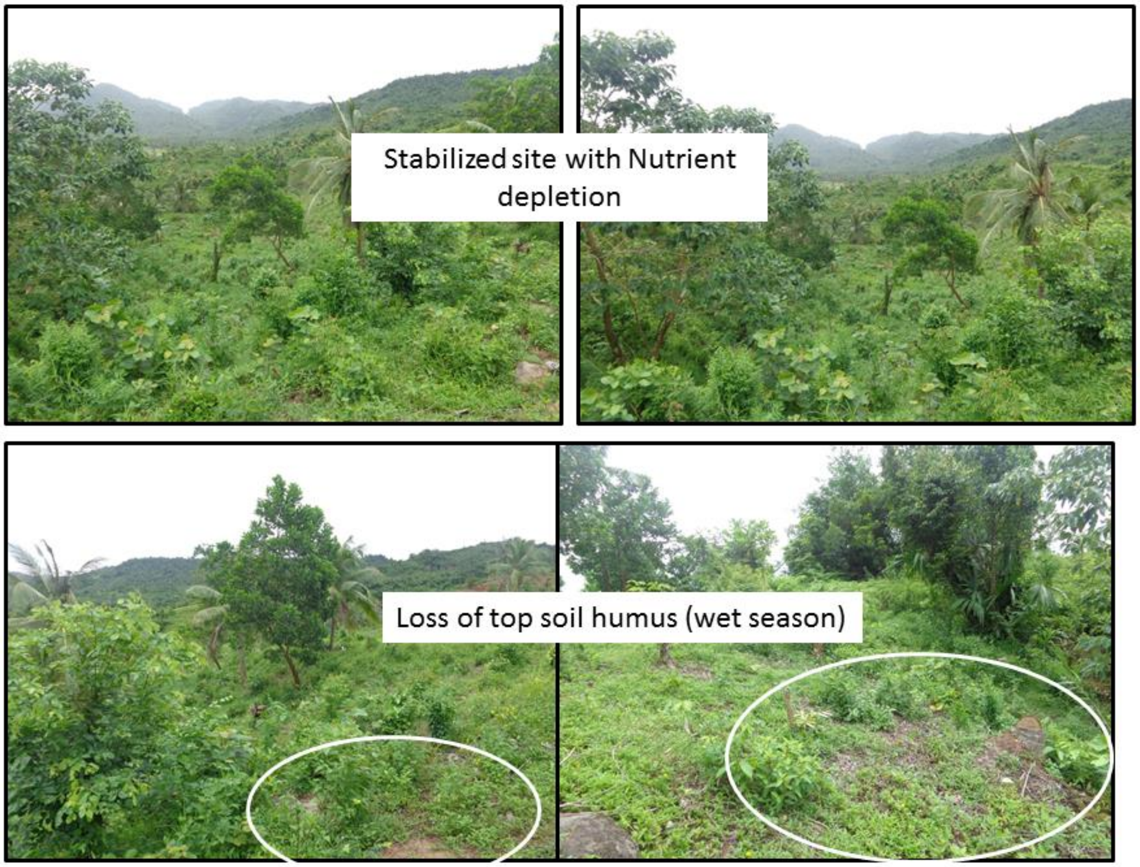
Loss of top soil humus

Location : 1   (8-18 percent slopes)



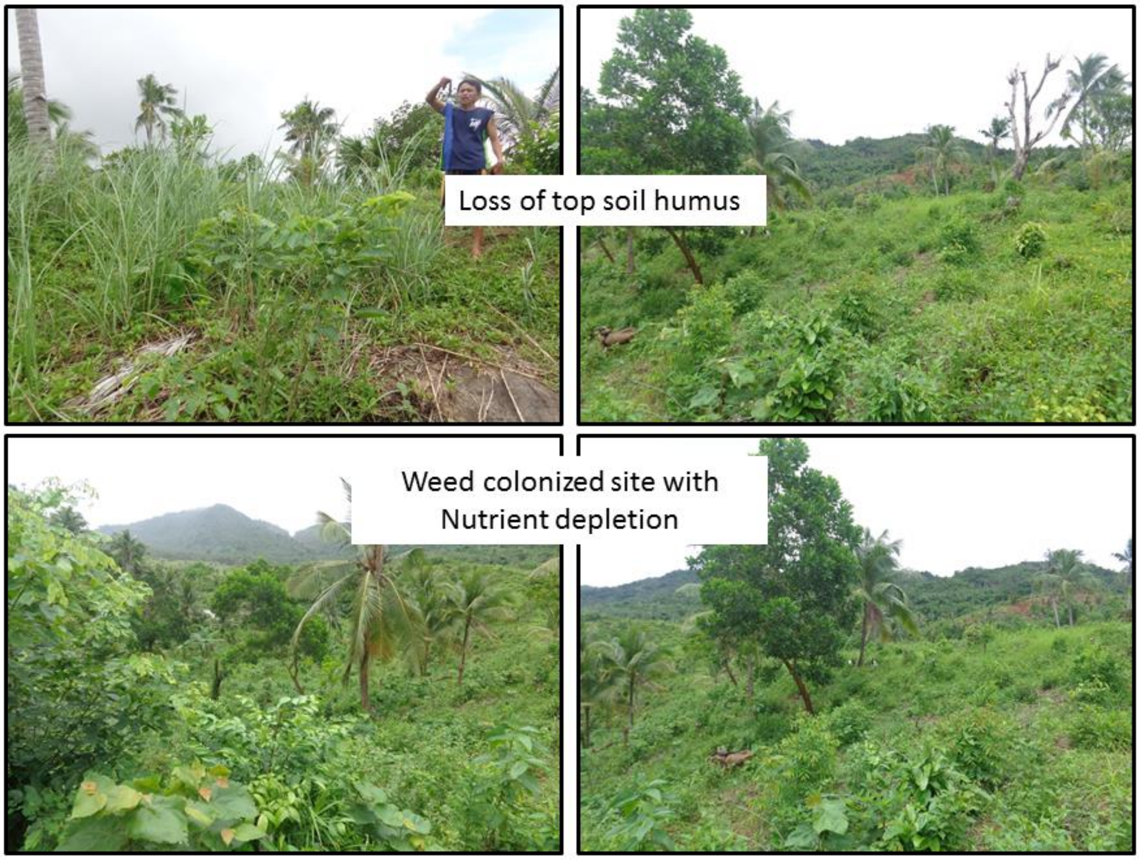
Loss of top soil humus

Location : 1 (8-18 percent slopes)



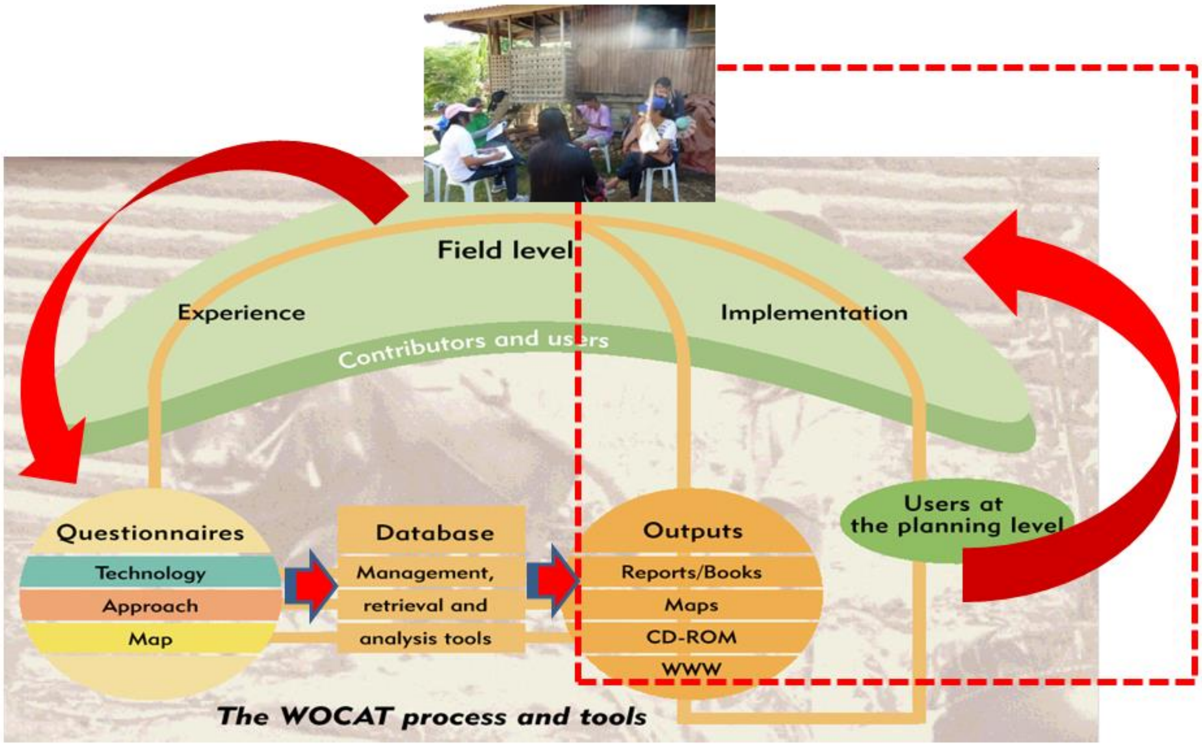
Location : 1 (8-18 percent slopes)

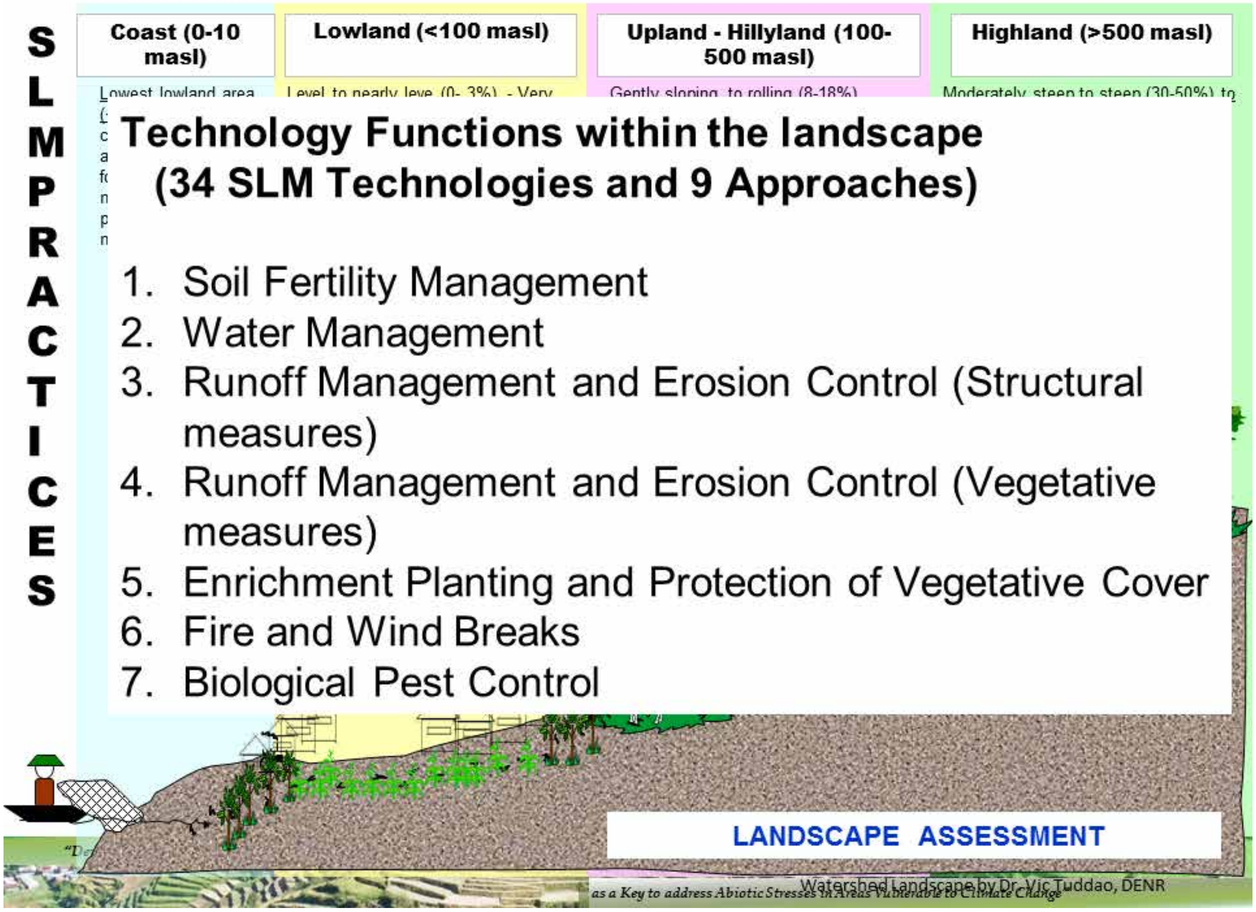
CLICK MOUSE HERE TO RETURN TO MAP



Annex J: Full presentation of Engr. Samuel Contreras

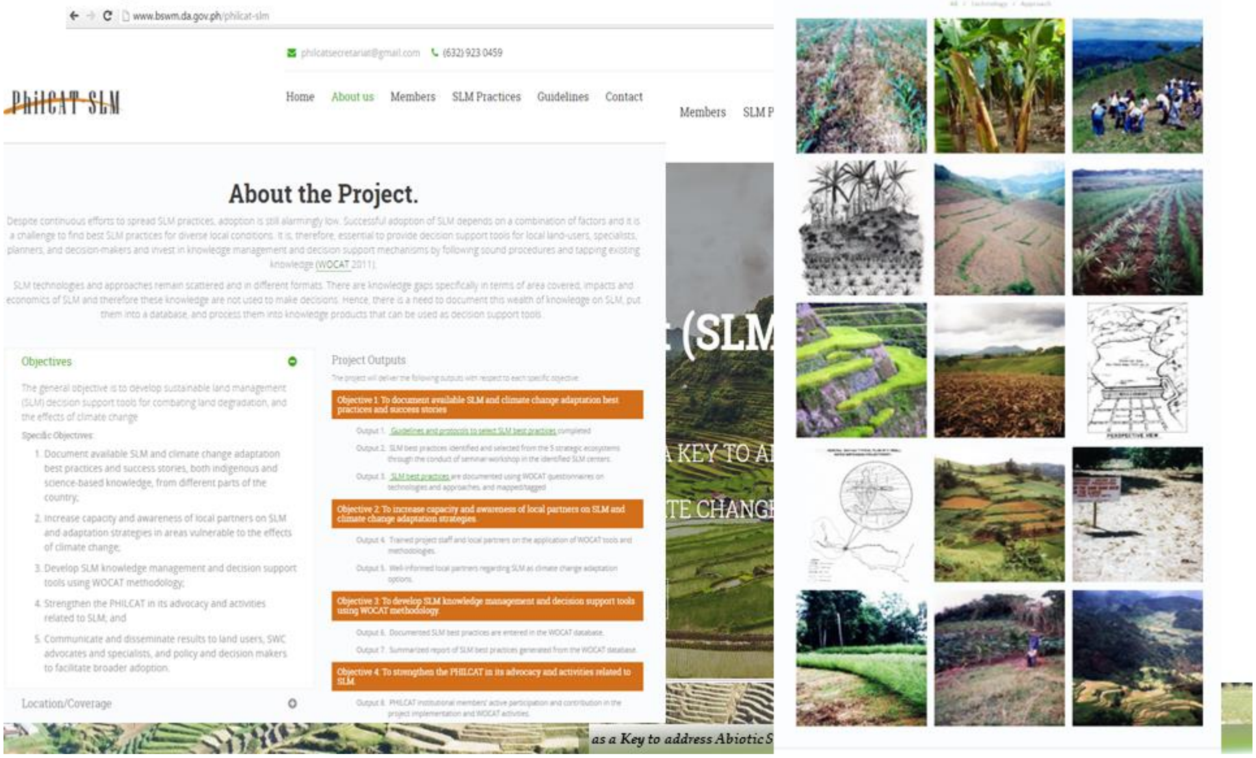
The WOCAT Process and Tools




S L M P R A C T I C E S
Coast (0-10 masl)
Lowland (<100 masl)
Upland - Hillyland (100-500 masl)
Highland (>500 masl)
Technology Functions within the landscape
(34 SLM Technologies and 9 Approaches)
1. Soil Fertility Management
2. Water Management
3. Runoff Management and Erosion Control (Structural measures)
4. Runoff Management and Erosion Control (Vegetative measures)
5. Enrichment Planting and Protection of Vegetative Cover
6. Fire and Wind Breaks
7. Biological Pest Control
LANDSCAPE ASSESSMENT
Watershed Landscape by Dr. Vic Tuddao, DENR

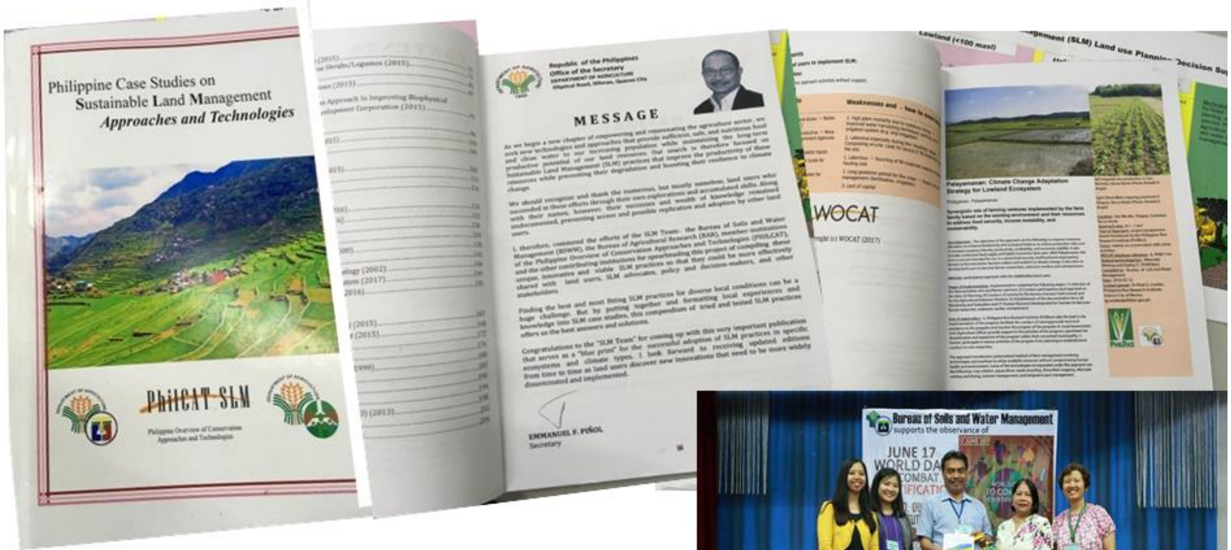
SLM PRACTICES IN THE PHL

Project Web site

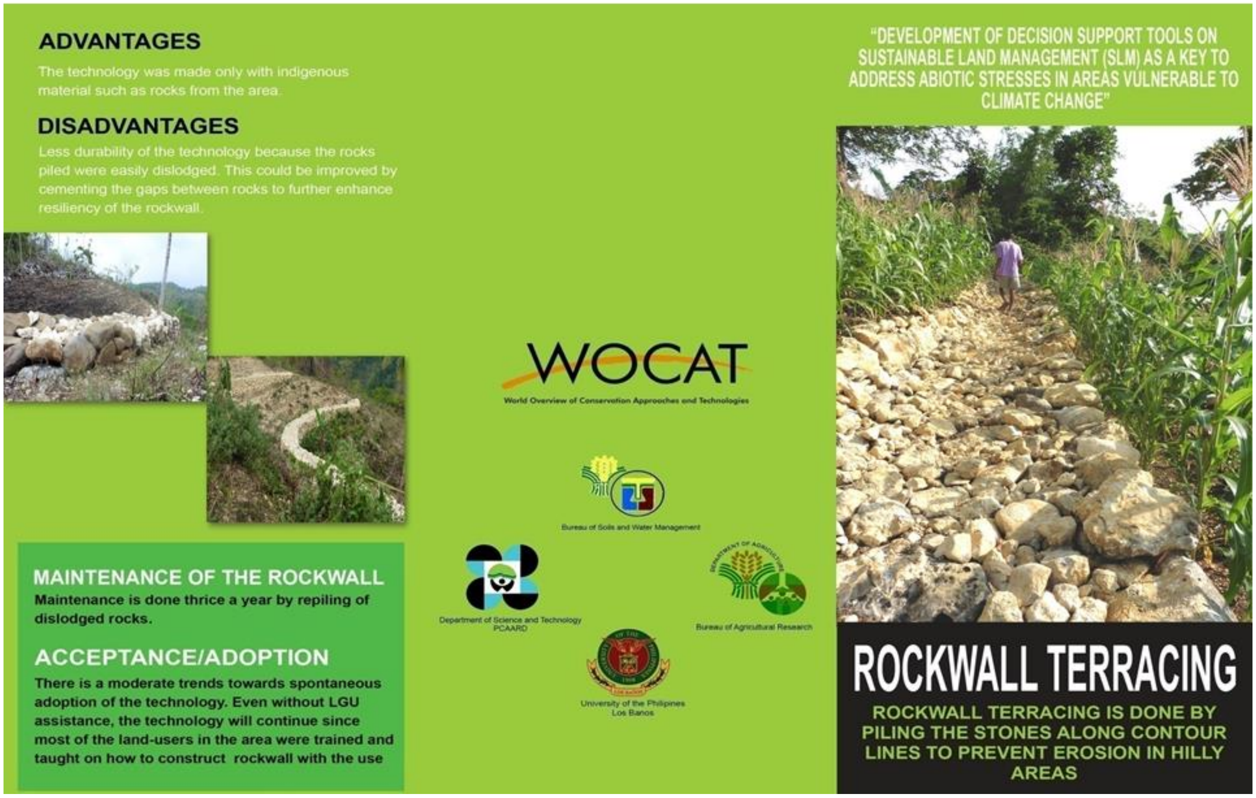


Compilation of SLM Best Practices

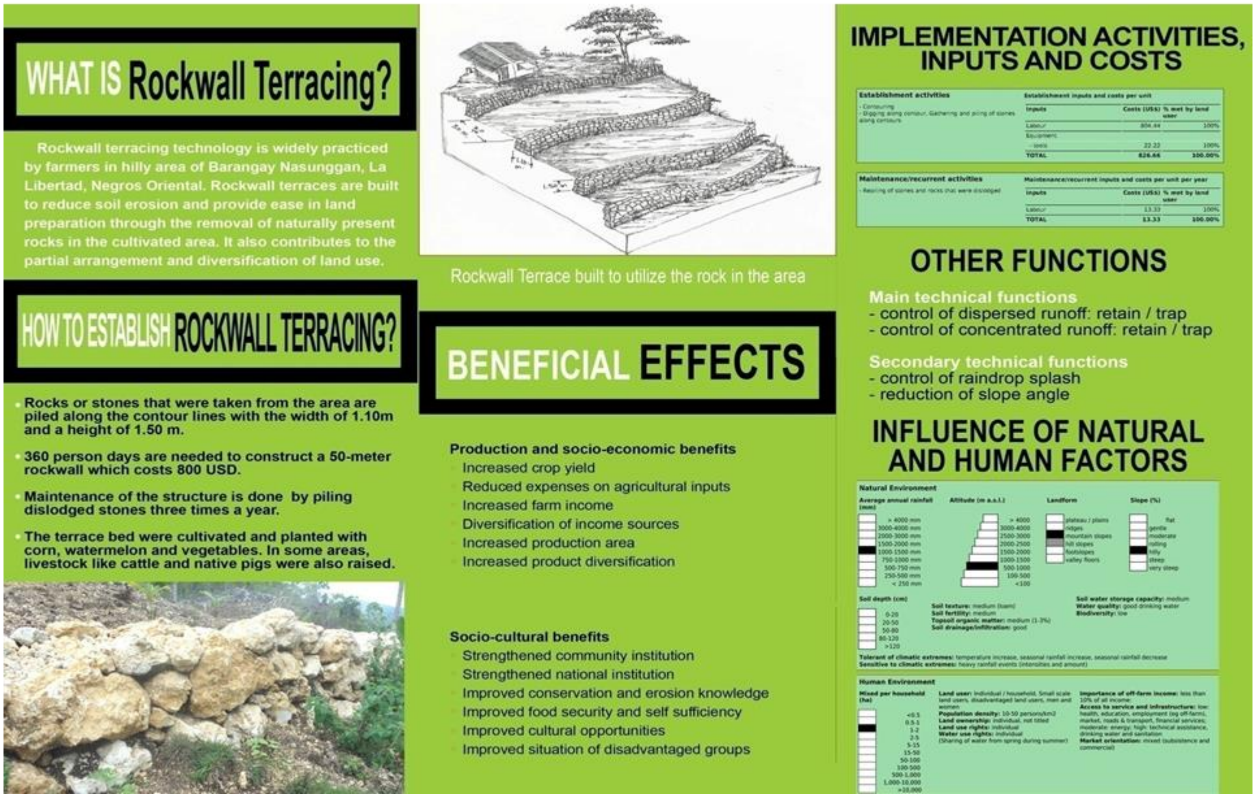
Philippine SLM Case Studies……



IEC Materials Production

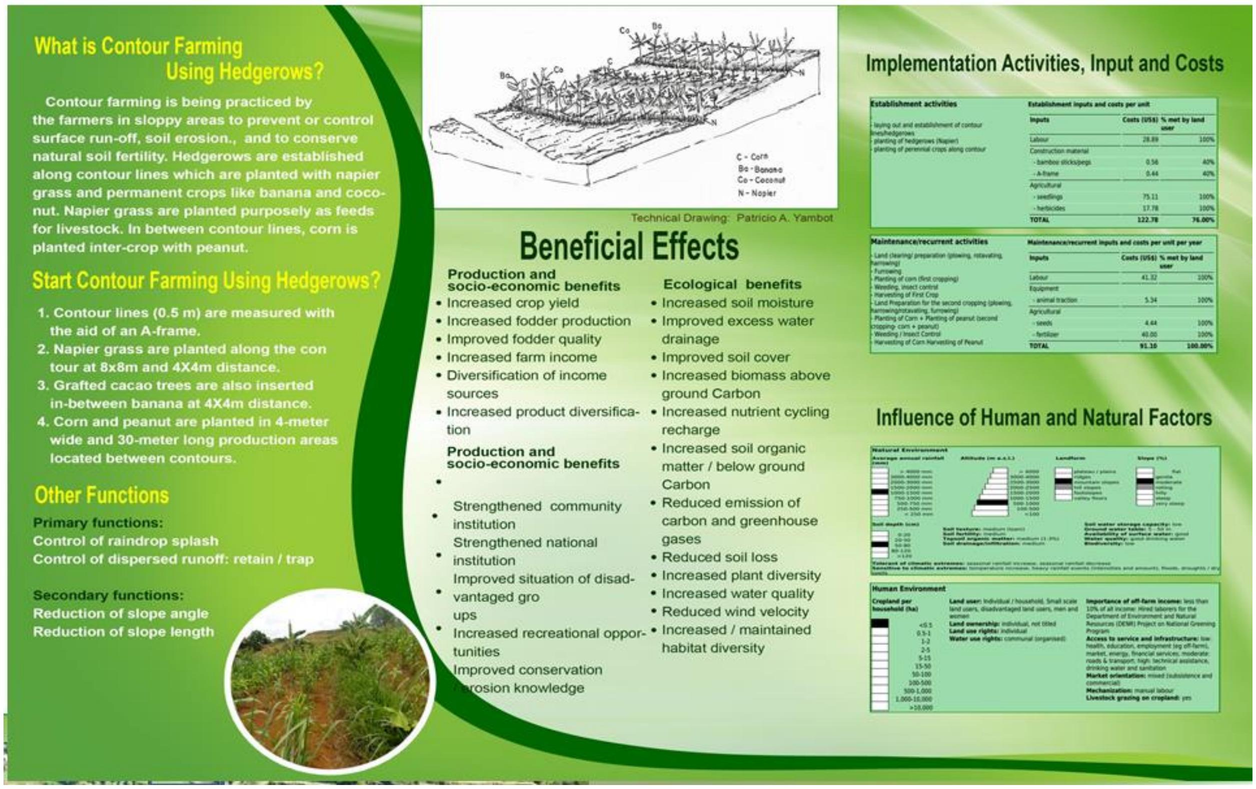


IEC Materials Production

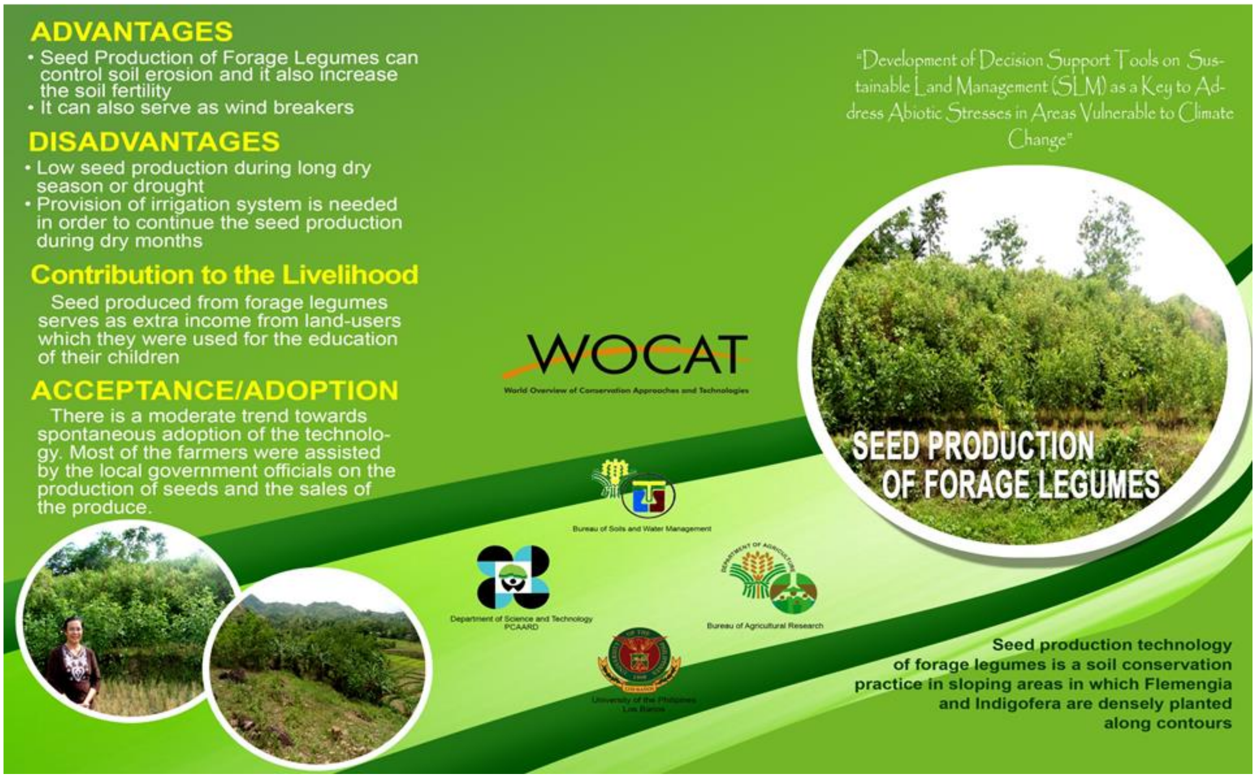


IEC Materials Production

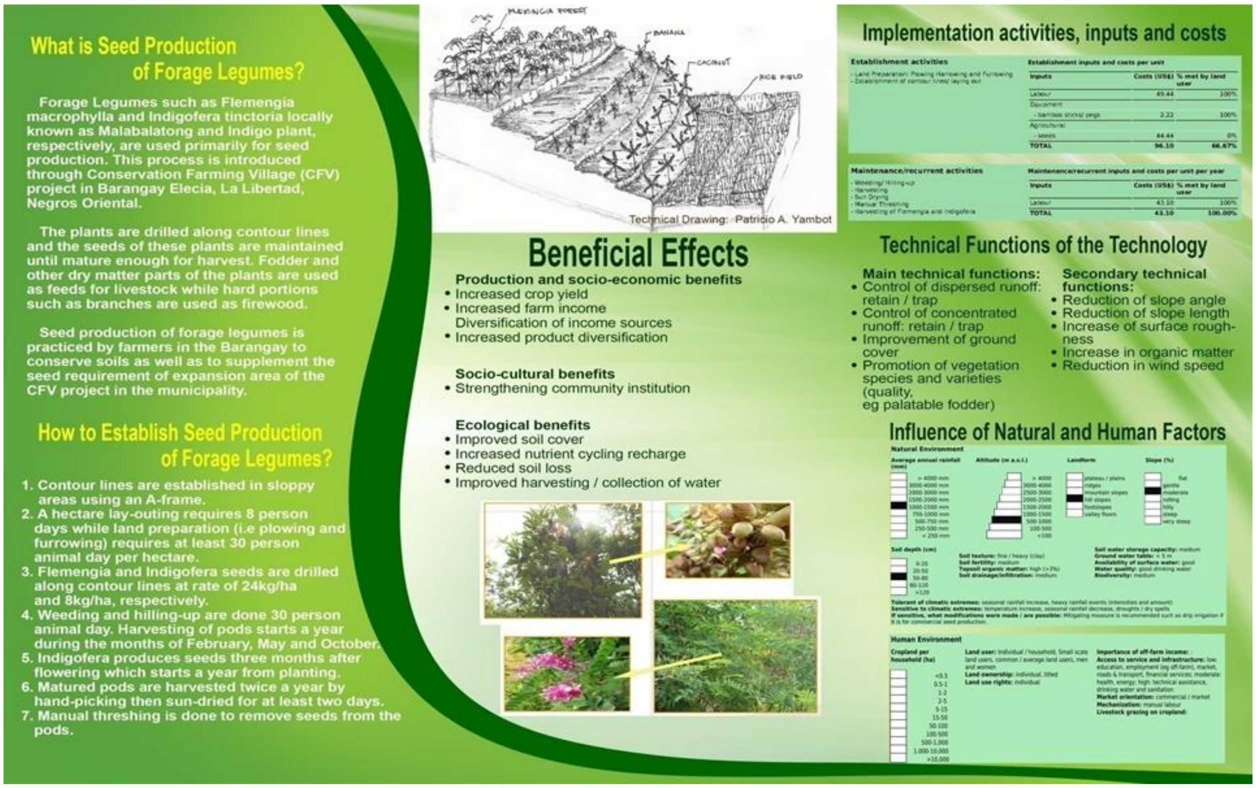
IEC Materials Production



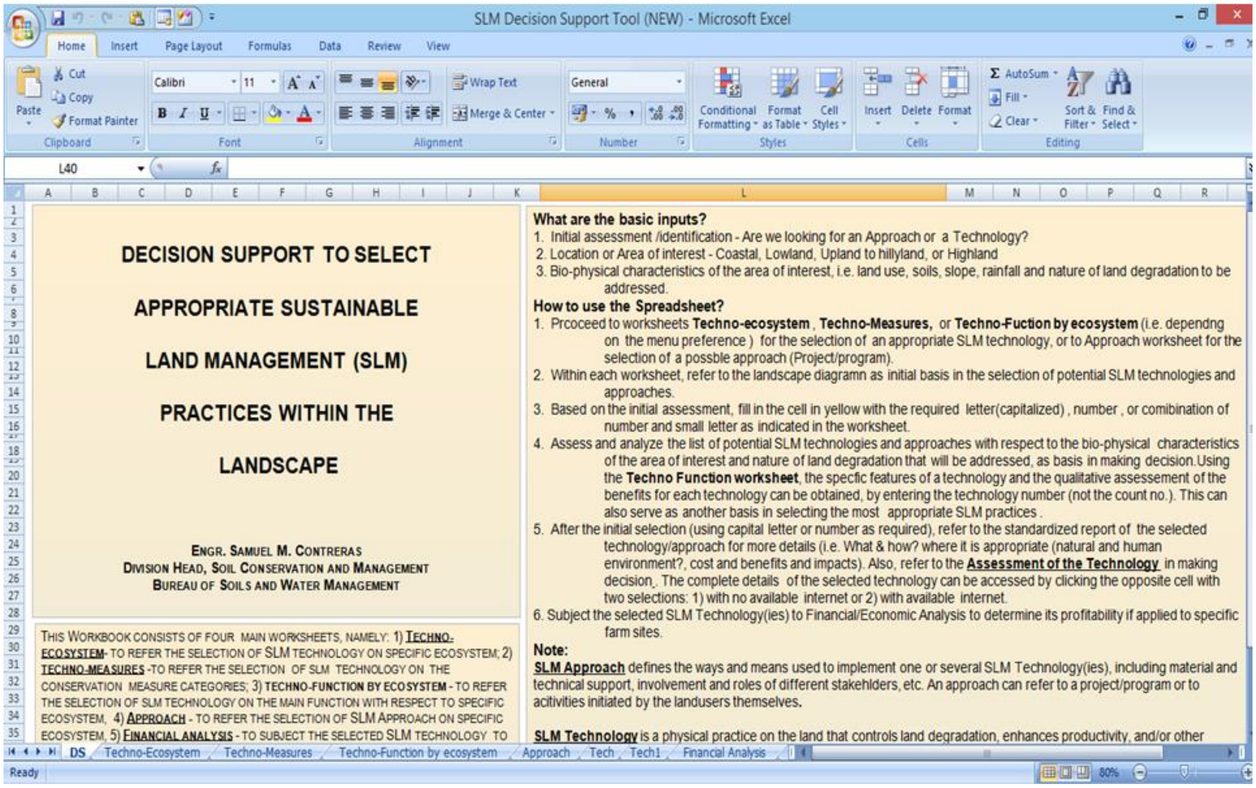
IEC Materials Production



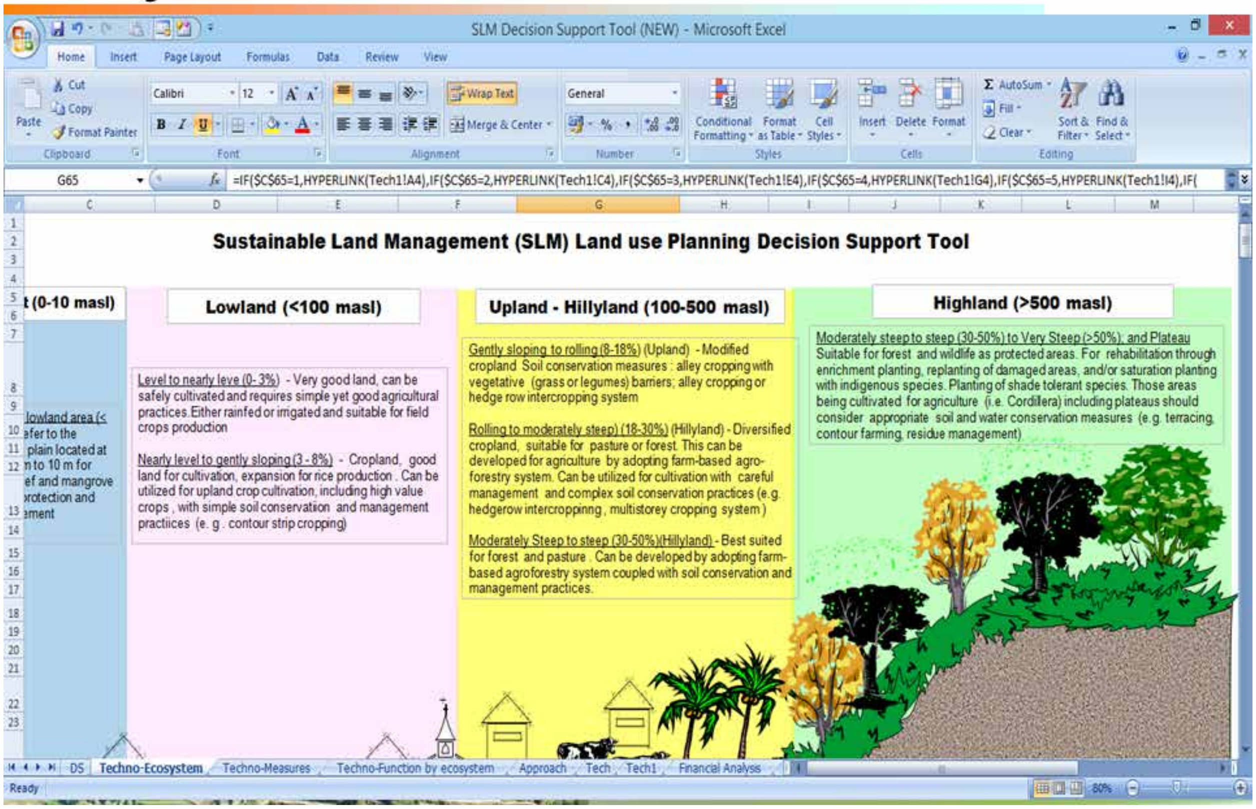
IEC Materials Production



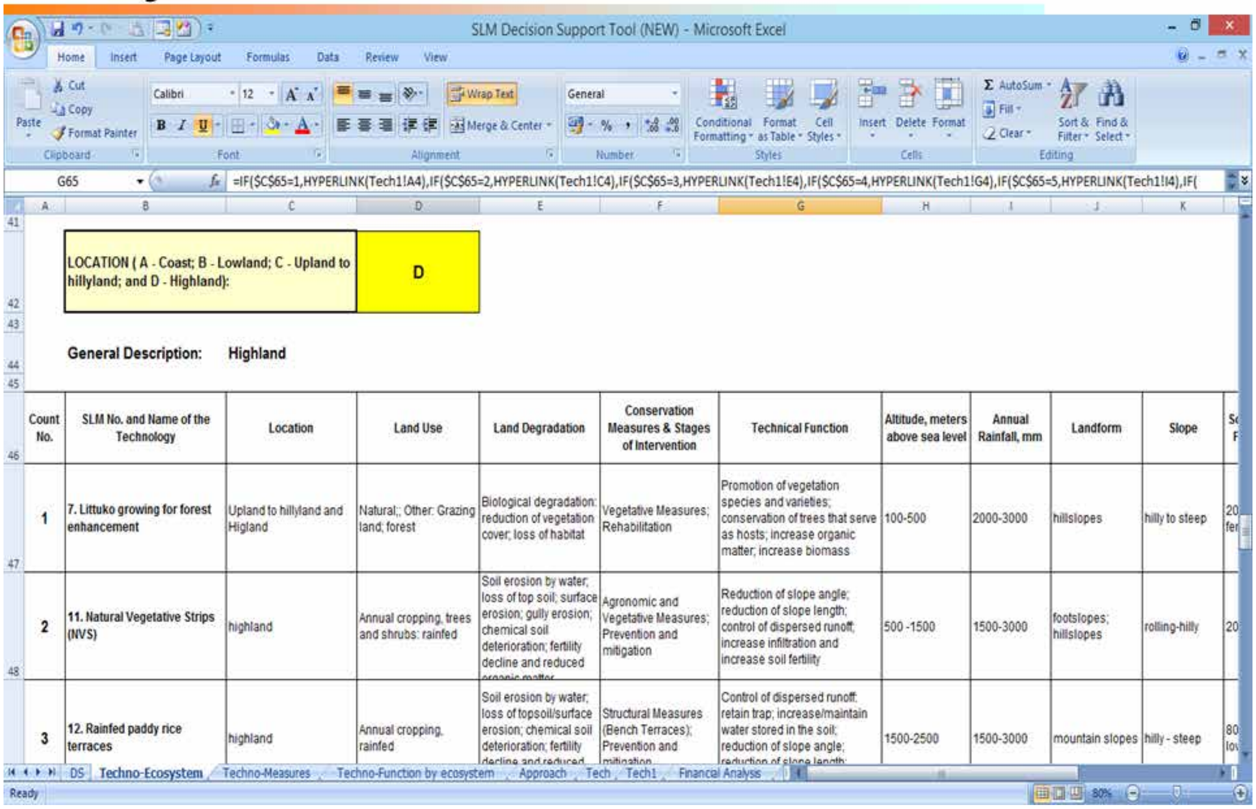
Decision support to select SLM options using Excel



Decision support to select SLM options by Ecosystem



Decision support to select SLM options by Ecosystem



SLM Decision Support Tool (NEW) - Microsoft Excel

=IF(C65=1,HYPERLINK(Tech1!A4),IF(C65=2,HYPERLINK(Tech1!C4),IF(C65=3,HYPERLINK(Tech1!E4),IF(C65=4,HYPERLINK(Tech1!G4),IF(C65=5,HYPERLINK(Tech1!I4),IF(

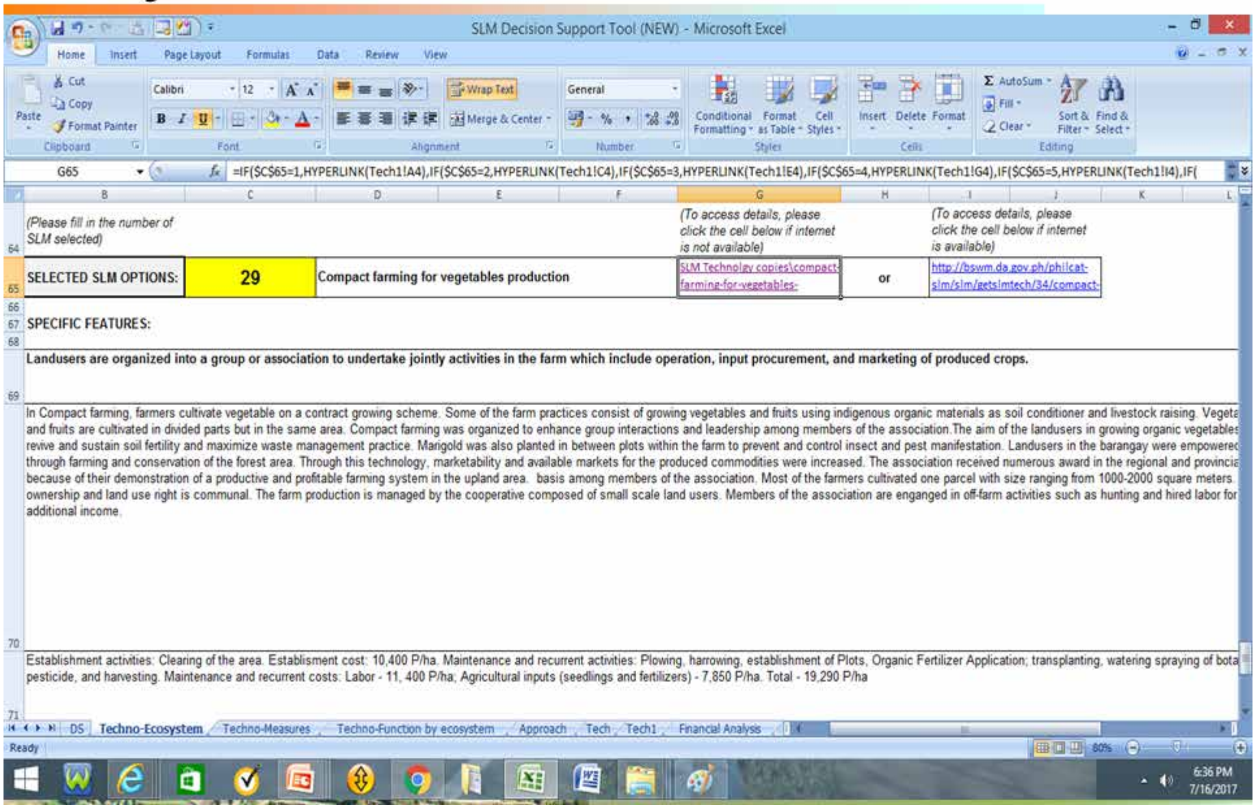
LOCATION (A - Coast; B - Lowland; C - Upland to hillyland; and D - Highland): **D**

General Description: **Highland**

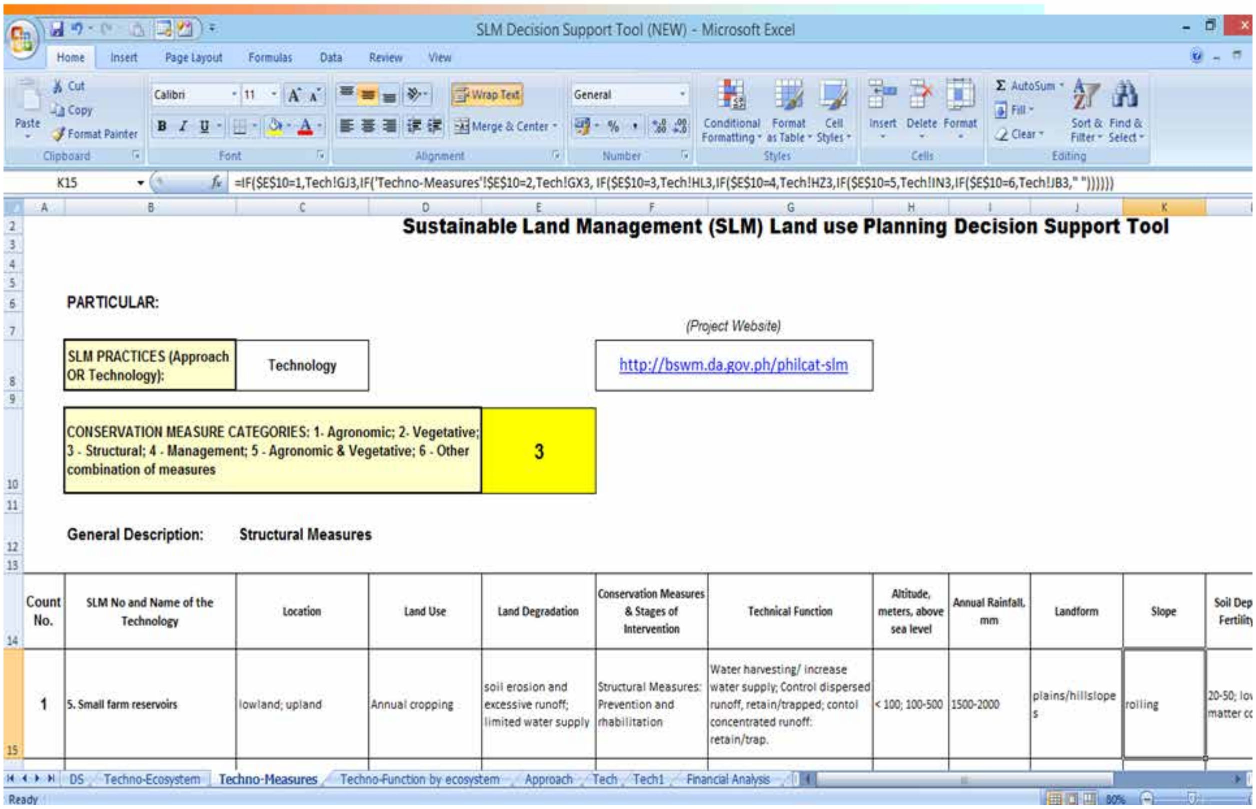
Count No.	SLM No. and Name of the Technology	Location	Land Use	Land Degradation	Conservation Measures & Stages of Intervention	Technical Function	Altitude, meters above sea level	Annual Rainfall, mm	Landform	Slope
1	**7. Littuko growing for forest enhancement**	Upland to hillyland and Higland	Natural;; Other: Grazing land; forest	Biological degradation: reduction of vegetation cover; loss of habitat	Vegetative Measures; Rehabilitation	Promotion of vegetation species and varieties; conservation of trees that serve as hosts; increase organic matter; increase biomass	100-500	2000-3000	hillslopes	hilly to steep
2	**11. Natural Vegetative Strips (NVS)**	highland	Annual cropping, trees and shrubs: rainfed	Soil erosion by water; loss of top soil; surface erosion; gully erosion; chemical soil deterioration; fertility decline and reduced organic matter	Agronomic and Vegetative Measures; Prevention and mitigation	Reduction of slope angle; reduction of slope length; control of dispersed runoff; increase infiltration and increase soil fertility	500 -1500	1500-3000	footslopes; hillslopes	rolling-hilly
3	**12. Rainfed paddy rice terraces**	highland	Annual cropping, rainfed	Soil erosion by water; loss of topsoil/surface erosion; chemical soil deterioration; fertility decline and reduced	Structural Measures (Bench Terraces); Prevention and mitigation	Control of dispersed runoff; retain trap; increase/maintain water stored in the soil; reduction of slope angle; reduction of slope length;	1500-2500	1500-3000	mountain slopes	hilly - steep

DS | Techno-Ecosystem | Techno-Measures | Techno-Function by ecosystem | Approach | Tech | Tech1 | Financial Analysis

Decision support to select SLM options by Ecosystem



Decision support to select SLM options by Type of Measures



Decision support to select SLM options by Functions within specific ecosystem

SLM Decision Support Tool (NEW) - Microsoft Excel

Sustainable Land Management (SLM) Approaches and Technologies Search Tool

PARTICULAR:

SLM PRACTICES (Approach OR Technology):	Technology

(Project Website)

http://bswm.da.gov.ph/philcat-slm

MAIN FUNCTION: 1- Soil Fertility Mgmt (**1a**-lowland, **1b**-upland to hillyland,**1c**-highland); **2- Water Mgmt** (**2a**-lowland; **2b**-upland to hillyland; **2c-highland**); 3 - **Runoff Mgmt & Erosion Control (Structural)** (**3a**-lowland, **3b**-upland to hillyland, **3c**-highland) ; **4 - Runoff Mgmt & Erosion Control (Vegetative)** (**4a**-lowland, **4b**-upland to hillyland, **4c**-highland); **5 - Enrichment & Protection of Vegetative Cover** (**5a**-coastal/lowland, **5b**-upland to hillyland, **5c**-highland); **6 - Fire and Wind Breaks** (**6a**-lowland, **6b**-upland to hillyland, **6c**-highland); **7 - Biological Pest Control** (**7a**-lowland, **7b**-upland to hillyland, **7c**-highland); 8 - Others (**8a**-lowland, **8b**-upland to hillyland, **8c**-highland)

5a

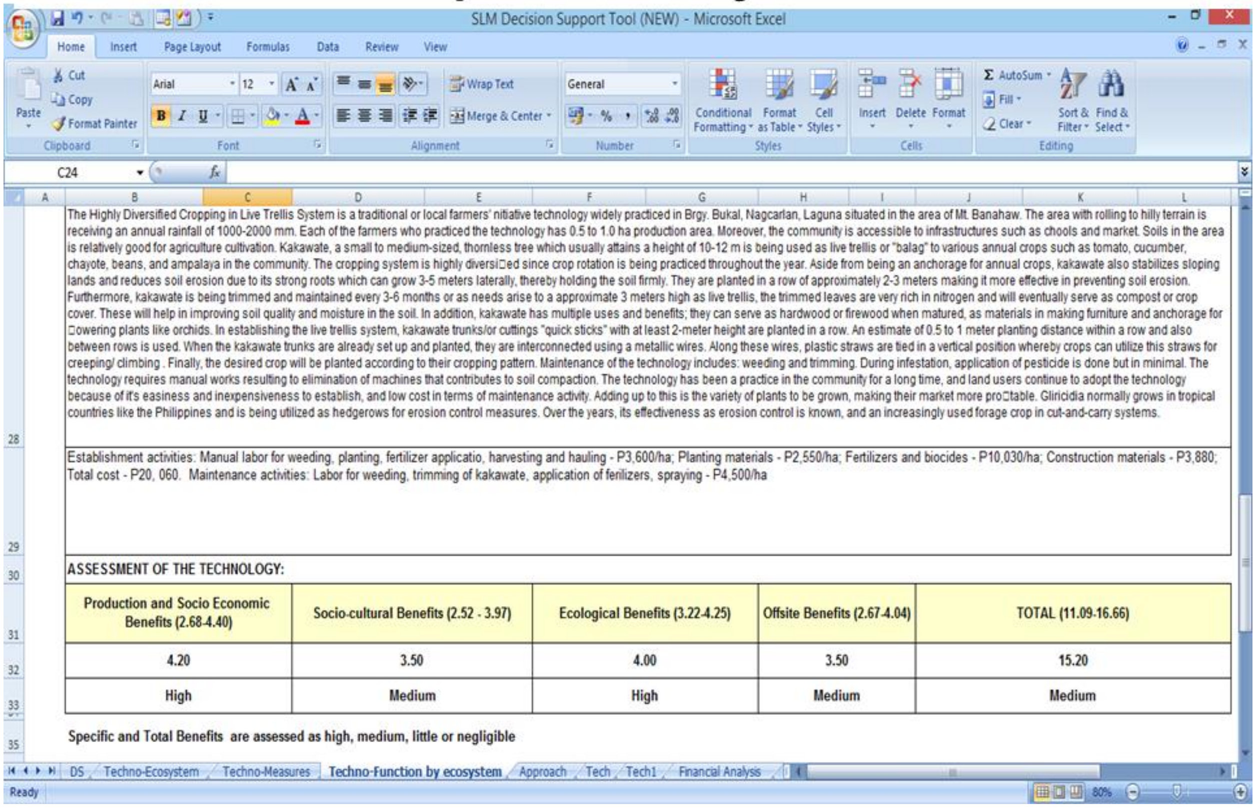
Objective: Enrichment and/or Protection of Vegetative cover to address vegetation degradation in the coastal/lowland area

RANGE OF ALTERNATIVE OPTIONS:

Count No.	SLM No. and Name of the Technology	Location	Land Use	Land Degradation	Conservation Measures & Stages of Intervention	Technical Function	Altitude, meters above sea level	Annual Rainfall, mm	Landform	Slope	Soil Depth, cm & Fertility Status
1	32. Mangrove as buffer against natural hazard	Coastal area	Forest/woodlands; crustaceans breeding ground	Reduction of vegetation cover; loss of habitats	Vegetatative measures; prevent land degradation	Conserve ecosystem; preserve improve biodiversity; reduce disaster; adapt to CC; mitigate	0.00- 100	1,500 - 2,000	Coast	0-2	Low

DS | Techno-Ecosystem | Techno-Measures | Techno-Function by ecosystem | Approach | Tech | Tech1 | Financial Analysis

Decision support to select SLM options by Functions within specific ecosystem



SLM Decision Support Tool (NEW) - Microsoft Excel

The Highly Diversified Cropping in Live Trellis System is a traditional or local farmers' nitiative technology widely practiced in Brgy. Bukal, Nagcarlan, Laguna situated in the area of Mt. Banahaw. The area with rolling to hilly terrain is receiving an annual rainfall of 1000-2000 mm. Each of the farmers who practiced the technology has 0.5 to 1.0 ha production area. Moreover, the community is accessible to infrastructures such as chools and market. Soils in the area is relatively good for agriculture cultivation. Kakawate, a small to medium-sized, thornless tree which usually attains a height of 10-12 m is being used as live trellis or "balag" to various annual crops such as tomato, cucumber, chayote, beans, and ampalaya in the community. The cropping system is highly diversi□ed since crop rotation is being practiced throughout the year. Aside from being an anchorage for annual crops, kakawate also stabilizes sloping lands and reduces soil erosion due to its strong roots which can grow 3-5 meters laterally, thereby holding the soil firmly. They are planted in a row of approximately 2-3 meters making it more effective in preventing soil erosion. Furthermore, kakawate is being trimmed and maintained every 3-6 months or as needs arise to a approximate 3 meters high as live trellis, the trimmed leaves are very rich in nitrogen and will eventually serve as compost or crop cover. These will help in improving soil quality and moisture in the soil. In addition, kakawate has multiple uses and benefits; they can serve as hardwood or firewood when matured, as materials in making furniture and anchorage for □owering plants like orchids. In establishing the live trellis system, kakawate trunks/or cuttings "quick sticks" with at least 2-meter height are planted in a row. An estimate of 0.5 to 1 meter planting distance within a row and also between rows is used. When the kakawate trunks are already set up and planted, they are interconnected using a metallic wires. Along these wires, plastic straws are tied in a vertical position whereby crops can utilize this straws for creeping/ climbing . Finally, the desired crop will be planted according to their cropping pattern. Maintenance of the technology includes: weeding and trimming. During infestation, application of pesticide is done but in minimal. The technology requires manual works resulting to elimination of machines that contributes to soil compaction. The technology has been a practice in the community for a long time, and land users continue to adopt the technology because of it's easiness and inexpensiveness to establish, and low cost in terms of maintenance activity. Adding up to this is the variety of plants to be grown, making their market more pro□table. Gliricidia normally grows in tropical countries like the Philippines and is being utilized as hedgerows for erosion control measures. Over the years, its effectiveness as erosion control is known, and an increasingly used forage crop in cut-and-carry systems.

Establishment activities: Manual labor for weeding, planting, fertilizer applicatio, harvesting and hauling - P3,600/ha; Planting materials - P2,550/ha; Fertilizers and biocides - P10,030/ha; Construction materials - P3,880; Total cost - P20, 060. Maintenance activities: Labor for weeding, trimming of kakawate, application of fenilizers, spraying - P4,500/ha

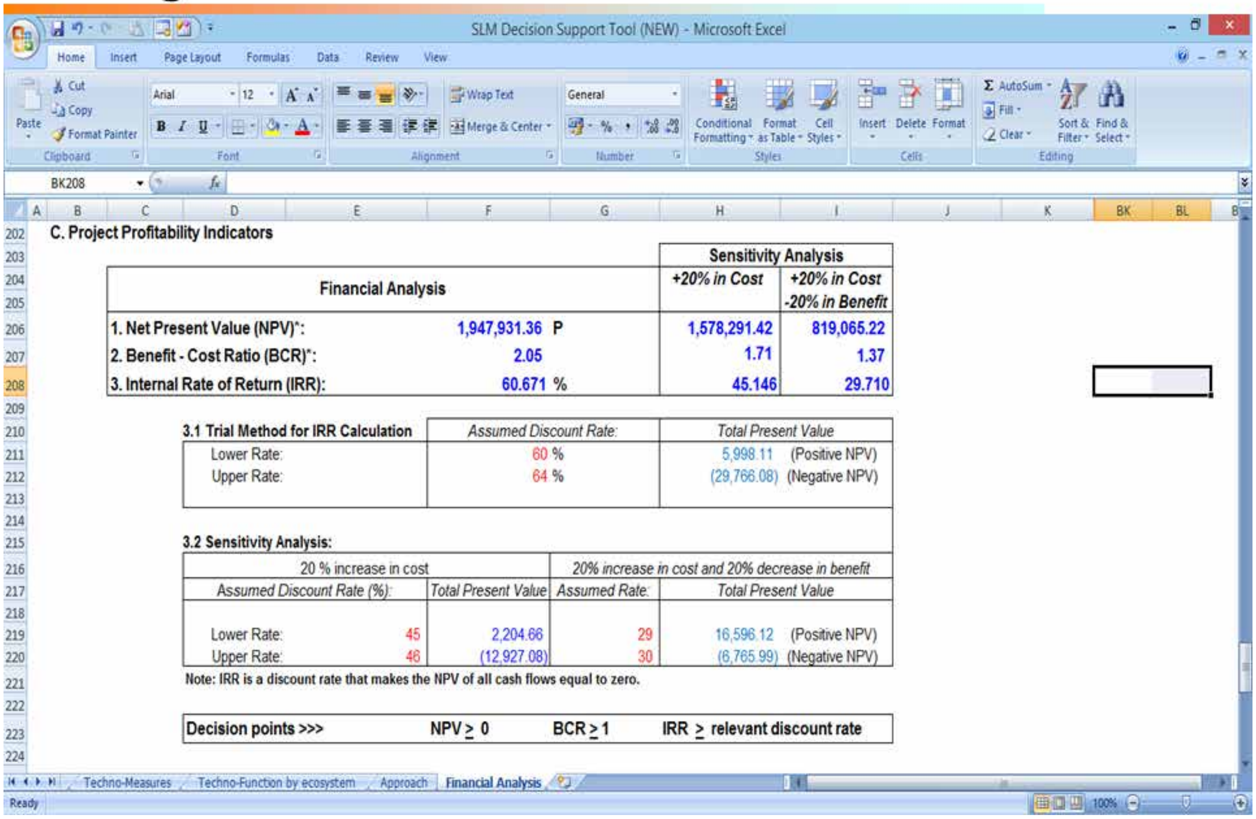
ASSESSMENT OF THE TECHNOLOGY:

Production and Socio Economic Benefits (2.68-4.40)	Socio-cultural Benefits (2.52 - 3.97)	Ecological Benefits (3.22-4.25)	Offsite Benefits (2.67-4.04)	TOTAL (11.09-16.66)
4.20	3.50	4.00	3.50	15.20
High	Medium	High	Medium	Medium

Specific and Total Benefits are assessed as high, medium, little or negligible

DS / Techno-Ecosystem / Techno-Measures / Techno-Function by ecosystem / Approach / Tech / Tech1 / Financial Analysis

Financial and Economic Analysis as basis in making decision



C. Project Profitability Indicators

Financial Analysis		Sensitivity Analysis: +20% in Cost	Sensitivity Analysis: +20% in Cost -20% in Benefit
1. Net Present Value (NPV)*:	1,947,931.36 P	1,578,291.42	819,065.22
2. Benefit - Cost Ratio (BCR)*:	2.05	1.71	1.37
3. Internal Rate of Return (IRR):	60.671 %	45.146	29.710

3.1 Trial Method for IRR Calculation	Assumed Discount Rate:	Total Present Value	
Lower Rate:	60 %	5,998.11	(Positive NPV)
Upper Rate:	64 %	(29,766.08)	(Negative NPV)

3.2 Sensitivity Analysis:

20 % increase in cost			20% increase in cost and 20% decrease in benefit		
	Assumed Discount Rate (%):	Total Present Value	Assumed Rate:	Total Present Value	
Lower Rate:	45	2,204.66	29	16,596.12	(Positive NPV)
Upper Rate:	46	(12,927.08)	30	(6,765.99)	(Negative NPV)

Note: IRR is a discount rate that makes the NPV of all cash flows equal to zero.

Decision points >>>	NPV $\geq$ 0	BCR $\geq$ 1	IRR $\geq$ relevant discount rate

Conclusion

- Soil and water conservation should be examined in the general framework of sustainable development goal that addresses
  - environmental challenges (e.g. climate change, land degradation, bio-diversity loss),
  - attainment of economic targets, and
  - provision of social needs;

Conclusion

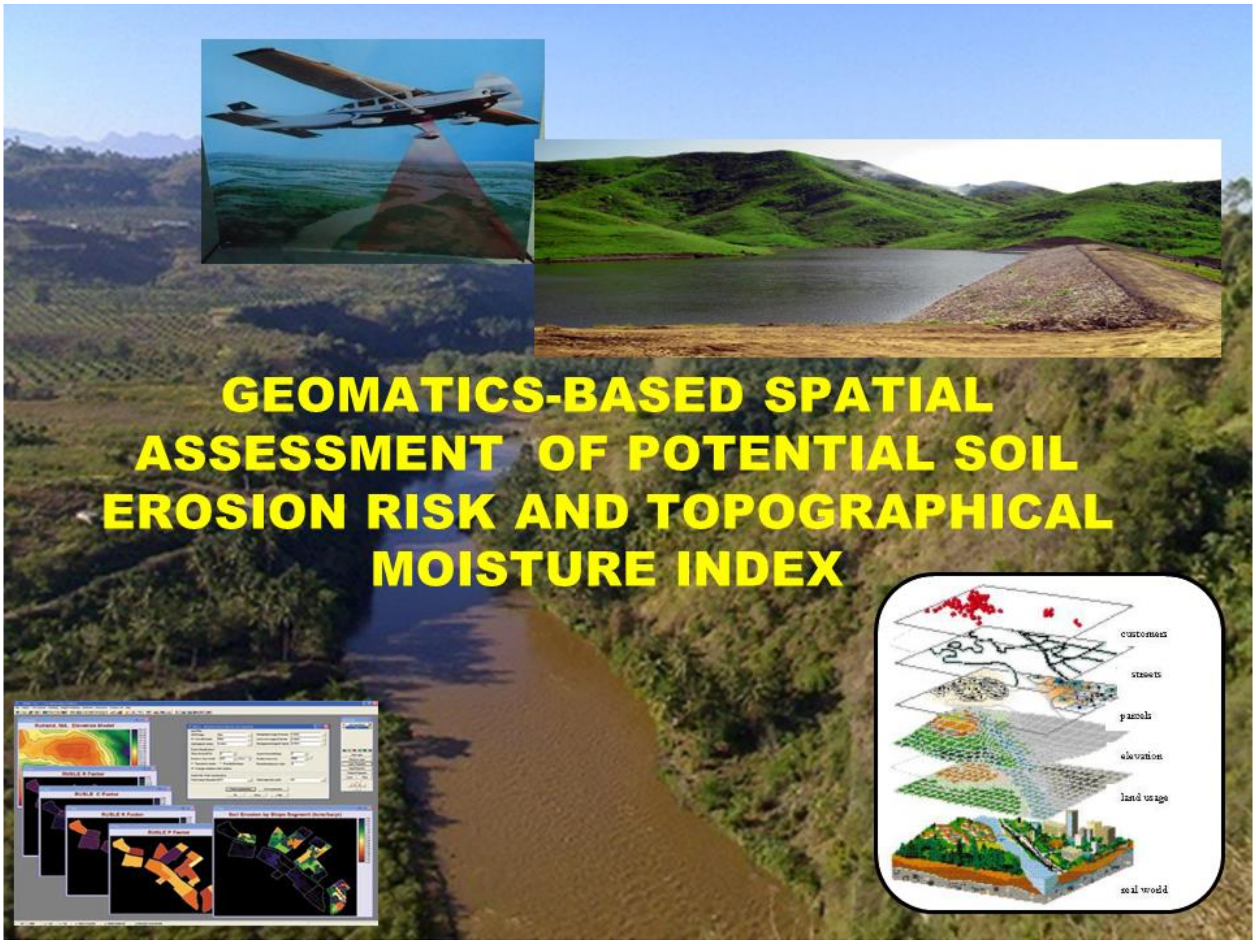
- **WHAT WE NEED>>>>>>>**

  - Effective knowledge management and decision support tools to contribute in up-scaling, replicating and mainstreaming SLM practices into Local Government Development Plan;

  - Enabling environment in terms of a unified soil/water-related policies, institutional arrangements, financing and marketing support, and incentive mechanisms to broaden the implementation of sustainable land management, specifically soil and water conservation.

Thank You and Good Day!

Annex K: Full presentation of Engr. Pablo Montalla



RS AND GIS

Remote Sensing and GIS applications are often considered as cost effective procedures for the collection of data over large areas that would otherwise require a very large input of human and material resources.

- Remote Sensing data can be rapidly processed with computers provides further opportunities for the analysis and interpretation of data.

- GIS techniques have enhanced the capabilities to handle large databases describing the heterogeneities in land surface characteristics. Together these tools of remote sensing and GIS can therefore greatly contribute to catchment-scale erosion assessment.

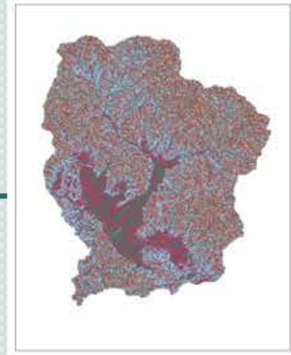
Why Predict Soil Erosion …

- **Conservation Planning—evaluate land management** alternatives to reduce soil erosion to acceptable levels
- **Resource Inventories—estimate current and** projected erosion levels and their impact on natural resource base
- **Sediment Delivery Prediction—estimate sediment** generation and delivery off-site, and evaluate management strategies to minimize sediment losses and impacts

Spatial assessment of soil erosion can basically be done in three different ways (Vrieling, 2007).

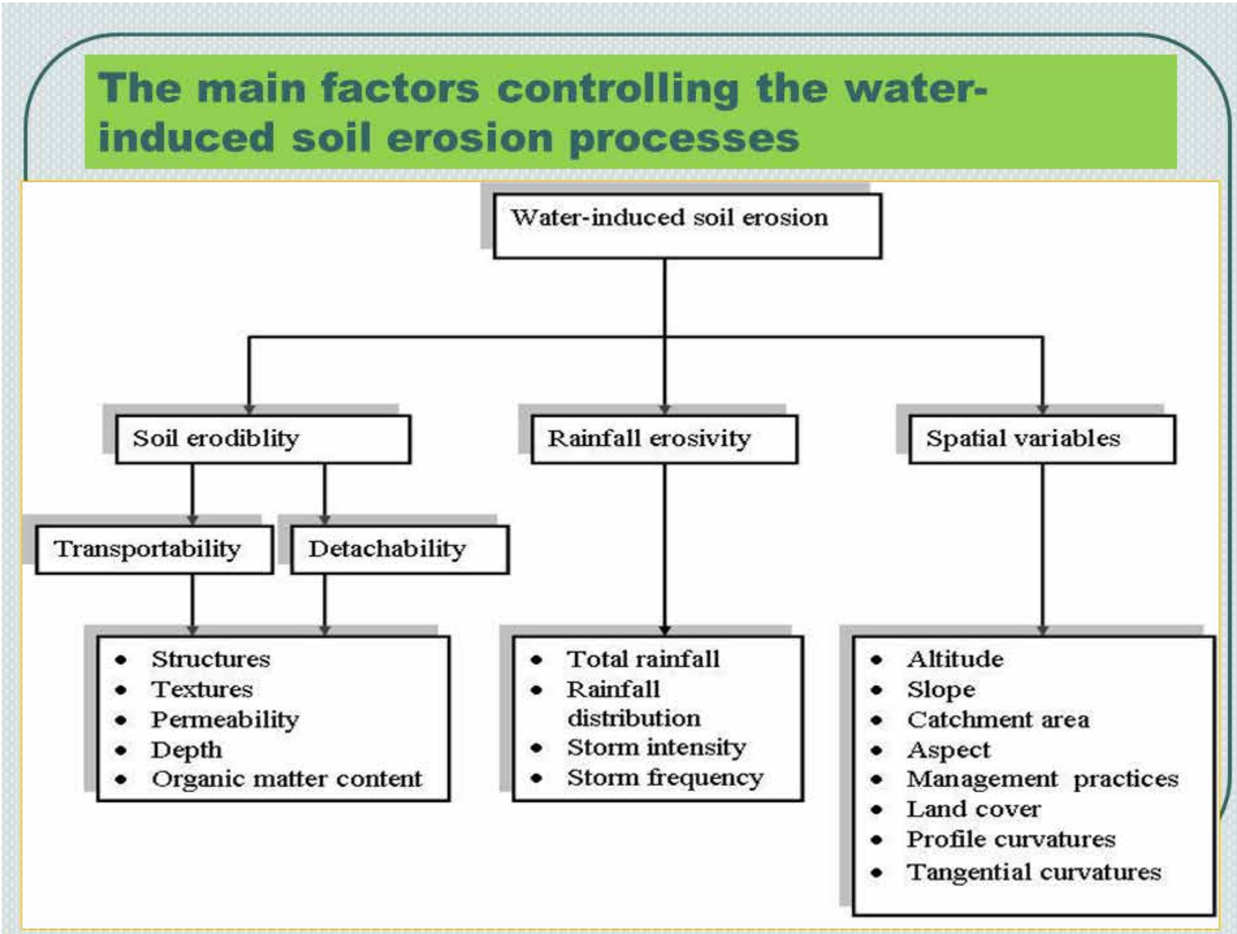
- **The first is to measure soil erosion rates at different locations using some measuring device or erosion plots. This might be very expensive task.**
- **The second approach is the execution of erosion field surveys with identifiable features that were formed due to erosion processes using soil loss indicators.**
- **The third and most common method for spatial erosion assessment is through integrating spatial data on erosion factors. Widely-used is the Universal Soil Loss Equation (Wischmeier and Smith, 1978). This is the cost effective method in understanding the distribution of erosion problem.**

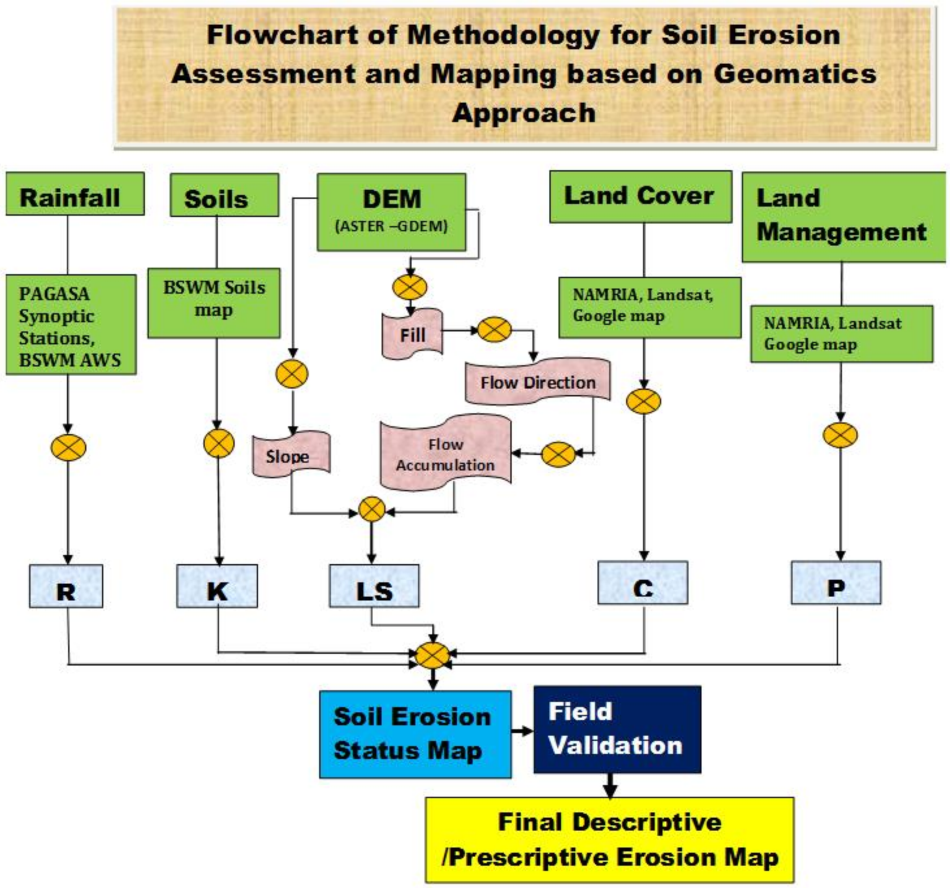
Topographic Wetness Index



The topographic wetness index (TWI) was commonly used to quantify topographic control on hydrological processes and reflects the potential groundwater caused by the effects of topography, thus higher TWI represented higher groundwater potential value. The index was a function of both slope and the upstream contributing area per unit width orthogonal to the flow direction also called specific catchment area. A higher TWI indicated a gentler slope and larger slope area.

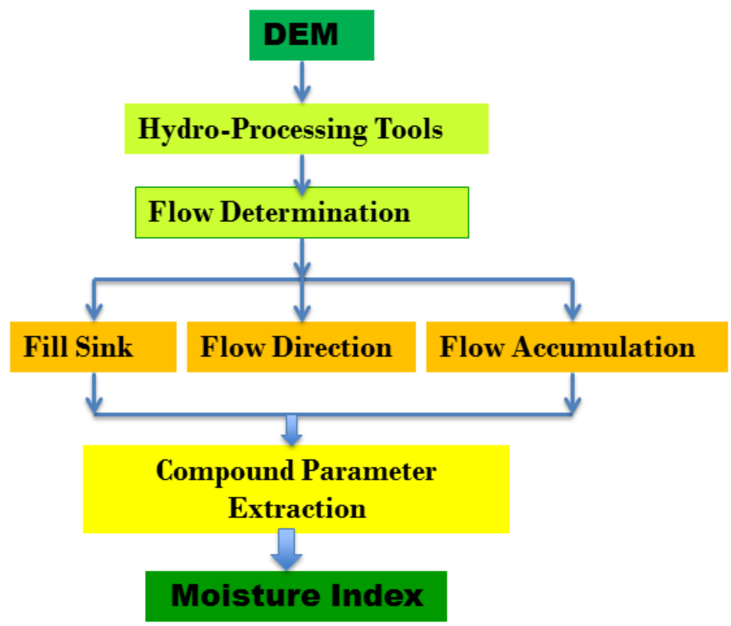

METHODOLOGY
(Soil Erosion and Sediment
Yield Modeling)
Mathematical model
I. Deterministic model
II. Stochastic model
EROSION/
SEDIMENT YIELD
MODELS
a. Empirical model
c. Physical model
b. Time-series model
+
GEOMATICS
TOOLS(Remote
Sensing and GIS
=
Spatial and Quantified
Distribution of Soil
Erosion and Sediment
Yield
6


The main factors controlling the water-induced soil erosion processes
Water-induced soil erosion
Soil erodiblity
Rainfall erosivity
Spatial variables
Transportability
Detachability
Structures
Textures
Permeability
Depth
Organic matter content
Total rainfall
Rainfall distribution
Storm intensity
Storm frequency
Altitude
Slope
Catchment area
Aspect
Management practices
Land cover
Profile curvatures
Tangential curvatures



Flowchart of Methodology for Soil Erosion Assessment and Mapping based on Geomatics Approach
Rainfall
Soils
DEM
(ASTER –GDEM)
Land Cover
Land Management
PAGASA Synoptic Stations, BSWM AWS
BSWM Soils map
Fill
Flow Direction
NAMRIA, Landsat, Google map
NAMRIA, Landsat Google map
Slope
Flow Accumulation
R
K
LS
C
P
Soil Erosion Status Map
Field Validation
Final Descriptive /Prescriptive Erosion Map

Flowchart of Methodology for Topographic Moisture Index



Materials Used

Softwares

- ArcGIS 10.4(ArcHydro, HEC-HMS Tools)
- QGIS
- SAGAGIS
- ILWIS

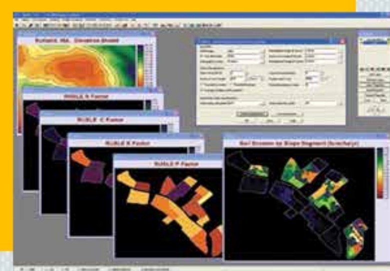
Data sources:

- BSWM- Data and Maps(Soils Map and AWS)
- PAGASA (Meteorological and Hydrological Data)
- NAMRIA(Land cover map, 2010)
- DENR (River Basin information)

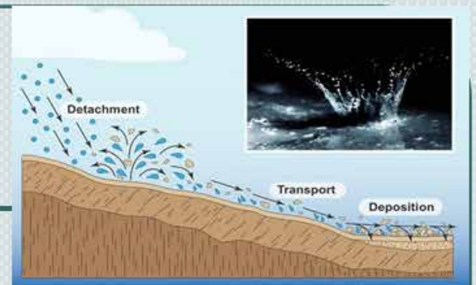
The Soil Erosion Model

(Universal Soil Loss Equation)

- **The modified USLE Model (David et. al. (1987) was applied in the study to suit locally available information and prevailing environmental conditions. This modified USLE stipulates that**
- **E = R • K • LS • *C* • *P***
- **where E = soil loss rate in tons*/ha/yr***
- **R = rainfall erosivity index value**
- **LS = length slope factor which may be approximated on the basis of percent slope**
- **C = cover factor value**
- **K = soil erodibility value**
- **P = is the product of the conse*rvation or***
- ***management factors b*eing practiced**



Factors of Erosion Model
Rainfall Erosivity (R)



- Rainfall erosivity is a term that is used to describe the potential for soil to wash off disturbed, de-vegetated areas and into surface waters of the state during storms.

  R depends on the amount of raindrop energy and rainfall intensity
- Rainfall data collected from Meteorological Station(PAGASA/BSWM-AWS) were used for calculating R-factor using the following relationship developed by David, et. al. (1988) for Philippine condition.

$$R = 2.5Pa/(100 \times (0.073Pa + 0.73))$$

where: R is the yearly rainfall erosivity factor (MJmmha-1 h-1 y-1),
Pa is the annual rainfall (mm).

FACTORS OF EROSION MODEL (Soil Erodibility)

- Soil erodibility is called the K-factor
- It is the erodibility of the soil- the ability of the soils to resist erosion
- Soil erodibility index (K) of surface soils of each soil type associated with the mapping units will be computed using the equation.
- K = [(0,043) (pH)+ 0.62/OM + 0.0082S - 0.0062C] Si
- Where OM = organic matter content in percent
- S = percent sand
- C = clay ratio=% clay/(%sand +% silt)
- S =, % silt/l00
- The map will be re-classified based on K value of each map unit to generate soil erodibility map using GIS

FACTORS OF EROSION MODEL (Slope length and Steepness)

- Slope length determines the concentration of runoff water. DEM will be process to generate slope gradient and LS factor maps.
- The LS factors is the product of slope length and slope steepness factors and calculated using the equation:
- LS-factor is computed through the ArcGIS Spatial analyst extension using the DEM following the equation by Moore and Burch (1986a, b), where
- **LS= ([flow accumulation] *Cell Size/22.13)^0.6(Sin(Slope of DEM)* 0.01745)/0.0896)^1.3*1.4**

FACTORS OF EROSION MODEL (Crop cover and Conservation Practice)

- Estimation of C-factor takes into account a series of sub-factors that includes land use, canopy cover, surface cover, and surface roughness.
- Information on conservation practices (P) followed in various land use/cover will be collected through imageries and field survey;
- Base on the information, C and P values for each land use/cover class will be assign base on the study.
- Thereafter, CP factor map will be generated as an attribute map from the land use/cover map using GIS.

GIS Integration and Overlay Analysis

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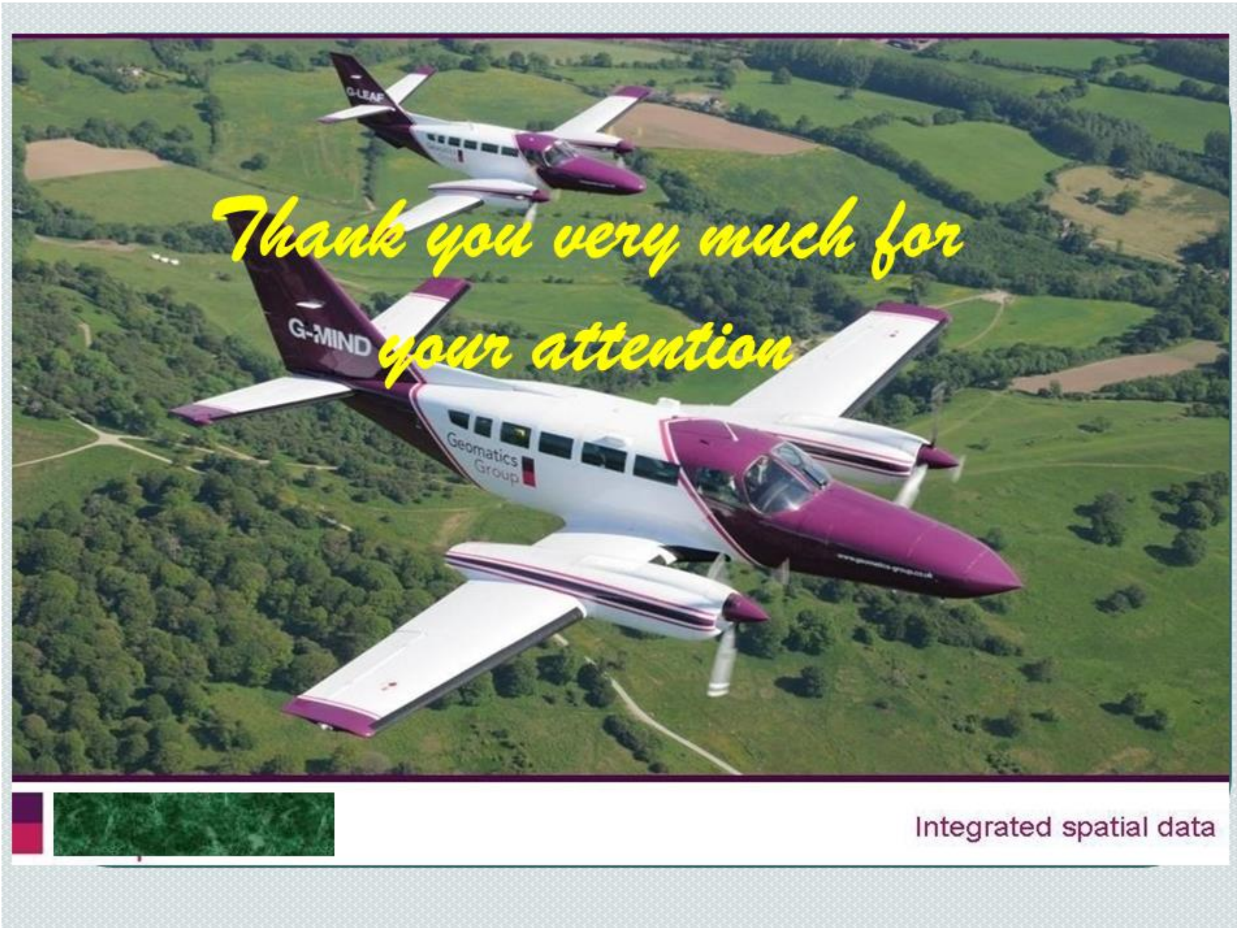

Thank you very much for your attention
G-LEAF
G-MIND
Geomatics Group
Integrated spatial data

Annex L: Full presentation of Mr. Baldwin Pine

Assessment & Mapping of Soil Organic Carbon (SOC) in the Philippines

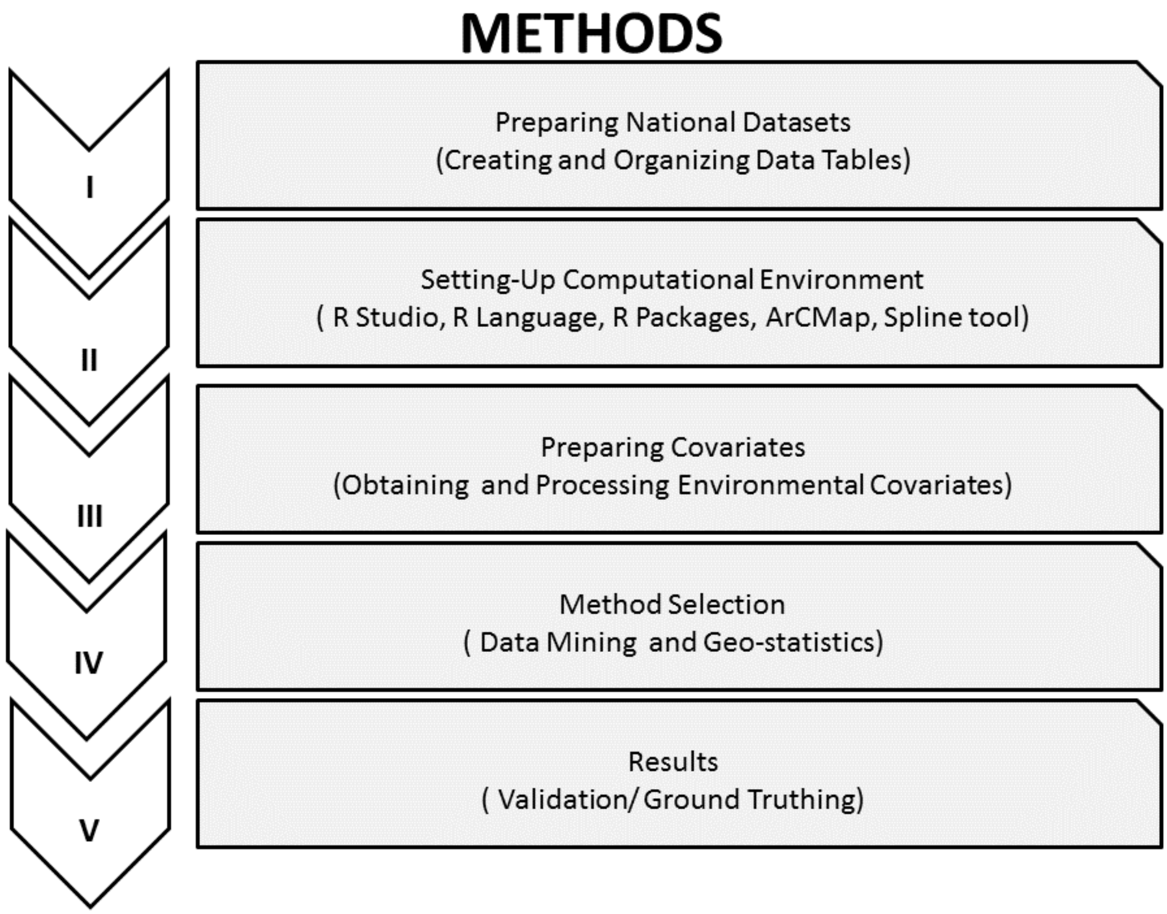
By:
Baldwin M. Pine
Soil Conservation and Management Division
Bureau of Soils and Water Management

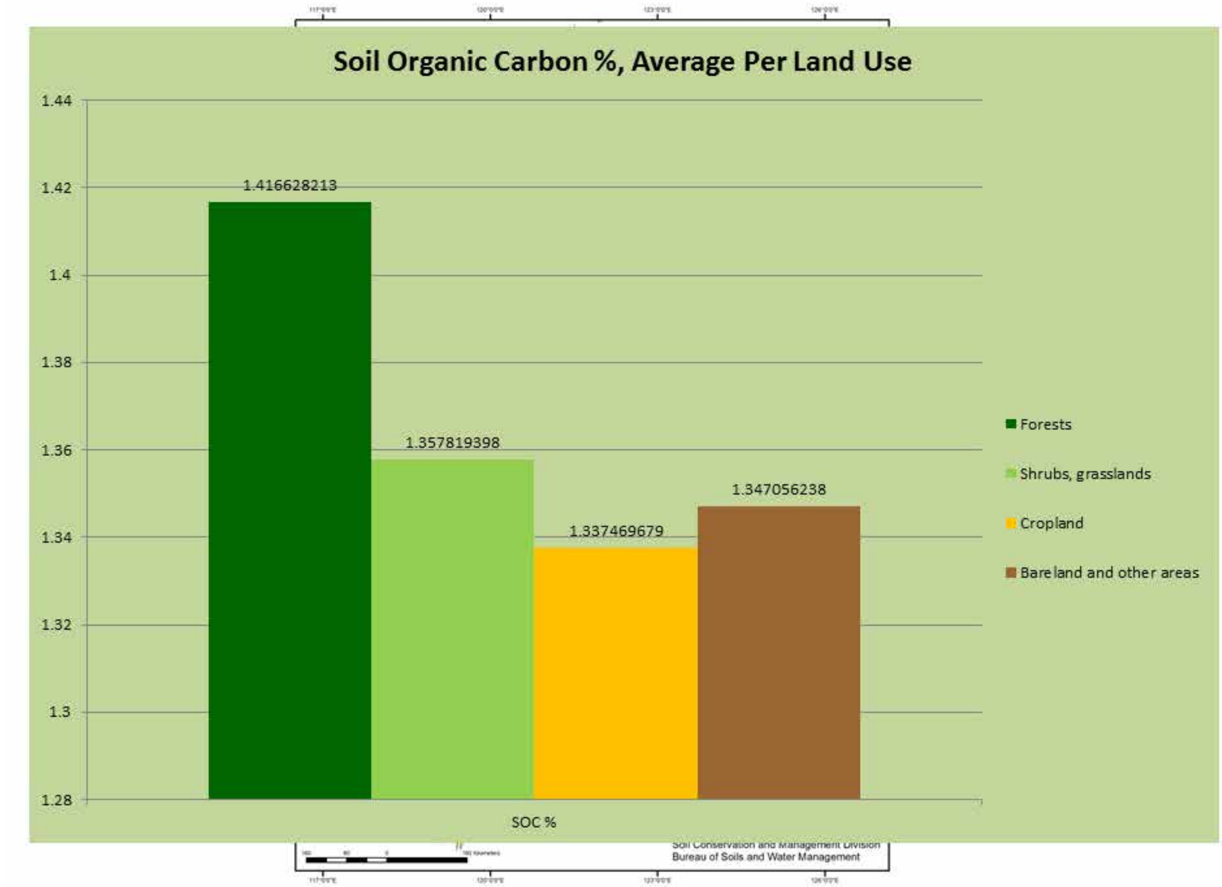
OVERVIEW

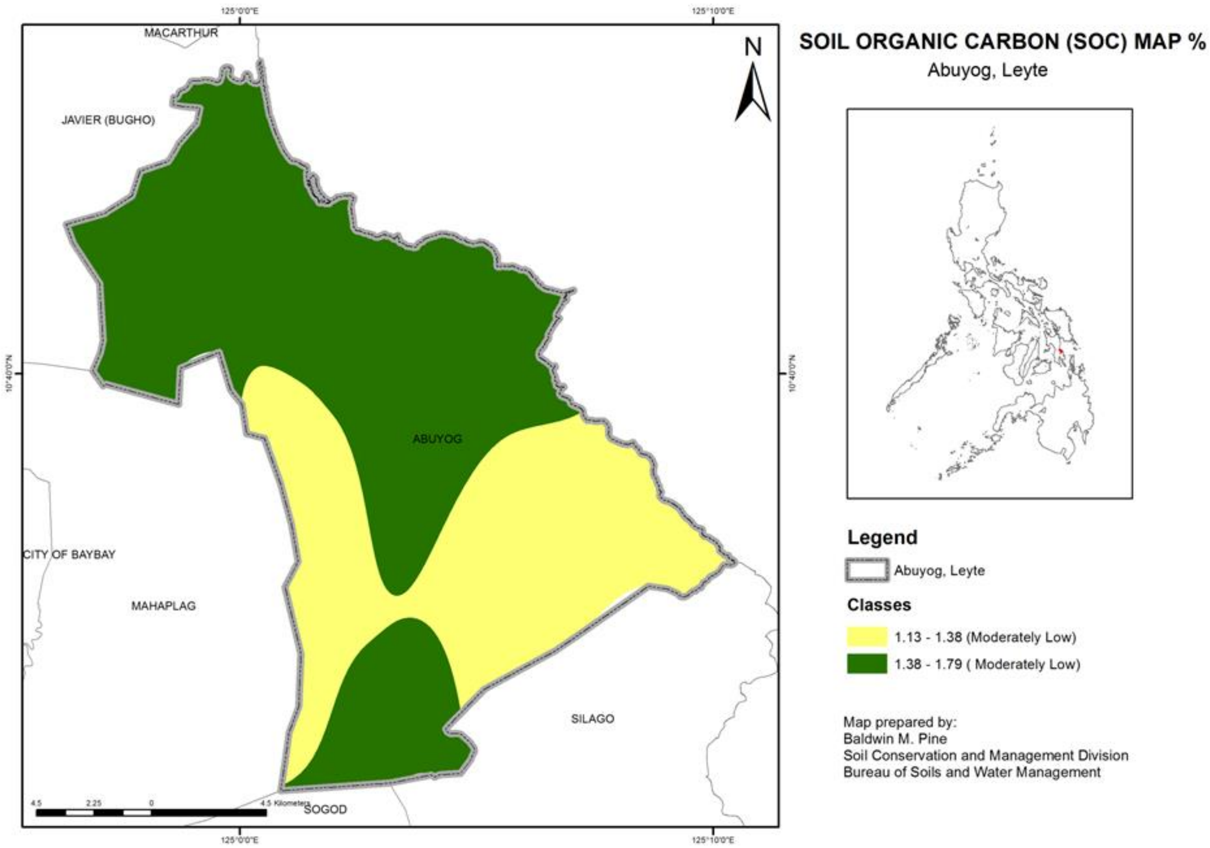
- FAO member countries involvement in various global activities in improving knowledge and information exchange about soils: monitoring and reporting issues on natural resources.
- The quality of soil carbon information at global level is still limited , most of the existing national information has not yet been shared for global compilation.

OVERVIEW

- The Global Soil Partnership (GSP) and Intergovernmental Technical Panel on Soils (ITPS) commitment to conduct a global SOC assessment based on a country-level spatial data sets / or existing national soil carbon data.
- GSP,ITPS and Asian Soil Partnership (ASP) support the endorsed metrics for the assessment of Land Degradation Neutrality (LDN) which is directly related to SDG 15.3.1 whereby SOC is one of the baseline indicators for LD.


METHODS
I
Preparing National Datasets
(Creating and Organizing Data Tables)
II
Setting-Up Computational Environment
(R Studio, R Language, R Packages, ArCMap, Spline tool)
III
Preparing Covariates
(Obtaining and Processing Environmental Covariates)
IV
Method Selection
(Data Mining and Geo-statistics)
V
Results
(Validation/ Ground Truthing)

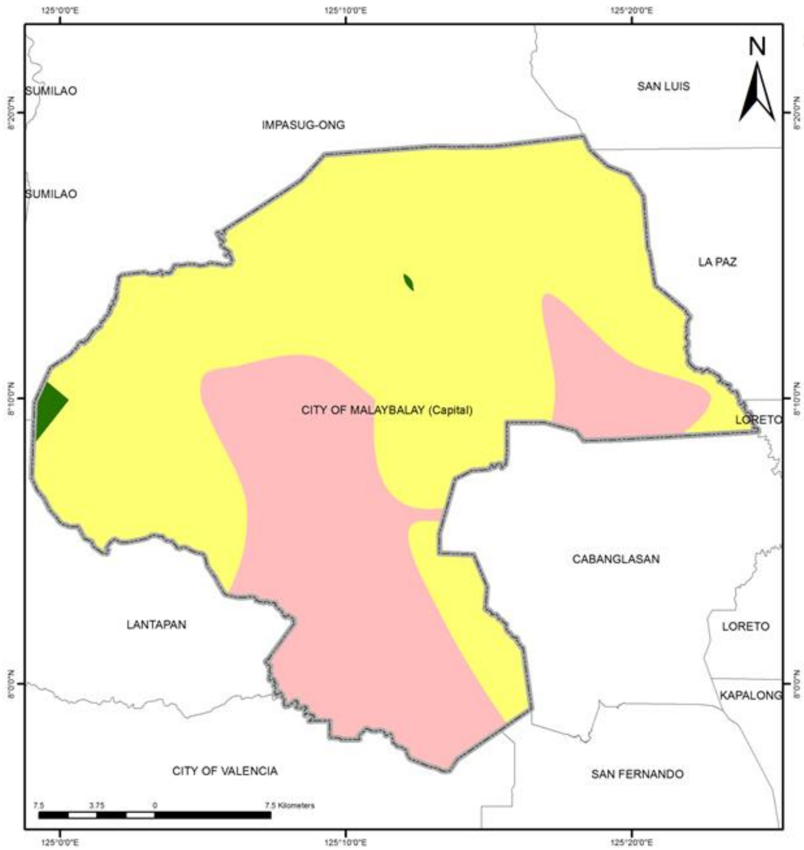

Soil Organic Carbon %, Average Per Land Use
1.44
1.42
1.4
1.38
1.36
1.34
1.32
1.3
1.28
1.416628213
1.357819398
1.337469679
1.347056238
SOC %
Forests
Shrubs, grasslands
Cropland
Bareland and other areas
Soil Conservation and Management Division
Bureau of Soils and Water Management



SOIL ORGANIC CARBON (SOC) MAP %
Abuyog, Leyte
MACARTHUR
JAVIER (BUGHO)
ABUYOG
CITY OF BAYBAY
MAHAPLAG
SILAGO
SOGOD
N
Legend
Abuyog, Leyte
Classes
1.13 - 1.38 (Moderately Low)
1.38 - 1.79 (Moderately Low)
Map prepared by:
Baldwin M. Pine
Soil Conservation and Management Division
Bureau of Soils and Water Management

SOIL ORGANIC CARBON (SOC) MAP %

City of Maybalay, Bukidnon



Legend

City of MalaybalayBukidnon Boundary

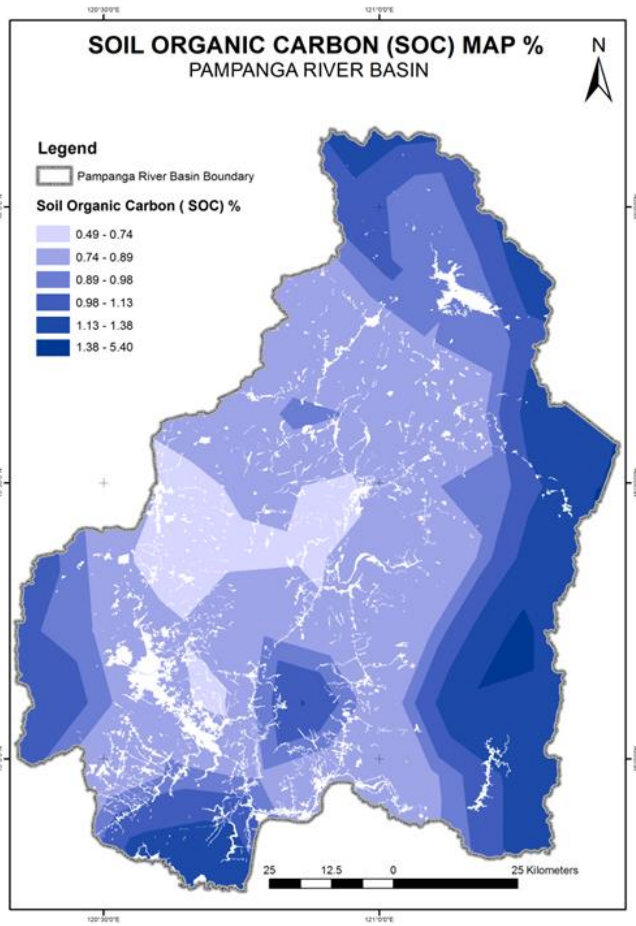
Classes

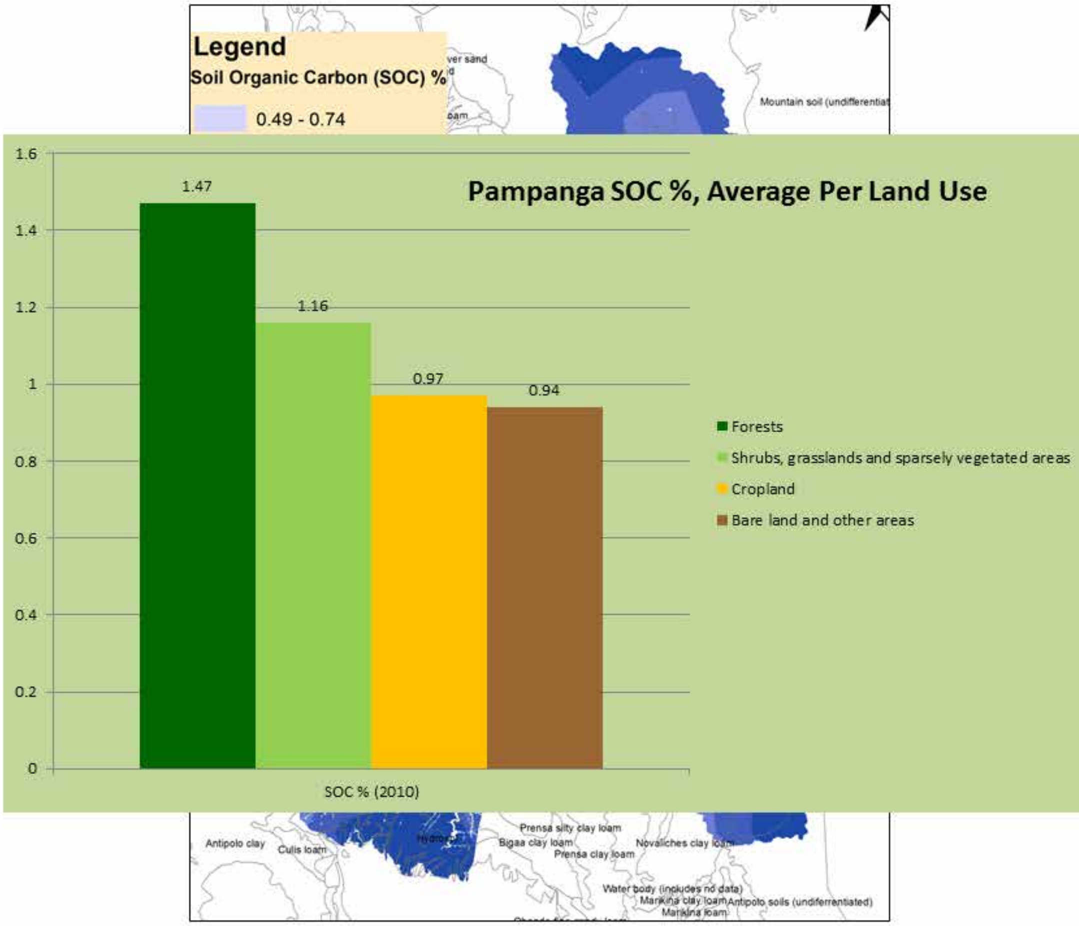
0.98 - 1.13 (Low)

1.13 - 1.38 (Moderately Low)

1.38 - 1.79 (Moderately Low)

Map prepared by:
Baldwin M. Pine
Soil Conservation and Management Division
Bureau of Soils and Water Management


SOIL ORGANIC CARBON (SOC) MAP %
PAMPANGA RIVER BASIN
N
Legend
Pampanga River Basin Boundary
Soil Organic Carbon (SOC) %
0.49 - 0.74
0.74 - 0.89
0.89 - 0.98
0.98 - 1.13
1.13 - 1.38
1.38 - 5.40
25
12.5
0
25 Kilometers


Legend
Soil Organic Carbon (SOC) %
0.49 - 0.74
Mountain soil (undifferentiat
Pampanga SOC %, Average Per Land Use
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
1.47
1.16
0.97
0.94
SOC % (2010)
Forests
Shrubs, grasslands and sparsely vegetated areas
Cropland
Bare land and other areas
Antipolo clay
Culis loam
Prensa silty clay loam
Bigaa clay loam
Prensa clay loam
Novaliches clay loam
Water body (includes no data)
Marikina clay loam
Antipolo soils (undifferentiated)
Marikina loam

THANK YOU!

Annex M: Full presentation of Ms. Eda Lynn Floresca

IMPLEMENTATION OF SUSTAINANBLE LAND MANAGEMENT PRACTICES
TO ADDRESS LAND DEGRADATION AND MITIGATE EFFECTS OF DROUGHT

Laboratory Analysis in Support to Land Degradation Mapping

Edna Lynn C. Floresca
Chemist IV

Hotel Kimberly, Tagaytay City
July 17-19, 2017

INTRODUCTION

BASIC SOIL PARAMETERS FOR CARBON MAPPING

- Organic Carbon
- Bulk Density
- Soil Texture

❖ *Has been analyzed in BSWM by conventional methods*

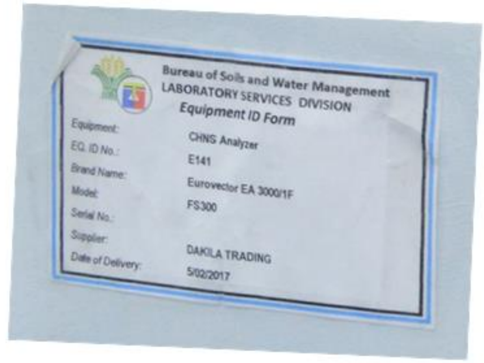
Alternate Standard Method for OC: Dry Combustion Method

UNDP-GEF Funded Equipment:

1) CHNS Analyzer
   - Unit Cost: P 3,900312.50
   - Delivery at BSWM: May 2, 2017

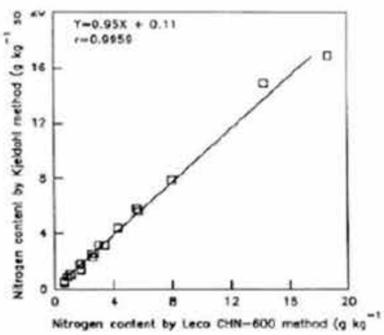
2) Soil Grinder
   - Unit Cost: P1,077,857.14
   - Delivery at BSWM: March 15, 2017

THE CHNS ANALYZER

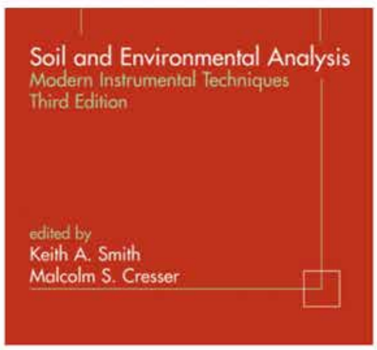


- Equipment Components: CHNS Analyzer, Micro-balance, desk top computer, printer; compressor, oxygen and helium gas tanks (for purchase)

THE CHNS ANALYZER



CHNS method vs Kjeldahl method



PERFORMANCE:

Coefficient of variations for C were 1.46-1.62 for soils, and 1.03-1.41% for plant materials.

Good correlation in N determination.

CHNS gave results comparable to conventional manual methods.

Notes:

- *CHNS analyzer allows for simultaneous analysis of elements*
- *Environment friendly*

THE CHNS ANALYZER TRAINING

- First training conducted in July 7, 2017
- With application chemists of supplier

THE CHNS ANALYZER TRAINING

- Output: Demo of assembling and disassembling of parts, system check, dry-run of soil sample and CNS standard
- Concerns:
  - Synchronizing the balance and CHNS analyzer
  - Study on techniques suitable for soil samples

NEXT STEPS

- Foreign training
- Conduct of method verification
- Procurement of additional materials (consumables, He and O_2 gases, etc.)
- Analysis and delivery of analytical results
- *Include in ISO 17025 scope of accreditation*

THANK YOU!

Annex N: Full presentation of Engr. Ernesto Brampio

Legal bases

BACKGROUND

DA-BSWM ROLES (PER AFMA)

- delivery of assistance in relation to dams fifteen (15) meters or lower (Rule 26.4)
- conduct R & D activities to improve management, affectivity, efficiency of irrigation system, the protection and sustainability of watersheds, and the adaptation and adoption of modern irrigation technology (Rule 27.1)

BACKGROUND

DA-BSWM ROLES (PER EO 338) RATIONALIZATION PLAN

under the DA's Research & Development Functional Group

•responsible for the sustainable use, management and proper conservation of soil and **water**

•conduct cloud seeding operations in drought-affected areas

BACKGROUND

DA-BSWM ROLES
(per DA-Modified Harmonized Guidelines on SSIPs-2015)
Memo Order No. 16 dated March 25, 2015

- tasked to lead the implementation of SSIPs
- provide overall direction on planning and implementation of SSIPs

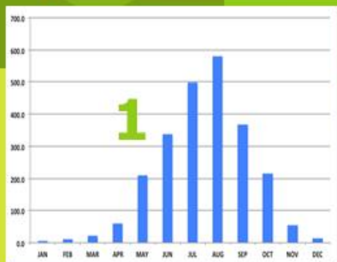
OVERVIEW OF SSIP IMPLEMENTATION

For CY 2014 onwards:

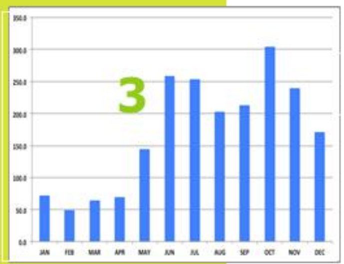
- **BSWM was designated under the DA Special Order No. 310 dated April 4, 2014 as the Focal Office for MFO3 - Irrigation Network Services for Small-Scale Irrigation Systems (SSISs)**

- **Funds for SSIPs implementation are directly downloaded by DBM to the different DA-RFOs for their implementation.**

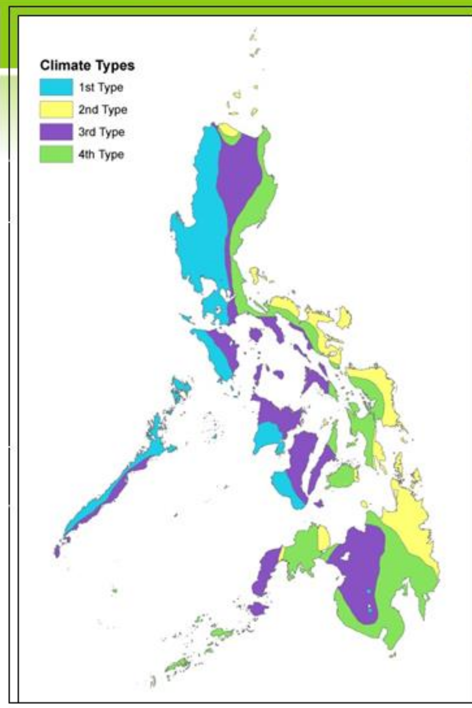
The Philippine Climate
(based on rainfall temporal occurrence)



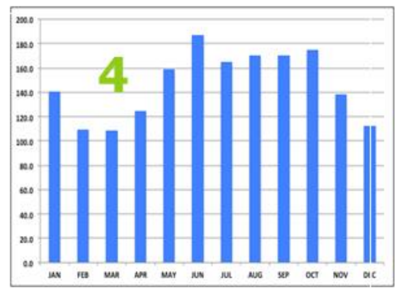
Two pronounced season; Dry from Nov-Apr and wet the rest of the year



Season not so pronounced; Relatively dry from Nov-Apr and wet the rest of the year



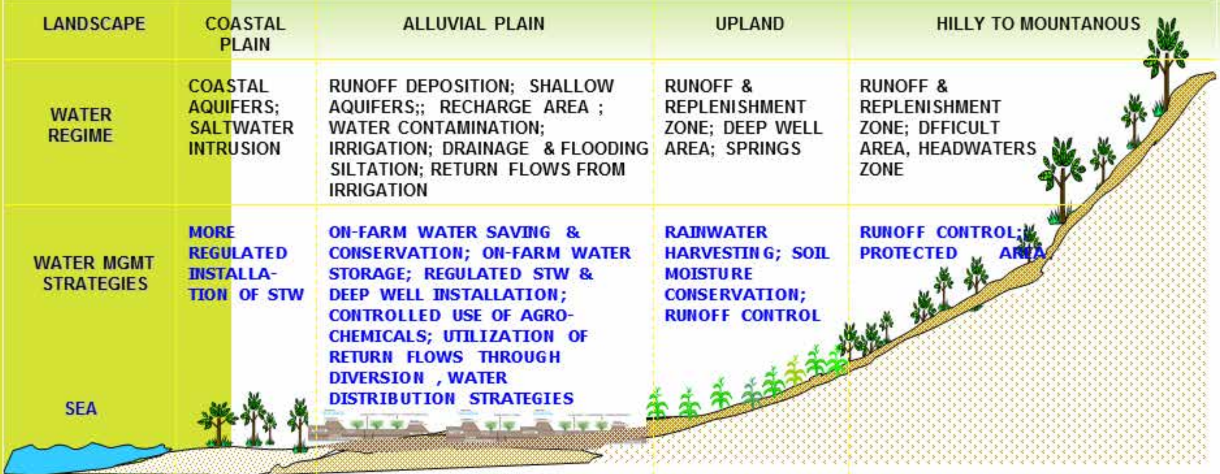
No dry season with maximum rainfall from Nov-Jan



Rainfall more or less distributed throughout the year

SUSTAINABLE WATER MANAGEMENT

LANDSCAPE	COASTAL PLAIN	ALLUVIAL PLAIN	UPLAND	HILLY TO MOUNTANOUS
WATER REGIME	COASTAL AQUIFERS; SALTWATER INTRUSION	RUNOFF DEPOSITION; SHALLOW AQUIFERS;; RECHARGE AREA ; WATER CONTAMINATION; IRRIGATION; DRAINAGE & FLOODING SILTATION; RETURN FLOWS FROM IRRIGATION	RUNOFF & REPLENISHMENT ZONE; DEEP WELL AREA; SPRINGS	RUNOFF & REPLENISHMENT ZONE; DFFICULT AREA, HEADWATERS ZONE
WATER MGMT STRATEGIES	MORE REGULATED INSTALLA-TION OF STW	ON-FARM WATER SAVING & CONSERVATION; ON-FARM WATER STORAGE; REGULATED STW & DEEP WELL INSTALLATION; CONTROLLED USE OF AGRO-CHEMICALS; UTILIZATION OF RETURN FLOWS THROUGH DIVERSION , WATER DISTRIBUTION STRATEGIES	RAINWATER HARVESTING; SOIL MOISTURE CONSERVATION; RUNOFF CONTROL	RUNOFF CONTROL; PROTECTED AREA
SEA				
LAND USE		RICE, CORN, VEGETABLES, & OTHER AGRICULTURAL CROPS,	AGRO-FORESTRY CASH CROPS	PROTECTION FOREST. , GRASSLAND



INTEGRATED WATER MANAGEMENT IN A BASIN

SMALL SCALE IRRIGATION PROJECTS (SSIPs)

- *Small Water Impounding Project (SWIP)*
- *Small Farm Reservoir (SFR)*
- *Small Diversion Dams (SDD)*
- *Small water pumps*

  ** open source*

  ** ground water source (STW)*

Small Scale Irrigation Projects (SSIPs)

- *Spring Development (SD)*
- *Pump Irrigation Systems using renewable energy sources for prime movers*
  - *Solar pump*
  - *Wind pump*
  - *Ram pump*
- *Pressurized Irrigation System*
  - *Drip*
  - *Sprinkler*

SMALL WATER IMPOUNDING PROJECT

- an earthfill structure constructed across a narrow valley or depression that collects and stores rainfall and runoff during rainy season for productive use during dry season.

SMALL WATER IMPOUNDING PROJECT

Coverage Area

•With at least service area of 15 hectares.

Qualified Beneficiaries/ Proponent

•Registered Farmers' organizations (e.g. SWISA) or group of at least 15 farmers who are willing to be organized

Mandatory Requirements:

• Right of way agreement for reservoir area, dam site, canal, access road and other structures for new construction;

SMALL WATER IMPOUNDING PROJECT

- Topographic and engineering maps; and
- Engineering plans and detailed design, quantity take off estimates, and program of work to be signed and sealed by Licensed Agricultural Engineer per RA 8559 also known as Agricultural Engineering Act of 1998 (rev. ABE)

Development cost:

- Maximum of PhP 300,000 per ha of service area for new construction

- Maximum of PhP 200,000 per ha of restored area for rehabilitation or improvement.

SMALL FARM RESERVOIRS

impounding and storage facility with concrete or plastic as lining and protection of embankment. These are used to collect rainfall and run-off for immediate and future agricultural use

SMALL FARM RESERVOIR (SFR)

Coverage Area:

•At least 0.5 ha production area per unit

Qualified Beneficiaries/Proponent

•Individual farmer with at least 0.5 ha production area; and

•For group of farmers with a minimum of 2.5 ha production area and have a common site for SFR, they may be provided with SFR equivalent to 5 units.

•National and Regional Research Centers of DA and SUCs and research and demonstration farms of LGUs.

Small Farm Reservoir (SFR)

Development cost

- A maximum subsidy of PhP 50,000 per unit and PhP 250,000 for aggregate of 5 units for new construction.

- A maximum subsidy of PhP 25,000 per unit and PhP 125,000 for aggregate of 5 units for rehabilitation.

Small Diversion Dams (SDD)

a concrete or rock fill structure with height 0.5 to 3.0 meters designed to divert portion of stream flow to point use

Development cost:

Maximum of PhP 200,000/ha of service area for new construction

Maximum of PhP 100,000 per ha of restored area for rehabilitation or improvement

Small Diversion Dams (SDD)

Coverage Area

With at least service area of 15 hectares

Qualified Beneficiaries/ Proponent

•Registered Farmers' organizations (e.g. SWISA) or group of at least 15 farmers who are willing to be organized;

Mandatory Requirement

•Right of way agreement for canal and access road and other structures for new construction;

•Topographic and engineering maps; and

Engineering plans and detailed design, quantity take off estimates, and program of work to be signed and sealed by Licensed Agricultural Engineer per RA 8559 also known as Agricultural Engineering Act of 1998.

Shallow Tubewells (STWs)

- consists of a tube or pipe vertically set into the ground
- at a depth of 6 to 20 meters
- with pipe diameter of 50 mm, 75 mm or 100 mm,
- designed to lift water from shallow aquifer for irrigation using pump and engine set.

Shallow Tubewells (STWs)

Coverage Area:

•With at least 1.0 to 3.0 ha production areas within the shallow groundwater.

Qualified Beneficiaries/Proponent

•Group of 3-5 farmers with a minimum 3 ha production area;

•Farmer Associations, Cooperatives, and other related organizations; and

•Individual farmer with at least 3 ha production area for rice; and

•Individual farmer with at least 1.0 ha production area for high value crops.

Shallow Tubewells (STWs)

Counterpart Scheme;

•Beneficiaries are responsible for the installation of their tube wells; and operation and maintenance of their system

Development cost;

•The total cost of pump and engine set for STW depends on the size and brand, ranging from PhP 30,000 to PhP 100,000.
•The cost of drilling and pipes ranges from PhP10,000 to PhP 30,000.

Spring Development

Spring Development – consists of concrete storage tank or intake structure, and PE pipes or concrete canals for distribution by gravity.

Coverage Area

•Production area of at least 0.5 ha for HVC

•1.0 ha for other crops per farmer.

Qualified Beneficiaries/Proponent

•Group of at least 3 farmers; and

With total production area of at least 1.5 ha for high value crops and 3.0 ha for rice and other crops.

Development cost

•Maximum of PhP 200,000 per ha of service area

PUMP IRRIGATION SYSTEM USING RENEWABLE ENERGY SOURCES FOR PRIME MOVERS

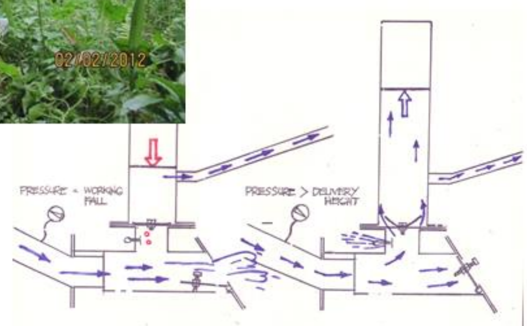
Alternative Prime Movers for Pump Irrigation Systems - these consist of pump and prime movers using renewable energy sources, storage tanks and piped distribution systems. In these systems, the water sources are already developed (e.g. river, lakes, and wells) that require energy to lift water to point of use.

These include **Hydraulic ram pump, Solar pump**, and **Wind pump.**

PUMP IRRIGATION SYSTEM USING RENEWABLE ENERGY SOURCES FOR PRIME MOVERS

Solar Power Pumps System

PUMP IRRIGATION SYSTEM USING RENEWABLE ENERGY SOURCES FOR PRIME MOVERS



Ram Pumps System

PUMP IRRIGATION SYSTEM USING RENEWABLE ENERGY SOURCES FOR PRIME MOVERS

Wind Pump System

PUMP IRRIGATION SYSTEM USING RENEWABLE ENERGY SOURCES FOR PRIME MOVERS

Coverage Area:

•Areas with developed/existing dependable water sources.

Qualified Beneficiaries/Proponent:

•At least 3 farmers with minimum 3.0 ha irrigable area; and
Research Centers of DA, LGUs and SUCs.

PUMP IRRIGATION SYSTEM USING RENEWABLE ENERGY SOURCES FOR PRIME MOVERS

Development Cost:

- Maximum subsidy of PhP 200,000.00 per ha for solar and ram pump irrigation system for high value crops;
- Maximum subsidy of PhP 200,000 per ha for ram pump for rice; and
- PhP 150,000.00 per ha for wind pump irrigation system for high value crops

Counterpart Scheme

- Farmers to provide water source (e.g. well) and O&M of the system.

Project Implementation

- ***Organizational Arrangement***

BSWM

- *provides guidelines on project development*
- *provide technical assistance*
- *assist in the preparation of eng'g design*
- *assist in the project field implementation*

Project Implementation

- Roles and Responsibilities of Implementing Agencies

- The BSWM shall:
  - Lead the annual updating of SSIP Master Plan
  - Provide technical assistance to RFOs, LGUs and Farmers' Association (e.g. SWISA) including capability building through conduct of specialized training courses for trainors;
  - Monitor the planning and implementation of SSIPs by the RFOs; and
  - Consolidate and prepare monthly reports of DA-RFOs for submission to DA.

PROJECT IMPLEMENTATION

DA-RFOs shall:

- Update and review their annual proposed SSIPs per their regional Master Plan for submission to BSWM;
- Implement the approved and funded SSIPs;
- Provide technical assistance to LGUs and other agencies/organizations (e.g. SWISAs);
- Monitor the operation and maintenance of the existing SSIPs; and
- Submit monthly reports to BSWM during projects' implementation.

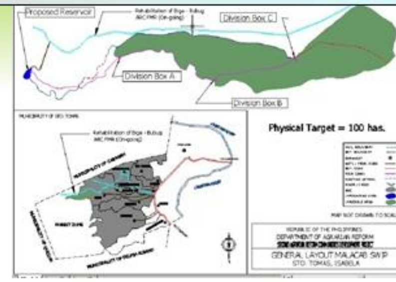
Project Implementation

- ***Organizational Arrangement***

LGU

- *implement project thru a MOA*
- *direct construction supervision*
- *provide counterpart*
- *negotiate right of way problem*
- *provide agri-support services*
- *facilitate the organization of Farmers Associations with assistance from BSWM and DA-RFUs*

PROJECT IMPLEMENTATION



Organizational Arrangement

FARMERS ASSOCIATION

- *provide counterpart in form of labor*
- *responsible in the project O & M*
- *monitor project implementation at their level*

DEPARTMENT OF AGRICULTURE
BUREAU OF SOILS AND WATER MANAGEMENT

INVENTORY OF SSIPs
1974-2016

TYPE OF SSIP	1974 to 2016		
	NO. OF UNITS	SERVICE AREA (HA)	FARMER BENEFICIARIES
Small Water Impounding Project (SWIP)	624	27093	23263
Diversion Dam (DD)	1735	61493	52426
Spring Development (SD)	622	2756	4636
Small Farm Reservoir (SFR)	25082	25886	25827
RICE	23866	24467	24520
HVCDP	562	593	644
Pump Irrigation System (PIS)	22	974	672
Shallow Tube Well (STW)/ Pump Irrigation System for Open Source (PISOS)	38461	113647	64365
Alternative Irrigation System using Alternative prime Movers	272	991	1477
Solar Pump	*127*	*442*	*656*
Ram Pump	*83*	*351*	*562*
Wind Pump	*62*	*198*	*259*
TOTAL		232839	172666

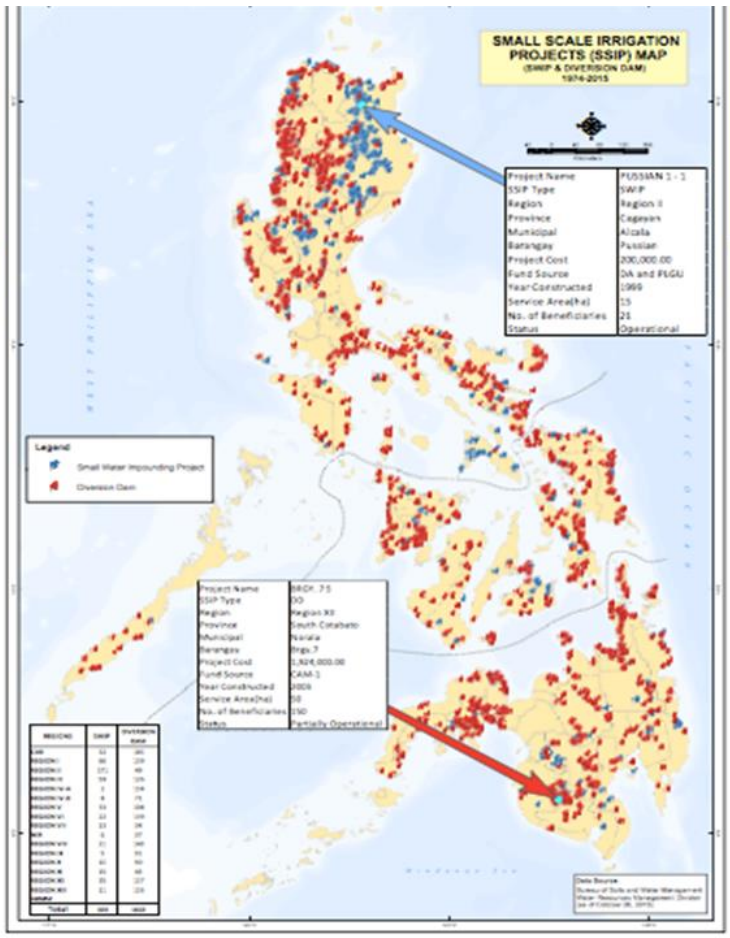
Notes:

a\ - On the average, around 80% of the total SWIPs and DDs are operational and partially operational, in which 10% of it are already covered by NIA

b\ - 20% of the total SWIPs and DDs are not operational

c\ - around 15 % of SWIP/ DDs needs minor rehabilitation and improvement works to fully utilize the system; and remaining 10% needs major rehabilitation or total reconstruction.

d\ - there are on-going rehabilitation and improvements of SWIPs and DDs to address the problem implemented by DA-RFOs


SMALL SCALE IRRIGATION PROJECTS (SSIP) MAP
(SWIP & DIVERSION DAM)
1974-2015
Project Name | FUSSIAN 1 - 1
SSIP Type | SWIP
Region | Region II
Province | Cagayan
Municipal | Alcala
Barangay | Fussian
Project Cost | 200,000.00
Fund Source | DA and PLGU
Year Constructed | 1999
Service Area(ha) | 15
No. of Beneficiaries | 21
Status | Operational
Legend
Small Water Impounding Project
Diversion Dam
Project Name | BRGY. 7.5
SSIP Type | DD
Region | Region XII
Province | South Cotabato
Municipal | Norala
Barangay | Brgy. 7
Project Cost | 1,924,000.00
Fund Source | CAM-1
Year Constructed | 2009
Service Area(ha) | 50
No. of Beneficiaries | 150
Status | Partially Operational

ISSUES /CONCERN ON SSIP IMPLEMENTATION

ISSUES	STRATEGIES	Remarks
1. Right of Way Problems in SWIP	Include the cost of land acquisition in the project cost	Subject for approval by the DA-Sec.
2. Secure of ECC/EIS	Assist the concerned stake holders in the prep of docs for ECC/EIS	SWIPs are considered critical projects
3. Water Right Permits	Talked to NWRB, regarding the possibility of collaboration re: SSIPs	No final decision from NWRB
4. Insufficient technical staff to implement SSIPs	Capacity building activity like technical trainings	Transfer of trained staff to other assignments
5. Overlapping of coverage area (NIA and DA)	Coordination meeting, geo tagging of covered area.	On going activity.

end

of

Presentation

THANK YOU!

Annex O: Full presentation of Engr. Oscar Carpio

Republic of the Philippines
Department of Agriculture
Bureau of Soils and Water Management
SRDC Bldg., Elliptical Road Cor. Visayas Ave., Diliman, Q.C.

National Soil and Water Resources Research and Development Center for Lowland Upland Pedo Ecological Zone

Republic of the Philippines
Department of Agriculture
Bureau of Soils and Water Management
SRDC Bldg., Elliptical Road Cor. Visayas Ave., Diliman, Q.C.

Proponent / (Division): NSWRRDC - LUPEZ
Duration : 2016
Budget : - Regular
Beneficiaries: Support to Operations

MFO/PAPs	Indicators	Target	Accomplishment	Percentage	Variance *(Accomplishment - Target)*	Remarks
II. Support to Operations (STO)						
Research Facilities maintained (30 hectares R &D Center, Farm machinery and equipment, research and development facilities, building and infrastrcutures)	No.					1. Have maintained the 30 hectares R & D Center, 2. Have operated farm machinery and equipment (tractors, 3 power tillers, and reapers) 4. Have operated and maintained water developed water sources

Republic of the Philippines
Department of Agriculture
Bureau of Soils and Water Management
SRDC Bldg., Elliptical Road Cor. Visayas Ave., Diliman, Q.C.

Proponent / (Division): NSWRRDC - LUPEZ
Duration : 2016
Budget : PhP - Regular
Beneficiaries: Support to Operations

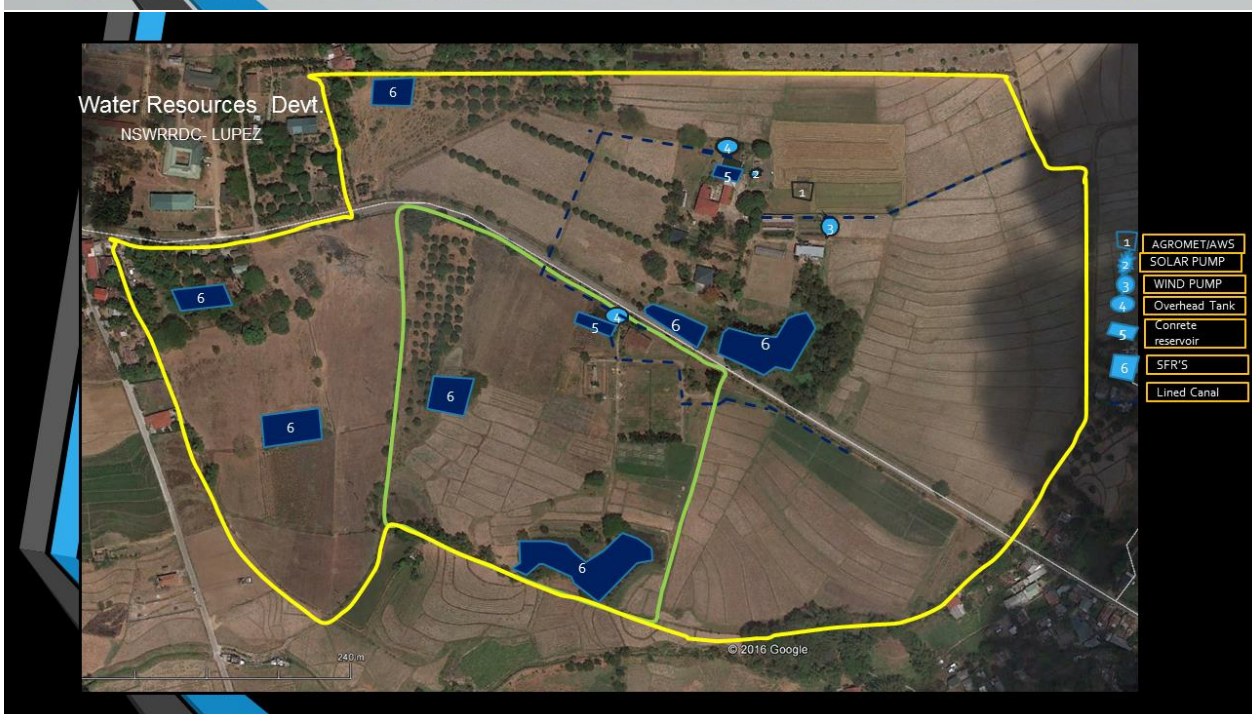
MFO/PAPs	Indicators	Target	Accomplishment	Percentage	Variance *(Accomplishment - Target)*	Remarks
II. Support to Operations (STO)						
Training and Training related (Field Day, TOT)	No.	2	4	200	2	1. Center was venue for students OJT (10 students), 2. hosted the Bureaus tree planting activity (50 pax), 3. Venue for hands-on of the soil fertility and suitability training workshop of BSWM, and (50 pax) 4. Conduct briefing of BASC 75 students on the components and principles of operation of agromet (AWS).
IEC Materials	No.	1,200	1,200	100	0	
Technology Demonstrated , established	No.	3	4	133	1	1.Organic -Based Corn Crop Production, 2. vegetable crop production (green house and open field), 3. Agricultural waste recycling technology (vermiculture vermicomposting), and 4. Integrated soil conservation guided farm.

Republic of the Philippines
Department of Agriculture
Bureau of Soils and Water Management
SRDC Bldg., Elliptical Road Cor. Visayas Ave., Diliman, Q.C.

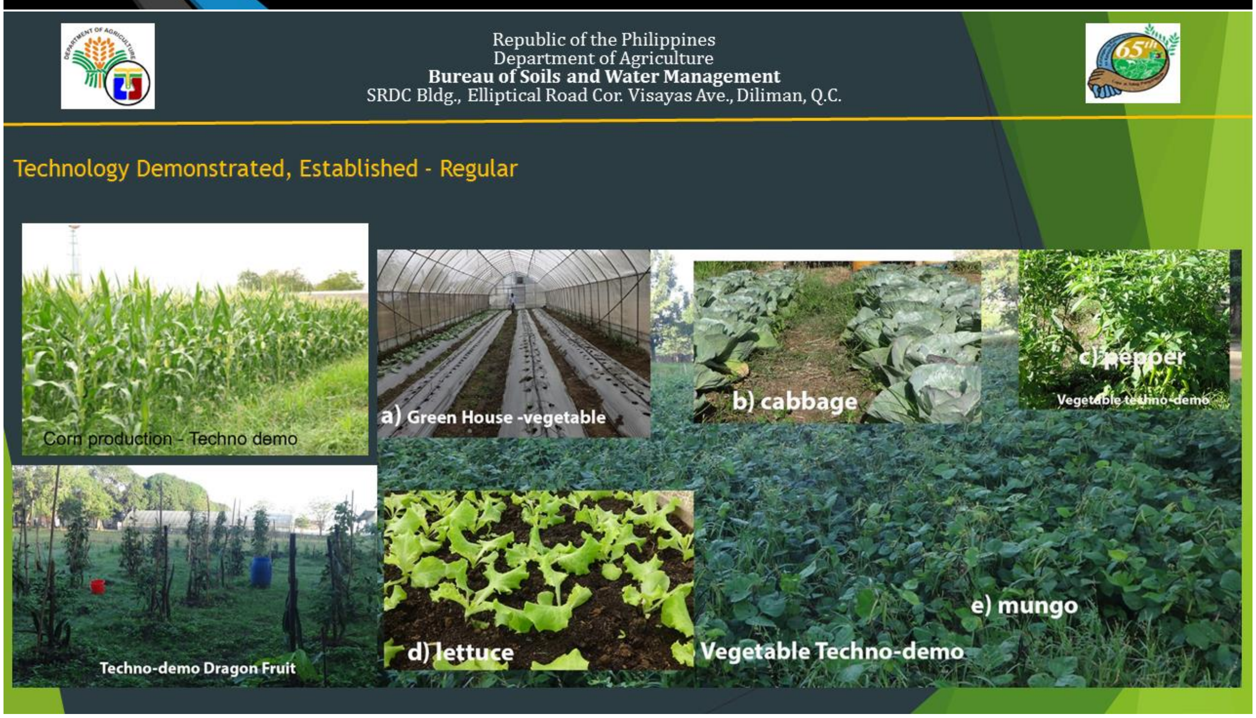
Proponent / (Division): NSWRRDC - LUPEZ
Duration : 2016
Budget : - OAP
Beneficiaries: Support to Operations

MFO/PAPs	Indicators	Target	Accomplishment	Percentage	Variance *(Accomplishment - Target)*	Remarks
II. Support to Operations (STO)						
Production Related Research and Development (New)	No.	2	3	150	1	1. Soil Tank study, 2. Screening and selection of potential vermi-composting substrates, and 3. Verification Trials on SRI
Production Related Research and Development (Continuing)	No.	3	4	133	1	1. Long term monitoring on the changes of soil properties under OAP system, and three (3) superimposed research.
Technology Demonstrated ,	No.	3	3	100		Vermicomposting, vermi-culture technology and mokusaku wood vinegar making


Production Areas
NSWRRDC- LUPEZ
Multi-storey cropping
PRODUCTION AREA
INTEGRATED SOIL SOIICONSERVATIO N GUIDED FARM
ORGANIC AGRICULTURE- AREA
ORGANIC RICE PRODUCTION
PRODUCTION AREA
240 m
© 2016 Google


Water Resources Devt.
NSWRRDC- LUPEZ
1 AGROMET/AWS
2 SOLAR PUMP
3 WIND PUMP
4 Overhead Tank
5 Conrete reservoir
6 SFR'S
Lined Canal
240 m
© 2016 Google


Operation and maintenance of Research Facilities
LYSIMETER
Lysimeter
IL TANK
(Establishment of crop suitability techno-demo (soil tank
of solar pump
Improvement of solar pump (setting pump at 90ft
Establishment of multipurpose kubo
Construction of goat house
AWS Fenceb) after repair
In collaboration with WRMD


Republic of the Philippines
Department of Agriculture
Bureau of Soils and Water Management
SRDC Bldg., Elliptical Road Cor. Visayas Ave., Diliman, Q.C.
Technology Demonstrated, Established - Regular
Corn production - Techno demo
a) Green House -vegetable
b) cabbage
c) pepper
Vegetable techno-demo
Techno-demo Dragon Fruit
d) lettuce
Vegetable Techno-demo
e) mungo

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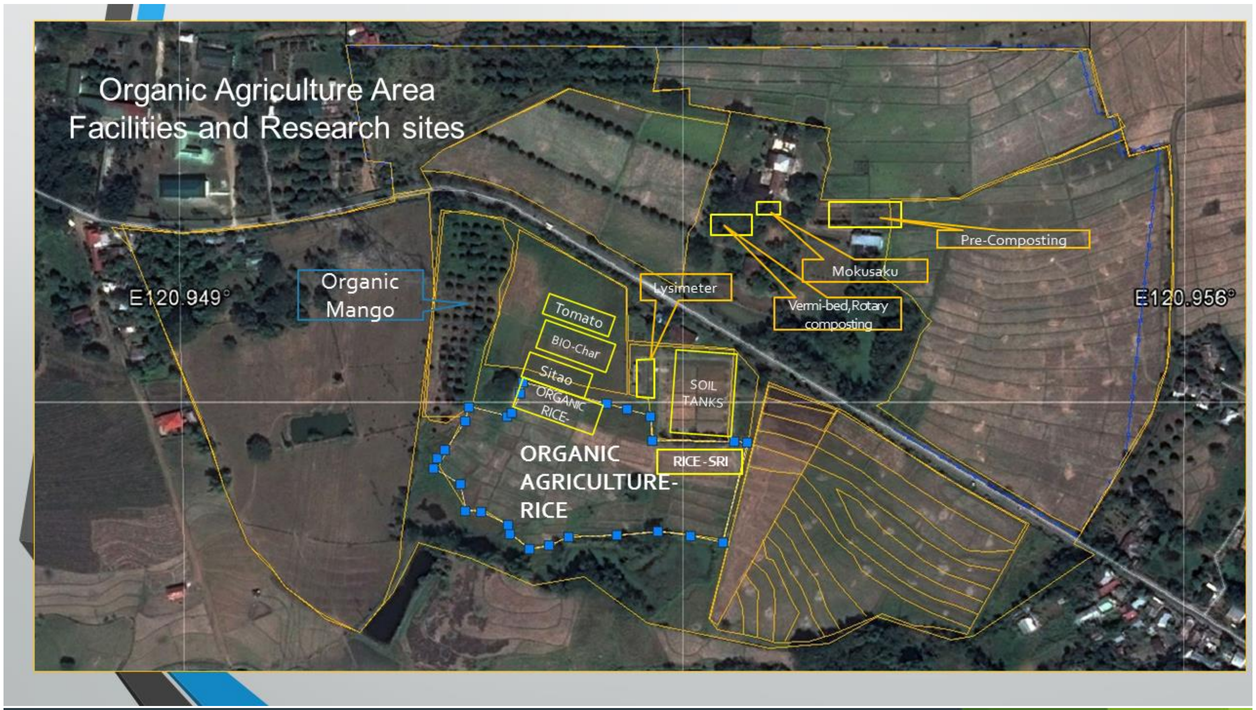
Technology Demonstrated, (Established, Maintained) - Regular

Center visitors, with on site briefings: 160 male, 111 female

Visitors for techno demo = 45 persons

Rice production - based on EMRC

Integrated soil conservation guided farm



Thank You for Listening

Annex P: Full presentation of Dir. Clint Hassan

Juan Magsasaka at Mangingisda FARMER'S & FISHERFOLKS DATABASE SYSTEM

Clint D. Hassan
Director, ICTS

IMPLEMENTATION OF SUSTAINABLE LAND MANAGEMENT PRACTICES TO ADDRESS LAND DEGRADATION AND MITIGATE EFFECTS OF DROUGHT
Mid-Year Assessment and Planning Workshop
Hotel Kimberly
Tagaytay City | July 18, 2017

Juan Magsasaka't Mangingisda National Database System

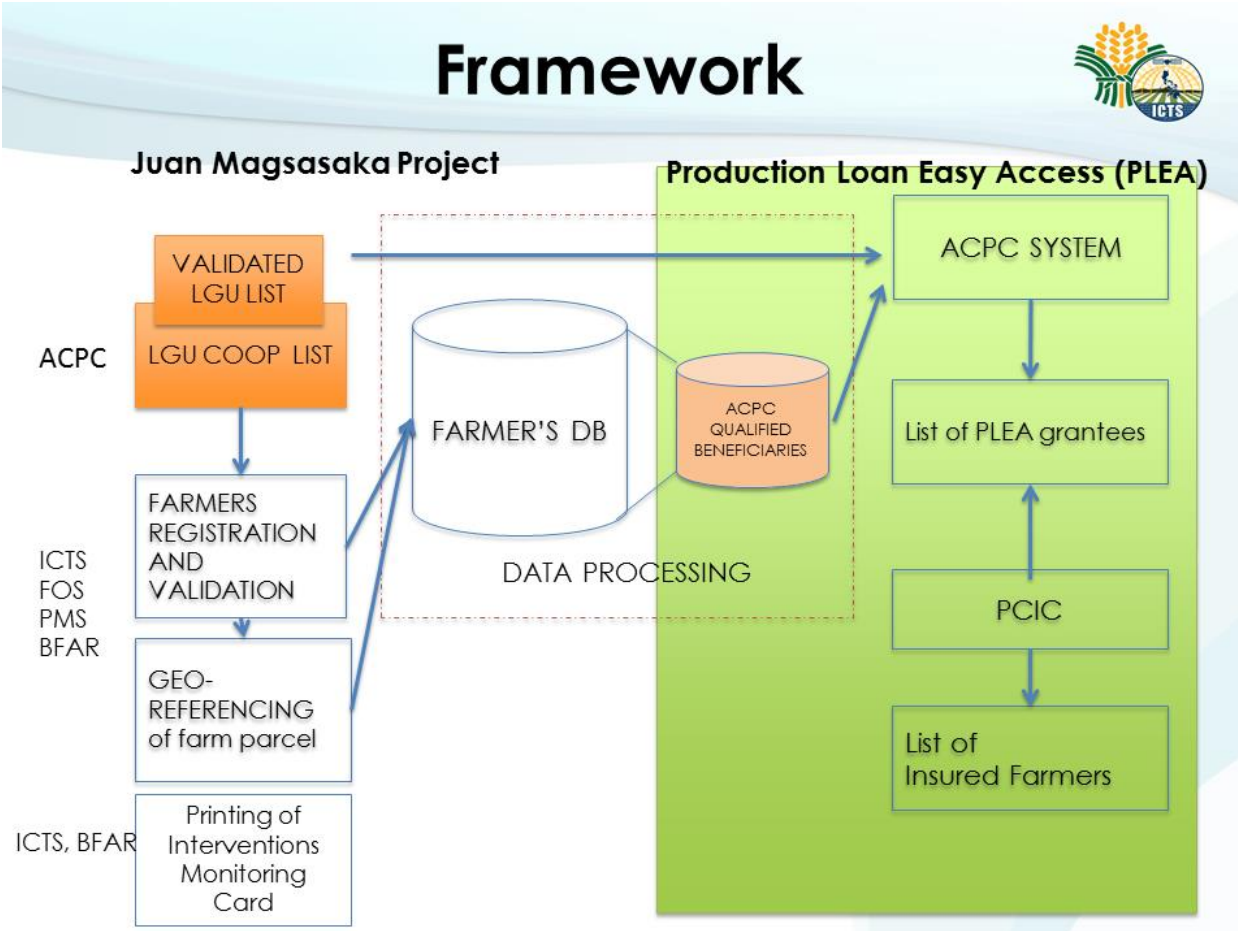
- It is a computer system which aims to register and validate whether a filipino is a farmer or fisherfolk;
- The system is the upgraded version of the Registry System for Basic Sectors in Agriculture (RSBSA);
- Information that will be gathered will be the basis of the Department of Agriculture (DA) on who will be given the interventions for the agriculture and fisheries sectors;
- The program also aims to give identification cards to our farmers and fisherfolks.

Preparatory Activities (Malimono, Surigao del Norte)

ACTIVITIES	DATE OF IMPLEMENTATION
Dry Run – Mobile App	June 5
Field Validation	June 13-16
Printing of Interventions Monitoring Card	June 19-20
Granting of Loans	
Granting of Insurance	
Distribution of Interventions Monitoring Card	June 21
Launching of PLEA with Sec	June 23

Preparatory Activities (Bongabon, Nueva Ecija)

ACTIVITIES	DATE OF IMPLEMENTATION
Final Instruction to the Team Dry Run – Mobile App	July 7 and 10 July 11
Field Validation	July 12-13
Printing of Interventions Monitoring Card	TBD (c/o ACPC)
Granting of Loans	TBD (c/o ACPC)
Granting of Insurance	TBD (c/o PCIC)
Distribution of Interventions Monitoring Card	TBD (c/o BFAR, ICTS, RFO, LGU)


Framework
ICTS
Juan Magsasaka Project
Production Loan Easy Access (PLEA)
VALIDATED LGU LIST
LGU COOP LIST
ACPC
FARMERS REGISTRATION AND VALIDATION
ICTS
FOS
PMS
BFAR
GEO-REFERENCING of farm parcel
ICTS, BFAR
Printing of Interventions Monitoring Card
FARMER'S DB
ACPC QUALIFIED BENEFICIARIES
DATA PROCESSING
ACPC SYSTEM
List of PLEA grantees
PCIC
List of Insured Farmers

Methodology | FIELD IMPLEMENTATION APPROACH

TEAM BRIEFING/TRAINING

CONDUCT VALIDATION AND REGISTRATION

PRINTING OF ID CARDS

DISTRIBUTION OF ID CARDS

STEP 1. BRIEFING AND QUEUING
(C/O LGU COOPERATIVE)

STEP 2. INTERVIEW / ENROLMENT
to Juan Magsasaka

STEP 3. MARKING / LISTING
c/o ACPC FIELD PERSONNEL

STEP 1| LGU COOP briefing & enlistment

- The LGU cooperative will provide queuing numbers to the farmers/Fisherfolks.
- All inquiries regarding the activity will be directed to the LGU.

"Only pre-qualified farmers/fisher folks will be registered."

STEP 2| INTERVIEW

ID picture specifications:

White background

Faced front

No Cap

Not smiling

Name written on the whiteboard

The farmer/fisherfolk will proceed to the interviewer. The mobile data app will be used for enrolment. ID picture and e-signature will be taken.

- A slip will be given after the interview to show that the farmer/fisherfolk completed the interview. This slip will be given to the ACPC field personnel for marking.

INTERVIEW CONFIRMATION SLIP	
NAME OF FARMER/FISHERFOLK	
REFERENCE ID	
NAME OF INTERVIEWER	
SIGNATURE	

STEP 3 | Marking

The ACPC field personnel will receive the slip from the interviewee and mark the standing list. This is to immediately monitor the team's performance.

Adjustments to schedule and other activities will be based on the daily accomplishment of the team.

PHOTO DOCUMENTATION
Malimono, Surigao del Norte (1)

PHOTO DOCUMENTATION
Malimono, Surigao del Norte (2)

PHOTO DOCUMENTATION

Bongabon, Nueva Ecija (1)

PHOTO DOCUMENTATION

Bongabon, Nueva Ecija (2)

Day 0 – Team Arrival

Final Briefing of PLEA Team

Day 1

Going to Malimono

Arrived @ 8:30 AM

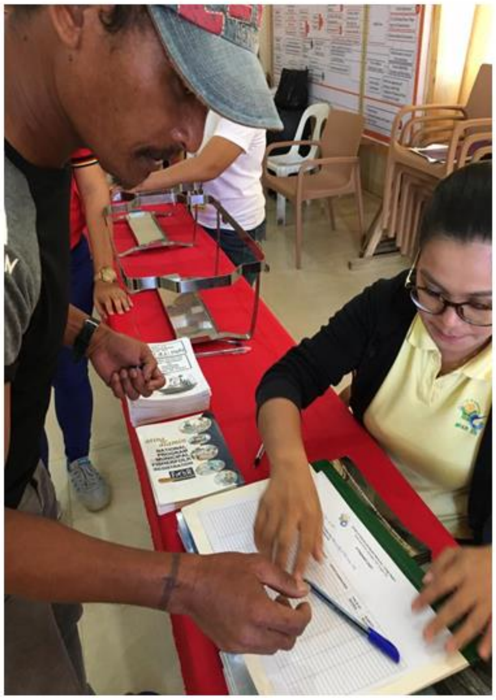
Day 1 @ 9:00 AM

Venue Preparation

ICT Gadgets & Facilities Preparation

Day 1 @ 9:30 AM

Start validating, data gathering & interview



Day 1 @ 11:00 AM

Almost 75% of the Farmers and Fisherfolks are already accommodated..
Some of the PLEA Team take their break...
Some are still accommodating their Clients...

Day 1 @ 12:00 NN

Finalizing the Data Collection

Day 1 @ 1:30 PM

After taking a Lunch Break…
Closing Program follows.

Courtesy Call to the Mayor before leaving Malimono…

Summary

In Malimono, Surigao Del Norte, the team gather 247 Farmers and Fisherfolks Information and their IDs were released last June 23, 2017 during the Launching of PLEA and Juan Magsasaka't Mangingisda National Database System.

In Bongabon, Isabela within 1 and a half day, the Team gathered 491 Farmers Information and soon their IDs will be released…

Next steps

Implementation of Juan Magsasaka/ Mangingisda and PLEA in the following:

- ❑ Carmen, Cebu
- ❑ Wao, Lanao del Sur
- ❑ Marawi City
- ❑ Banisilan, North Cotabato
- ❑ Midsayap, North Cotabato
- ❑ Mlang, North Cotabato
- ❑ Isabela
- ❑ Alamada, North Cotabato
- ❑ Pigkawayan, North Cotabato
- ❑ South Cotabato
- ❑ Bataan
- ❑ Tacloban, Leyte

Maraming Salamat po…

Mabuhay ang mga Magsasaka't Mangigisda ng Pilipinas!!!

DEPARTMENT OF AGRICULTURE
AGRICULTURAL CREDIT POLICY COUNCIL (ACPC)

PRODUCTION LOAN EASY ACCESS (PLEA)

A Special Credit Facility of Program for Unified Lending to Agriculture (PUNLA)

PLEA Credit Facility

PLEA is a special credit delivery facility:

1. Make credit access easy and convenient;
2. Bring down interest rates;
3. Expand credit delivery channels;
4. Ensure sustainability of credit; and
5. Focused on the marginal farmers/fisherfolk

MABILIS, ***MADALI*** at ***ABOT-KAYANG*** pautang para sa **MALILIIT** na magsasaka at mangingisda

PLEA: Implementing Guidelines

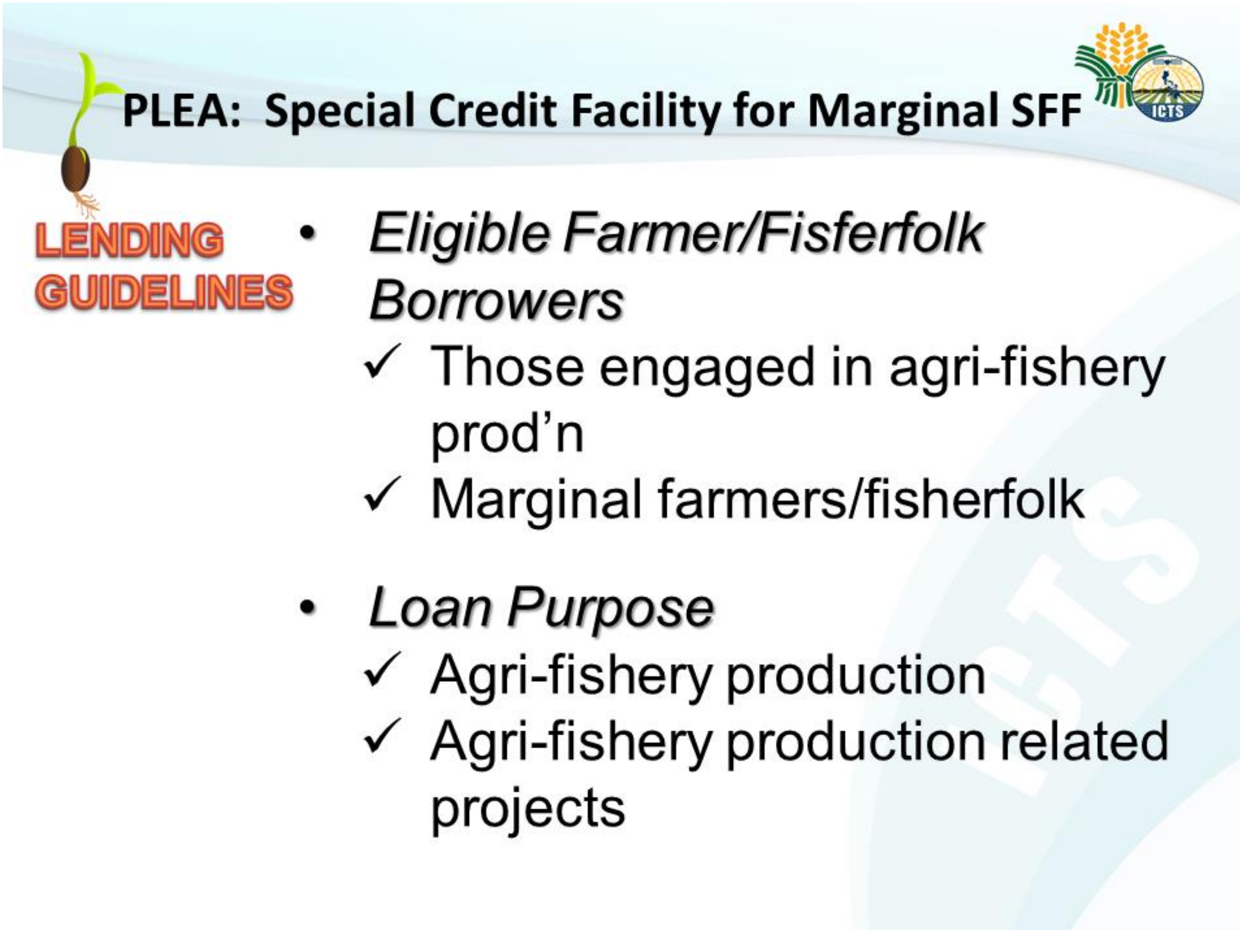
ELIGIBLE CONDUITS

NGOs & FOs /coops categorized as follows:

a) TYPE 1: Currently accredited or are existing partners of ACPC and/or GFIs

a) TYPE 2: Not qualified as Type 1 but complies with the following:

- With juridical personality;
- With a Core Management Team
- With a deposit account (pre- loan release req't);
- Must have contributions (cash or in kind) and/or savings from members
- Endorsed by a government agency or LGUs



PLEA: Special Credit Facility for Marginal SFF
ICTS
LENDING GUIDELINES
Eligible Farmer/Fisferfolk Borrowers
✓ Those engaged in agri-fishery prod'n
✓ Marginal farmers/fisherfolk
Loan Purpose
✓ Agri-fishery production
✓ Agri-fishery production related projects

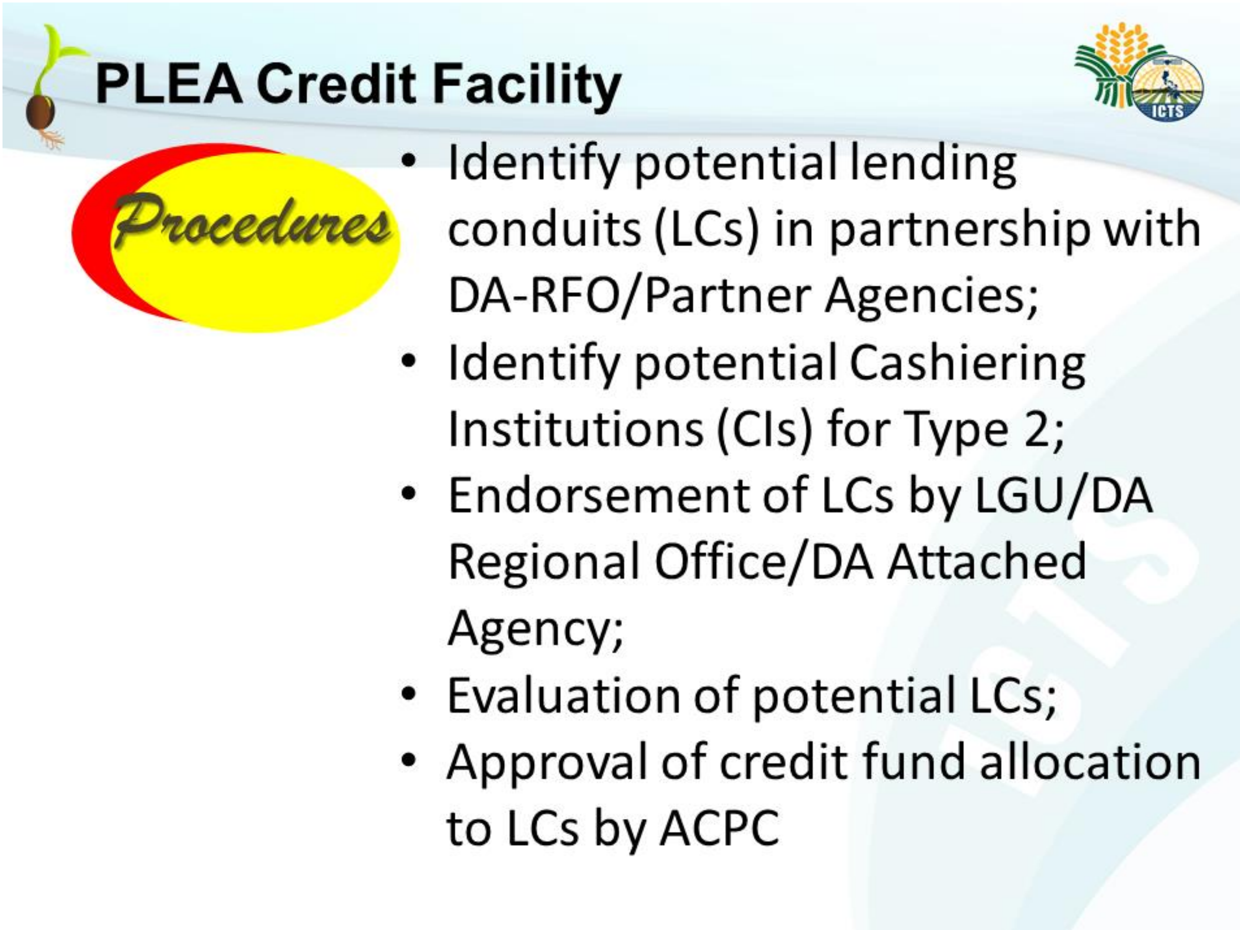
PLEA: Special Credit Facility for Marginal SFF

LENDING GUIDELINES

- *Loan Limit*

  Up to P50,000 or based on the project requirement and repayment capacity of the borrower as evaluated by the lending conduit

- *Loan Maturity*
  - ✓ From two (2) up to 10 years (depending on the commodity/project)


PLEA Credit Facility
ICTS
Procedures
• Identify potential lending conduits (LCs) in partnership with DA-RFO/Partner Agencies;
• Identify potential Cashiering Institutions (CIs) for Type 2;
• Endorsement of LCs by LGU/DA Regional Office/DA Attached Agency;
• Evaluation of potential LCs;
• Approval of credit fund allocation to LCs by ACPC

PROGRAM FEATURES

FARMERS FISHERS ORGANIZATION

MABILIS, ***MADALI*** at ***MURANG*** pautang

MALILIIT na magsasaka at mangingisda

- FOs, Associations and coops as **Lending Conduits**
- Loans at **interest rate of 6%** per annum
- **Non-collateralized** loans to finance agricultural production and agricultural production related projects
- Loan amount – Up to P50,000
- **2 years up to 10 years** loan maturity
- PCIC insurance coverage

PUNLA Track 1: Special Credit Facility for Marginal SFF

LENDING GUIDELINES

- *Interest Charge*
  - ✓ 6% per annum or 0.5% per month
  - ✓ Not deducted in advance

SURVIVAL AND RECOVERY (SURE) ASSISTANCE PROGRAM

Department of Agriculture (DA)
Agricultural Credit Policy Council (ACPC)

Program Features

- A quick-response, post-disaster support facility;
- Grant & Loan assistance for calamity-affected small farmers and fisherfolk & their households;
- Extended thru existing partner-financial institutions and/or lending conduits to be tapped by the DA/ACPC;

SURVIVAL and **RE**COVERY **(SURE)** Assistance Program

Area Coverage & Funding

- Areas "Under State of Calamity" with considerable damage in agriculture due to natural calamities as determined by the DA and/or LGUs;
- Initial funding of P100 Million plus P1.0 Billion commitment of the President. Portion of funds with existing partner institutions may be used upon approval by the ACPC.

SURE Financial Package

Financial Package	Features
• **Survival Assistance**	GRANT of up to P10,000/SFF
	To address immediate and emergency requirements
	Released within 5 days
▪ **Recovery Assistance**	LOAN of Up to PhP25,000/SFF
	0% Interest Rate
	To finance requirement for rehab (farming/ fishing or livelihood activities)
	Released within 30 days
	Up to 3 years to pay

Survival and Recovery Loan Program (SURE)

Loan Assistance	Features
• **Moratorium on Loan Payment for existing borrowers who have outstanding loans under ACPC PROGRAMS**	One (1) year moratorium on payment of their outstanding loan obligations
	Amount due during the moratorium shall be added to back-end of loan

Program Administration

- Eligible Conduits
  - ✓ Current partner FIs
  - ✓ Other conduits may be tapped
- Administrative Arrangement
  - ✓ Conduits will not bear risk
  - ✓ Conduits may charge service fee of up to 3%;
- Fund availments based on the conduits' target loans

Survival and **R**ecovery **(SURE)** Program

Lending Guidelines

- Eligible Borrowers
  - ✓ SFF affected by calamity (for survival package except 4Ps recipients)
- Type of Assistance & purpose
  - ✓ Survival Grant
  - ✓ Recovery loan
- Service Fee: 3%
- Term of loan:
  - ✓ Project gestation
  - ✓ Borrower capacity

Survival and **R**ecovery **(SURE)** Program