別　添　資　料

Questioner	Answerer	Date	Division	Part	Questions	Answer	Status
IFX			General	Organization	Divisions / Organization Chart		
IFX					numbers of Staff		
IFX				GIS	request from Others ?		
IFX					"Map" Questions (Attached Sheet)		
IFX				Budget	Total and DRRM & IT		
IFX				Environment	Internet connection? Download capavility?		
IFX			IT	Organization	How many staff?		
IFX					Members		
IFX					Locations		
IFX					Role and responsivility		
IFX					Understanding of the project.		
IFX					Budget		
IFX				Equipment	PC: numbers		
IFX					PC: specs / OS		
IFX					PC: specs		
IFX					A/C		
IFX					Network		
IFX					Power		
IFX					Pole & Tower		
IFX					Reduntant(Back-up) Power Management?		
IFX				Skill	What kind of skill do the staff have?		
IFX					Maintenance & Service (how often?)		
IFX					Regular Update?		
IFX					Any troble before? (Physically and Technically)		
IFX				Software	DB, Office, Mapping?		
IFX					communication tools (telephone, FAX, mail, SNS)		
IFX					LGU Home Page		
IFX					Back Up		
IFX				Policy / Rules	Security		
IFX					Security : Robbery measure, Locks?		

Questioner	Answerer	Date	Division	Part	Questions	Answer	Status
IFX					Anti-Virus		
IFX				For System	Current Problems?		
IFX					Expectation		
IFX			DRRM	Organization	How many staff?		
IFX					Members		
IFX					Locations		
IFX					office size		
IFX					Role and responsivility		
IFX					Understanding of the project.		
IFX					Budget		
IFX				Equipment	PC: numbers		
IFX					A/C		
IFX					Network		
IFX					Power		
IFX					Pole & Tower		
IFX					Others		
IFX				Skill	What kind of skill do the staff have? IT skill?		
IFX					Any troble before? (Physically and Technically)		
IFX				Map	impression of OSM		
IFX					What maps do you use mainly for DRRM activity?		
					Special map symbols?		
IFX					Input datacandidate		
IFX				DATA	Data input skill by DRRM Staff. Evacuation sites, routes, hazard locations		
IFX					What Data do you request mainly for DRRM activity?		
IFX					Points of Interest		
					Listed data? (Excel files?)		
IFX					Data Sending to other LGU etc? Data exchanges?		
IFX			GeoCloud	Function	Users authority: Management & Users		

Questioner	Answerer	Date	Division	Part	Questions	Answer	Status
IFX					Print requirement (Size, numbers, special requests?)		
IFX					require root finding?		
IFX					need server access time out? How long?		
IFX				DATA	Address / Postal Code		
IFX					LGU ID		
IFX					Data control: Limits of access?		
IFX				Map	impression of OSM		
IFX				System	Current Problems?		
IFX					Expectation		

Layer		Title	Description	LGU:		
				Type of Information (Paper Doc., PDF, Scanned Image, or Digital Map)	Level (National, Provincial, City, Barangay, or Other)	Volume (How many?)
1	Base Map	Topography Map	Topography Map showing the higher and lower spots			
		Urban Planning Map	Urban Planning Map showing the current and future planned urban planning			
		other maps	any other maps which might be useful			
2	Hazard Information	Flood damage survey	Results of flood damage survey, information such as flood depth, direction, duration, etc.			
		Inundation Map	inundation map prepared based on previous flood events, and/or simulation results			
		Other inundation information	Any other hazard (flood) information which might be useful			
3	Landmark Information	Location of Key Infrastructure	Major & minor road,river & stream, canals, railway, etc.			
		Location of Key Buildings	Church, hospital, park, school, evacuation center, open space, location of key individuals/team (house of Barangay captain, Barangay hall, police, fire station, rescue team), warehouse (stockpile for disaster: managed by Department of Social Welfare and Development at Barangay Level), etc.			
		Location of Disaster Management Related Facilities	Location of speaker, siren, water level/rain observation stations			
		other infrastructure/buldings	Any other infrastructure or buildings which might be useful			
4	Other	Evacuation Information	Information on evacuation order, flood warning, siren pattern,			
		Population	Information on population, vulnerable people			
		Policy/Act	Disaster Management Policy, Act, Action Plan,			

別添2

GeoCloud Project In Pangasinan

Work together to upgrade LGUs' capability!

Informatix inc.

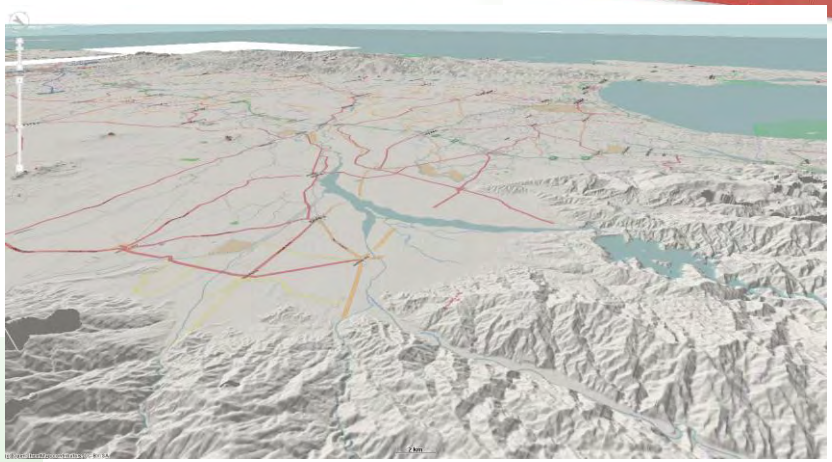
- Founded 1981
- Over 35 years in spatial information business in Japan.
- Developer of ***Spatial Information*** software & solutions. (GIS, CAD, CG)
- 3 offices, HQ Kawasaki, Osaka, Nagoya.
- 145 engineers out of 195 employees.
- Many Installed bases in the governmental organizations and LGUs in Japan.

Kawasaki HQ, Kanagawa

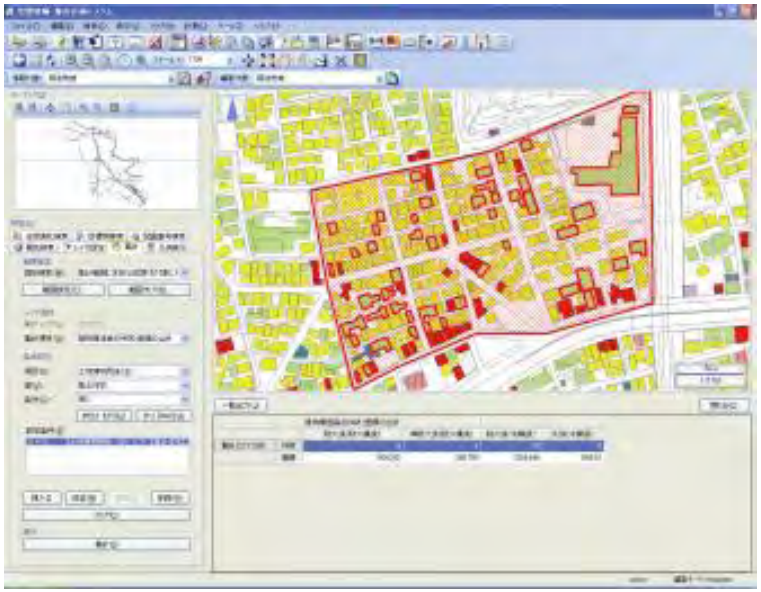
Informatix's Software Product

GEO CLOUD®

Our Reliable GIS Software



- Sharable
- Easy Operation
- Powerful (Professional)
- Convenient



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GeoCloud Project Summary

◆ Survey Project Title:

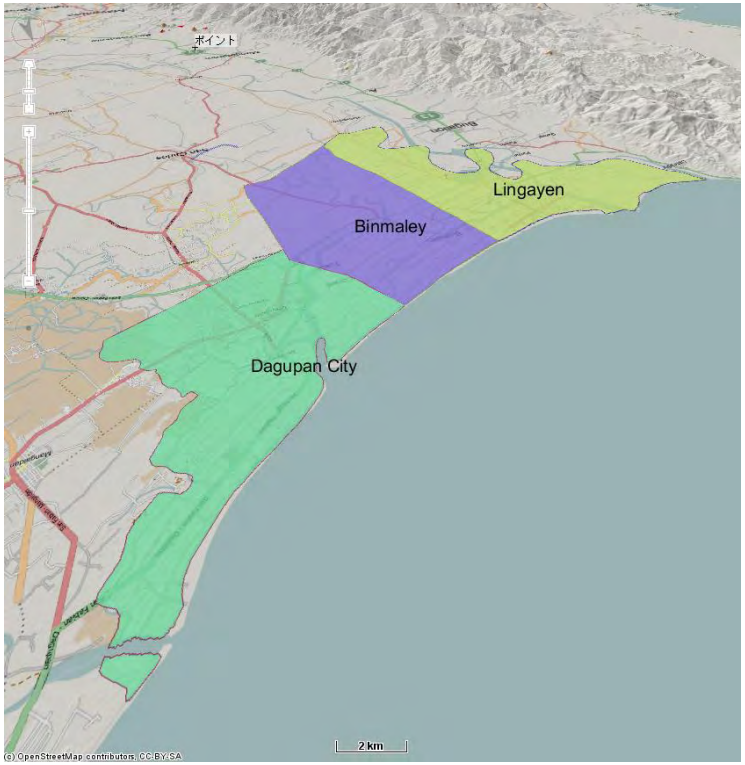
"The Verification Survey with the Private Sector for Disseminating Japanese Technologies for Integrated Geographic Information System (GIS) for Advancement of Regional Disaster Risk Reduction and Management."

◆ Summary:

- Informatix will apply **GeoCloud** Integrated GIS to the Province of Pangasinan and 3 LGUs, and confirm the effectiveness of the product for the disaster risk reduction and management (DRRM) in this region.

◆ Survey Project Purpose:

- To verify the effectiveness of GeoCloud for DRRM activities in Pangasinan Provincial Government and 3 LGUs.
- To figure out the coordination between the Integrated GIS to be developed by Informatix Inc. and the current Philippine policies in meteorological and DRRM matters.



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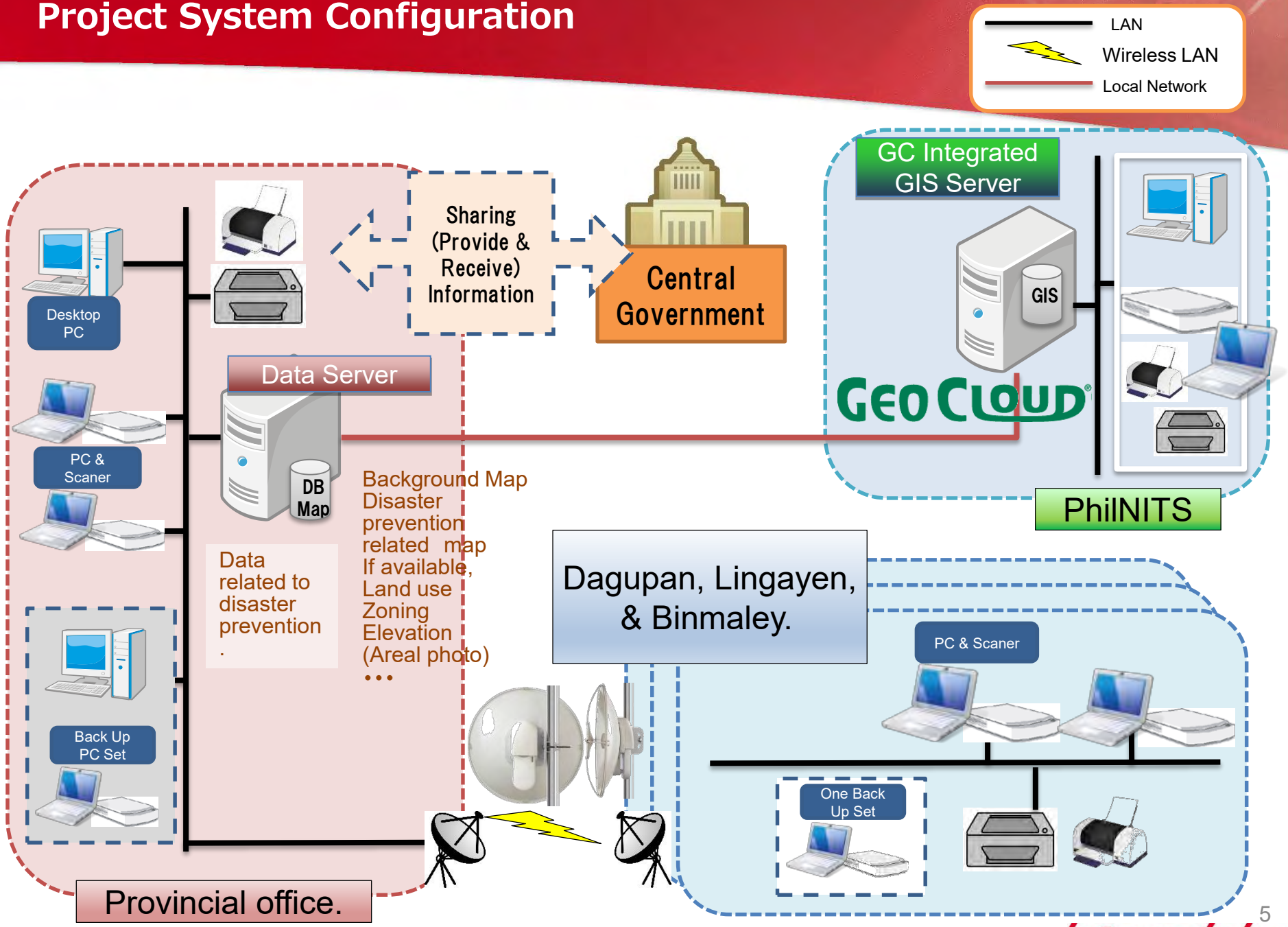
Project System Configuration



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What to do? : Actiities

①: Information Sharing
To study the method to share information about meteorological and disaster risk reduction between governmental organizations and Province of Pangasinan.

②: GeoCloud Operation
Introduction and operation of Integrated GIS for Province of Pangasinan.

Month	1	2	3	4	5	6	7	8
	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
②GeoCloud	*Preparation Stage*							
	Specification Check			System Adjustment and Base Data Entry				Test Run
	Data Check & Arrangement						Hardware	Training

Month	9	10	11	12	13	14	15	16	17	18
	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
②GeoCloud	*Formal Run 10 Months*									

③: DIG
To implement Disaster Imagination Game (DIG) twice in Pangasinan

④: Promotion
To make a plan to disseminate Integrated GIS into all over the Philippines.

Members

Member	Part		detail
Informatix	proposal group	Summary	Software provide, Technical Support,
		operations support	System training, education for the operative enforcement to PhilNITS.
The Province of Pangasinan & 3 LGUs	User group	User	Enforcement of data conversion work, Running the software.
Central Government Agencies	Invited group	Supporter	Attending meetings and giving advices and information.
CTII	Consultant	consulting	giving advice, survey, and making the report. regional and Community disaster prevention plan,
		Disaster drill	Making the drill plan and operation.
PhilNITS	Local Partner	Local operative support	Setting support, Help desk, training support
		Software adjustment	Software development, LGU's manual.
		Training	Trainor, Setting,
		Survey support	Making and preparations for survey material

*** JICA supports the project totally.**

Outputs & Outcomes

- Construction of sharable DRRM database on GeoCloud in Pangasinan. ⇒**Upgrade DRRM Capability**
- Establishment of the framework in which DRRM information is shared mutually and rapidly, complying related policies of central governmental organizations.

- **Practical use of the Integrated GIS other than DRRM matters, such as city planning and assets valuation.**
- **Pangasinan will be known as *the best* model of practical use of Integrated GIS for DRRM, and it helps to disseminate the framework all over the Philippines.**

Individual Activities

- Role of PhilNITS by PhilNITS
- Overview of DIG by CTII

別添３

"Launch Meeting"

March 31, 2016

PROGRAMME

AM

Welcome Remarks	***Hon. Amado T. Espino, Jr.*** Governor, Pangasinan Province
Remarks	***Takahiro Morita*** Senior Representative, JICA Philippines

Project Overview Presentation.

1. JICA New Scheme "Verification Survey to Disseminate" Japanese Technology (V/S).	***JICA***
2. GeoCloud Project in Pangasinan	***Informatix***
Include:	
➢ Role of PhilNITS as the local partner	***PhilNITS***
➢ .Overview of Disaster Imagination Game(DIG) in the Project	***CTII***

Acceptance Remarks	***Hon. Amado T. Espino, Jr.*** Governor, Pangasinan Province
	Hon. Belen Fernandez Mayor, Dagupan City
	Hon. Josefina V. Castañeda Mayor, Lingayen
	Hon. Simplicio L. Rosario Mayor, Binmaley

Lunch

PM

Open Forum

Networking of Project Stakeholders

Classification 1	Classification 2	Function	機能(日本語)
Map	File	Create New	新規作成
		Open File	開く
		Save File	保存
		Save As File	名前を付けて保存
		Show Recent Files	最近開いたファイル
	Print/Export	Print	地図印刷
		Print Legend	凡例印刷
		Print Preview	プレビュー表示
		Export Image	画像出力
		Export File	地図ファイル出力
	Display Map	Zoom Map	地図拡大縮小
		Pan Map	地図移動
		Display in Center of Specified Point	地図中心移動
		Rotate Map	地図回転
		Box Zoom	地図範囲拡大
		Use Overview Map	索引図表示
		North point	方位記号の表示
		Copy to Clipboard of Map Image	地図のクリップボードコピー
		etc.	
	Layer Setting	Show/Hide Layer	レイヤ表示非表示
		Layer Control	レイヤ管理
		Insert Point from Address/Coordinate	アドレスマッチング
		Configure Layer Status	レイヤの編集設定
		Change Order of Layer	レイヤの並び順設定
		Set Scale Range to Layer	レイヤの表示スケール設定
		Set Override Style to Layer	レイヤの優先スタイル設定
		Disclosure Layer to Public	レイヤの公開設定
		etc.	ワイプ表示
	Search and Show Position	Address Search (Selected from a List)	住所検索（一覧から選択）
		Lon and Lat Search	緯度経度検索
		Landmark Serch	
		etc.	ブックマーク
	Measurement Function	Measure Distance	距離計測
		Measure Area	面積計測
		Measure Lon and Lat	緯度経度計測
		etc.	所要時間計測
	Clipboard Function	Cut	切り取り
		Copy	コピー
		Paste	貼り付け
		Delete	削除
	Drawing and Editing	Draw Line	線の作図
		Draw Polygon	多角形の作図
		Draw Circle	円の作図
		Draw Concentric Circle	同心円の作図
		Draw Arc	円弧の作図
		Draw Freehand	フリーハンドの作図
		Draw Text	文字の作図
		Insert of Image	画像の挿入
		Draw Buffered Geometry	バッファ図形作図
		Edit of Geometry's vertex	図形頂点編集
		Edit Text	テキストの編集
		Merge Geometries	図形の演算
		Convert Geometry Type	図形の変更
		Grouping Geometries	図形のグループ化
		Change Style	スタイル変更
		etc.	
	Showing and Editing of Attributes	Show Attribute Detail	属性表示
		Edit Attribute Value	属性内容編集
		Edit Attribute	属性項目編集
		Specify Data Type of Attribute	属性項目のデータ型
		etc.	
	Show List of	Show List of Attributes in Table	一覧表示
		Sort List	並び替え
		Hide Row (Item)	行非表示
		Hide Column	列非表示

		etc.	
	Filtering Search Result	Filter out by Specifying Conditions	絞込み検索
		etc.	
	Analysis	Create Graph	グラフ主題図
		Create Theme of Item's Value	個別値主題図
		Create Theme of Value's Range	レンジ主題図
		Create Label of Attribute	ラベル主題図
		Create Voronoi Polygon	ボロノイ図作成
		Find Route	ルート検索
		Apply Style from Attribute	属性スタイル設定主題図
		etc.	
Management	Department Management	Registration, Edit or Remove	登録・編集・削除
	User Management	Registration, Edit or Remove	登録・編集・削除
		etc.	
	Management of Connecting User	Show Connecting User	接続ユーザ表示
	Log Display	Search Log	ログ検索表示

No.	品名	メーカー	モデル	諸元	数量	納入年月	備考
1	Laptop PC	DELL	Latitude 3570	Dell Latitude 3550 : Standard Base (CTO) Intel Core i5-5200U (Dual Core, 2.2GHz, 3M cache, 15W) 15.6″ FHD (1920x1080) Wide View Anti-Glare LED-backlit No Fingerprint Reader 8GB (2x4GB) 1600MHz DDR3L Memory 500GB 2.5inch Serial ATA (7,200 Rpm) Hard Drive Power Cord for 3-pin Adapter (US) 43 WHr, 3-Cell Battery (integrated) Dell 15.6″ Essential Backpack Intel HD Graphics 65 Watt AC Adaptor Intel Dual Band Wireless-N 7265AGN 802.11a/b/g/n 2x2 + Bluetooth 4.0 LE Half Mini Card Intel Dual Band Wireless 7265 Driver Internal Single Pointing Keyboard (English) Windows 7 Professional, English, 64bit (includes Windows 8.1 Pro 64bit License and Media) Windows 8.1 DVD OS Recovery (English) 3Yr ProSupport:Next Businerss Day Onsite Service 1 Yr Accidental Damage Service – Indo, Ph & Bru	13	2016年7月	
2	Scanner	EPSON	WORKFORCE DS 50000	Scanner Type: A3, Flatbed color image scanner; Optical Sensor: 600 dpi color CCD 4 line sensor (RGB & Black); Optical Resolution: 600 dpi x 600 dpi; Color Bit Depth: 16-bits per pixel internal / 8-bits external color; Maximum Scan Area: 11.7″ x 17″; Light Source: ReadyScan® LED	13	2016年7月	
3	Inkjet Printer	HP	Officejet 7110 Wide Format (A3) ePrinter (CR768A)	ISO Speed: Up to 15 ppm black, Black: Up to 600 x 1200 dpi; Color: Up to 4800 x 1200 optimized dpi color ; HP ePrint, Apple AirPrint™; 1 USB 2.0, 1 Ethernet, 1 Wireless 802.11b/g/n; Monthly Duty Cycle (letter)- Up to 12,000 pages; INKS: HP #932 Black and HP #933 CMY Ink Cartridge 1 YR warranty	5	2016年5月	
4	Laser Printer	HP	LaserJet Pro M201n, CF455A	Print speed: Normal, A4: Up to 25 ppm; Normal, letter: Up to 26 ppm; Manual Duplex (A4): Up to 15 ipm; Duplex (letter): Up to 16 ipm; First page out: A4/letter, ready: As fast as 8 sec; Print resolution: Black (best): Up to 600 x 600 x 2 dpi (1200 dpi effective output); Black (normal): Up to 600 x 600 dpi; Print resolution technologies: HP FastRes 1200, 600 dpi; HP ePrint, Apple AirPrint, Standard connectivity: 1 Hi-Speed USB 2.0; 1 Ethernet 10/100; Memory: 128 MB; Processor speed: 750 MHz; Duty cycle (monthly): Up to 8,000 pages; Paper handling: Input- 250-sheet input tray, 10-sheet priority tray	5	2016年5月	
5	Desktop PC	HP	HP Elite DESK 800 G2 SFF	Intel Core i7-6700 3.4G/ HD Graphics/ 4GB DDR4-2133 DIMM/ 1TB 7200 RPM/ Win 10 downgraded 7 Pro 64bit/ SuperMulti DVDRW/ HP USB KB and Mouse/ 3-3-3 Warranty (Metro Manila)	3	2016年5月	
6	Monitor	HP	HP ELITEDISPLAY E231 23-INCH LED BACKLIT	3-3-3 warranty (Metro Manila)	3	2016年5月	
7	UPS	APC	BX625CI-MS Back-UPS 625VA, 230V, AVR, Floor, Universal Sockets	Fro Desktop PCs and LGU's printers.	3	2016年5月	2枚1組
8	UPS	APC	Smart-UPS 2200VA LCD RM 2U 230V	Fro Server.	2	2016年5月	
9	Server	Dell	PowerEdge T430 Server	PowerEdge T430 Motherboard Intel Xeon E5-2623 v3 3.0GHz,10M Cache,8.00GT/s QPI,Turbo,HT,4C/8T (105W) Max Mem 1866MHz SATA HDD purchased with Dell Basic HW support carries 1 yr limited HW wrty. Chassis with up to 8, 3.5″ Hot Plug Hard Drives, Tower Configuration Security Bezel, iDRAC Port Card 2 x 8GB RDIMM, 2133MT/s, Dual Rank, x8 Data Width Upgrade to Two Intel Xeon E5-2623 v3 3.0GHz,10M Cache,8.00GT/s QPI,Turbo,HT,4C/8T (105W) iDRAC8 Enterprise, integrated Dell Remote Access Controller, Enterprise VFlash, 8GB SD Card for iDRAC Enterprise, V2 3 x 4TB 7.2K RPM NLSAS 6Gbps 3.5in Hot-plug Hard Drive,13G PERC H730 Controller, 1GB NV Cache 2 x Heatsink for PowerEdge T430 DVD+/-RW, SATA, Internal Dual, Hot-plug, Redundant Power Supply (1+1), 750W 2 x Powercord, 125 Volt,15Amp,10 Foot, C13 to NEMA 5-15 PowerEdge Server FIPS TPM Dell E Series E1715S 17" Monitor with LED Back Light 2 x Long Jumper Cord, C13-C14,4m,12a 1xPower Cord, 6 Feet, 110/220V US On-Board LOM 1GBE (Dual Port for Towers, Quad Port for Racks and Blades) Dell USB Optical Mouse – MS111 Dell KB212-B QuietKey USB Keyboard Black 3Yr ProSupport: Next Business Day Service (Parts+Labor) No Rack Rails, No Cable Management Arm, No Casters RAID 5 for H330/H730/H730P (3-16 HDDs or SSDs) Win Svr 2012 Std OLP NL 5 x Windows Server 2012 User CALs	2	2016年7月	
10	FireWall	DELL	SONICWALLTZ300 TOTALSECURE 1YR	TZ300 Appliance + 1 year of Comprehensive Gateway Security Suite. [2x800MHz cores, 5x1GbE interfaces, 1GB RAM, 64MB Flash] CGSS Bundle (Threat Prevention, Content Filtering, 24x7 Support)	2	2016年5月	
11	FireWall Software	DELL	SonicWALL Analyzer Reporting Software For SOHO	for TZ1xx, TZ2xx, TZ3xx, TZ4xx Series	2	2016年5月	
12	Office	Microsoft	Office Std 2016 SINGL OLP NL		16	2016年7月	
13	Projector	InFocus	INFIN112x	DLP 0.55″ SVGA, 800x600 (450 type), DDP4421+DDRII	1	2016年5月	
14	WI-FI WIRELESS ROUTER	LINKSYS	EA6350-AP LINKSYS ADVANCED MULTIMEDIA	AC1200 SMART WIFI ROUTER, 1 year warranty	5	2016年5月	
15	Ethernet Cable		Cat5 UTP Cable		1	2016年7月	州用サーバ機とセット

作業工程計画および進捗実績

活動	番号	場所	業務内容			主担当	サポート	期間／回数
活動1 中央政府機関とパンガシナン州政府間の気象防災情報の相互共有方法の検討	1-1	現地	中央政府機関への事業説明	計画	・現地担当者、関係者に対する事業内容の説明会実施 ・サポート体制の協議	IFX、CTII	PhiNITS	1回
				実績	3月31日Launching Meeting 訪問説明を実施4月1日EDOSTCT、4月5日OCD Region1⇒DSWD Region1、4月7日OCD本部⇒PAGASA本部、4月8日NAMRIA・DILG		JICA,PhiNITS	全7カ所訪問
	1-2	現地	中央政府機関・パンガシナン州政府・市町間情報共有会議の実施	計画	・中央政府機関を含む担当者による国と地方政府間の情報共有について協議。 ・事業進捗状況の確認　・情報交換	IFX、CTII	PhiNITS	５回
				実績	2016年5月、11月、2月、7月に実施　（台風で1回中止、ラマダンで延期）	IFX	PhiNITS、CTII	４回
	1-3	現地	中央政府機関における防災情報・制度調査	計画	中央政府・LGU情報共有検討会議を受けての情報共有データインタビュー。（PAGASA,OCD）	IFX、CTII		２日
				実績	OCD 2017/1/16、3/2、3/30、NAMRIA 1/20、DILG 1/20、PAGASA 3/1	IFX、CTII	PhiNITS	適宜
	1-4	現地	気象防災情報の相互共有方法の検討	計画	共有すべき情報を技術面、利活用範囲と制限を含む条件面などを考慮し、共有の方法を検討する。	IFX、CTII	PhiNITS	５回
				実績	情報共有会議時に討議、3/1 PAGASA訪問時に検討	IFX、CTII	PhiNITS	５回
活動2 パンガシナン州政府への統合型GISの導入と運用	－	国内	契約	計画	契約関連	IFX	CTII	－
				実績	契約	IFX	CTI	－
	2-1	国内	事前準備調査の実施	計画	事業内容とスケジュールの確認 現地訪問調査準備と内容確認	IFX	CTII	1W
				実績				2W
		現地	事前現地調査（統合型GIS）	計画	LGU内運用環境、ハードウェア設置個所、設備、体制、資料・データ	PhiNITS	IFX	1W
				実績	システム導入に関連する項目に絞り実施。	IFX	PhiNITS	2W
		現地	事前現地調査（既存防災情報及び災害対策体制）	計画	現地水害とその地状況確認・情報収集 現地災害対策体制の確認	CTII	IFX	2W
				実績				3W
		現地	統合型地理情報システム導入説明会の実施	計画	・現地担当者、関係者に対する事業内容の説明	IFX、PhiNITS	CTII	1W
				実績				計1W
		現地	ソフトウェア利用条件の協議と確認	計画	LGUとの協議	IFX、PhiNITS	CTII	1回
				実績				1回
	2-2	国内	統合型GIS及びハードウェア仕様の策定	計画	現地確認調査のまとめ、運用／システム環境確認、詳細仕様案作成	IFX	PhiNITS、CTII	－
				実績		IFX、PhiNITS	CTII	－
		現地	統合型GIS詳細仕様検討会議の実施	計画	LGUを含む関係者会議、仕様案の提示と説明、詳細機能協議 システム環境最終確認	IFX、PhiNITS	CTII	1W
				実績	導入機能提案と機能一覧提示、機材等の調達	IFX、PhiNITS	CTII	
		国内	統合型GIS仕様確定会議の実施	計画	営業、技術の両面から情報共有と合意	IFX	CTII	1回
				実績		IFX	PhiNITS、CTII	1回
	2-3	国内	システム改良作業（国内）	計画	仕様決めでの改良点を反映	IFX		4W
				実績	仕様決めでの改良点を反映とPhiNITSのシステム改良支援準備		PhiNITS	
	2-4	現地	システム運用支援パートナー向けトレーニングの実施	計画	開発技術の教育	IFX、PhiNITS		1W
				実績	開発技術の教育（基礎⇒開発技術）内容を拡大			3W
	2-5	現地	システム導入準備作業（フィリピン）	計画	現地地図・住所DB整備、編集、防災関連データ入力	PhiNITS	IFX	3M
			1）地図／基礎データ整備作業	実績	基礎データ収集、提供地図データの内容確認、データ作成作業			
		現地	2）システム現地対応作業	計画	英語化、現地LGU用仕様変更の反映、インターフェイス修正など	PhiNITS	IFX	5M
				実績	英語化、現地LGU機能の反映、住所対応、テスト、コンパイルなど			
		現地	3）現地向けマニュアル作成	計画	取扱説明書、トレーニングマニュアル作成等	PhiNITS	IFX	2M
				実績	操作マニュアル、トレーニングマニュアル、管理者マニュアル作成	PhiNITS	IFX	
	2-6	現地	地方自治体（LGU）向けトレーニング	計画	LGU担当者に対して複数回実施 全３回（導入時１回(IFX参加)と中間トレーニング２回）	PhiNITS	(IFX)	1M
				実績	10月に導入時トレーニング、1月に中間トレーニング実施、2017年6月にDRRM関係者及びDRRM以外の主管課向けトレーニング	PhiNITS	(IFX)	
	2-7	現地	ハードウェア設置／セットアップ	計画	2段階で実施。　1回目：（仮セットアップ）PhiNITS 2回目：現地セットアップとネットワーク設定	PhiNITS	(IFX)	1.5M
				実績	2段階で実施。1回目：（仮セットアップ）PhiNITS内にて実施。サーバの納品が遅れ、サーバについては7月末に設定を開始。 2017年2月に現地要望の機能追加バージョンへアップデート			
	2-8	現地	プロトタイプ版システム導入／仮運用	計画	プロト版システムによるテスト運用　１ヶ月間⇒修正	PhiNITS／LGU	IFX	1M
				実績	調整と稼働確認、仮運用開始	PhiNITS／LGU	IFX	
	2-9	現地	本番システム導入／本稼動	計画	最終版システムによる本稼動　10ヶ月間	PhiNITS／LGU	IFX	1.0M
				実績	データ入力等、運用開始	PhiNITS／LGU	IFX	
	2-10	現地	システム運用体制の構築	計画	サポート担当育成し、ユーザーからの質問に回答する。	PhiNITS		1.0M
				実績	PhiNITSに再委託、HW・ソフトのメンテナンス、IFXはPhiNITSをサポート	PhiNITS	(IFX)	
活動3 パンガシナン州における災害図上訓練の実施	3-1	現地	災害図上訓練（ワークショップ）の準備	計画	訓練のために　①水害状況確認結果の報告 ②概要の説明・実施方法についての協議 図上訓練（ワークショップ）準備： ①システム整備状況把握・内容へのコメント ②運用状況の確認 ③詳細設定（スケジュール、参加者、内容、必要資材等）	CTII	IFX,PhiNITS	1M
				実績				
	3-2	現地	災害図上訓練（ワークショップ）の実施	計画	災害対策としてシステム効果を実証するために図上訓練実施。 ２回実施：導入前と導入運用後	CTII	IFX,PhiNITS	1.5M
				実績	10月に第1回、2017年2月に第2回、6月に第3回WSを実施	CTII	IFX,PhiNITS	
	3-3	現地	災害図上訓練（ワークショップ）結果の評価と共有	計画	2回の図上訓練の結果をLGUと共有に効果と課題を確認する。	CTII	IFX	1回
				実績	第2回、3回、4回情報共有会議時に各界のWS結果内容と評価を共有	CTII	IFX	3回
活動4 統合型GISの普及活動とビジネス展開計画の策定	4-1	現地国内	ビジネス展開に向けた情報収集	計画	情報収集を実施し、ビジネス展開のためにチェック項目、ToDoリスト作成を含む計画の作成	IFX	PhiNITS	
				実績	本邦受入参加機関でセミナーの開催 NCGSP訪問2017/3/30、MMDA訪問3/31、州内DRRM会議で発表、聴講3/29	IFX	PhiNITS	
	4-2	現地	セミナー・見学会の実施	計画	顧客層であるLGUと普及効果が期待できる政府関係者向けのセミナーを実施。導入システムの紹介と効果全ての講演を含めて情報提供する。	PhiNITS	IFX	1回
				実績	2017/8/23に成果発表会をマニラ首都圏で実施。 JICA事業、導入システムの紹介、DICT、OCDのスピーチ	PhiNITS、IFX	CTII	1回
	4-3	国内	本邦受入活動の実施	計画	IFXにおいて、国内事例と防災システム運用について研修を実施。GC統合型GIS利用中の川崎市への視察と情報交換なども含む。	IFX/LGU/中央政府	川崎市	1W
				実績	2016年11月14-19日に実施、第二回目を2017年5月18-23日に実施	IFX/LGU/中央政府	川崎市、静岡県（1回目のみ）、横浜市	1W
	4-4	国内	フィリピン国内における防災・災害対策システムの普及に向けた提言	計画	実証期間内の内容と課題を整理し、展開案作成のための調査を行う。	IFX／CTII		2M
				実績	実証期間内の調査内容を踏まえ、フィリピン国内におけるDRRM関連システムのありかたを考察	CTII	IFX	
	4-5	国内	受注者のフィリピンにおけるビジネス展開計画の策定	計画	今後の活動内容と計画を策定	IFX／CTII		2W
				実績	今後の活動内容と計画を策定した	IFX	CTII	
その他	－	国内	連絡会議	計画	国内関係者による定例会議（月1回）	IFX	CTII	1.7M
				実績	都合により一度の電話会議を含む			
	－	現地	現地関係者連絡会議	計画	現地関係者を含む会議	IFX	CTII、PhiNITS	4回
				実績				
	－	国内	中間評価活動改善会議	計画	中間評価⇒改善検討	CTII	IFX	2回
				実績		IFX	CTII	
	－	現地	最終報告書用調査	計画	現地調査、インタビュー実施 ①システム導入効果についての発表・報告、②今後の活用についての協議	CTII		1W
				実績	第3回WS、第4回情報共有会議にてヒアリング	CTII		
	－	国内	報告書作成	計画		CTII		1.7M
				実績		IFX	CTII	
	－	国内	報告書提出	計画		IFX		－
				実績				
業務報告書類		国内	業務計画書					
		国内	受入計画書					
		国内	月報					
		国内	進捗報告書					
		国内	業務完了報告書（案）					
		国内	業務完了報告書					

2016年：0 2月、1 3月、2 4月、3 5月、4 6月、5 7月、6 8月、7 9月、8 10月、9 11月、10 12月

2017年：11 1月、12 2月、13 3月、14 4月、15 5月、16 6月、17 7月、18 8月、19 9月、20 10月、～22 ～12月

イベント⇒　イースター週（1 3月）　5/9選挙（3 5月）　年末年始（10 12月）　イースター週（13 3月）

機材調達

10ヶ月間

10ヶ月間

竣工

凡例：現地業務／国内作業　　現地業務（マニラ）／現地業務（パンガシナン）／国内業務（期間未定）

IFX：（株）インフォマティクス
CTI：（株）建設技研インターナショナル
PhilNITS：The Philippine National IT Standards Foundation Inc.

業務従事者の従事計画・実績表

業務名称：フィリピン国地域防災能力向上のための統合型地理情報システムの普及・実証事業

（期間：2016年3月～2017年12月。2016年12月と2017年1月の間に赤破線。）

現地業務

所属先	格付	分類	担当業務	区分	渡航回数	渡航期間	計画日数合計	実績日数合計	計画人月合計	実績人月合計
CTII	2	A	チーフアドバイザー	計画	6		40.00		1.33	
				実績	6	(3/29-4/1) (7/24-7/29) (10/16-21) (11/7-10) (6/29-30) (7/1-7) (8/21-26)		35.00		1.17
CTII	4	A	地域防災計画/コミュニティー防災	計画	6		65.00		2.17	
				実績	8	(3/29-4/9) (5/23-5/28) (7/19-7/28) (10/12-20) (2/16-28) (3/1-2) (6/26-30) (7/1, 10-15) (8/21-26)		70.00		2.33
IFX	3	Z	業務主任者	計画	10		84.00		2.80	
				実績	12	(3/29-4/9) (5/22-6/2) (7/19-7/29) (9/5-9) (10/16-21) (11/6-10) (1/16-21) (2/20-28) (3/1-3, 27-31) (4/1) (7/10-15) (8/21-26) (10/2-7)		93.00		3.10
IFX	4	Z	副業務主任者	計画	6		39.00		1.30	
				実績	5	(3/29-4/2) (6/6-6/10) (7/31, 8/1-3) (8/21-26) (10/2-7)		26.00		0.87
IFX	2	Z	社内アドバイザー	計画	3		17.00		0.57	
				実績	2	(3/29-4/2) (8/22-24)		8.00		0.27
IFX	4	Z	主任システムエンジニア	計画	9		79.00		2.63	
				実績	4	(6/6-6/17) (7/25-7/29) (9/5-9) (2/20-25)		29.00		0.97
IFX	4	Z	システムエンジニア	計画	3		22.00		0.73	
				実績	3	(3/29-4/9) (5/30-6/8) (10/2-6)		27.00		0.90
IFX	3	Z	システムエンジニア	計画	2		24.00		0.80	
				実績	1	(5/30-6/2)		4.00		0.13
IFX	5	Z	システムエンジニア	計画	1		5.00		0.17	
				実績	1	(8/21-25)		5.00		0.17
IFX	4	Z	支援・調整	計画	1		5.00		0.17	
				実績	1	(8/21-24)		4.00		0.13
IFX	5	Z	トレーナー	計画	0		0.00		0.00	
				実績	1	(8/22-25)		4.00		0.13
IFX	5	Z	トレーナー	計画	3		24.00		0.80	
				実績	1	(5/22-5/28)		7.00		0.23

	計画（日）	実績（日）	計画(月)	実績(月)
A合計	105.00	105.00	3.50	3.50

小計	区分	計画日数合計	実績日数合計	計画人月合計	実績人月合計
全体現地業務小計	計画	404.00		13.47	
	実績		312.00		10.40
外部人材現地小計	計画	105.00		3.50	
	実績		105.00		3.50

国内作業

所属先	格付	分類	担当業務	区分	計画日数合計	実績日数合計	計画人月合計	実績人月合計
CTII	2	A	チーフアドバイザー	計画	30.00		1.50	
				実績		34.33		1.72
CTII	4	A	地域防災計画/コミュニティー防災	計画	42.00		2.10	
				実績		39.17		1.96
IFX	3	Z	業務主任者	計画	0.00		0.00	
				実績		134.00		6.70
IFX	4	Z	副業務主任者	計画	0.00		0.00	
				実績		149.00		7.45
IFX	4	Z	業務支援者	計画	0.00		0.00	
				実績		3.00		0.15
IFX	2	Z	社内アドバイザー	計画	0.00		0.00	
				実績		5.00		0.25
IFX	3	Z	技術責任者	計画	0.00		0.00	
				実績		2.00		0.10
IFX	4	Z	主任システムエンジニア	計画	0.00		0.00	
				実績		46.50		2.33
IFX	4	Z	システムエンジニア	計画	0.00		0.00	
				実績		41.50		2.08
IFX	3	Z	システムエンジニア	計画	0.00		0.00	
				実績		0.00		0.00
IFX	5	Z	トレーナー	計画	0.00		0.00	
				実績		12.50		0.63
IFX	5	Z	トレーナー	計画	0.00		0.00	
				実績		15.00		0.75
IFX	5	Z	システムエンジニア	計画	0.00		0.00	
				実績		2.50		0.13

	計画（日）	実績（日）	計画(月)	実績(月)
A合計	72.00	73.50	3.60	3.67

小計	区分	計画日数合計	実績日数合計	計画人月合計	実績人月合計
全体現地業務小計	計画	72.00		3.60	
	実績		484.50		24.22
外部人材現地小計	計画	72.00		3.60	
	実績		73.50		3.67
全体合計	計画	476.00		17.07	
	実績		385.50		34.62
外部人材合計	計画	177.00		0.00	
	実績		178.50		7.17

IFX：(株)インフォマティクス
CTI：(株)建設技研インターナショナル
PhilNITS：The Philippine National IT Standards Foundation Inc.

凡例：マニラ／パンガシナン州／国内／実績

現地LGU調査結果のまとめ

調査対象	調査内容		調査結果
BINMALEY DRRM	Organization	How many staff?	全庁職員Total 300 & 19officers DRRMO 常時4名 緊急時要員22名
		Members	
		Locations	本庁舎横に建設中 8月完成予定だが…
		office size	建設中のため後日確認
		Role and responsivility	災害対策と被害情報の確認・報告
		Understanding of the project.	○ これまで説明によりコンセプトと出来ること
		Budget	資料1）List of Equipment 資料2）Investment Plan
	Equipment	PC: numbers	
		A/C	
		Network	
		Power	
		Pole & Tower	
		Others	
	Skill	What kind of skill do the staff have? IT skill?	PC MS Office Operation
		Any troble before? (Physically and Technically)	—
	Map	impression of OSM	いままで地図によるオペレーションはほぼ無し 防災関連資材等のリストなどあり。
		What maps do you use mainly for DRRM activity?	
		Special map symbols?	
		Input datacandidate	
	DATA	Data input skill by DRRM Staff. Evacuation sites, routes, hazard locations	
		What Data do you request mainly for DRRM activity?	
		Points of Interest	
		Listed data? (Excel files?)	
		Data Sending to other LGU etc? Data exchanges?	
Dugpan DRRM	Organization	How many staff?	スマートセンターとして 15名 3supervisers 非常時45名(max)
		Members	specialists
		Locations	CDRRMOオフィス 建物3F
		office size	1フロア全体
		Role and responsivility	被災予測、対策立案、状況把握
		Understanding of the project.	○ これまで説明によりコンセプトと出来ること
		Budget	—
	Equipment	PC: numbers	センターに8台程度 サーバ無し
		A/C	○
		Network	インターネット用
		Power	自家発電装置
		Pole & Tower	簡易無線ポールあり
		Others	CCTV 防犯カメラ 雨量計
	Skill	What kind of skill do the staff have? IT skill?	GISオペレーター2名 その他 MS Office
		Any troble before? (Physically and Technically)	—
	Map	impression of OSM	きれい
		What maps do you use mainly for DRRM activity?	NAMRIA , LIDER (UP)
		Special map symbols?	—
		Input datacandidate	—
	DATA	Data input skill by DRRM Staff. Evacuation sites, routes, hazard locations	
		What Data do you request mainly for DRRM activity?	ランドマーク、高所建物リストなど データのリストを資料で入手
		Points of Interest	
		Listed data? (Excel files?)	
		Data Sending to other LGU etc? Data exchanges?	

Lingayen DRRM	Organization	How many staff?	DRRMO として　全14名（うちメインの4名が部署に常駐）
		Members	
		Locations	新オフィス　1F建て
		office size	2部屋と倉庫
		Role and responsivility	災害対策と被害情報の確認・報告
		Understanding of the project.	○　これまで説明によりコンセプトと出来ること
		Budget	5% up to 10mil peso
	Equipment	PC: numbers	2 PC internet
		A/C	窓枠はめこみ型
		Network	インターネットのみ
		Power	小型自家発電機
		Pole & Tower	あり
		Others	—
	Skill	What kind of skill do the staff have? IT skill?	常時1名、プロジェクト前に2名増員、1名のコンサルタント採用予定
		Any troble before? (Physically and Technically)	—
	Map	impression of OSM	特になし
		What maps do you use mainly for DRRM activity?	1:20000 紙地図
		Special map symbols?	紙地図だけのオペレーション
		Input datacandidate	
	DATA	Data input skill by DRRM Staff. Evacuation sites, routes, hazard locations	MS　Officeオペレーション
		What Data do you request mainly for DRRM activity?	既設で紙資料を保存中。（避難関連を撮影・入手済み）
		Points of Interest	
		Listed data? (Excel files?)	
		Data Sending to other LGU etc? Data exchanges?	
パンガシナン州　DRRM	Organization	How many staff?	Mr. Oroを長に13名
		Members	
		Locations	Lingayen　州庁舎周辺　・新庁舎予定あり
		office size	2階建
		Role and responsivility	防災設備整備、州内被害情報集約・政府への報告
		Understanding of the project.	○
		Budget	—
	Equipment	PC: numbers	10
		A/C	○
		Network	インターネット
		Power	○
		Pole & Tower	○
		Others	
	Skill	What kind of skill do the staff have? IT skill?	MS　Officeオペレーション
		Any troble before? (Physically and Technically)	
	Map	impression of OSM	—
		What maps do you use mainly for DRRM activity?	州全土紙地図　UTMコーディネーション
		Special map symbols?	—
		Input datacandidate	
	DATA	Data input skill by DRRM Staff. Evacuation sites, routes, hazard locations	既設で紙資料を保存中。（避難関連を撮影・入手済み）
		What Data do you request mainly for DRRM activity?	
		Points of Interest	
		Listed data? (Excel files?)	
		Data Sending to other LGU etc? Data exchanges?	
パンガシナン州　IT系 Management of Information	Organization	How many staff?	23
		Members	
		Locations	provincial office　B1F
		Role and responsivility	サポート、IT機器とネットワークメンテナンス
		Understanding of the project.	○

Service Office (MISO)		Budget	not much
	Equipment	PC: numbers	全体で240
		PC: specs / OS	～Windows7, Linux
		PC: specs	
		A/C	MISO内は〇
		Network	
		Power	〇
		Pole & Tower	庁舎屋上
		Reduntant(Back-up) Power Management?	MISO内のみ UPS 自家発電
	Skill	What kind of skill do the staff have?	簡単なDBカスタマイズ業務
		Maintenance & Service (how often?)	
		Regular Update?	
		Any troble before? (Physically and Technically)	
	Software	DB, Office, Mapping?	SQLServer
		communication tools (telephone, FAX, mail, SNS)	Office Internet
		LGU Home Page	公式ホームページの担当 作成は外注
		Back Up	〇
	Policy / Rules	Security	各PC担当者で。ポリシーは無い
		Security : Robbery measure, Locks?	
		Anti-Virus	
	For System	Current Problems?	—
		Expectation	

別添9

GeoCloud Project In Pangasinan

July 26, 2016

Informatix inc.

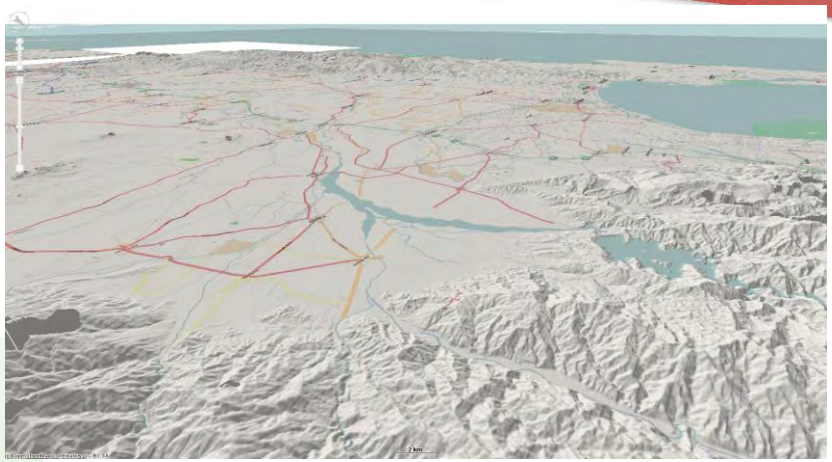
- Founded 1981
- Over 35 years in spatial information business in Japan.
- Developer of ***Spatial Information*** software & solutions. (GIS, CAD, CG)
- 3 offices, HQ Kawasaki, Osaka, Nagoya.
- 145 engineers out of 195 employees.
- Many Installed bases in the governmental organizations and LGUs in Japan.

Kawasaki HQ, Kanagawa

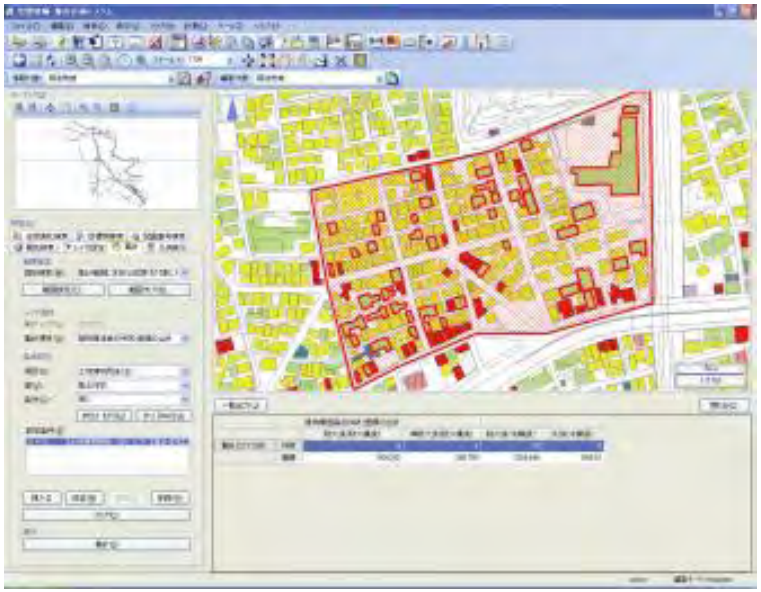
Informatix's Software Product

GEO CLOUD®

Our Reliable GIS Software



- Sharable
- Easy Operation
- Powerful (Professional)
- Convenient



informatix inc.

GeoCloud Project Summary

◆ Survey Project Title:

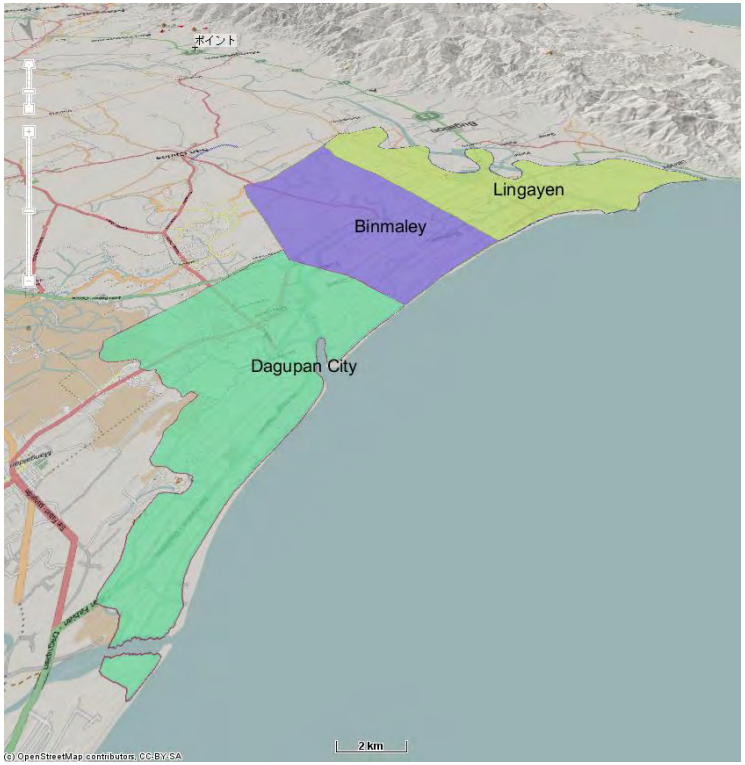
"The Verification Survey with the Private Sector for Disseminating Japanese Technologies for Integrated Geographic Information System (GIS) for Advancement of Regional Disaster Risk Reduction and Management."

◆ Summary:

- Informatix will apply **GeoCloud** Integrated GIS to the Province of Pangasinan and 3 LGUs, and confirm the effectiveness of the product for the disaster risk reduction and management (DRRM) in this region.

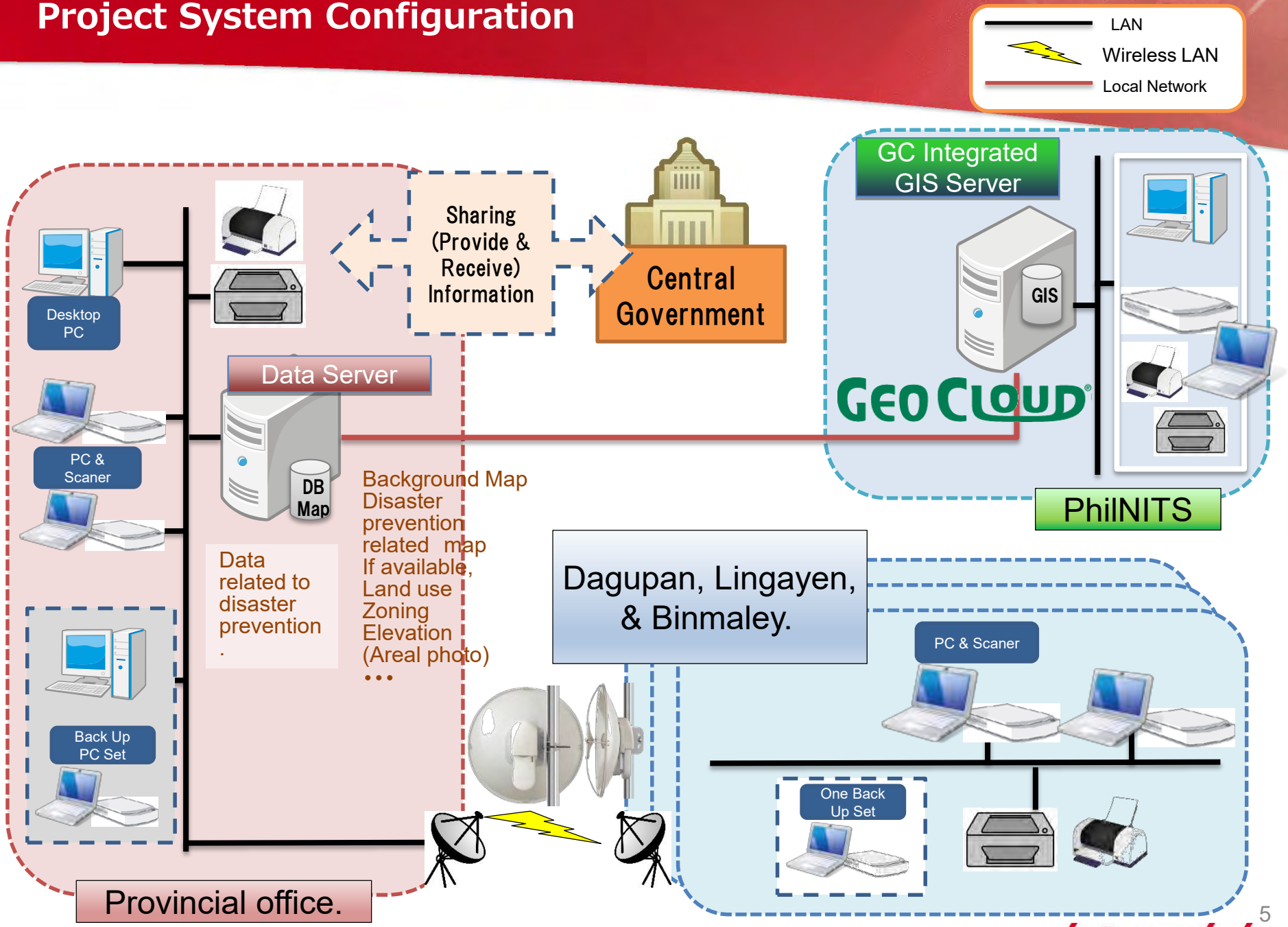
◆ Survey Project Purpose:

- To verify the effectiveness of GeoCloud for DRRM activities in Pangasinan Provincial Government and 3 LGUs.
- To figure out the coordination between the Integrated GIS to be developed by Informatix Inc. and the current Philippine policies in meteorological and DRRM matters.



informatix inc.

Project System Configuration



informatix inc.

Schedule

①: GeoCloud Operation
Introduction and operation of Integrated GIS for Province of Pangasinan.

②: Information Sharing
To study the method for sharing information about meteorological and disaster risk reduction between governmental organizations and the Province of Pangasinan.

Month	1 Mar	2 Apr	3 May	4 Jun	5 Jul	6 Aug	7 Sep	8 Oct
①GeoCloud	***Preparation Stage***							
	Specification Check			System Adjustment and Base Data Entry				Test Run
	Data Check & Arrangement						Hardware	
②nformation Share					◆			◆
③Workshop								
④Dissemination								Training

Month	9 Nov	10 Dec	11 Jan	12 Feb	13 Mar	14 Apr	15 May	16 Jun	17 Jul	18 Aug
①GeoCloud	***Formal Run 10 Months***									
②Information Share				◆			◆		◆	
③WorkShop				◆WS			WS◆			
④Dissemination		Training in Japan					Training◆			Semin or★

③: Workshop
The system is evaluated through workshop regarding to DRRM

④: Dissemination
To disseminate information on Integrated GIS and GeoCloud all over the Philippines.

Members

Member		Part		detail
Survey Group	**Informatix**	proposal group	Summary	Software provide, Technical Support,
			operations support	System training, education for the operative enforcement to PhilNITS.
	CTII	Consultant	consulting	giving advice, survey, and making the report. regional and Community disaster prevention plan,
			Work Shop	Conducting the drill plan and operation.
	PhilNITS	Local Partner	Local operative support	Setting support, Help desk, training support
			Software adjustment	Software development, LGU's manual.
			Training	Trainor, Setting,
			Survey support	Making and preparations for survey material
C/P	**The Province of Pangasinan & 3 LGUs**	User group	User	Enforcement of data set-up work, Running the software.
Central Government Agencies		Invited group	Supporter	Attending meetings and giving advices and information.

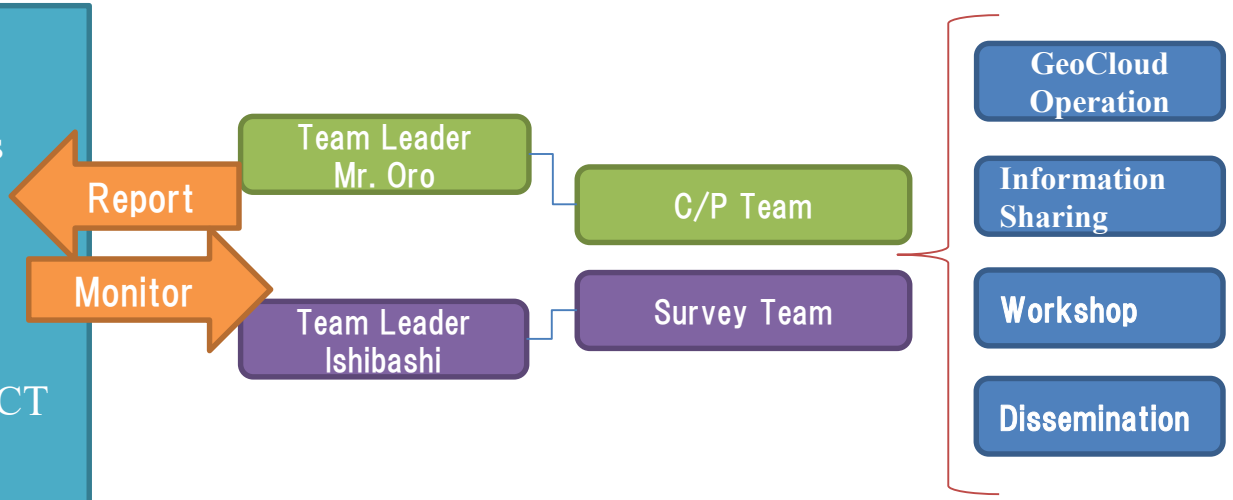
*** JICA supports the project totally.**

Steerling Committee

Steering committee is organized in order to monitor properly with the stakeholders. Selected central government agencies are invited as members . SC will meet when necessary in order to fulfill the following functions:

1. To review, monitor and coordinate the overall progress of the Survey based on the implementation plan of the Survey.
2. To discuss major issues that would occur during the implementation of the Survey and exchange views and opinions so as to solve problems.
3. To discuss any other issue(s) pertinent to the smooth implementation of the Survey.

◆SC Members:
Chairman: Mr. Oro (PDRRM)
Pangasinan Province & 3LGUs
Survey Team
(Informatix,CTII,PhilNITs)
JICA
◆SC Support Members:
OCD, PAGASA, DILG and DICT
◆Observers:
Embassy of Japan in the Philippines



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PhilNITS
Phil. National IT Standards Foundation
(formerly Jitse Phil.)

The JICA-Sponsored Project : "Integrated Geographic Information System(GIS) Products for the Improvement of the Regional Disaster Risk Reduction and Management"

Steering Committee Meeting, July 26, 2016

Maria Corazon M. Akol
President

PhilNITS
Phil. National IT Standards Foundation
(formerly Jitse Phil.)

Our Goals

*To design and implement a successful Geographic Information System (GIS) using the Geo Cloud Software that will help to mitigate the effects of both natural and man-made Disasters.

*To help the LGUs take advantage of the many applications that can be done with the System obtained from this Project

*To generate more revenue for the LGUs and at the same time improve the delivery of Public service through the use of Modern Technology

PhilNITS
Phil. National IT Standards Foundation
(formerly Jitse Phil.)

I. Launching of the Project on March 23, 2016 at the Urduja House with the Vce Gov. Calimlim and Mayor Belen of Dagupan in attendance. Also attending were representatives from Lingayen and Binmaley.

II. Status Report on the Project

The PhilNITS Foundation, Inc. is participating in this Project through the following Activities:

1. The Localization of Software
The English Version of the Geo Cloud Software will be developed and installed in the Server for the Province

Of Pangasinan , the City of Dagupan and the Municipalities of Lingayen and Binmaley. This activity will take 5 months to complete, starting on May 23, 2016 to Oct. 24, 2016. Training on this has been accomplished by Informatix, Ltd.

2. The Arrangement of Local Maps.

Data Entry of LGU's original data will be done and arrangement of these data will be in accordance with Survey Project Requirements. This activity will take 3 months to accomplish starting June 1 to Aug. 30 .2016

PhilNITS
Phil. National IT Standards Foundation
(formerly Jitse Phil.)

Collection of Map Data through the following Visits to Pangasinan :

May 23 – 25, 2016

June 23, 2016

July 5, 2016

July 19 – 25, 2016 (using 360 degree Camera going Around the 3 LGUs and noting Landmarks.

- Visit to NAMRIA and getting access to Pangasinan Maps through Official Request by Governor

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(formerly Jitse Phil.)

3. Setting Up of Hardware & Software.

The specified Hardware has been delivered to the PhilNITS Office and will be tested and loaded with the necessary Software. Ths Equipment is scheduled to be set up in the Pangasinan Province and in Dagupan, Lingayen and Binmaley in the month of September.

Survey for the Installation of the Virtual Private Network has been done last July 21, 2016 and testing will be done shortly. Installation to be done in August.

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4. Training of the LGU Personnel who will be handling the GIS and Disaster Management, Risk Reduction and Prevention will be conducted in 3 parts . The First Part will be done on Oct. 3 –14, 2016.

The Second Part will be done in Japan in the month of November and will be discussed for preparations in this Steering Committee Meeting.

Tbe 3rd Part will be conducted on June 14 - 18, 2017.

PhilNITS
Phil. National IT Standards Foundation
(formerly Jitse Phil.)

5. Support & Maintenance of Geo Cloud System

Maintenance and Support of the System will be conducted after the Installation of the System in the Provincial Capitol and the LGUs and after the Training of the Local Officials on the Geo Cloud System. This will be done in the last 10 3months of the Project: from Nov. 2, 2016 to Aug. 31, 2017. Support will consist of a Help Desk in the PhilNITS Office in Manila to support the operations of the Province and the 3 LGUs. This Help Desk will operate during Office Hours. (9:00 am to 5:00 pm.)

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6. Local Language Local Language Documentation Project.

PhilNITS shall provide for the Instruction and Training Manuals in English. Final Documentation of the Project will be done on Sept. 1, 2016 to Oct. 31, 2016. Instructional Slides to be used for the Training are now being developed prior to making the Manual.

Further enhancements to the Manuals can be added during the Test Period and before the Hand-Over of the Project to the LGUs

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Thank You

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Integrated GIS for DRRM Province of Pangasinan

Data Collection Status

As of July 26, 2016

List of Data Requirements

- Base Map and Boundary Map
- Infrastructure and Facilities
- Flood
- Disaster
- Others

Base and Boundary Map (done)

- Open street map (done)
- Elevation map (done) – source NAMRIA
- Boundary Map up to Barangay (done) – source PDRRMO, PhilGIS.org

Infrastructure and Facilities

- Road Network (done) – source PDRRMO (incomplete names)
- River System (done) – source PDRRMO (no names)
- Govt Buildings (done)– source PDRRMO Hospitals, Schools, Municipal Halls
  - 2 of 123 points are correct
  - Information being revised by GeoTagged Photos

Evacuation Sites

- Evacuation sites (in progress)
  - Dagupan has identified buildings
  - Lingayen is still collecting information of "evacuation sites" used by barangays
  - Binmaley makes use of default govt buildings
  - Information to be completed and converted into digital points by middle of August.

Flood

- Water affected risk map (PDRRMO as jpg)
- Inundation Map (PDRRMO as jpg)
- Mudflow/Debris Map (PDRRMO as jpg)
- Tsunami Map (PDRRMO as jpg)
- Storm surge map (PDRRMO as jpg)
- Rain Fall (100, 50, 25, 10, 5, 2 year) as points and contours from NAMRIA and PhilGIS

Flood

- Water affected risk map (converted to GCD)
- Inundation Map (converted to GCD)
- Mudflow/Debris Map (converted to GCD)
- Tsunami Map (converted to GCD)
- Storm surge map (converted to GCD)
- Rain Fall (100, 50, 25, 10, 5, 2 year) as points and contours from NAMRIA and PhilGIS

Disaster

- Landslide/Erosion (PDRRMO as EIL, RIL)
- Fault line maps (PDRRMO as JPG)
- Earthquake affected area (PDRRMO as JPG)
- Liquefaction hazard (PDRRMO as jpg)

Disaster

- Landslide/Erosion (converted to GCD)
- Fault line maps (converted to GCD)
- Earthquake affected area (converted to GCD)
- Liquefaction hazard (converted to GCD)

Others

- Population by barangay (done)
  - Made my Philnits using NSO data
  - Population on land cover – source PhilGIS
- Urban Planning Map (in Progress)
  - To be provided by LGU
- Address Data (done)
  - Limited cover of barangay as endpoint data

(others) Additional collected data

Supporting elevation data

- Depth Contour
- Land Contour and slope class
- Land Cover

Data fine-tuning

- Experience-based information of inundation on roads and other pathways
- Data fine-tuning will be done during the training (verification)
- Road elevation data collected by Informatix 360 degree camera.

GeoCloud Project

Application for DRRM

July 2016

Baseline Survey Report

The following observations as baseline for disaster evacuation study condition have been gathered:

- Incomplete information on the accommodation capacity for evacuation centers. Dagupan and Lingayen have the data.
- Potential evacuee population is not studied. Dagupan has registered evacuee population. Lingayen has distribution of population.
- Vulnerability and risk analysis for facilities such as evacuation center and road is lacking for flood disaster. Dagupan has studied. Lingayen has sample.
- Evacuation route analysis is not studied considering flood map. Dagupan has studied partial horizontal evacuation.

*Some are studied and known from experience but not fully considering flood hazard and it is necessary for mapping information of the system.

Baseline Survey Report

- Map information is mainly summarized by hard copy material such as papers. GIS is not utilized for summarization of map information although Dagupan has utilizied GIS.

- Latest information such as evacuation center is not shared smoothly.

- Maps are not fully utilized for residents such as evacuation drill.

Baseline Survey Report

There is insufficient information about the evacuation map for the workshop. It is suggested to start the workshop by completing the information using the system

Municipalities	Barangays	List of Evacuation Center
BINMALEY		
	Poblacion	Senior Citizens Center
		Binmaley Gymnasium
	Buenlag	Buenlag Elementary School
	Camaley	Camaley Central School
	Papagueyan	Papagueyan Elementary School
	Balogo	Balogo Community Center
LINGAYEN	Balococ	Balococ Elementary School
		Balococ Barangay Hall
		Balococ Chapel

Not enough road network

No coordinates of evacuation center

Therefore, in the 1st workshop, data is created/summarized by using the System instead of making handwritten evacuation map by using hard material.

Workshop Design

Initial Plan

✓ 1st training on Oct 2016

Workshop of DRRM using hard copy material

[Target Output]
****Bottom up of DRRM***
****Identifying present issues***

After installation of system

✓ 2nd training on May 2017

Workshop of DRRM using the system

[Target Output]
****Proceeding of DRRM***
****Finding solution by system***
****Finding requirement of system***

Modified Plan (After installation of system)

✓ 1st training on Feb 2017

Workshop of data summarization using the system

[Target Output]
****Bottom up of DRRM***
****Improvement of present issues related data***

✓ 2nd training on May 2017

Workshop of DRRM using the system

[Target Output]
****Proceeding of DRRM***
****Finding solution by system***
****Finding requirement of system***

Workshop Design -Necessary Data for DRRM-

1st Workshop ~~Oct2016~~ => Feb 2017

The workshop starts by preparing the following data using the System.

Made from priority area!

Data	Condition	Lingayen	Dagupan	Binmaley
<Evacuation Center>				
-Location	existing	■	■	■
-Location (coordinates)	to be measured by GPS			
-Floor area	to be made from related maps	■	■	
-Elevation	to be measured by GPS			
<Barangay>				
-Boundary	existing	■	■	■
-Population	existing	■	■	■
-Distribution of Population	to be made from land use or related maps	■		
<Facilities such as road and bridge>				
-Location of road	to be measured by GPS	□ Only simple map	□ Only simple map	□ Only simple map
-Location of bridge	to be measured by GPS			
-Elevation of road	to be measured by GPS			
-Elevation of bridge	to be measured by GPS			
etc.				
<Hazard>				
-Inundation map (area and dep	existing	■	■	■
-River data	existing	■	■	■

Finally, the accommodation capacity of evacuation center and distribution of potential evacuee population is analyzed for evacuation map.

Workshop Design -Necessary Data for DRRM-

1st Workshop ~~Oct2016~~ => Feb 2017

1st workshop program (draft)

Draft Wokshop Program

Date		Contents	
Day1	1	Presentation about DRRM and workshop	
	2	Creating data by the system	
Day2	3	Estimation of population using map	
	4	The accommodation capacity of evacuation center and distribution of potential evacuee population is analyzed for evacuation map.	
	5	Preparation of presentation	
	6	Presentation of results	
	7	Discussion	

We will discuss based on this.

Workshop Design -Function of the System for Workshop-

2nd Workshop May 2017

The contents and the process of the 2nd workshop are shown below. In the workshop, evacuation map is discussed for verification of the system.

Step	Contents
1	Review natural/town structure condition (basemap and inundation map)
2	Find dangerous place and specify number of dangerous places
3	Calculate the number of persons who have damage risk at evacuation center
4	Make vulnerability (flood dangerous place) map
5	Make evacuation route from some barangays
6	Make evacuation map
7	Conducting desktop simulation exercise
8	Presentation and discussion are held by LGUs and created map is checked.
9	Questionnaire

We will discuss based on this.

Workshop Design - Scenario of Desktop Simulation Exercise-

2nd Workshop May 2017

Event	National	PAGASA	OCD	Provincial Pangasinan	LGUs	Barangay
Before		-Advisory through media, internet, TV		-Alert to take action by email, letter, fax, facebook, etc.	-Take action	
				Dislose to local media	-Disaster information is informed from upstream LGU(Not Duty)	
During	-Convene NDRRMC	Ask to concene NDRRM	-Summarize and disclose to public	-Convene PDRRMC	-Convene LDRRMC	
		Advice		Reccomendation		
				-Comsolidate information from LGUs	-Situation report by email	
				-Disclose situatoin report to OCD on 8:00, 11:00, 17:00, 23:00	Dislose to local media (In case of big disaster, disclose to national media)	
				-Rescue -Information management -Response and relief	-Rescue or Safety confirmation using rescue car or phone	-Victims and damage information/report by phone, by radio
After				-Collect information from LGUs by letter, etc.	-Summarize victims and damage information	-Victims and damage information/report by phone, by radio

We will discuss based on this.

Draft Indicator

It is better to be measurable!

The system is evaluated through workshop regarding to DRRM with the proposed indicators. The proposed indicators are categorized for DRRM and System.

1. Selection of evacuation place

DRRM Indicators for project effects/success

Category	Indicator	Means of Verification	Necessary Data	Applied GIS Function
1. Indicator of DRRM	1-1 The accommodation capacity of evacuation center and distribution of potential evacuee population is analyzed for evacuation map.	-List of accommodation capacity of evacuation center -Data of distribution of potential evacuee population	-Location and floor area of evacuation center -Barangay information (boundary, population and distribution, etc.)	-Estimation of population using map
	1-2 The vulnerability (flood dangerous place) at facility such as evacuation center and road is evaluated in consideration with elevation (water depth).	-Identified number of dangerous places -The number of persons who have damage risk at evacuation center -Vulnerability (flood dangerous place) map	-Elevation of evacuation center, road, bridge, etc. -Inundation map (area, depth(level))	-Overlay of inundation area and facilities such as evacuation center and road -Counting of inundated evacuation center/road/bridge -Estimation of population in inundated evacuation center -Creating map
	1-3 The evacuation route is discussed in consideration with inundation depth (hazard) at facility such as evacuation center and road for evacuation map.	-Evacuation map	-Location of road and bridge -Location of evacuation center -Inundation map (area, depth(level))	-Selection of route -Creating map

2. Selection of evacuation route

1st Workshop **2nd Workshop**

Informatix inc.

Draft Indicator

It is better to be measurable!

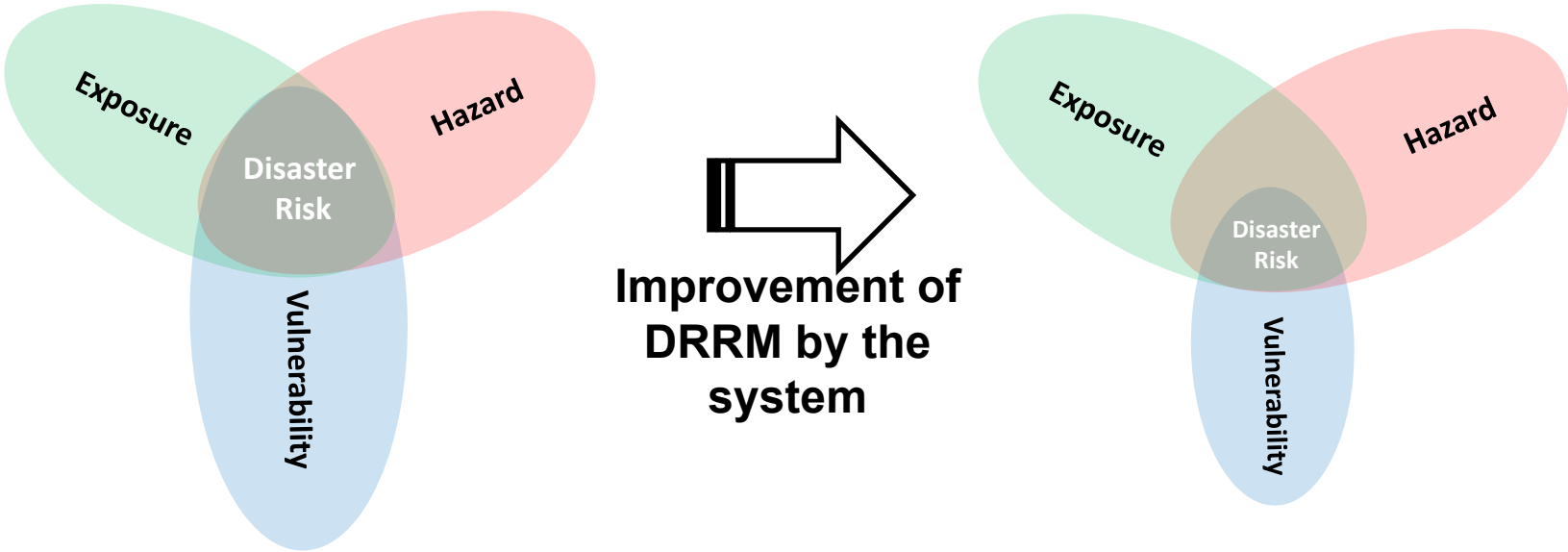
The system is evaluated through workshop regarding to DRRM with the proposed indicators. The proposed indicators are categorized for DRRM and System.

System Indicators for project effects/success

Category	Indicator	Means of Verification
2. Indicator of System	2-1 At least 1 person in each province/3LGUs can utilize the system for improving the quantity and quality of data.	-The number of things to do by using the system
	2-2 The 50 percent of participants of workshop feel the improvement of handling data.	-The user friendly of the system
	2-3 The 50 percent of participants of workshop feel the improvement of viewability of map for becoming easier to explain the disaster risk to residents.	-The created maps in workshop

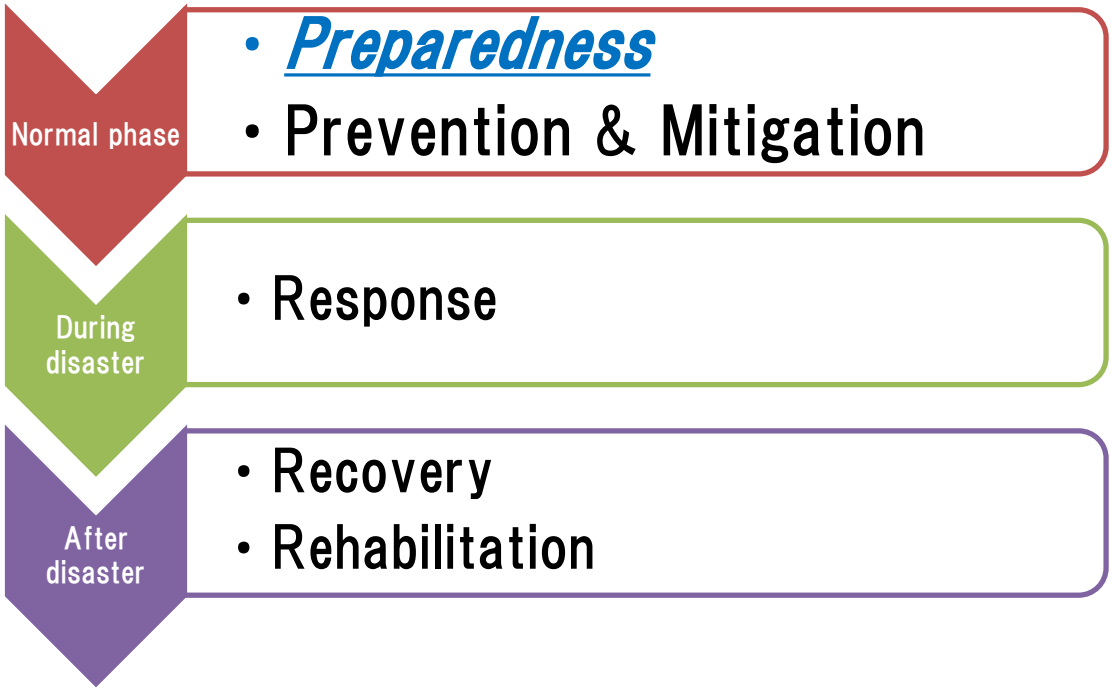
Impact of Workshop

- ✓ Impact on the Concerned Development Issues in the Philippines:
  - Establishment of the framework in which disaster risk reduction and management information is shared mutually and rapidly, complying related policies of central governmental organizations.
  - LGUs'communication and response ability for DRRM is strengthened.
  - Disaster record is managed and updated easily.



Impact of Workshop

- ✓ GeoCloud system can be utilized during all stages of disaster risk reduction management (DRRM). In the Project, the system will be introduced to improve condition of scattering geospatial information and contribute to enhancement of C/P capability for the preparedness stage that is very important part to mitigate and prevent disaster damage by using geospatial data. Geospatial information with attribute data will be collected and entered to the GeoCloud system.



Impact of Workshop

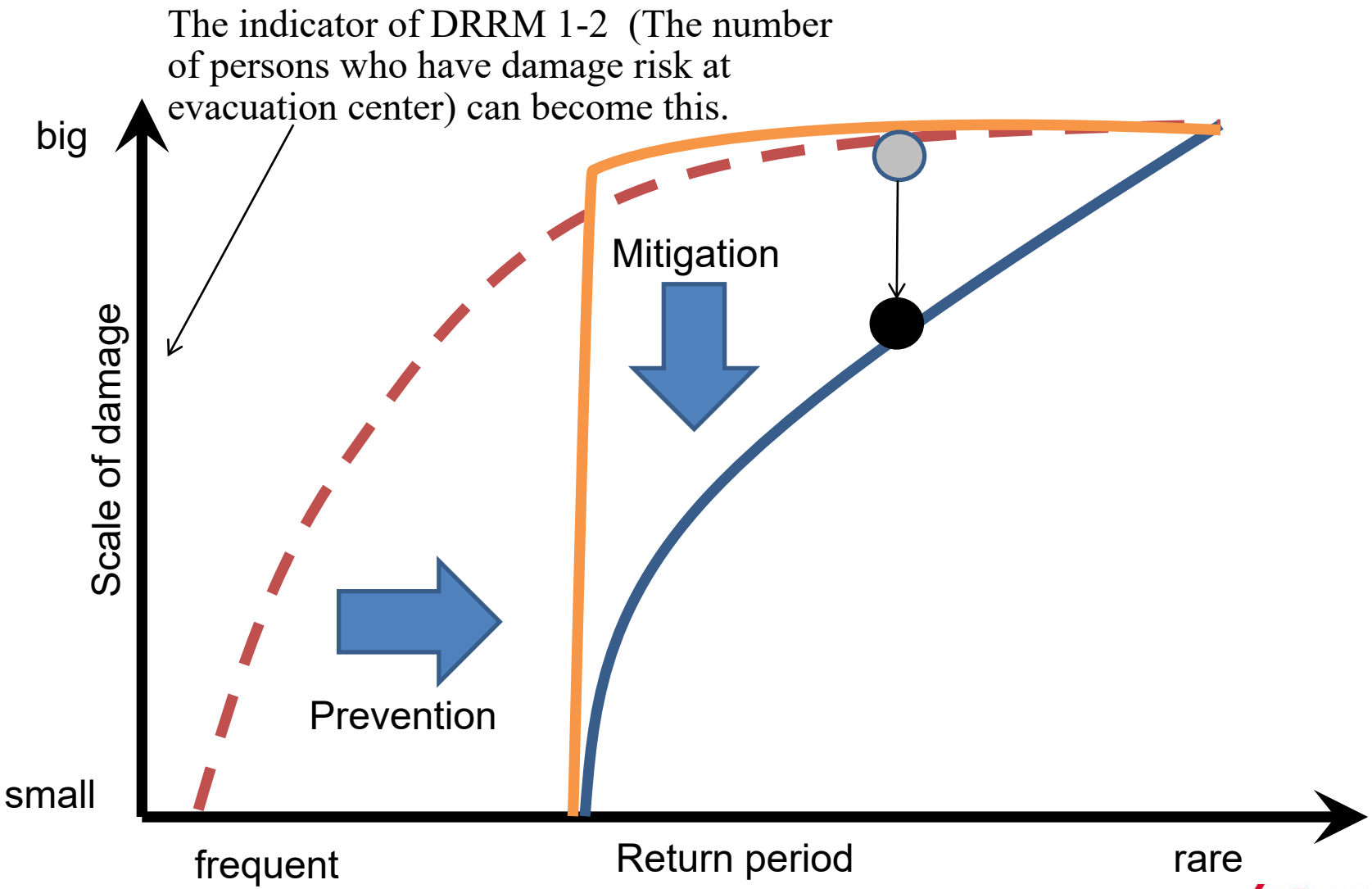
✓ Strategy to collect impact of workshop

The Impact will be collected by interview from the following viewpoints:

- ☐ Utilization to DRRM plans/activities
- ☐ Conditions of information sharing and cooperation with related organizations
- ☐ Benefit to the residents

Impact of Workshop

- ✓ Using disaster risk graph, the impact to DRRM is evaluated and monitored.



Requested Data in Last Meeting

Workshop will be held in ~~October~~ **February 2017**. Please prepare information by August 30 for input of Data in the server.
Province helps in the preparation.

The information (or map) is prepared by LGUs in advance for workshop.
-Topo map
-Location of river
-Flood area
-Location of road and bridge
-Barangay information (boundary, population, etc.)
-Stock materials for disaster management (location, contents and amount)
-Location and floor area of evacuation center
-Facilities such as hospital, school, water supply facility, etc.
-Any other information for DRRM, for evacuation map

The following information is prepared by the Project Team in advance.
-Base map
-Flood area map
-Disaster response scenario

アラートシステムへの活用
防災情報の流れの中での活用

情報共有のトレーニング

1回目でGIS機能、2回目でGIS機能と情報共有効果を実感させる。

Counterpart Training in Japan

別添13

Training in Japan (Nov. 2016)

The team conducts practical training in Japan to introduce activities of Japanese GeoCloud users and the understanding of the different applications of GeoCloud in Japan. People from the counterpart and national government agency are invited.

-PGP, 3LGUs, DILG & DIST

The training includes:

a. Sessions at Informatix Inc.
   - Introduction of common usage of GeoCloud Integrated GIS in Japan
   - Study GeoCloud usages for DRRM and DRRM related applications in Japan

b. Study tour to GeoCloud LGU users in Japan
   1. Integrated GIS users (prefecture / city) *Kawasaki-City, Shizuoka-Pref.*
   2. Related App. User (Fire Dept.) *Yokohama-City*

   Some opportunities to have discussion with LGU official in Japan will also be arranged on the usage of GIS system for DRRM and other administrative solutions. The participants learn effective LGU operation of GeoCloud and additional solutions for their problems.

   The aims of the training are:
   - Develop the understanding of GeoCloud among C/P
   - Demonstrate application of GeoCloud in various fields.
   - Attract participants' interests in GeoCloud

Counterpart Training in Japan Schedule

Nov. 14 – 19, 2016

Date		Itinerary	Place
DAY 1	AM	Travel　Manila ⇒ Tokyo area	
Nov. 14			
Mon.	PM		
DAY 2	AM	Briefing	Informatix Inc.
Nov. 15			
Tue.	PM	Session1 : Explanation of GIS and Intergrated GIS	
DAY 3	AM	Session 2: Introduction of GIS Usages in Japan (Apps & Good Examples)	Informatix Inc.
Nov. 16			
Wed.	PM	LGU Visitation 1: Kawasaki City	Kawasaki City, Kanagawa
DAY 3	AM	Travel　Kawasaki ⇒ Shizuoka	
Nov. 17			
Thu.	PM	LGU Visitation 2: Shizuoka Prefecture	Shizuoka City, Shizuoka
		Travel　Shizuoka ⇒ Kawasaki	
DAY 4	AM	LGU Visitation 3: Yokohama City Fire Dept.	Yokohama City, Kanagawa
Nov. 18			
Fri.	PM	Evaluation and Summary	Informatix Inc.
DAY 5	AM	Travel Tokyo ⇒ Manila	
Nov. 19			
Sat.	PM		

Kawasaki-city

Where is Kawasaki City?

Kawasaki City is located in the northeast of Kanagawa Prefecture. It adjoins Tokyo across the Tamagawa River to its north and Yokohama City to its south. It also faces Tama Hills on its west and Tokyo Bay on its east.

Population

1,461,043(as of Octorber 1,2014)

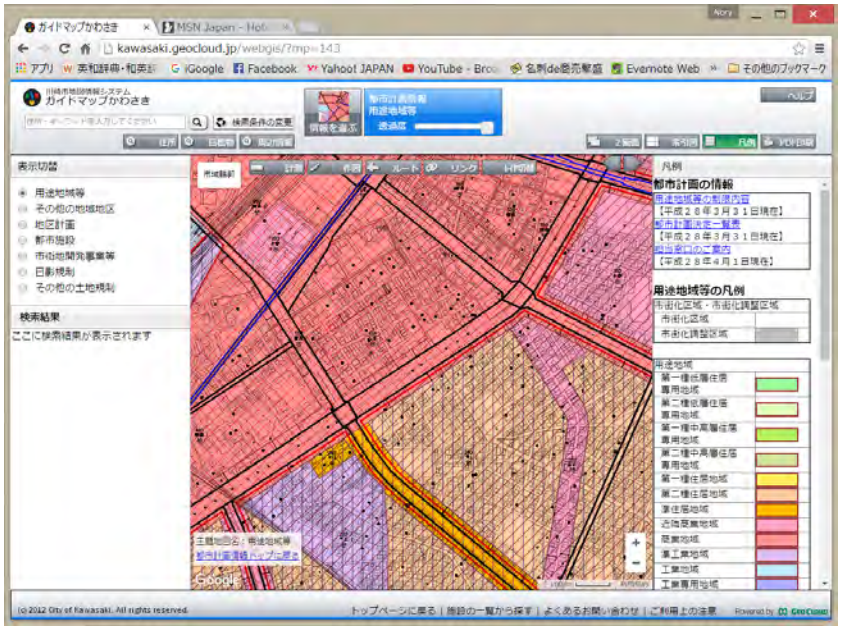
Number of households

687,843(as of Octorber 1,2014)

Total area

144.35km²

(as of January 1,2010)



informatix inc.

Shizuoka-Prefecture

	As of	Figure	Rank in Japan (out of 47 prefectures)
Population and area			
Area	2013	7,780.60 sq. km. (3,111.92 sq. mi.)	13
-Forest area	2013	64.1% (4,983.86 sq. km.)	16
Population	2013	3,715,901	13
Population density	2013	478.5 per sq. km	13
Number of households	2013	1,422,907	10
Agriculture, forestry, and fisheries			
Gross agricultural product	2012	211.4 billion yen	16
Gross forestry output	2012	8.8 billion yen	11
Total sea catch	2012	58.8 billion yen	5
Business and industry			
Number of business establishments	2012	184,470	10
Shipment value of industrial products	2012	15.7 trillion yen	4
Gross prefectural product	Fiscal 2011	15.6 trillion yen	10
Per capita prefectural income	Fiscal 2011	3.2 billion yen	2
Education			
Number of high school students	2013	99,974	10
Number of college students	2013	38,254	15
Number of public libraries	2011	96	9
Health and welfare			
Number of social welfare facilities	2013	80	16
Number of hospitals	2014	54	14
Number of physicians per 100,000 people	2012	186.5	41

別添14

MAPS

Acquired Maps

Group	Map	Detail	Type	Coverage	Sources			
					NAMRIA	LGU	PhilNITS	Informatix
Base Map	**Open Street Map**	Base Background Map	Digital	National				✓
	Elevation Map	JAXA Elevation Data	Mesh	Pangasinan	✓			
Boundary Map	**Regional Map**	Regional	Digital	National	✓			
	Provincial Map	Provincial	Digital	National	✓			
	District Map	District (1-6) Zone	Digital	Provincial		✓		
	Municipality Map	Municipalities	Digital	National	✓			
	Barangay Map	Barangay	Digital	National	✓			
Infrastructure	**Road Network Map**	Main Roads	Digital	National	✓			
	River System Map	Main Channels	Digital	Provincial	✓			
Facilities	**Landmarks**	Primary, Secondary, Tertiary Schools, Government Hospitals, & Municipal Hall	Digital (Points)	3LGU		✓		
	Evacuation Sites Map	Evacuation Sites	Digital (Points)	Binmaley		✓		
Flood	**Water Affected Risk Map**	Municipal Level	Image	Provincial	✓			
	Flood Prone/ Inundation Map	-	Digital & Image	Provincial	✓			
	Mud flows and Debris Flow Map	-	Image	Provincial	✓			
	Tsunami Hazard Map	-	Digital & Image	Provincial	✓			
Disaster	**Landslide & Erosion Map**	-	Image	Provincial	✓			
	Fault Lines Map	Buffer Line	Image	Provincial	✓			
	Earthquake Affected Areas	Municipal Level	Image	Provincial	✓			
	Liquefaction Hazard	-	Digital & Image	Provincial	✓			
	Population Map	Population of every Municipality	Digital	Provincial			✓	

Added Maps

Group	Map	Detail	Type	Coverage	Sources			
					NAMRIA	LGU	PhilNITS	Informatix
FLOOD	Storm Surge Map	-	Digital & Image	Provincial	✓			
	Rain Induced Landslide	-	Digital	Provincial	✓			
DISASTER	Earthquake Induced Landslide Map	-	Digital	Provincial	✓			

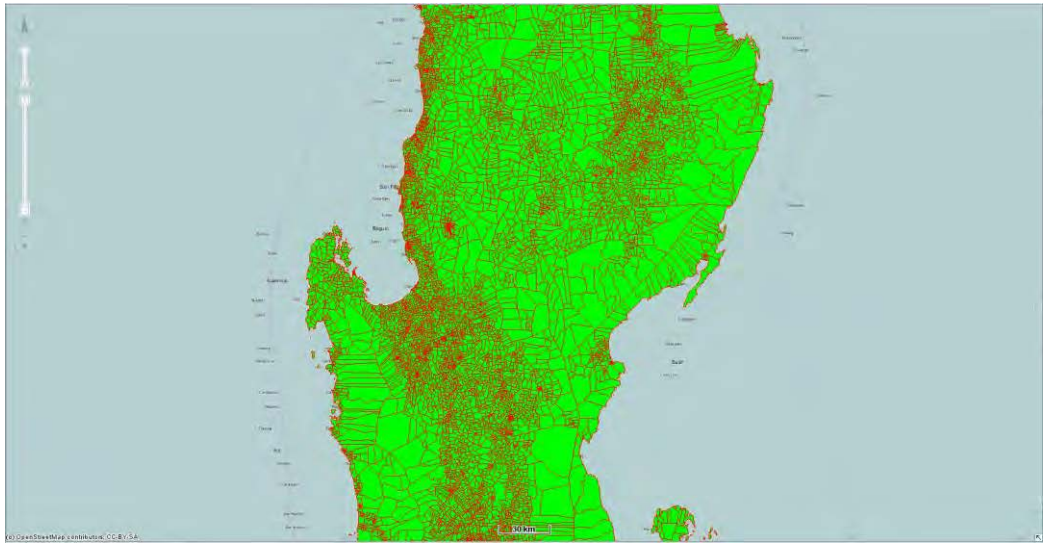
Unacquired Maps

Group	Map	Detail	Type	Coverage
	Evacuation Building Map	High Building Higher than 3rd Floors(565)	Digital (Points)	Dagupan City
Others	Urban Planning Map	Land Use, Zoning Map	Digital & Image	3LGU
	Address Data	For Address Search and Matching	Digital (Points)	3LGU

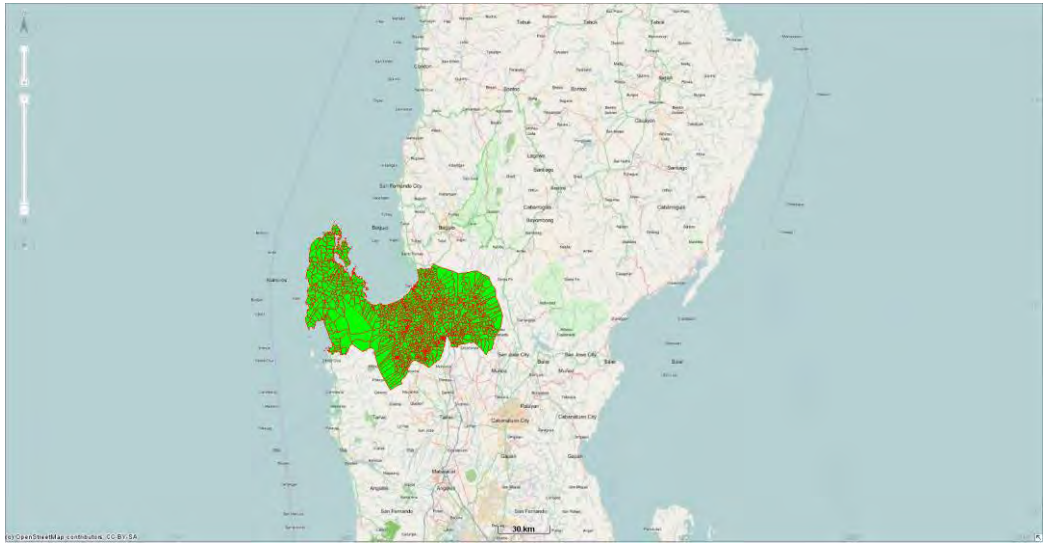
Map	Detail	Type	Coverage	Sources			
				NAMRIA	LGU	PhilNITS	Informatix
Open Street Map	Base Background Map	Digital	National				✓
Elevation Map	JAXA Elevation Data	Mesh	Pangasinan	✓			
Regional Map	Regional	Digital	National	✓			
Provincial Map	Provincial	Digital	National	✓			
District Map	District (1-6) Zone	Digital	Provincial		✓		
Municipality Map	Municipalities	Digital	National	✓			
Barangay Map	Barangay	Digital	National	✓			
Road Network Map	Main Roads	Digital	National	✓			
River System Map	Main Channels	Digital	Provincial	✓			
Landmarks	Primary, Secondary, Tertiary Schools, Government Hospitals, & Municipal Hall	Digital (Points)	3LGU		✓		
Evacuation Sites Map	Evacuation Sites	Digital (Points)	Binmaley		✓		
Evacuation Building Map	High Building Higher than 3rd Floors(565)	Digital (Points)	Dagupan City				
Water Affected Risk Map	Municipal Level	Image	Provincial	✓			
Flood Prone/ Inundation Map	-	Digital & Image	Provincial	✓			
Storm Surge Map	-	Digital & Image	Provincial	✓			
Rain Induced Landslide	-	Digital	Provincial	✓			
Mud flows and Debris Flow Map	-	Image	Provincial	✓			
Tsunami Hazard Map	-	Digital & Image	Provincial	✓			
Landslide & Erosion Map	-	Image	Provincial	✓			
Earthquake Induced Landslide Map	-	Digital	Provincial	✓			
Fault Lines Map	Buffer Line	Image	Provincial	✓			
Earthquake Affected Areas	Municipal Level	Image	Provincial	✓			
Liquefaction Hazard	-	Digital & Image	Provincial	✓			
Urban Planning Map	Land Use, Zoning Map	Digital & Image	3LGU				
Address Data	For Address Search and Matching	Digital (Points)	3LGU				
Population Map	Population of every Municipality	Digital	Provincial			✓	

Barangay Map

STATUS

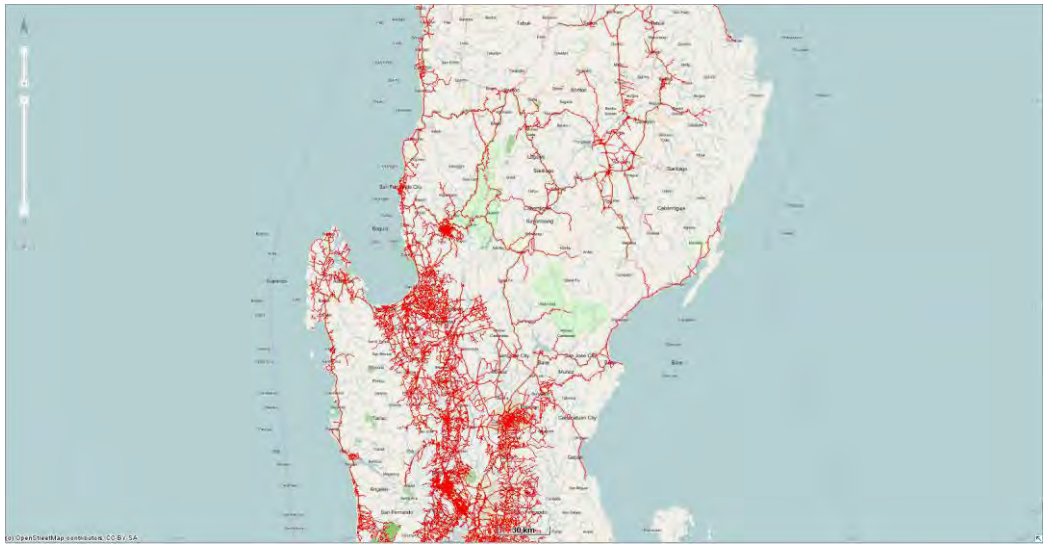


ACTION

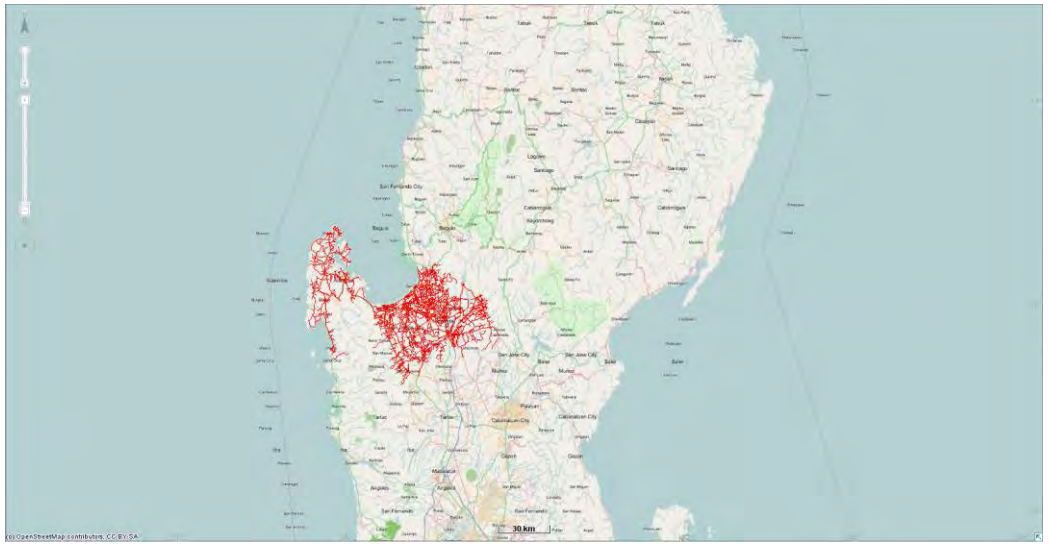


Road Network

STATUS



ACTION



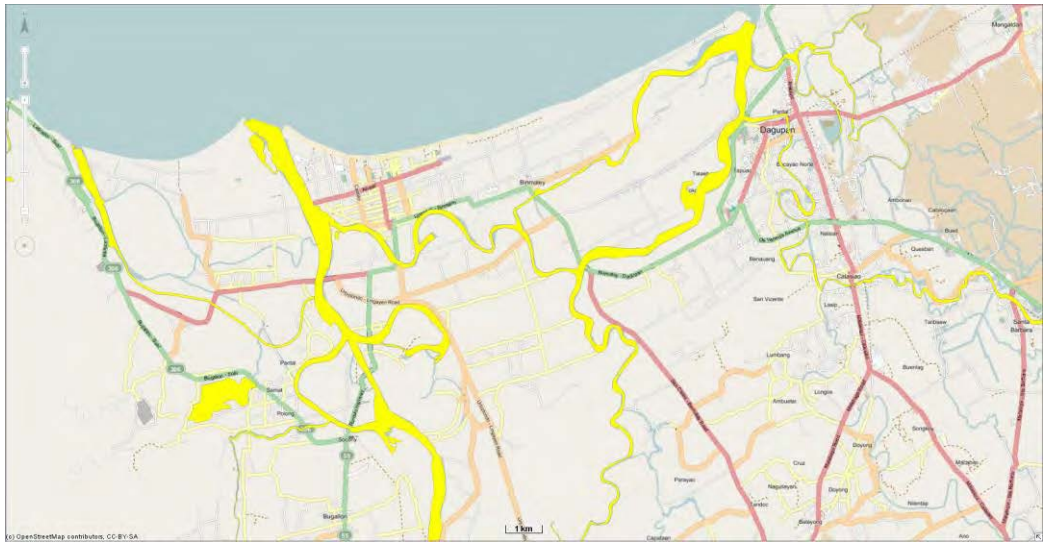
STATUS

ACTION

River System

STATUS

ACTION



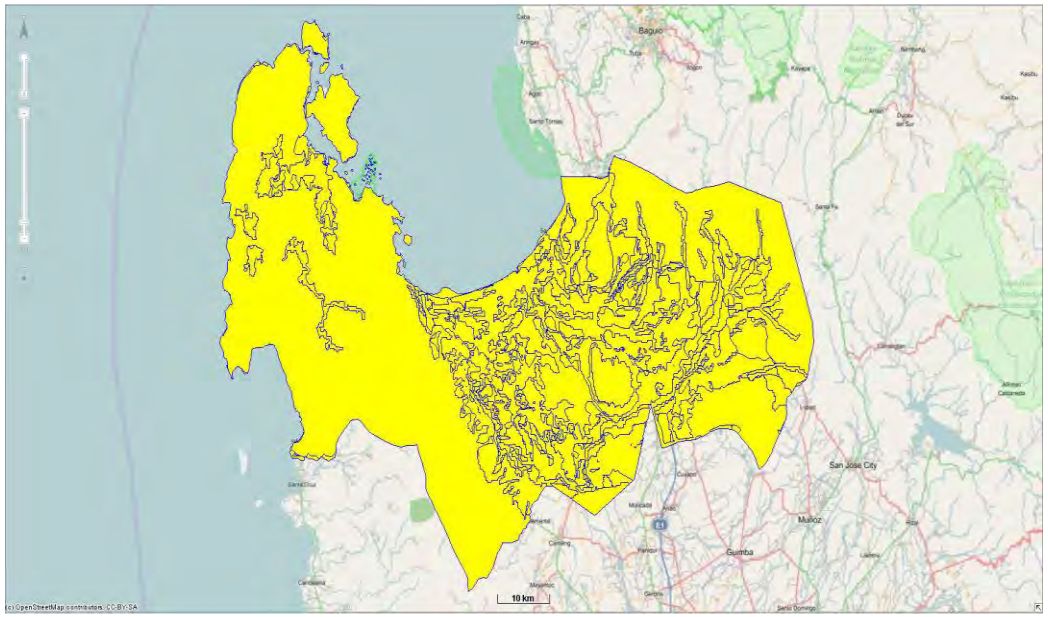
Landmarks

STATUS

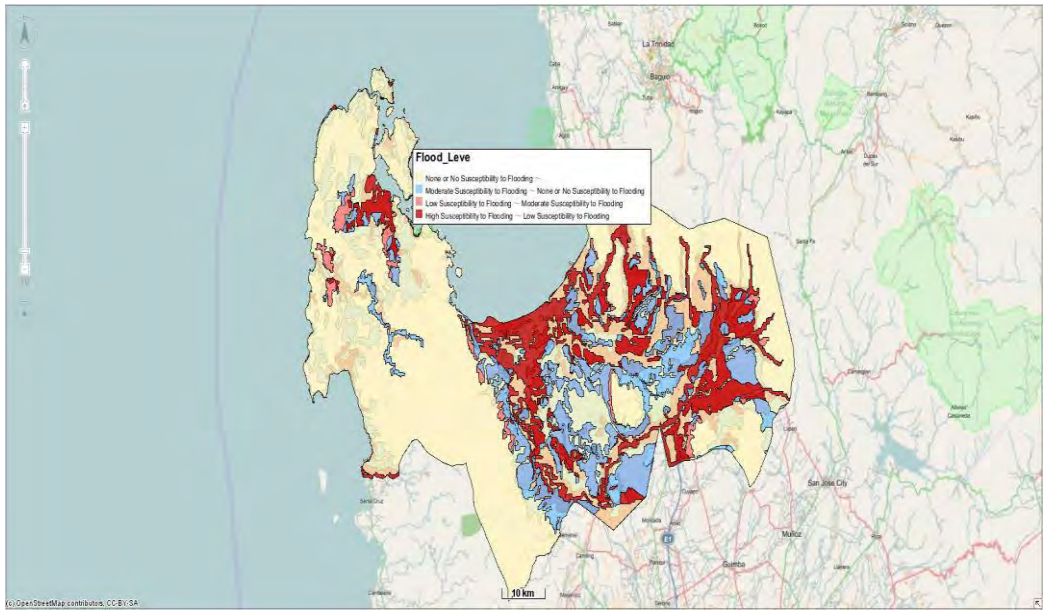
ACTION

Flood Prone

STATUS



ACTION



Data Brought by LGU

Municipality	Maps	GIS	Manual Paper
LINGAYEN	Barangay Boundaries		✓
	Barangay Roads		✓
	Facilities		✓
	Barangay Population		✓
	Evacuation Center		✓
	Infrastructure		✓
	Landmarks		✓
BINMALEY	Barangay Boundaries	✓	
	Agriculture	✓	
	Facilities	✓	
	Landmarks	✓	
	River System	✓	
	Flood Prone	✓	
	Roads	✓	
	Landslide Map	✓	
DAGUPAN	Barangay Boundaries		✓
	Evacuation Sites Map		✓
	Household		✓
	Roads		✓
	Facilities		✓
	Landmarks		✓

Converted / Edited

Group	Map	Detail	Type	Coverage	Modified by PhilNITS	Edited and sourced from LGU during the Training
Base Map	Open Street Map	Base Background Map	Digital	National		
	Elevation Map	JAXA Elevation Data	Mesh	Pangasinan		
Boundary Map	Regional Map	Regional	Digital	National		
	Provincial Map	Provincial	Digital	National	✓	
	District Map	District (1-6) Zone	Digital	Provincial	✓	
	Municipality Map	Municipalities	Digital	National	✓	✓
	Barangay Map	Barangay	Digital	National	✓	✓
Infrastructure	Road Network Map	Main Roads	Digital	National	✓	✓
	River System Map	Main Channels	Digital	Provincial	✓	✓
Facilities	Landmarks	Primary, Secondary, Tertiary Schools, Government Hospitals, & Municipal Hall	Digital (Points)	3LGU	✓	✓
	Evacuation Sites Map	Evacuation Sites	Digital (Points)	Binmaley	✓	✓
	Evacuation Building Map	High Building Higher than 3rd Floors(565)	Digital (Points)	Dagupan City		
Flood	Water Affected Risk Map	Municipal Level	Image	Provincial		
	Flood Prone/ Inundation Map	-	Digital & Image	Provincial	✓	
	Storm Surge Map	-	Digital & Image	Provincial	✓	
	Rain Induced Landslide	-	Digital	Provincial	✓	
	Mud flows and Debris Flow Map	-	Image	Provincial		
	Tsunami Hazard Map	-	Digital & Image	Provincial	✓	
Disaster	Landslide & Erosion Map	-	Image	Provincial		
	Earthquake Induced Landslide Map	-	Digital	Provincial	✓	
	Fault Lines Map	Buffer Line	Image	Provincial		
	Earthquake Affected Areas	Municipal Level	Image	Provincial		
	Liquefaction Hazard	-	Digital & Image	Provincial	✓	
Others	Urban Planning Map	Land Use, Zoning Map	Digital & Image	3LGU		
	Address Data	For Address Search and Matching	Digital (Points)	3LGU		
	Population Map	Population of every Municipality	Digital	Provincial	✓	

Things to do…

Group	Map	To be Done in next 8 months by LGU
Base Map	Open Street Map	-
	Elevation Map	-
Boundary Map	Regional Map	-
	Provincial Map	-
	District Map	Adjusting the boundaries of District Map
	Municipality Map	Adjusting the boundaries of Municipality Map
	Barangay Map	Adjusting the boundaries of Barangay Map for every Municipality, Divide barangay into Sitio or Purok, Input attributes ex: Population, Household, etc. & Assigned Evacuation Center for every Sitio or Purok.
Infrastructure	Road Network Map	Repositioning, naming & adding of Road Network for every Barangay
	River System Map	Repositioning, naming & adding of River System for every Municipality
Facilities	Landmarks	Repositioning & adding of Landmarks like Schools, Church, Brgy. Hall, Fire & Police Station, Gym, Parks, & Open Spaces for every Municipality
	Evacuation Sites Map	Reposition & adding of Evacuation Sites for every Barangay
	Evacuation Building Map	-
Flood	Water Affected Risk Map	-
	Flood Prone/ Inundation Map	Determining Flood Prone Areas for every Barangay
	Storm Surge Map	-
	Rain Induced Landslide	-
	Mud flows and Debris Flow Map	-
	Tsunami Hazard Map	-
Disaster	Landslide & Erosion Map	-
	Earthquake Induced Landslide Map	-
	Fault Lines Map	-
	Earthquake Affected Areas	-
	Liquefaction Hazard	-
Others	Urban Planning Map	-
	Address Data	-
	Population Map	-

Things to do…

Boundary Map	**Regional Map**	-
	Provincial Map	-
	District Map	Adjusting the boundaries of District Map
	Municipality Map	Adjusting the boundaries of Municipality Map
	Barangay Map	Adjusting the boundaries of Barangay Map for every Municipality, Divide barangay into Sitio or Purok, Input attributes ex: Population, Household, etc. & Assigned Evacuation Center for every Sitio or Purok.
Infrastructure	**Road Network Map**	Repositioning, naming & adding of Road Network for every Barangay
	River System Map	Repositioning, naming & adding of River System for every Municipality
Facilities	**Landmarks**	Repositioning & adding of Landmarks like Schools, Church, Brgy. Hall, Fire & Police Station, Gym, Parks, & Open Spaces for every Municipality
	Evacuation Sites Map	Reposition & adding of Evacuation Sites for every Barangay
	Evacuation Building Map	-
Flood	**Water Affected Risk Map**	-
	Flood Prone/ Inundation Map	Determining Flood Prone Areas for every Barangay
	Storm Surge Map	-
	Rain Induced Landslide	-
	Mud flows and Debris Flow Map	-
	Tsunami Hazard Map	-
	Landslide & Erosion Map	

TRAINING SUMMARY

On the first week of training, the trainees learned and familiarized the use of GeoCloud and all the tools that are needed to create and customize all maps.

They learned all necessary tool that are needed to create disaster reports that will help for risk reduction management.

GeoCloud Tools and Process the Trainees learned:

- Loading Maps
- Inserting Drawing Layer
- Inserting Range Values, Individual Values and Override Style
- Inserting Labels
- Saving Files as gcd, gci, gcm, gccn, gc_contents
- Filtering out by Value and Region
- Creating/Adjusting Road Networks Map (Line String)
- Creating/Adjusting Boundary Maps (Polygon)

- Creating/Adjusting Landmarks and Evacuation Center (Points)
- Changing the Symbol of Landmarks or Evacuation Center
- Adding Table Attributes
- Inserting Route

After learning all the necessary tools, to apply what they have learned, we gave the trainees three scenario that they will simulate and present it in GeoCloud.

SCENARIOS

Scenario 1:

- If Pangasinan has orange rainfall warning, identify the barangays that will be affected by flooding.

Scenario 2:

- Given the same scenario, Set evacuation center and assign assets to each evacuation center.

Scenario 3:

- Using rain induced landslide map, identify the roads that are not passable, and identify the routes.

Results

I therefore conclude that the said training is effective because no one asked for assistance while doing the activity and while simulating the scenarios. We have observed that:

- The trainees came up with different presentation using different GeoCloud tools. (Creativity has shown)
- All of them enjoyed exploring another tools that are not really necessary but will help in creating their maps.

ATTENDANCE

Date	PDRRMO	Lingayen	Binmaley	Dagupan
	No. of Attendees	No. of Attendees	No. of Attendees	No. of Attendees
10/3/2016	2	6	5	0
10/4/2016	2	6	5	2
10/5/2016	1	7	5	3
10/6/2016	2	6	5	3
10/7/2016	3	7	4	0
10/10/2016	2	7	5	3
10/11/2016	2	7	5	0
10/12/2016	3	5	4	2
10/13/2016	2	7	4	3
10/14/2016	2	6	5	3

Summary of First Work Shop (Contents of the First Workshop)

The general subjects listed below were explained in the first W/S held on Oct. 2016 using the data/information collected from the related organizations in the three provinces.

1. General Subjects
- **Introduction of system**
- **Outline of inundation area by flood scale**
- **Disaster response such as warning and evacuation**
- **Evacuation map**
- **Activities by the three provinces**

In the context mentioned above, indicators and verification methods were introduced. Finally, participants detected additional-necessary data/information to be input into the database.

2. Indicators and Methodology for Verification of the System, and Necessary data to be input into the Database
- **Indicators and Means of Verifications**
- **Necessary Data (Basic Data and Additional data proposed in the W/S from participants)**

Summary of First Work Shop (Indicators for Evaluation of the system)

The system will be evaluated through the second workshop from the viewpoint of both (1)possible application for DRRM and (2) functional capability of the system for users engaged in DRRM based on the listed indicators below.

Category	Indicator	Means of Verification
Indicator of DRRM	1-1 The accommodation capacity of evacuation center and distribution of potential evacuee population is analyzed for evacuation map.	- List of accommodation capacity of evacuation center
		- Data of distribution of potential evacuee population
	1-2 The vulnerability at facility such as evacuation center and road is evaluated in consideration with elevation.	- Identified number of dangerous places
		- The number of persons who have damage risk at evacuation center
		- Vulnerability map
	1-3 The evacuation route is discussed in consideration with inundation depth (hazard) at facility such as evacuation center and road for evacuation map.	- Evacuation map
Indicator of the System	2-1 At least 1 person in each province/3LGUs can utilize the system for improving the quantity and quality of data.	- The appropriate functions to improve and development
	2-2 The 50 percent of participants of workshop feel the improvement of handling data.	- The user friendly of the system
	2-3 The 50 percent of participants of workshop feel the improvement of viewability of map for becoming easier to explain the disaster risk to residents.	- The created maps in workshop

Summary of First Work Shop (Confirmation of Necessary Data)

- ✓ In the first W/S held on October 2016, the JICA Project Team and Participants mutually confirmed which data/information should be input into the database in order to verify the system.
- ✓ All the data should be prepared and input by February, 2017 when the second W/S will be held.

Items	Data	Type	Contents
Recommended	Evacuation sites	Point(symbol)	ID NO, BLDG Location, Evacuation center name, No. of evacuees, Capacity of BLDG, Elevation, BLDG type, BLDG Name
	Population	Circle	ID No. Family name, Address, Population, Senior citizen, Pregnant, Minor, PWD, Type of house
	Flood Prone	Polygon	Flood rate, Area of concern, Flood location, Scale of the flood
	Inundation area based on experience	Polygon	Year, Clarification name
	Road & Bridge	Line	Load Classification, Bridge name and its scale
Additional	Assets	Point	ID No, Equipment name, Manpower, Remarks
	Education site map	Point	ID No. School name, Classification, No. of enrollees, No. of storey, Longitude and latitude
	Rivers,Canals,Creaks	Line	Name

別添15

KNOWLEDGE CO-CREATION PROGRAM (PRIVATE PARTNERSHIP) in Japan/ Schedule Plan

Nov 2016

Noriaki Ishibashi
Shintaro Matsumaru

Program (Nov. 14-19) Purpose

- THE KNOWLEDGE CO-CREATION PROGRAM (PRIVATE PARTNERSHIP) in Japan is conducted by Informatix Inc. under the current project (the Verification Survey with the Private Sector for Disseminating Japanese Technologies in ODA Projects for Integrated Geographic Information System (Integrated GIS) for Improvement of Regional Disaster Risk Reduction and Management) undertaken by JICA, which aims to support well-understanding of **GeoCloud Integrated GIS**, the use of "sharable" GIS data in LGU administrative works including DRRM, by showing actual cases in **Kawasaki City, Shizuoka Prefecture and Yokohama City** where GeoCloud Integrated GIS is actually in the operation. We expect participants to have operating images of the system, then it will result in smooth launch of the system operation in the Province of Pangasinan and 3 LGUs.

Output

- To develop the understanding on GeoCloud
- To understand diverse of use of GeoCloud in various fields.
- To improve DRRM related operations with GeoCloud
- To give blueprint of sharable DRRM database on GeoCloud in Pangasinan in order to facilitate the Verification Survey works further.
- To upgrade capability of information sharing with GeoCloud among not only DRRM section but also other divisions, namely, city planning, engineering and any other relevant offices.

Schedule

Date	Time	Form	Contents	Lecturer/ Person in Charge		Language	Venue
				Name	Belonging		
11/14(Mon)	6:30 ～ 12:00		Move (Pangasinan => Manila Airport)				Car
	14:35 ～ 19:55		Move (Manila A.P. => Tokyo/ Haneda A.P.)				Plane
	21:00 ～ 21:30		Move (Haneda => Hotel in Kawasaki)	Ishibashi/ Matsumaru	Informatix	English	Train
11/15(Tue)	10:00 ～ 10:10	G	Greeting	Shoichi Mihara	Informatix (CEO)	English	@Informatix
	10:10 ～ 11:00	P	Self-introduction,	Ishibashi/ Matsumaru	Informatix	English	@Informatix
	11:00 ～ 12:00	L	Lecture about Spatial Information	Masanori Nagashima	Informatix (Chairman)	English	@Informatix
	11:00 ～ 12:00		Lunch				@Informatix
	13:00 ～ 17:00	L	Lecturer about GIS and Integrated GIS	Ishibashi	Informatix (Sales Manager)	English	@Informatix

L = Lecture
P = Presentation
G = Greeting

Schedule

Date	Time	Form	Contents	Lecturer/ Person in Charge		Language	Venue
				Name	Belonging		
11/16(Wed)	9:30 ～ 11:30	L	Lecture about Various Applications	Ishibashi/ Matsumaru	Informatix	English	@Informatix
	11:30 ～ 12:30		Lunch				@Informatix
	13:00 ～ 16:00	M	Information Sharing with Integrated GIS (Draft title)		Kawasaki City Information	Japanese*	@Kawasaki City
11/17(Thu)	9:30 ～ 11:05		Move (Kawasaki => Shin-Yokohama => Shizuoka)				Train
	11:30 ～ 12:30		Lunch				@Shizuoka
	13:30 ～ 16:30	M	Utilization of Integrated GIS in Shizuoka Prefecture (Draft title)		Shizuoka Pref. Transportation	Japanese*	@Shizuoka Pref
	17:00 ～ 19:02		Move (Pref Gov. => Shizuoka => Shin-Yokohama =>				Train

L = Lecture
M = Mission Trip

*An interpreter is available in the Japanese session.

Schedule

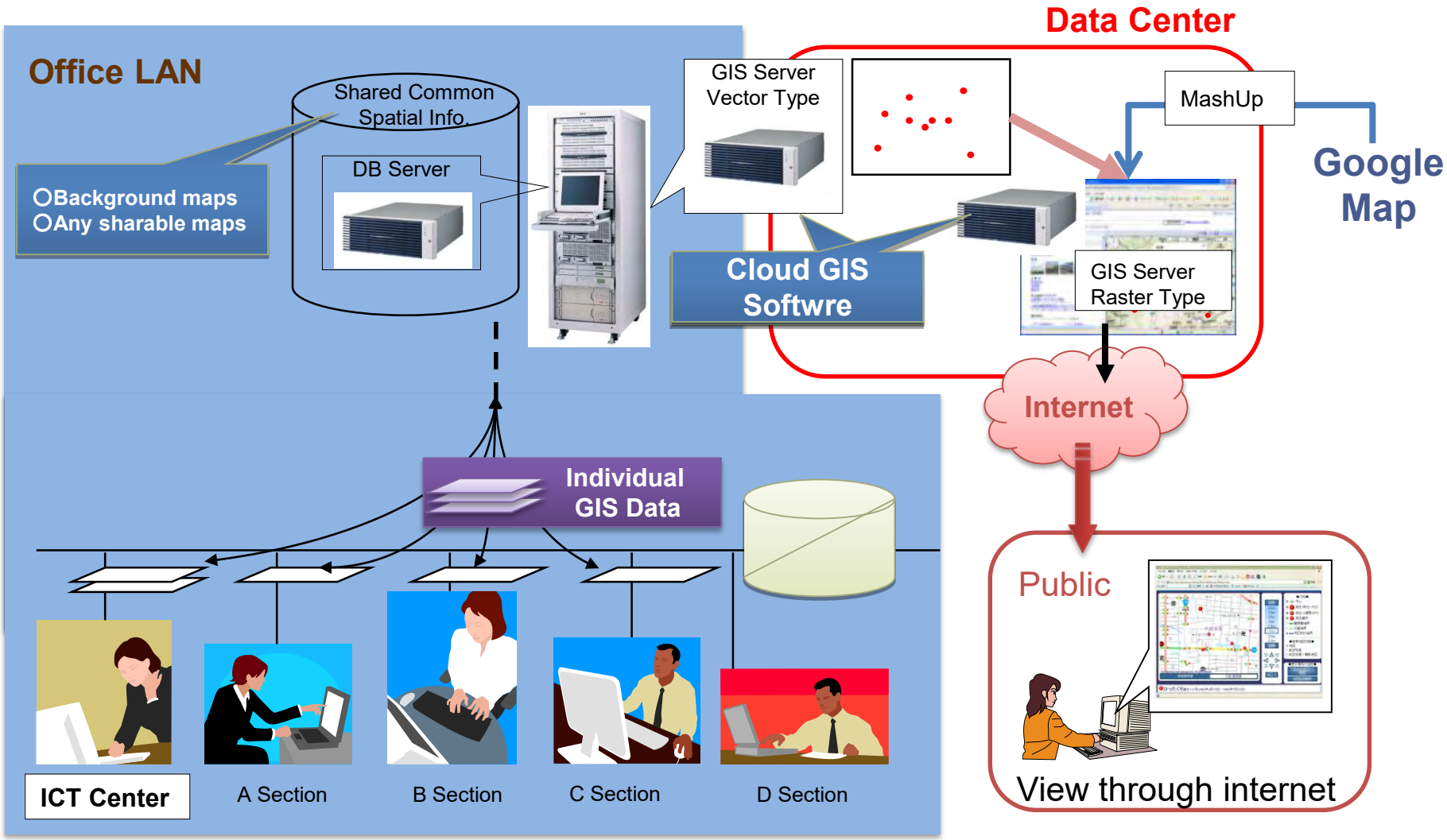
Date	Time	Form	Contents	Lecturer/ Person in Charge		Language	Venue
				Name	Belonging		
11/18(Fri)	9:10 ～ 9:50		Move (Kawasaki => Yokohama => DRRM Center)				Train
	10:00 ～ 13:00	M	Utilization of Integrated GIS in Fire/ DRRM Department (Draft		Yokohama City Fire Bureau	Japanese*	Yokohama Disaster
	13:00 ～ 13:30		Move (DRRM Center => Yokohama => Minato Mirai)				Train
	13:30 ～ 14:30		Lunch				@JICA Yokohama
	14:30 ～ 17:00	P	Presentation by Participants, Wrap Up	Ishibashi/ Matsumaru	Informatix	English	@JICA Yokohama
	17:30 ～ 18:20		Move (JICA Yokohama => Sakuragicho => Kawasaki)				Train
11/19(Sat)	7:30 ～ 8:00		Move (Hotel => Keikyu-Kawasaki => Haneda)	Ishibashi/ Matsumaru	Informatix		Train
	9:55 ～ 13:30		Move (Tokyo/ Haneda A.P. => Manila A.P.)				Plane
	14:30 ～ 19:30		Move (Manila A.P. => Pangasinan)				Car

M = Mission Trip
P = Presentation

*An interpreter is available in the Japanese session.

Cloud GIS: Good Illustration

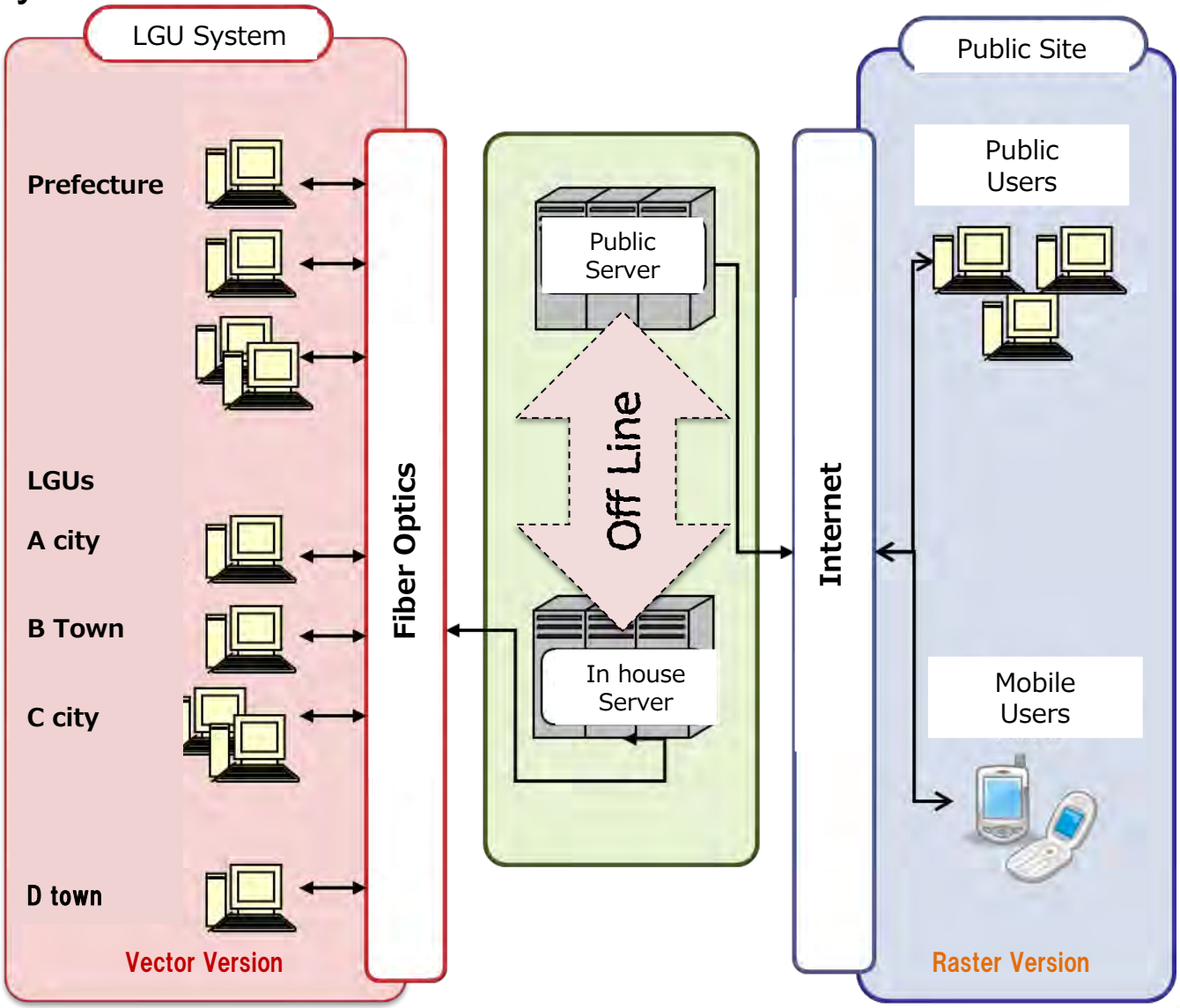
e.g.1: Data Share in Office



informatix inc.

Cloud GIS: Good Illustration

e.g.2: System and DATA share with multi-LGUs



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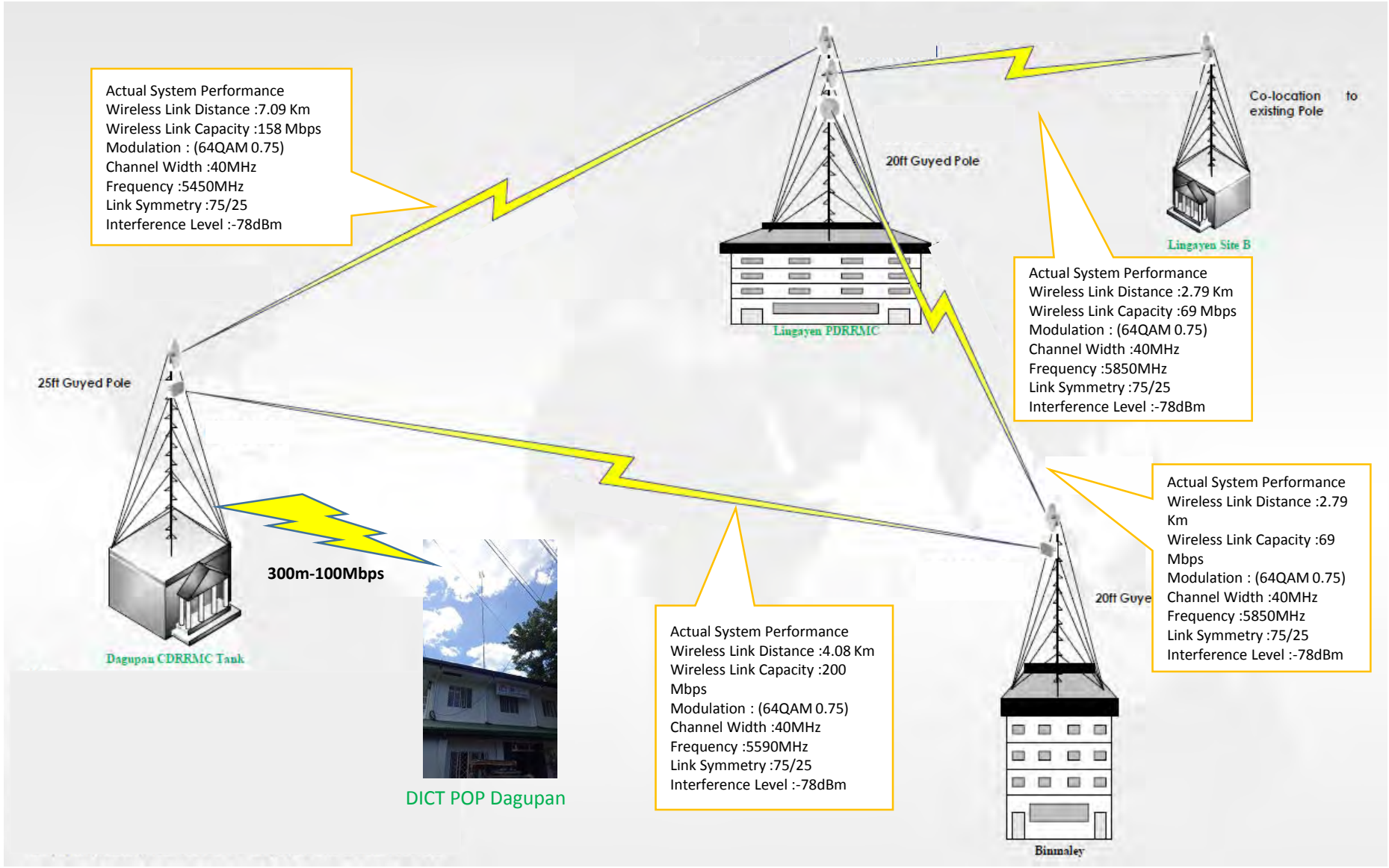
Pangasinan Wireless Project Cambium ePMP

Ring Topology and Wireless Information

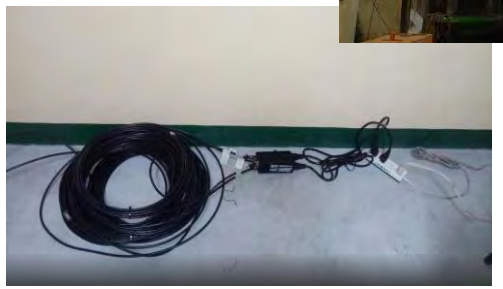


Site Pictures

Binmaley Site

PDRRMO Site

Dugupan Site



Lingayen Site

DICT POP

別添17

Group	Map	Detail	Type	Coverage	Sources				Modified by PhilNITS	Edited and sourced from LGU during the Training	Remarks
					NAMRIA	LGU	PhilNITS	Informatix			
Base Map	Open Street Map	Base Background Map	Digital	National				✓			
	Elevation Map	JAXA Elevation Data	Mesh	Pangasinan	✓						
Boundary Map	Regional Map	Regional	Digital	National	✓						
	Provincial Map	Provincial	Digital	National	✓				✓		
	District Map	District (1-6) Zone	Digital	Provincial		✓			✓		
	Municipality Map	Municipalities	Digital	National	✓				✓	✓	
	Barangay Map	Barangay	Digital	National	✓				✓	✓	
Infrastructure	Road Network Map	Main Roads	Digital	National	✓				✓	✓	
	River System Map	Main Channels	Digital	Provincial	✓				✓	✓	
Facilities	Landmarks	Primary, Secondary, Tertiary Schools, Government Hospitals, & Municipal Hall	Digital (Points)	3LGU		✓			✓	✓	
	Evacuation Sites Map	Evacuation Sites	Digital (Points)	Binmaley		✓			✓	✓	
	Evacuation Building Map	High Building Higher than 3rd Floors(565)	Digital (Points)	Dagupan City							
Flood	Water Affected Risk Map	Municipal Level	Image	Provincial	✓						
	Flood Prone/ Inundation Map	-	Digital & Image	Provincial	✓				✓		
	Storm Surge Map	-	Digital & Image	Provincial	✓				✓		
	Rain Induced Landslide	-	Digital	Provincial	✓				✓		
	Mud flows and Debris Flow Map	-	Image	Provincial	✓						
	Tsunami Hazard Map	-	Digital & Image	Provincial	✓				✓		
Disaster	Landslide & Erosion Map	-	Image	Provincial	✓						
	Earthquake Induced Landslide Map	-	Digital	Provincial	✓				✓		
	Fault Lines Map	Buffer Line	Image	Provincial	✓						
	Earthquake Affected Areas	Municipal Level	Image	Provincial	✓						
	Liquefaction Hazard	-	Digital & Image	Provincial	✓				✓		
Others	Urban Planning Map	Land Use, Zoning Map	Digital & Image	3LGU							
	Address Data	For Address Search and Matching	Digital (Points)	3LGU							
	Population Map	Population of every Municipality	Digital	Provincial			✓		✓		

Legend

Acquired Maps

Additional Maps

No Maps Given

別添18

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Terminal Report on the “Localization of Software”

Terminal Report on the “Localization of Software”

The PhilNITS Programmers and Encoders consisting of five (5) people underwent Training on the GeoCloud System for two-months—June and July.

Informatix Inc., provided PhilNITS with the GC Planets Developer Customized Manual as Reference Material for the different Tools contained in the Geo Cloud System.

Program Exercises were given to the Programmers and there were sent to Japan for review by Informatix.

Selection of Tools from the Geo Cloud System’s Library for use in the Training Manuals were done by the PhilNITS Programmers. These are:

1. MGRS Draw Point - draw point in the map and get MGRS coordinates.
2. MGRS Trace - trace mouse movement in GeoCloud Map and automatically convert mouse coordinates to MGRS coordinates.
3. MGRS Grid - draw a grid in the GeoCloud map with MGRS coordinates that shows the division of zones in the globe.
4. ASC to GCD Converter - made by Informatix but edited according to needs. Converts ASCII File to GeoCloud GCD's.
5. GCD to GCR Converter - made by Informatix but edited

according to needs. Converts GCD’s to GCR's Files.

6. Add Node - add a new file in the Content Window.
7. Compound Edit - creates new drawing in Content Window.
8. Draw Ellipse - draw an Ellipse shape in the Map.
9. Heavy Operation - sample of loading large data.
10. Logger - create and save Geo Cloud log files in the database.
11. PDF- creates a PDF file and save map as PDF.
12. Router - shows the fastest route from point A to B.
13. Sample Node - creates a new button in GeoCloud.
14. Sample Theme Annotation - creates a new button in the themes and annotation.
15. Sample Activity - allows to change the background color of the GeoCloud new screen.

Listed in Annex 1 below are the Japanese Messages we translated into English

These messages in the Graphic User Interface (GUI) were translated from Japanese to English in a period of six weeks starting August 15 to September 23, 2016. These were inserted into the Geo Cloud Program and subsequently we placed these in the Admin System Manual for Training (see Annex 2).

After submission of these Translated Messages to Japan, the staff of Informatix inserted these in the Program and submitted the Geo Cloud System to PhilNITS for storage in the Servers.

Although PhilNITS was able to submit modifications to the programs

of the Geo Cloud Software for use in Pangasinan, we are unable to see these modifications in the Geo Cloud System we submitted to Pangasinan.

別添19

GeoCloud Manual

(Pangasinan)

Table of Contents

別添20

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Report on the

“Training Project”

Report on the Training Project

As per agreed upon in the Project Timetable, PhilNITS conducted the Geo Cloud Training on October 3 to 14, 2016 at the PDRRMC office located in the Evacuation Center in Lingayen. Present were staff from the Pangasinan Province and from the PDRRMC, Municipality of Binmaley, Lingayen and Dagupan City. (See list of participants)

On our first day in Pangasinan, PhilNITS staff checked on the condition of the server, the desktop and the laptops to make sure these were in good working condition. We then checked on the training materials and PowerPoint presentations we had prepared. We encountered a problem with the server because it failed to start up. With that, we decided to meet and plan an alternative solution to be able to conduct the Training Course even without the server connection. We came up with the solution of using GC Planets temporarily and we had to install Tomcat and PostgreSQL in each and every computer.

However, upon notification on the Server failure, the PhilNITS Engineer went to Pangasinan to replace the Server with the second server in the PhilNITS Office. (It was later discovered that failure of the first server was due to a loose connection caused by the transport of the server from Manila to Pangasinan)

We reported early on the second day at the Training site to set up all the computers that were going to be used in the training. We were able to successfully continue the Training as scheduled. We were happily surprised to see that the participants were able to follow the Training Manuals we prepared. We also saw how they easily used the tools of GC Planets. We observed the trainees following the steps in the Training PowerPoint Presentation and we saw how they tried to use their tools and figure out ways to use these in their respective Maps. We saw how interested they were in learning how to use the GeoCloud System.

On the third day, we already anticipated that this will be the most crucial part of the Training Program. This training module is not just about insertion of drawings and the saving of maps but also the layering of different maps, creating tables, roads, facilities and polygons. Before the training module ended we saw how they struggled and were confused with the different activities. So on the next day, we reviewed all the topics that they found complicated. Before the end of the week we gave them an assignment to gather data from their respective LGUs that they would like to put in their maps for the use of these data on the second week of Training. We told them that we will teach them how to upload these data in their maps.

On the next succeeding days, they focused on entering their own data and maps using the Geo Cloud System. They learned how to use the Geo Cloud individually and without assistance. They also tried to simulate the possible outputs when a calamity occurs.

Since they are simulating the possible outputs, we also conducted simulation exams to test their knowledge. The tests showed that they know how to use GeoCloud and they were able to create different reports or scenarios that showed their maps of affected barangays and based on the different kinds of disasters. They were able to successfully draw plans on the placement of available assets in the affected barangays,

We are happy to see how much the participants learned from the training we conducted and saw how excited they were to use Geo Cloud in their respective Municipality Disaster Risk Reduction Management Offices.

The Training ended with a small party prepared by the Pangasinan PDRRMC office headed by Col. Rhodyn Oro.

On November 8-9, 2016, the PhilNITS Team went to Pangasinan to lay down all the equipment and the PhilNITS staff trained the different LGUs on the use of the Printers and Scanners.

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ジオクラウド
GEO CLOUD

Report on the "Training Project" (2nd Part)

June 27-30, 2017

Report on the Training Project

The training was conducted from June 27, 2017 to June 30, 2017 at the DRRM Office in the Evacuation Center in Lingayen, Pangasinan. The first day of training was all about reviewing the necessary tools that we already taught on the first training last October 2016. We gave them sets of activity to identify if they are really familiar with the necessary tools. After the activity, we observed that the trainees from Dagupan were able to finish the activity ahead of time because they have easily analyzed the problem and identified tools that are needed to create the maps. The trainees from Lingayen, are still familiar with the use of GeoCloud tools but had a hard time analyzing the problem. While the trainees from Binmaley already forgot the tools that are necessary for creating Hazard Analysis Maps and find it hard to analyze the activities. With this, we can conclude that they don't regularly use the system. On the same day, they also tested the use of GPS Logger as well as the Android application for GeoCloud data entry that can help them to get data easier.

On the second day of training, we started teaching them how to transfer and use the data that they collected using the GPS Logger and the Android application for GeoCloud Data Entry. We also introduced to them tools for better and easier creation of Hazard maps. The highlight of the second day training was about flood simulation. The flood simulation analyzes the time when the river overflows and determines which areas will be affected. To compute for flooding, trainees used the following data: area of the barangay; the volume of water of the barangay in relation to the rainfall height; area of the river; spilling level; current level; and volume

of the river in relation to the free level. After the second day training, the trainees learned to create an expression column. The trainees from Dagupan, Lingayen and Binmaley were able to follow the steps in creating the flood simulation map in less than a minute for every step.

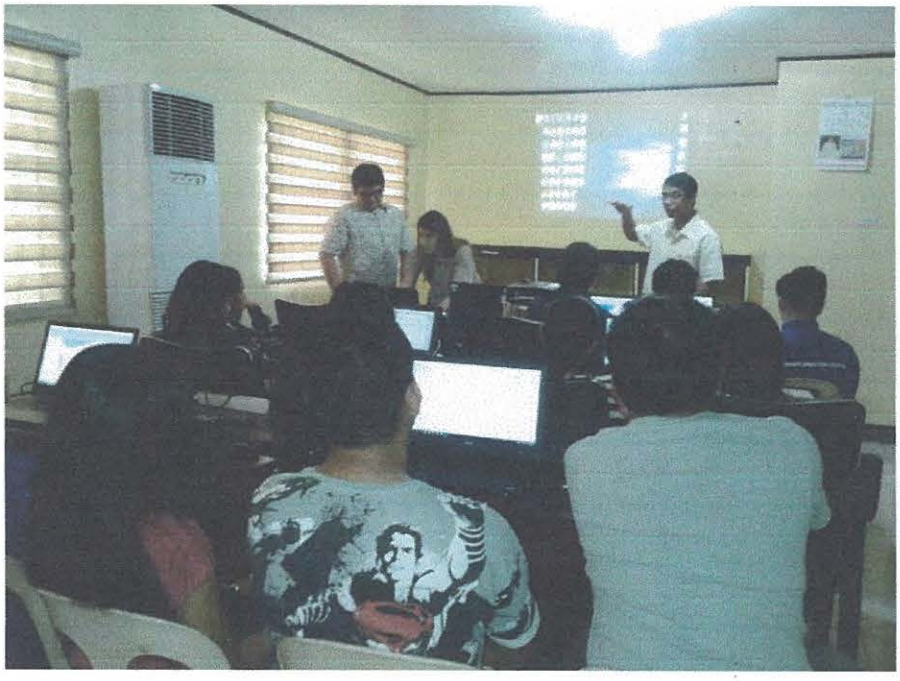
The third day of the training was conducted by Mr. Miyagi Masakazu. It focused on creating an evacuation sites route map. The map shows the nearest route to reach the evacuation sites. As an output, he taught the trainees how to print the map in pdf format.

On the fourth and also the last day of training, we gave them an activity about the flood simulation which is a continuation of the second day training. Each LGU presented the output of their own Flood Simulation Maps. They successfully presented their flood simulation map and was able to have an analysis about the time when the river will overflow. The major focus of the training was to teach the trainees how to create a computed attribute column that will be based on the available data that they have. After the training, we can, therefore, conclude that the training was effective because they were able to determine and create a much more complex inland and inshore flood maps using the computed attribute column.

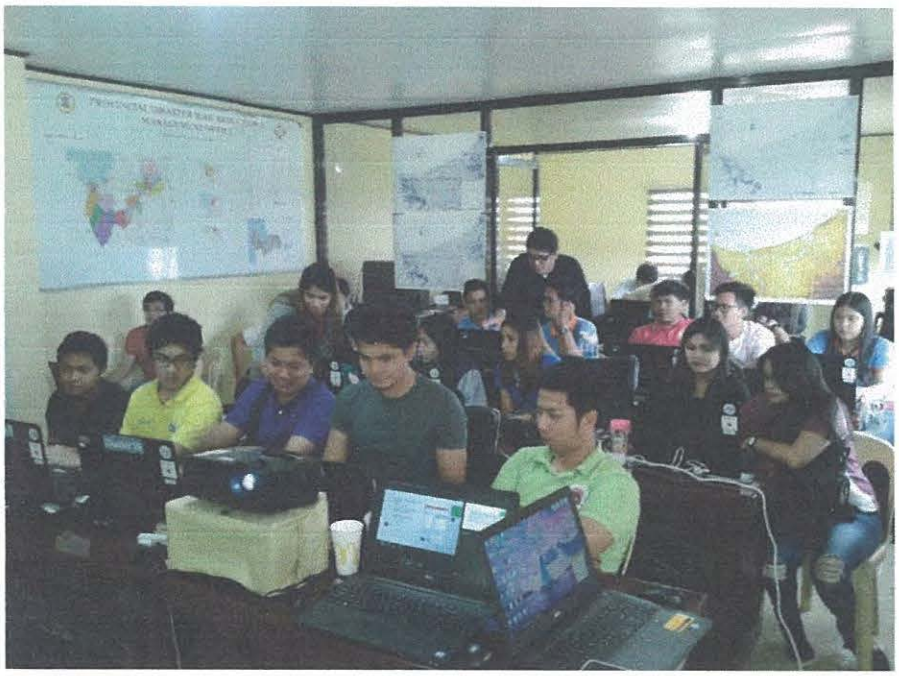
While conducting the training, we've experienced the following problems:

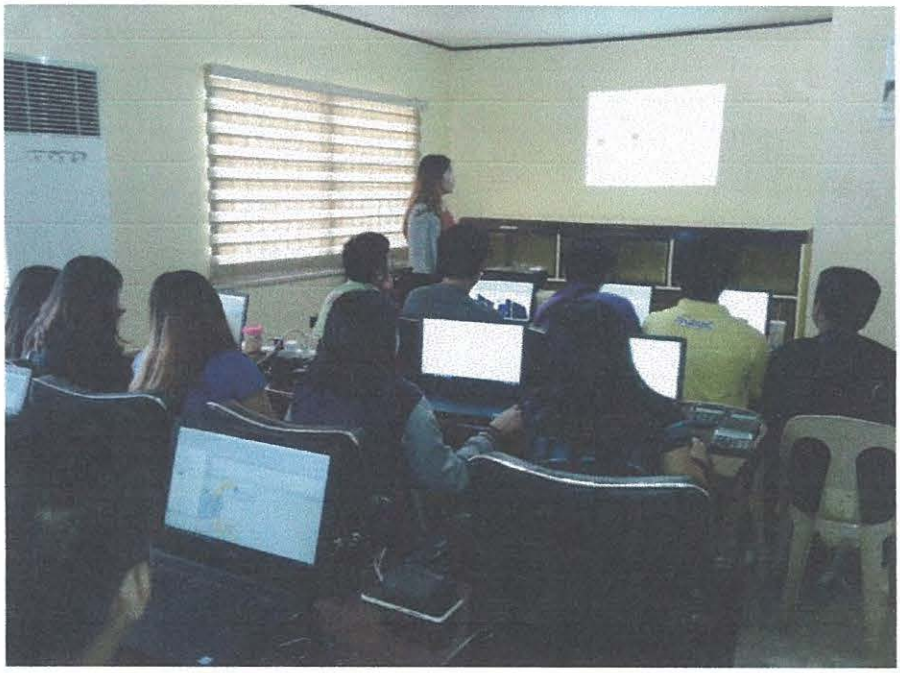
- The IP Address was changing.
- The system was working slower even though they're just loading few maps.
- GeoCloud lags and requires to restart the application when all trainees from different LGUs are using the GeoCloud at the same time.
- Some users aren't able to login to GeoCloud even though the number of users does not yet exceed the maximum number of licenses.

Day 1. June 27, 2017

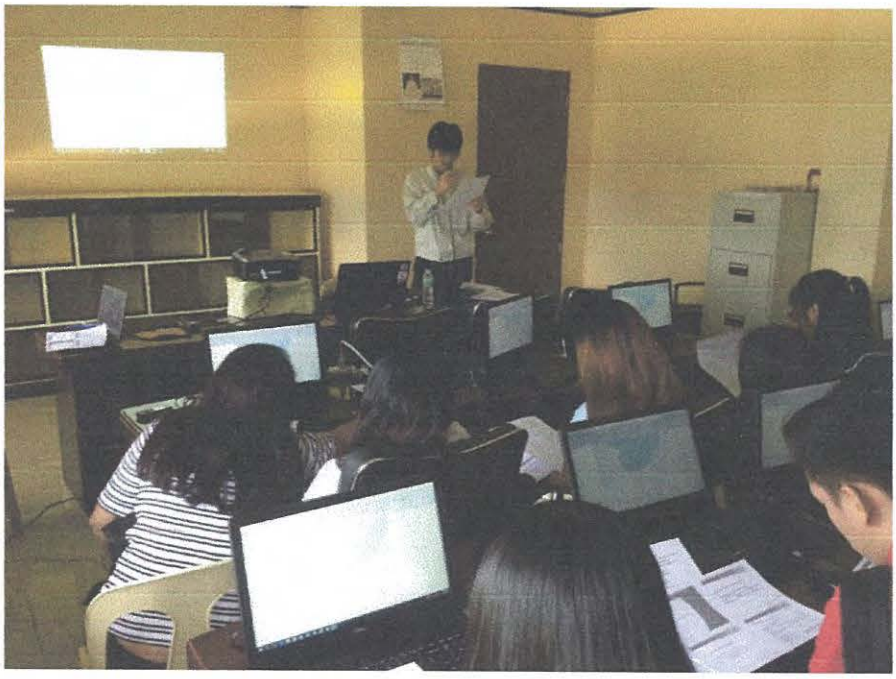


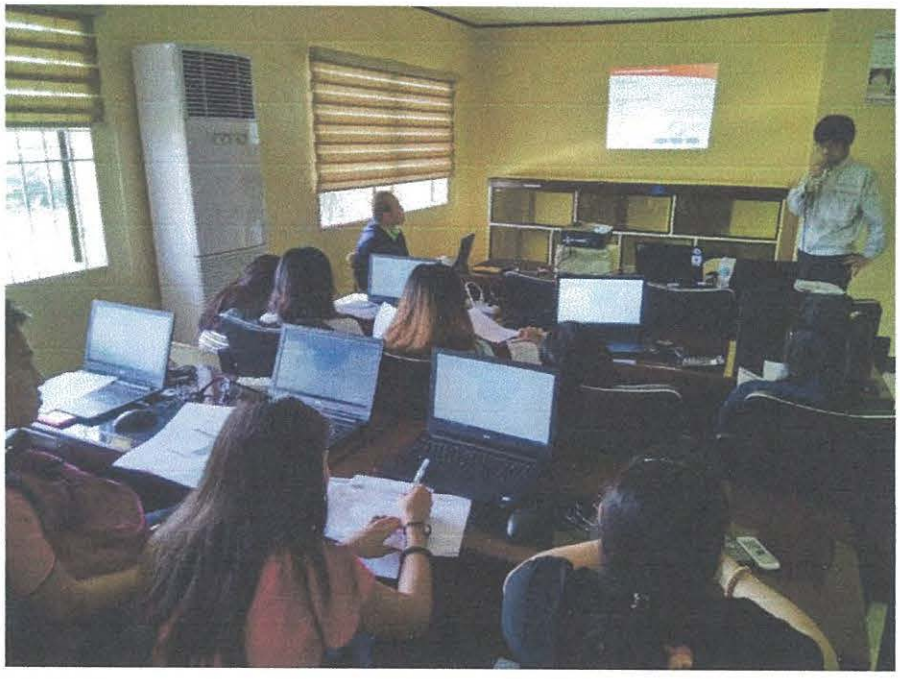
Day 2. June 28, 2017





Day 3. June 29, 2017





Day 4. June 30, 2017

別添21

受入実施内容

案件名：　フィリピン国　地域防災能力向上のための統合型地理情報システムの普及・実証事業

受入期間：　2016/11/14　～　2016/11/19　　参加人数：　8 人

日付	時刻	形態	受入活動内容	講師・見学先担当	講師使用言語	活動場所	発表概要	研修員質問・感想など	宿泊先
11/14(月)	4:00 ～ 10:00		移動（パンガシナン⇒マニラ空港）			借上車両			
	14:50 ～ 20:00		移動（マニラ空港⇒羽田空港）			ANA870便			
	20:30 ～ 21:00		移動（羽田空港⇒ホテル　川崎市内）	(株)インフォマティクス		京急			ホテル東横INN川崎駅前市役所通
11/15(火)	10:00 ～ 10:10		社長挨拶	(株)インフォマティクス社長	英語	IFX本社	（株）インフォマティクス代表取締役三原正一の歓迎挨拶： ・パンガシナン州のLGU,フィリピン国関係省庁からの研修員を歓迎いたします。 ・日本のGISと利用団体視察により、研修員と各組織の今後の活用に役立つことを期待します。		
	10:10 ～ 10:30	発表	参加者、受入企業団員自己紹介		英語	IFX本社	インフォマティクス側、研修員の自己紹介		
	10:30 ～ 11:00		Briefing	(株)インフォマティクス	英語	IFX本社	研修全体の説明と研修における注意点 ・研修のスケジュール ・宿泊施設・食事 ・交通費・日当等		
	11:00 ～ 11:45		社内見学	(株)インフォマティクス	英語	IFX本社	インフォマティクス社の紹介 部署と役割 社内見学	Q：開発グループとプロダクトグループの違いは？ A.開発グループは主に顧客向け個別カスタマイズを実施し、プロダクトはパッケージ商品の開発・維持管理を行う。	
	11:45 ～ 13:00		昼食						
	13:00 ～ 13:50	講義	空間情報に関する講義	(株)インフォマティクス会長	英語	IFX本社	空間情報ソフトウェアの歴史と進化	Q:あのGDSはインフォマティクスの商品だったのか？ A.GDSは長島会長が開発に携わった商品。	
	14:00 ～ 15:00	講義	GIS及び統合型GISに関する講義	(株)インフォマティクス　マネージャ	英語	IFX本社	クラウドコンピューティングGISについて 内容： ・クラウドコンピューティングの利点 ・クラウドGISの特長 ・運用の方法と事例 ・GeoCloudの特長	Q：GeoCloudのライセンス形態は？ A.サーバーライセンスを採用し、サーバー台数と同時アクセス数で決定する。利用可能の端末数は関係ない。 Q:GeoCloudに開発環境は？ A.SDKが存在し、開発が可能。 Q:モバイル版については？ A.アンドロイド版などがある。 感想： ・大変使いやすそう。	
	15:15 ～ 16:15	講義	GIS及び統合型GISに関する講義（続き）	(株)インフォマティクス　マネージャ	英語	IFX本社			ホテル東横INN川崎駅前市役所通
	9:30 ～ 10:00	講義	GISアプリケーションに関する講義	(株)インフォマティクス　マネージャ	英語	IFX本社	分野別GISアプリケーションと部署別データの紹介 内容： ・プロジェクトとしてパンガシナン州に導入される統合型GIS以外にどのようなシステムが存在し、運用されているかを紹介。 ・災害時要援護者管理システム ・参集計画支援システム ・情報共有支援システム ・カーナビ、ヘリコプターナビゲーションシステム ・化学薬品、ウィルス拡散シミュレーション	・危機管理・拡散シミュレーションはフィリピンにおけるデング熱の抑止に効果がある。自治体間での情報交換が重要。	
	10:00 ～ 10:50	実習	GIS関連技術－インフラ管理	(株)インフォマティクス　マネージャ	英語	IFX本社	内容： ・インフラ部門での利活用例の紹介 ・動体位置情報管理 ・電車軌道管理 ・高速道路付帯設備管理 ・位置情報と画像 ・360カメラレコーダー ・ドローンとGIS	Q:インフォマティクス紹介の360カメラの特長と違いは？ A.簡易で手軽な操作と低価格	
	11:00 ～ 11:45	実習	GIS関連技術－ARソリューション	(株)インフォマティクス　マネージャ	英語	IFX本社	GIS以外の空間情報利用技術を紹介 内容： ・住宅建築分野向け３６０°パノラマ対応建築管理ツール ・AR　拡張現実による現実空間と仮想CGモデル合成ソフトの活用	・ARの最新技術に驚き ・フィリピンでも一部分野で利活用の範囲も大きい。	
	11:45 ～ 13:00		昼食						
	13:00 ～ 13:30		川崎市発表準備						
11/16(水)	13:30 ～ 14:30	講義	川崎市統合型GISの紹介	川崎市システム管理課	日本語（通訳）	IFX本社（川崎市の職員来社）	内容： ・GISシステム概要 ・導入の経緯と歴史 ・導入前の課題 ・導入検討のポイント ・システムの構成 ・利用状況 ・公開型GISと住民サービス ・評価と今後	Q:情報の元は？ A：担当各課が入力 Q:システム管理課の役割は？各課の責任は？ A：システム管理課はソフトとハードウェアの整備とメンテナンス、そして全体の方向性とルールの取決めをメインとし、情報の整備と決定は担当各課の役割出る。 Q:高機能版と基礎版の2種類があるが、違いは？ A:高機能版では高度GISとして分析、地図編集などが可能。多くの職員は基礎版でOK。	
	14:50 ～ 15:30	講義	戸籍住民サービス課の紹介	川崎市戸籍住民サービス課	日本語（通訳）	IFX本社（川崎市の職員来社）	内容： ・業務、部署紹介 ・GIS利用目的 ・運用状況・取扱いデータ ・導入前の課題 ・導入のメリット	Q:日本の住所決定方法？ A：日本独自の街区による番地号 Q:住民の情報は？ A：世帯人数、居住者名などは別の住民台帳システムで管理している。	
	15:30 ～ 16:10	講義	危機管理室の紹介	川崎市危機管理室	日本語（通訳）	IFX本社（川崎市の職員来社）	内容： ・総合防災情報システムについて ・部署の取り組み・活動 ・防災マップとハザードマップ ・住民への情報公開	Q:避難の経験や難しさ？ A：コンテンツの有無が内容が地域によりバラバラにであるものがある。現場ではGIS用にデータ整備が行われておらず、データ入力が困難なことも。 Q:データはどこから？ A：津波予測など国や県からが主である。市が外部研究機関に委託して整備するデータも。 Q:排ガスなどのデータ利用はあるか？ A:危機管理としての取り扱いはないが、環境課で取り扱っている。	
	16:20 ～ 17:00	講義	都市計画課の紹介	川崎市都市計画課	日本語（通訳）	IFX本社（川崎市の職員来社）	内容： ・業務、部署紹介 ・GIS利用目的 ・運用状況・取扱いデータ ・導入前の課題 ・導入のメリット	Q:住民へどのデータ公開するかは誰の判断か？ A：国などのガイドラインがあるが、川崎市の当局毎に判断している。 Q:窓口のタッチパネルシステムは印刷量を徴収するが、画面を撮影して良いのか？ A:住民にはインク代・紙代を負担いただくのが意図。インターネットでも無償で閲覧できる。	ホテル東横INN川崎駅前市役所通
11/17(木)	9:30 ～ 11:07		移動（川崎駅⇒新横浜駅⇒静岡駅）			JR、新幹線			
	11:30 ～ 12:30		昼食			静岡駅ビル			
	12:30 ～ 13:00		徒歩移動						
	13:15 ～ 13:30		意見交換・挨拶	静岡県交通基盤部長	日本語（通訳）	静岡県庁	静岡県土木部長よりの歓迎挨拶	これを機会に良い協力関係を気づければ。	
	13:30 ～ 14:00	見学	静岡県土木防災情報センター サイボス（防災情報監視）システムの紹介	静岡県　交通基盤部建設支援局技術管理課	日本語（通訳）	静岡県庁	静岡県の紹介 ■ 静岡県のGISへの取り組み ■ 静岡県地理情報システム ■ 災害対応へのGIS利活用状況 ■ みんなのハザードマップ	Q:土木防災情報センターで全てのコントロールを？ A:Yes Q:地図上のカメラはリアルタイム画像をみれるのか？ A:Yes Q:気象情報はリアルタイム更新か？ A:Yes Q:市町村と共有データは？ A:現在、ボーリングデータ、ハザードマップなど。データ作成の脱2重投資に貢献 Q:利用状況の調査は？ A:アクセスログの調査などで実施 Q:どのくらいの準備？ A:約三年 Q:構築のポイントは？ A:まずは職員個人の仕事を支援し、部署⇒県全体⇒県民の役に立つシステムへのステップさせた。 Q:データの利用範囲？ A:県の情報は基本オープンなどのどの市町村も無償利用可能 Q:問題点は？ A:コンテンツ不足。津波・高潮・内水	
	14:15 ～ 15:45	講義	静岡県統合型GISの紹介	静岡県　交通基盤部建設支援局技術管理課	日本語（通訳）	静岡県庁			
	16:00 ～ 16:45	見学	駿府城公園坤櫓見学	駿府城公園二の丸施設管理事務所	日本語（通訳）	駿府城公園			
	17:30 ～ 19:00		移動（静岡駅⇒新横浜駅⇒川崎駅）			新幹線、JR			ホテル東横INN川崎駅前市役所通
11/18(金)	9:50 ～ 10:40		移動（川崎駅⇒横浜駅⇒横浜市民防災センター）			JR			
	10:50 ～ 12:00	講義	消防業務におけるGISの活用	横浜市消防局 横浜市民防災センター	日本語（通訳）	横浜市民防災センター	1．横浜市について 2．横浜市消防局について 3.消防業務について 4.GISの活用について	Q:消防職員について A：国ではなく、市の職員である Q:津波地震の対策は？ A：計画は市の危機管理室が行う。消防局は計画に則った現場対応と実施が基本。 Q:消防検査の頻度は？ A:各建物年1回 Q:GISのモデル･ﾃﾞｰﾀは？ A:大学や外部機関への外注も	
	12:00 ～ 13:00	実習	火災、地震、洪水時の防御と避難の体験	横浜市消防局 横浜市民防災センター	日本語（通訳）	横浜市民防災センター			
	13:05 ～ 13:20		移動（横浜市民防災センター⇒JICA横浜）			タクシー			
	13:30 ～ 14:30		昼食			JICA横浜			
	14:45 ～ 14:55		挨拶	JICA横浜次長	英語	JICA横浜			
	14:45 ～ 16:45	発表	研修まとめ、参加者発表	(株)インフォマティクス　マネージャ	英語	JICA横浜			
	17:30 ～ 19:30		Farewell懇親会	(株)インフォマティクス		レストラン（横浜）			
	20:00 ～ 20:30		移動（桜木町駅⇒川崎駅）			JR			ホテル東横INN川崎駅前市役所通
11/19(土)	6:00 ～ 6:50		移動（ホテル⇒羽田空港）	(株)インフォマティクス		京急			
	9:35 ～ 13:35		移動（羽田空港⇒マニラ空港）			ANA869便			
	14:30 ～ 19:30		移動（マニラ空港⇒パンガシナン）			借上車両			
	～								
	～								

受入詳細計画表（兼受入詳細計画表（実績版））

案件名：	フィリピン国　地域防災能力向上のための統合型地理情報システムの普及・実証事業				
受入期間：	2017/5/18	～	2017/5/23	参加人数：	8人（JICAフィリピン事務所の職員は除く）

日付	時刻	形態	受入活動内容	講師又は見学先担当者等 所属先及び職位	講師使用言語	活動場所
5/18(Thu)	8:05 ～ 13:25		**移動（マニラ空港⇒羽田空港）**	(株)インフォマティクス		NH5334
	14:00 ～ 14:40		移動（羽田空港⇒大森）	(株)インフォマティクス	English	バス移動
	14:45 ～ 15:15		移動（大森⇒川崎）	(株)インフォマティクス	English	バス移動
5/19(Fri)	10:00 ～ 10:15	G	社長・会長挨拶	(株)インフォマティクス	English	インフォマティクス本社
	10:15 ～ 10:30	L	オリエンテーション（一般事項とスケジュール）	(株)インフォマティクス	English	
	10:30 ～ 11:00	L	GIS及び統合型GISに関する講義	(株)インフォマティクス	English	
	11:00 ～ 11:15	M	社内見学	(株)インフォマティクス	English	
	11:15 ～ 12:15		昼食			ミューザ川崎
	12:30 ～ 12:45		移動（インフォマティクス⇒川崎市役所）			徒歩
	13:00 ～ 13:30	G	川崎市長表敬訪問 知事・市長意見交換 集合写真撮影・TV取材	川崎市経済労働局	Japanese (interpreter)	川崎市役所
	13:40 ～ 14:10	L	川崎市統合型GISの紹介	川崎市システム管理課		
	14:10 ～ 14:20		休憩			
	14:20 ～ 14:50		戸籍住民サービス課の紹介	川崎市戸籍住民サービス課		
	14:50 ～ 15:00		休憩			
	15:00 ～ 15:40		危機管理室の紹介	川崎市危機管理室		
	15:40 ～ 15:50		休憩			
	15:50 ～ 16:30		都市計画課の紹介	川崎市都市計画課		
	16:45 ～ 17:00		移動（川崎市役所⇒ホテル）			徒歩
	18:00 ～ 20:00		懇親会			川崎市内
5/20(Sat)	～		自己研修			
5/21(Sun)	～		自己研修			
5/22(Mon)	9:30 ～ 10:00		移動（ホテル⇒川崎市消防局）			タクシー
	10:00 ～ 11:00	M	消防指令センター視察	川崎市消防局警防部指令課	Japanese (interpreter)	川崎市消防局
			移動（川崎市消防局⇒インフォマティクス）			タクシー
	11:30 ～ 13:00		昼食			
	13:00 ～ 13:45	L	GISアプリケーションに関する講義	(株)インフォマティクス	English	インフォマティクス本社
	13:45 ～ 14:00		休憩			
	14:00 ～ 14:30	L	GIS関連技術－インフラ管理	(株)インフォマティクス	English	
	14:30 ～ 15:00	L	GIS関連技術－ARソリューション	(株)インフォマティクス	English	
	14:10 ～ 16:00	P	研修についての意見交換		English	
5/23(Tue)	8:00 ～		移動（大森⇒川崎）	(株)インフォマティクス		貸し切りバス
	8:30 ～		移動（川崎⇒横浜市民防災センター）	(株)インフォマティクス		貸し切りバス
	9:45 ～ 10:50	L	9:45　歓迎セレモニー 10:00 横浜市消防局副局長の挨拶 10:05 エスピノ知事の挨拶 10:10 集合写真撮影 10:15 講義 (横浜市消防局企画課) -消防局について -消防システムの紹介 -消防システムにおけるGIS機能について Q&A	横浜市消防局／横浜市民防災センター		横浜市民防災センター
	11:00 ～ 12:00	M	横浜市民防災センター視察	横浜市消防局／横浜市民防災センター		横浜市民防災センター
	12:20 ～ 14:00		移動（横浜市民防災センター⇒成田空港）	(株)インフォマティクス		貸し切りバス
	17:20 ～ 20:55		移動（成田空港⇒マニラ空港）			NH819
			L= Lecture' M= Mission Trip P= Presentation G= Greeting	*1 Hotel METS Kawasaki 72-2 Horikawa-cho Saiwai-ku, Kawasaki, Kanagawa 212-0013 +81-44-540-1100 Breakfast included		
				*2 HOTEL MYSTAYS PREMIER Omori 6-19-3 Minami Oi, Shinagawa-ku, Tokyo 140-0013 Japan +81-3-3766-7001		
				Informatix Office TEL		

別添22

A Report on the JICA Funded
DRRM Project of Pangasinan
Mayuree 2 Room, Dusit Thani Hotel,
Makati City, August 23, 2017

PROGRAMME

1:00 - 1:30	Registration	
1:30 - 1:35	Invocation	
1:35 - 1:45	National Anthems of Philippines & Japan	
1:45 - 1:55	Welcome Remarks and Acknowledgement of Participants	Ms. Ma. Corazon M. Akol *President, PhilNITS*
1:55 - 2:15	Message from Informatix Chairman	Mr. Masanori Nagashima *Chairman, Informatix Inc.*
2:15 - 2:30	Message from JICA	Ms. Ayumu Ohshima *Senior Representative, JICA*
2:30 - 3:00	Introduction on Informatix & CTII's Role in Pangasinan DRRM Project	Mr. Noriaki Ishibashi *Manager, Informatix, Inc.* Mr. Toshiro Goto *General Manager, CTII*
3:00 - 3:15	Presentation on Pangasinan's DRRM Project	Col. Rhodyn Luchinvar Oro *PDRRM Officer* *Office of the Governor*
3:15 - 3:20	Introduction of the Guest of Honor	
3:20 - 3:35	Guest Speaker	Gen. Eliseo M. Rio, Jr. *Usec. for Special Concerns* *DICT*
3:35 - 4:15	Message from OCD	Mr. Kelvin Oirecio *OIC, ICT Division* *Office of the Civil Defense*
4:15 - 4:30	Question and Answer	
4:30 - 4:45	Closing Remarks	Mr. Peter D. Que, Jr. *Vice President, PhilNITS*

Mr. Melvin R. Matulac
Moderator/EMCEE

Provincial Disaster Risk Reduction and Management Council Pangasinan State Government

Summary Report

Republic of the Philippines

Verification Survey with the Private Sector for Disseminating Japanese Technologies for Integrated Geographic Information System (Integrated GIS) for Improvement of Regional Disaster Risk Reduction and Management

October 2017

Japan International Cooperation Agency

Informatix Incorporated

Verification Survey with the Private Sector for Disseminating Japanese Technologies for Integrated Geographic Information System (Integrated GIS) for Improvement of Regional Disaster Risk Reduction and Management

Summary Report

Acronyms and Abbreviations

APEC : Asia-Pacific Economic Cooperation
CP : Counter Part
DICT : Department of Information and Communications Technology
DILG : Department of the Interior and Local Government
DOST : The Department of Science and Technology
DRRM : Disaster Risk Reduction and Management
GDP : Gross Domestic Product
GIS : Geographic Information System
GOP: Government of the Philippines
JICA : Japan International Cooperation Agency
LGU : Local Government Unit
NAMRIA : National Mapping and Resource Information Authority
NDRRMP : National Disaster Risk Reduction and Management Plan
O&M : Operation and Maintenance
OCD : Office of Civil Defense
ODA : Official Development Assistance
PAGASA : Philippine Atmospheric Geophysical and Astronomical Services Administration
PC : Personal Computer
PDP : Philippine Development Plan
PDRRMO : Provincial Disaster Risk Reduction and Management Office
PhilNITS : The Philippine National I.T. Standards Foundation, Inc.
RA10121: Disaster Risk Reduction and Management Act

1. BACKGROUND

Although the economic situation in the Philippines has been in a long-term slump since the 1960s to the 1990s, the growth rate of gross domestic product (GDP) has reached more than 6% in recent years, and economic growth is becoming more sustainable. Therefore, the economic growth rate since 2012 is higher in the ASEAN major countries. The Government of the Philippines has also developed projects for disaster risk reduction and management (DRRM) based on the policies stated in the medium-term development plan (PDP 2011-2016), and it has been increasing the budget for infrastructure development to solidify further economic growth. Recently, the Government of the Philippines (GOP) has established the Disaster Risk Reduction and Management Act (RA10121), which obliges the formulation of the National Disaster Risk Reduction and Management Plan (NDRRMP) in 2010, that contributed to share the information of their restoration and reconstruction experience from the Yolanda typhoon disaster or Sendai disaster prevention framework in APEC.

Also, in order to improve the disaster prevention level of the nation, the GOP has so far carried out the important activities such as legal and institutional arrangements, formulation of disaster reduction related plan, improvement of budget system and, capacity building of administrative agencies in the disaster prevention field. The disaster prevention related organizations are also supported by various donors, and the GOP's disaster risk reduction and management (DRRM) ability is steadily improving. To achieve the basic policy "Inclusive Growth" mentioned in the above PDP, it is considered that the GOP is adapting the policy and the legal system in DRRM sector, in order to cover the mutually influential factors of sustainable economic growth and improvement of the capability of DRRM.

However, it is difficult to say that the basic information sharing related to DRRM is enough between the relevant organizations from the viewpoint of accuracy and synchronization of information. In fact, there is still a strong sense of crisis against natural disasters from the viewpoints of damaged experience including many past typhoon damages in the target region after the formulation of PDP. The information that contributes to the evacuation activities in the event of disaster is stored in dissipate manner (although the data exists abundantly) and is not integrated or processed sufficiently for decision makings to response and command to related agencies.

In this circumstance, the Survey Team consisting of Informatix Inc., and the partners, was dispatched by Japan International Cooperation Agency (JICA) to conduct "the verification survey in the Province of Pangasinan, the Philippines concerning on the Informatix's Integrated Geographic Information System (GIS) products for Advancement of Regional Disaster Prevention (the Survey)" for about 20 months from the day of signing the contract between Informatix Inc. and JICA. JICA supervises the overall implementation of the Survey and own the products, equipment, and their incidental facilities, prepared by the survey team for the purpose of implementation of the Survey during the project. The Survey is formulated based on a new project scheme 'Verification Survey with Private Sector for Disseminating Japanese Technologies, which aims to demonstrate that Japanese technologies are highly effective in improving specific development challenges in the developing countries through actual installation and operation of products related to the technologies.

2. OUTLINE OF VERIFICATION AND DISSEMINATION

(1) Purpose

The overall goal of the Survey is to mitigate and minimize disaster damage in the Pangasinan Province as a result of capacity enhancement of CP LGUs on disaster management, by means of the information sharing regarding disaster prevention through the Integrated Geographical Information System (herein after referred to as "the GeoCloud Integrated GIS").

The Survey purpose is listed as follows:

- To study framework in which DRRM information is shared mutually and rapidly at the time of disaster.
- To craft DRRM information database using Integrated GIS in Province of Pangasinan and 3 LGUs in sustainable manners.
- To evaluate Integrated GIS by implementation of workshops on DRRM in which LGU officials (of Disaster Risk Reduction and Management Council) attend for improvement of DRRM activities of LGUs.
- To develop the plan to disseminate the technology in the Philippines.

(2) Activities

Based on the purposes of the Survey, the following activities is set and implemented:

(a) Activity-1: Discussion and examination for information sharing regarding disaster risk reduction between CP LGUs and the Central Government

- Explanation of outline of the Survey to Central Government
- Arrangement and management for information sharing meetings between CP LGUs and the Central Government
- Investigation for information to disaster risk reduction and management, relevant system, laws and policies.
- Examination of the information sharing mechanism and methodology

(b) Activity-2: Introduction and operation of the GeoCloud Integrated GIS in the Province of Pangasinan

- Implementation of preliminary survey
- Formulation of specification of the GeoCloud Integrated GIS and procurement of materials
- Modification works of the GeoCloud Integrated GIS
- Trainings on operation of the GeoCloud Integrated GIS for the development partner company(PhilNITS)
- Preparation for introduction of the GeoCloud Integrated GIS
- Trainings on operation of the GeoCloud Integrated GIS for CP LGUs
- Installation and setting-up of hardware of the GeoCloud Integrated GIS
- Setup and provisional operation of a prototype system
- Introduction and operation of the GeoCloud Integrated GIS
- Formulation of operational structure/system

(c) Activity-3: Implementation of workshops in the Province of Pangasinan

- Preparation of workshops
- Implementation of workshops for verification of the GeoCloud Integrated GIS
- Evaluation of the GeoCloud Integrated GIS based on the results of workshops

(d) Activity-4: Formulation of Business Plan for the dissemination of GeoCloud Integrated GIS

- Information collection for developing a business
- Implementation of seminars and observation tours
- Implementation of study tours in Japan
- Examination and Proposition for the dissemination of the GeoCloud Integrated GIS as a part of disaster risk reduction and management system in the Philippines
- Establishment of a plan to develop the business

(3) Information of Product/ Technology to be Provided

The provided products and technology in the Survey are as follows:

(a) Hardware

- Main servers in the Pangasinan Province with GeoCloud System
- Terminal PCs in the 3 LGUs to access and operate GIS system
- Surrounding Equipment (network system, Wi-Fi system, printers and scanners)
- Five (5) Radio Communication System for data transmissions between the LGUs

(b) Software:

- GeoCloud Integrated GIS
- Manuals and Guidelines for O&M of the GeoCloud Integrated System
- Training Manuals

(4) Counterpart Organization

The counterpart organization are the Pangasinan Province, one (1) city (Dagupan city) and two (2) towns (Binmaley and Lingayen towns) in the Province of Pangasinan.

(5) Target Area and Beneficiaries

Target areas are one (1) city (Dagupan city) and two (2) towns (Binmaley and Lingayen towns) in the Province of Pangasinan. Beneficiaries are all the residentiary of those areas.

(6) Duration

The Survey is implemented for about 22 months from March 2016 to December 2017.

(7) Progress Schedule

All of the activities are completed in the October 2017 including the donation of equipment and

systems, and the Survey will be terminated in December 2017.

(8) Implementation System

The implementation system of the Survey as organized at the beginning of the Survey is shown in the Figure 1.

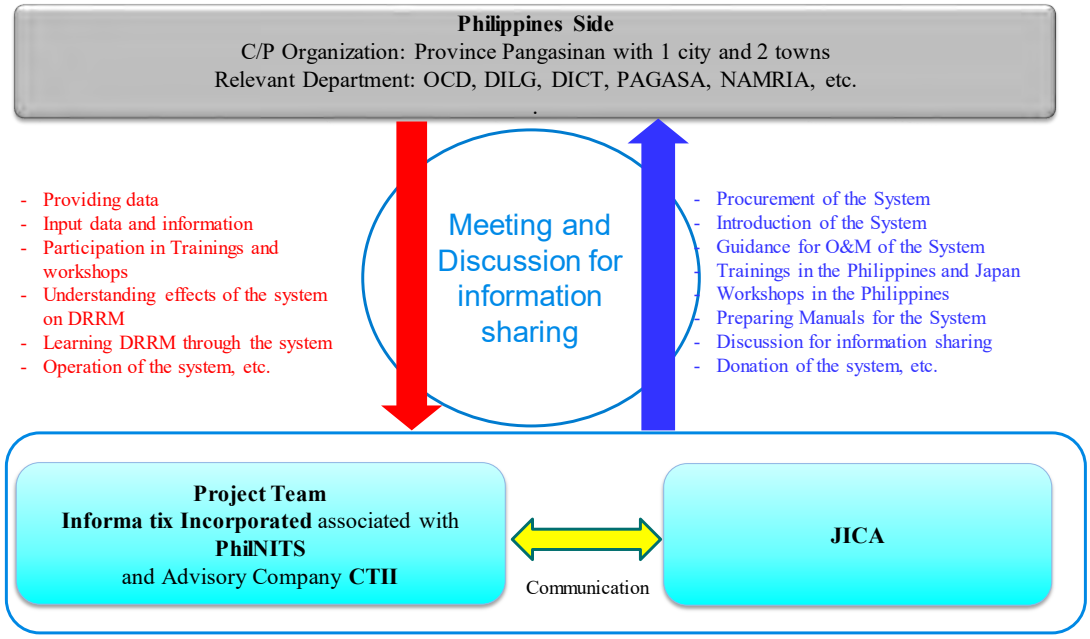


Figure 1 Implementation System of the Survey

3. ACHIEVEMENT OF THE SURVEY

(1) Outputs and Outcomes of the Survey

(a) Activity 1: To study the method to share meteorological and disaster prevention information between governmental organizations and Province of Pangasinan

Activity Results

1-1: To discuss with governmental organizations, such as Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA) and Office of Civil Defense (OCD), to construct the framework to support the Survey.

The outline of the Survey was explained for the line ministries of DRRM such as PAGASA, OCD, DILG, NAMRIA, DICT in Manila on early April 2016.

1-2: To hold meetings with governmental organizations, the Provincial Government of Pangasinan and 3 LGUs to share meteorological and DRRM related information.

The first steering committee was held on July 2016 for explanation of the role of the meeting and the outline of the Survey. The second steering committee was held on November 2016 for updating the progress of the Survey and discussion about information sharing in the Philippines. The third steering committee was held on February 2017 for the explanation of the installation situation of hardware and software, operation situation of GeoCloud, the progress of the Survey and Japan visit. The forth steering committee was held on July 2017 for the explanation of the progress, training in Japan and Philippines, workshop contents and evaluation, LGU's activities and discussion.

1-3: To research on existing DRRM information and systems of governmental organizations.

The Survey was conducted for the condition and activities of DRRM information in each organization by interviewing to PAGASA, OCD, DILG, DICT, NAMRIA and urban LGUs (Pasig city and Marikina city) after October 2016.

1-4: To study information categories to be shared and the method to share between governmental organizations and Province of Pangasinan.

The information sharing method was surveyed considering the technical information from the activity 1-2/1-3, and conditions such as limitation and range of utilization.

Achievement and Summary

The roles/function of the related organizations and necessary information to conduct activities of DRRM were revealed through series of discussions and meetings, which were held with CP organizations and the relevant central governments such as PAGASA, OCD, DILG, NAMRIA and DICT. As a result of the discussions and meetings, the related organizations understood the aims and the effects of the Survey from the aspect of contributions to DRRM, and the information was shared among them, in order to establish the GeoCloud Integrated GIS for the Province of Pangasinan.

Figure 2 Information Sharing Meetings (Left: First Meeting, Right: Forth Meeting)

(b) Activity 2: Introduction and operation of Integrated GIS for Province of Pangasinan

Activity Results

2-1: To implement a preparatory survey.

From the beginning of the Survey, preparation was conducted in Japan and the team meeting was held for confirmation of the role of persons in charge, and schedule of installation. Then, the Survey contents were announced to concerned persons and the activities were started.

2-2: To design the detailed specifications of Integrated GIS and hardware.

There was not a big change of hardware configuration as planned at the beginning. At the time of procurement, a standard high-performance type of equipment was selected.

2-3: To customize the system following the specifications in Japan.

There was not a big change of hardware configuration as planned at the beginning. At the time of procurement, a standard high-performance type of equipment was selected, following the specifications in Japan.

2-4: To hold a training session for engineers of the local partner.

The training for engineers of the local partner was conducted for three weeks. Although, the training was planned for one week at the beginning. This comprised of two parts; the basic training and the development training, which contributes to enhance the effectiveness and earlier capacity building for development.

2-5: To implement preparatory works for system installation in the Philippines.

The basic data which LGUs need was developed by PhilNITS GC operators who have capacity to develop GeoCloud data.

2-6: To hold training sessions for LGU officials in charge of the project.

The training for LGU officials in charge was conducted for developing capacity to operate and utilize GeoCloud GIS System. It was subcontracted to PhilNITS.

2-7: To install and setup hardware.

The setup work such as software/hardware installation and operation confirmation was subcontracted to PhilNITS and conducted for utilizing the procured hardware.

2-8: To install and test Integrated GIS.

The provisional operation period was set for one month using proto version for test and training before full operation of Integrated GIS. After that, connection and operation of all terminal equipment was confirmed.

2-9: To start full operation of Integrated GIS.

Through the activities of “2-6: To hold training sessions for LGU officials in charge of the project” and “2-8: To install and test Integrated GIS”, the environment for starting the operation was prepared.

2-10: To establish operation and support structures of Integrated GIS.

Through “Activity 3: Implementation of workshops in the Province of Pangasinan”, the operation structure was clarified. For the smooth operation by LGUs and assistance of system operation during the Survey, the support desk was established and started the support services such as response of questions about operation and bug report.

Achievement and Summary

The main server of GeoCloud Integrated GIS was completely installed in the PDRRMO of Pangasinan Province and terminal PCs with surrounding equipment in the target LGUs. The specification of system was set based on results of investigations as to the present conditions of (i) DRRM in the LGUs, (ii) existing and necessary information and (iii) existing data transmission system.

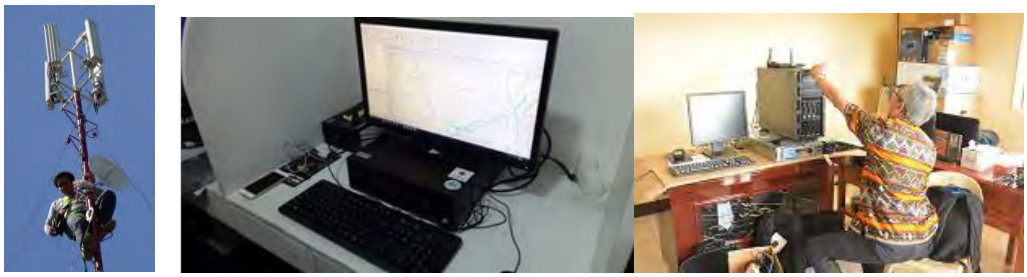


Figure 3 Introduced System (Left: Radio Communication System, Mid: Terminal PC with access silences, Right: Server Setup with GeoCloud GIS System)

During the Survey, the knowledge and skills to operate the system were enhanced through series of trainings and study tours, which were conducted twice in Japan by the Survey Team. In addition, training and operation manuals in English are provided to CP organization as a reference to effectively operate the system in consideration of sustainability of self-system operation. As of October 2017, the system and equipment are donated to CP organization and being well operated by them after the donation.

Figure 4 Trainings on Operation of the GeoCloud Integrated GIS for CP

(c) Activity 3: Implementation of workshops in the Province of Pangasinan

Activity Results

3-1: To prepare design and plan of workshops together with/ based upon consultation with the Provincial Government and 3 LGUs.

Preparation work for workshop to evaluate the effectiveness of GeoCloud Integrated GIS was conducted considering flood situation and local DRRM structure. After the consultation with the JICA expert, the training concept was arranged to have workshops, focusing on preparedness of DRRM activities which is appropriate for evaluation of the effectiveness of GeoCloud Integrated GIS.

3-2: To conduct workshops together with the Provincial Government and 3 LGUs.

The first workshop was held on October 2016 for data collection/preparation and understanding of data utilization for the activities on DRRM. The second workshop was held on February 2017 for studying utilization for DRRM by creating disaster risk graphs to evaluate the effectiveness of the Integrated GIS on DRRM. The third workshop was held on June 2017 for creating flood hazard map to evaluate the effectiveness of the Integrated GIS on DRRM.

3-3: To evaluate the effectiveness of Integrated GIS based upon the outcome of workshops activities.

The evaluation of the effectiveness of Integrated GIS was conducted based upon the evaluation indicators for DRRM and System which was set during workshop preparation.

Achievement and Summary

To evaluate and verify the introduced system, the workshops were systematically conducted three times in the Philippines for the purpose of (i) data collection/preparation and understanding of data utilization for the activities on DRRM, (ii) establishment of disaster risk graphs, (iii) elaboration of flood hazard map in consideration of conditions of refugee. Especially, workshops of (ii) and (iii) were conducted and outputs (see Figure 5) are made by CP through operating the GeoCloud Integrated System.

The products in the workshops and CP's enough operation capacity proved the contribution of the introduced system for activities on disaster preparedness. This success has mainly been brought by the activities of capacity enhancement during the Survey, and powerful and friendly operation function/system of the GeoCloud Integrated GIS.

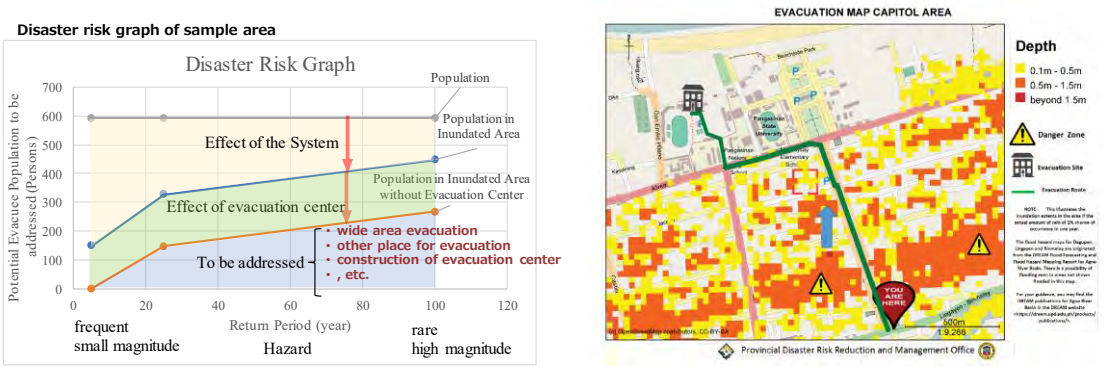


Figure 5 Outputs of Workshops (Left: Disaster Risk Graph, Right: Flood Hazard Map)

(d) Activity 4: To make a plan to disseminate Integrated GIS into all over the Philippines

Activity Results

4-1: To study for dissemination of Integrated GIS.

The study to ensure future dissemination of Integrated GIS was conducted considering the issues for dissemination clarified in "Activity 3: Implementation of workshops in the Province of Pangasinan".

4-2: To hold seminars and exhibitions with the cooperation of the Province of Pangasinan.

The seminar was held on August 2017 in order to introduce the Survey contents and results to line ministries and LGUs as a part of the dissemination activity of Integrated GIS.

4-3: To implement the study session in Japan.

The first Japan visit was conducted on November 2016 for LGU and line ministry officials in charge. Main objective was to learn the situation of Integrated GIS, data sharing among DRRM departments and data management of other departments, by visiting the local government which has Integrated GIS for contribution to a smooth operation start of Integrated GIS. The second Japan visit was conducted on May 2017 for decision makers such as the provincial governor and mayors, because it contributes to dissemination of Integrated GIS by understanding the situation of introduction of Integrated GIS in Japan and exchange of opinions.

4-4: To make a brief proposal for dissemination of the system for disaster prevention and its measures in the Philippines.

The dissemination concept of the system was studied with analysis about relevance and effectiveness of the dissemination of the system after workshops and interview to line ministries.

4-5: To make a future plan for dissemination of the Integrated GIS in the Philippines.

Based on the activity 4-4, the future activities and plan in the Philippines were formulated.

Achievement and Summary

Based on (i) the verification results of the introduced system as mentioned item (c), (ii) a research of market environment by 3C analysis and (iii) the level of potential capacity of local government staff to adapt to the System, a business plan was formulated to disseminate the GeoCloud Integrated GIS in governmental organizations in the Philippines in order to improve the condition of DRRM. In the Survey, the verification of the System was carried out from the viewpoint of disaster preparedness; however, the System was applied by Informatix Incorporated for the activities on other stages of DRRM such as response and rehabilitation in Japan.

Moreover, the System has a possibility to be applied for other business field such as asset management, land use management and traffic management etc. in accordance with the concept of i-government in the Philippines.

(2) Self-reliant and Continual Activities to be Conducted by Counterpart Organization

To keep sustainability on the O&M of the GeoCloud Integrated GIS by CP themselves, the Survey Team prepared tools and a scheme to support CP (particularly, LGUs) in order to smoothly conduct O&M of the System as follows:

- Training and operation manuals and guidelines in English were ready for users
- Technical transfer to the business partner (PhilNITS in the Philippines) from Informatix Incorporated successfully finished. After the contract between them, the business partner will support for not only operation but also maintenance and expansion of the System.
- According to the result of the interviews with the participating staff of LGUs, it was recognized that the System has friendly and visually arranged function to input, modify and analyze the information for the staffs of LGUs.
- The installation fee and cost of maintenance are kept in reasonable conditions compared with the DRRM budget of Provinces and LGUs.

4. FUTURE PROSPECTS

(1) Impact and Effect on the Concerned Development Issues through Business Development of the Product/ Technology in the Surveyed Country

The target country has suffered from natural disasters such as typhoon, severe storm, floods, landslide, etc. Normally, the risk of those disasters is analyzed based on the hazard degree, the vulnerability of people/assets and DRRM system, and the exposure condition in the target area. In this context, the products and technology transferred to CP organizations in this Survey will contribute to future reduction of vulnerability of the whole LGUs in their implementation capacity of DRRM, if the product will spread to other LGUs.

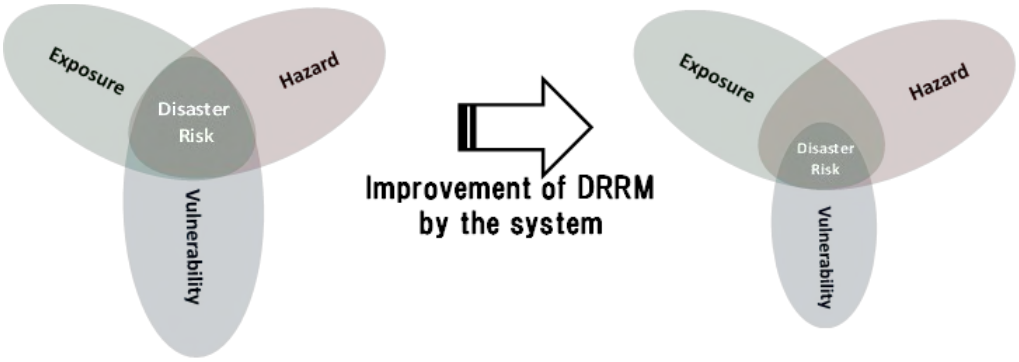


Figure 5 Impact and Effect on the Risk of Disasters in the Philippines

For example, during the Survey, quick impacts were happened in CP LGUs. The CP conducted making wide-areas road maps to clarify the vulnerable area to flood inundation and pasted the modified flood hazard maps on the news boards in the city and towns. As just described, the reduction of vulnerability by LGUs was immediately started after the completion of installation of the product and technical transfer for the operation of the System in the Survey.

(2) Lessons Learned and Recommendation through the Survey

(a) Lessons and Learnings

(i) Importance of Local Business Partner

The local business partner has covered and supported the activities of the Survey during the absence of Informatix Incorporated in the Philippines, particularly, in case of necessity of urgent negotiations and discussions, which often happen with sub-contractors to change design or spec-conditions, in order to procure and install the equipment and system on time as well as conduct inventory management for spare parts in the Philippines. Based on this experience, the Survey Team realized the importance of the local business partner to realize the formulated business plan.

(ii) Significance of Supports by In-house Staff

To promote and conduct a number of activities in the Survey on schedule, supports and assists by in-house engineer and administrative staff were essential and very effective. As a result of this experience, it can be said that the supportive structure should be established when the dissemination of the System starts in the Philippines based on the formulated business plan.

(iii) Effectiveness of Assistance by Consultant

Through the Survey, it is realized that the development consultant are conversant with the technical and administrative terminology, schemes of ODA project, mechanism and procedure of ODA projects very well, so that Informatix Incorporated can attain the goal and outputs of the Survey on schedule. In addition, it can be said that the consultants will effectively collaborate to promote the implementation of the formulated business plan

(b) Recommendation

The DRRM projects are largely divided into two portion such as structural measures (hard components) and non-structural measures (soft components). The introduced system is categorized into the non-structural measures and its cost and installation time are less than the structural measures. In the Sendai disaster prevention framework, the disaster risk reduction and mitigation by the non-structural measures are also recognized as an important method, with quick impact on the mitigation of disaster damage. In this context, it is recommended to incorporate the introduced

system (the GeoCloud Integrated GIS) with technical transfer into the ODA and DRRM projects as one of non-structural measures to reduce and mitigate the future risk and damage by disasters.

Attachment

The Philippines

Verification Survey with the Private Sector for Disseminating Japanese technologies for Integrated Geographic Information System (Integrated GIS) for Improvement of Regional Disaster Risk Reduction and Management

Informatix Inc., Kanagawa, Japan

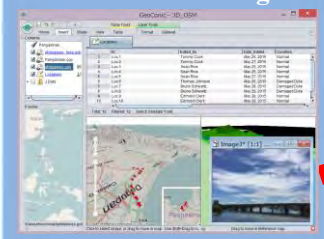
Concerned Development Issues in the Philippines

- Upgrade of bases for disaster risk reduction and management (DRRM) in participating LGUs.
- Upgrade of response capability in sharing DRRM information among LGUs, evacuation and the instructions.

Implemented Activities in the Survey

- To construct DRRM information database on Integrated GIS, and to train officials for updating data and the maintenance.
- To study the method and contents of information for sharing with related governmental organizations.
- Implementation of Disaster Imagination Games for officials.

Proposed Products/Technologies



Products/ Technologies

GeoCloud Integrated GIS (Geographic Information System)

- The technology to collect and link map information owned at multiple sections and organizations.

- Realization of information sharing and its maintenance easily with low cost exploiting the technology of cloud computing.

Survey Overview

Name of Counterpart:
The provincial government of Pangasinan
Survey duration: Mar/2015 – Dec/2017
Survey Area: Province of Pangasinan, 1 city and 2 municipalities.

Impact on the Concerned Development Issues in the Philippines

- Establishment of the framework in which DRRM information is shared mutually and rapidly, complying related policies of central governmental organizations.
- LGUs' communication and response ability for disaster risk reduction and management is strengthened.

Outputs and Outcomes of the Survey

Current

- GC Integrated GIS is used in lots of public institutions, but only in Japan.

Under & Post Project

- Practical use of the Integrated GIS other than DRRM matters, such as city planning and assets valuation.
- Pangasinan will be known as a model of practical use of Integrated GIS for DRRM, and it helps to disseminate the framework all over the Philippines.