

*ANNEX F      Fundamental Issues,  
Current Status and Initiatives Taken to  
Date, and Solutions*

Annex F: Fundamental Issues, Current Status and Initiatives Taken to Date, and Solutions				Item No.
Cause	Current Status and Initiatives Taken to Date by GISIS & Related Agencies	Solution		
1) Poor understanding among government agencies and facility owners				
i) Insufficient awareness of natural hazard risks	Raising awareness of natural hazard risks	Raising awareness of natural hazard risks		
i) Insufficient awareness of natural hazards	<p>[Status]</p> <ul style="list-style-type: none"> <li>• Awareness of natural hazard risks improved due to initiatives led by the National Disaster Risk Reduction &amp; Management Council (NDRRMC) and disasters experienced in the past few years.</li> <li>• Given the enforcement of RA No. 10121 (Disaster Risk Reduction &amp; Management Act, 2010), PAGASA, PHIVOLCS and other technical institutions of the country are proceeding with the preparation of hazard maps on a country-wide basis, and improvements have been made to hazard assessment tools.</li> <li>• Initiatives are being taken in connection with the preparation of basic plans for disaster reduction and management by local governments, such as having a technical institution provide technical support for risk assessment.</li> </ul>	<p>[Sharing of information on natural disaster risks and loss evaluation]</p> <ul style="list-style-type: none"> <li>• Provide NDRRMC and policyholders with hazard information using a risk-based premium calculation tool.</li> <li>• Prepare a list of policyholders without natural disaster coverage, provide policyholders with information on natural disaster risks based on the list and encourage expansion of coverage.</li> <li>• With respect to agencies with no insurance coverage at all, provide information on natural disaster risks through DCLG and encourage them to take out insurance.</li> </ul>		①
ii) Aware of natural hazard risks, but no sense of the magnitude of damage that might occur	<p>[Status]</p> <ul style="list-style-type: none"> <li>• Quantitative assessment of damage from natural disasters has yet to be performed.</li> <li>• Although the establishment of hazard maps on natural disaster risks is in progress on a nationwide level, no tool to assess the estimated damage on a facility on a monetary basis is in place.</li> </ul> <p>[Initiatives]</p> <ul style="list-style-type: none"> <li>• While the Philippines CAT model (for earthquakes and typhoons) was created in 2014 with the support of the World Bank as part of the disaster risk financing support, it is not a tool that can individually assess the damage to facilities of local governments.</li> </ul>	<p>[Sharing of information on natural disaster risks and loss evaluation]</p> <ul style="list-style-type: none"> <li>• Share information on natural disaster risks and expected loss of applicable facilities with policyholders without the natural disaster coverage by using the risk-based premium calculation tool and encourage them to take out insurance in line with disaster risks.</li> <li>• In 2017, information on risks associated with earthquakes, typhoons and flooding will be shared with respect to public schools (local government, DepEd) that correspond to facilities covered in this study to encourage them to secure a budget for widening coverage in 2018.</li> <li>• As for means of information sharing, make use of the insurance renewal process, consultation with DepEd, DPWH, DCLG and other competent authorities, and the nationwide insurance promotion caravan activity handled by GISIS.</li> </ul>		②
2) Poor understanding of public property insurance	Enhancing understanding of public property insurance	Enhancing understanding of public property insurance		
i) Poor understanding of the effectiveness of natural disaster insurance	Improving the procedure for claims payment; enhancing the awareness of the role as disaster risk financing	Improvement of claims payment procedure; enhancement of awareness of the role as disaster risk financing		
a. Require a long period of time after a disaster to receive claims; procedure is cumbersome	<p>[Status]</p> <ul style="list-style-type: none"> <li>• Public property insurance is an insurance system based on actual damage compensation and requires a reasonable period for damage assessment and claims payment procedure.</li> <li>• Although the submission of documents proving the amount of damage after an incident is required, many policyholders cannot adequately explain the amount of damage, and time is required before claims payment is made.</li> <li>• Meanwhile, payments of claims were completed within two months of damage being incurred due to typhoon Yolanda at Tacloban Airport and rice storage warehouses and due to the earthquake in Bohol at the city hall, etc.</li> </ul> <p>[Initiatives]</p> <ul style="list-style-type: none"> <li>• GISIS is planning to implement an automated paperless system for handling processes up to claims payment. Also, GISIS is applying for a systems development budget for implementing the system for property insurance for automobiles.</li> <li>• Although natural disaster parametric insurance for local governments is scheduled to be established for securing post-disaster emergency funds, a program is yet to be executed due to the request for a subsidy for insurance premiums made by the local government to the central government.</li> <li>• To have GISIS' insurance program take root, briefing sessions (PR caravan) are held in six regions across the country every year and will be held also in the future.</li> </ul>	<p>[Continuation of nationwide insurance promotion caravan]</p> <ul style="list-style-type: none"> <li>• Continue to use the insurance promotion caravan to enhance the awareness of the claims payment procedure, required documents and other procedures necessary for prompt claims payment after an accident.</li> <li>• Produce and distribute a brochure to visualize the procedure of insurance and claims payment.</li> <li>• Consider the possibility of introducing simplified damage assessment that makes use of aerial photos, etc. in the case of an outbreak of a large-scale disaster.</li> <li>• Consider the possibility for simplifying the claims payment process.</li> </ul>		③
b. As in the past, will somehow cope without insurance coverage	<p>[Initiatives]</p> <ul style="list-style-type: none"> <li>• GISIS provides explanations on the actual recovery support given through property insurance in the aftermath of the Yolanda typhoon and the Bohol earthquake at times of sharing information with related agencies.</li> </ul>	<p>[Information sharing through the nationwide insurance promotion caravan]</p> <ul style="list-style-type: none"> <li>• LDRRM funding may be used for premium payment on natural disaster insurance, as provided for in Sec. 21 of NDRRM Act No. 10121. This reflects the government policy of covering the financial requirement to cope with disaster by preparing natural disaster insurance, etc., not by government funding. Share information in the insurance promotion caravan and in the insurance renewal process.</li> <li>• [Consider revision of deductible provision concerning natural disasters]</li> <li>• Revise the existing deductible provision concerning natural disasters for typhoon and flooding, paying the insurance claim on a smaller-scale disaster to accrete the use of insurance and to raise awareness of its availability.</li> </ul>		④
c. Expect to obtain central government funding for recovery after a disaster, and more advantageous to use this funding	-	<p>[Information sharing through the nationwide insurance promotion caravan]</p> <ul style="list-style-type: none"> <li>• Post-disaster support by the central government and donors is uncertain in terms of its possibility, size and timing, in the meanwhile, property insurance can respond to financial needs for restoration (a reliable risk-transferring measure).</li> <li>• Explain by continuing in the insurance promotion caravan.</li> </ul>		⑤
ii) Poor understanding of premium payment	Promoting understanding of premium payment	Enhancement of understanding of premium payment		
a. LDRRM funding cannot be appropriated to insurance premiums / LDRRM funding is insufficient	<p>[Status]</p> <ul style="list-style-type: none"> <li>• LDRRM funds may be appropriated to premium payment.</li> <li>• LDRRM funding may be used for advance disaster prevention activities, including premium payment, as provided for in RA No. 10121, and more people are understanding this.</li> <li>• On the other hand, the funds are actually used preferentially for advance purchasing of goods for emergency response and are not for taking out insurance.</li> </ul>	<p>[Information sharing through NDRRMC and PR caravan]</p> <ul style="list-style-type: none"> <li>• Encourage the need to take out insurance coverage and to secure a budget for insurance premiums by promoting awareness of natural disaster risks.</li> </ul>		⑥
b. Adjustment of replacement costs would increase insured amount and result in higher premiums even if the premium rate is unchanged	-	<p>[Reduction in the premium rate by the risk-based premium rate calculation tool]</p> <ul style="list-style-type: none"> <li>• GISIS should explain to agencies and DBM that the use of insurance is a reasonable risk transfer strategy commensurate with the estimated financial cost in the event of a disaster and that investment in DRR can result in reduced premium rates.</li> <li>• Present the scope of premium rate discounts based on investment in DRR to policyholders with reference to the risk-based insurance premium calculation tool.</li> </ul>		⑦
iii) Poor understanding of underinsurance	Promoting understanding of the contents of GISIS insurance policies	Promoting understanding of GISIS insurance policies		
a. No awareness that policies can reduce claims paid due to underinsurance	<p>[Status]</p> <ul style="list-style-type: none"> <li>• GISIS encourages policyholders to perform appraisal assessment of the value of insurance every three years although it is not compulsory.</li> <li>• It is the responsibility of policyholders to declare appropriate replacement costs as the value of insurance.</li> <li>• GISIS does not keep track of underinsurance, and it is only when an incident subject to claims payment occurs that GISIS tracks replacement costs based on a report from a third-party adjuster.</li> </ul>	<p>[Use of the nationwide insurance promotion caravan to promote understanding of insurance policies]</p> <ul style="list-style-type: none"> <li>• Utilize insurance promotion caravan and JCM to explain regulations on underinsurance and the possible adverse impact occur at the time of claims payment.</li> <li>• Promote the awareness of concerned agencies on insurance by utilizing NDRRMC.</li> <li>• Share the information that underinsured parties are paid reduced claims even in the small-scale disaster.</li> </ul>		⑧
b. Belief that coverage is sufficient, even if underinsured, due to low frequency of accidents causing total loss	-			⑨
c. Want minimum necessary insurance	<p>[Status]</p> <ul style="list-style-type: none"> <li>• GISIS currently underwrites at insurance rates based on PIRA tariff and cannot assess the estimated damage amount based on natural disaster risk.</li> </ul>	<p>[Designing the contents of natural disaster insurance coverage by using a risk-based insurance premium calculation tool]</p> <ul style="list-style-type: none"> <li>• Explain to the agencies concerned that policies can be made commensurate with the risks by setting sublimits for each class of disaster based on replacement costs adjusted with reference to losses by class and frequency of disaster using the insurance premium calculation tool.</li> </ul>		⑩

Annex F: Fundamental Issues, Current Status and Initiatives Taken to Date, and Solutions				Item No.
Cause	Current Status and Initiatives Taken to Date by GSIS & Related Agencies	Solution		
2) Public property insurance scheme not functioning properly				
i) Compulsory coverage of public infrastructure not properly enforced	Enforcement of compulsory coverage by public property insurance by means of legal amendment	Enforcement of compulsory coverage by public property insurance by means of legal amendment		
a. RA No. 656 Property Insurance Act covers only central government and LGU (1st class and above) facilities with respect to municipalities	Expansion of assets subject to compulsory coverage by means of legal amendment [Initiatives] -Expansion of assets subject to compulsory coverage to include all LGU assets by means of amendment to the Property Insurance Act RA No. 656. -Congressman Ting applied for deliberation of the amendment of bill RA No. 656 to the House of Representatives in the current 17th Congress. -The amendment bill calls for expanding compulsory coverage to include all government agencies with the exception of those currently excluded. -According to GSIS, the amendment bill is expected to pass as a revised law by June 2017 which is when the budget proposal for FY2018 is due. -Note, however, that although the said bill was submitted by the same congressman in the 16th Congress, deliberation could not be completed and the bill did not pass at the time.	Expansion of assets subject to compulsory coverage by means of legal amendment [Prepare Implementation rules and regulations (IRR) after legal amendment] -Prepare provisions for IRR that will be made by GSIS after RA656 is revised.		㉔
b. RA No. 656 Property Insurance Act does not define the scope of assets subject to insurance coverage		[Enforcement of compulsory coverage for natural disaster] -Share information on natural disaster with the risk-based premium calculation tool, explain the need of natural disaster coverage to new policyholders. -RA No. 656 calls for insurance coverage for damage to assets that may arise, as indicated in the COA Memorandum (December 14, 2016). -Explain the need to new policyholders without natural disaster coverage, making use of the insurance renewal process.		㉕
ii) Legal compliance inconsistent	Promotion of enforcement of legal compliance			
a. Legal compliance is inconsistent, with even facilities required by law to have coverage actually being uninsured	[Initiatives] -DCLG (Department of Communication and Local Governments) sent out a notice along with a list of uninsured agencies to uninsured agencies encouraging them to take out insurance (May 2016). -Commission of Audit (COA) issued a notice to its auditors (December 2016) to check the compliance status of government agencies with RA No. 656 when conducting audits.	[Monitoring of improvement status after the COA notice] -Monitor the status of insured rate after the notice was issued by COA. -The monitoring process should identify natural disaster coverage by type.		㉖
b. No proper list of uninsured agencies	[Status] -GSIS has established a list of uninsured parties by government agency. -Although the list includes those without the coverage of fire, liability and automobile insurance, GSIS cannot confirm the status of insured/uninsured parties with respect to natural disaster coverage through its management system.	[Establishment of a list of agencies without natural disaster insurance coverage] -GSIS has established a list of uninsured parties by government agency. -Identify the insured with fire coverage but no natural disaster coverage on the list to help promote widening coverage when insurance is renewed.		㉗
c. No arrangements for penalizing uninsured agencies	[Initiatives] -Penalty regulations applied for uninsured parties will be clarified in the RA656 revision.	[Prepare Implementation rules and regulations (IRR) after legal amendment] -Clarify penalty regulations applied for uninsured parties in IRR after the RA656 revision.		㉘
2) Replacement costs not calculated properly				
i) No requirements or regulations concerning appraisal of replacement costs	Creation of system for the appraisal of replacement costs [Status] -GSIS encourages policyholders to assess the value of insurance every three years although GSIS has no authority to make this compulsory. -While GSIS insurance is compulsory, underwriting cannot be rejected. For this reason, the value of insurance declared deviates considerably from replacement costs, and even if the deviation is identified, there is no rejecting the underwriting.	[Embed incentives in an insurance policy to encourage elimination of underinsurance] -With respect to the application of insurance value based on the appraisal of replacement costs, consider relaxing underinsurance requirements (underinsurance regulations will not be applied up to 80% of replacement costs) and discounting insurance premiums. [Mandate assessing replacement costs] -Provide for guidelines on appraising replacement costs in Implementation Rules and Regulations (IRR) when the legal amendment to RA No. 656 Act is enforced.		㉙
ii) No system for keeping track of replacement costs	[Status] -No method to confirm whether the value of insurance declared by a policyholder covers the replacement cost.	[Confirmation of replacement costs by GSIS] -The replacement cost of general buildings can be estimated from the construction market unit prices depending on the size and structure of the building. -Establish a simplified replacement cost checking system as an U/W tool.		㉚
iii) No budget for assessing replacement costs	[Status] -With the exception of transport infrastructure, a budget for appraisal of insurance value based on replacement costs is not accounted for under the annual budget.	[Evaluation of replacement costs by the insured] -At MRT3 and NAJA, there is no impediment to using outside vendors instead of in-house production. It is possible to assess replacement costs every three years and to perform appraisal budgeting. -Both evaluating replacement costs every three years and preparing a budget for appraisal are possible. -With respect to schools, DPWH's standard unit prices set based on standard class are available for use. -With respect to public facilities and office buildings of government agencies, DPWH which undertakes the role of constructing public facilities establishes an organization that assesses replacement costs. (National Building Department of DPWH, which is responsible for the maintenance of government buildings, can assume the role.)		㉛

*ANNEX H      Operation Manual for  
Risk-based Premium Rate Calculation  
Tool*



Data Collection Survey on the Insurance  
Mechanism for Incentivizing Disaster  
Resilient Public Infrastructure in Metro  
Manila  
Risk Based Premium Rate Calculation Tool

- QGIS and Tool Installation -

March 2017  
JICA Study Team

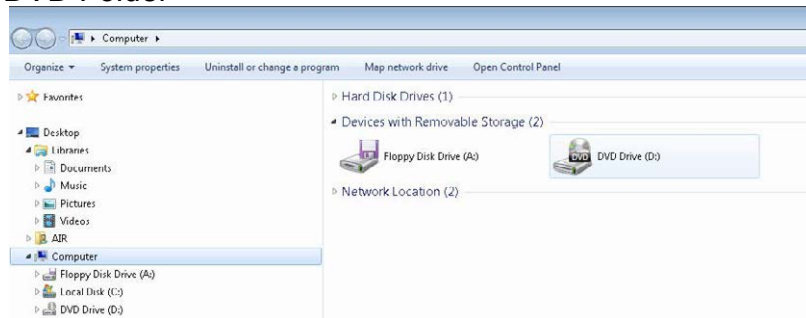
## Outline

1. Preparation for Installation
2. QGIS Installation
3. Tool Installation
4. How to Calculate Risk Based Price

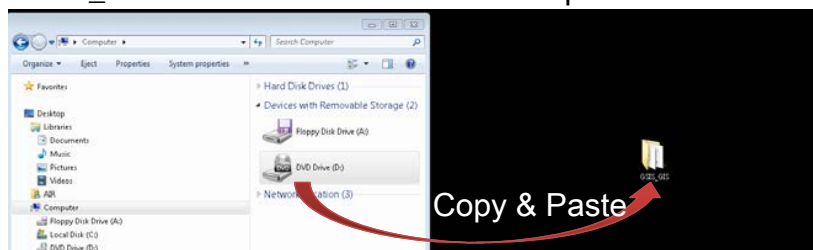
# 1. Preparation for Installation

➤ Step.1  
Insert DVD-R to your Laptop PC

➤ Step.2  
Open DVD Folder

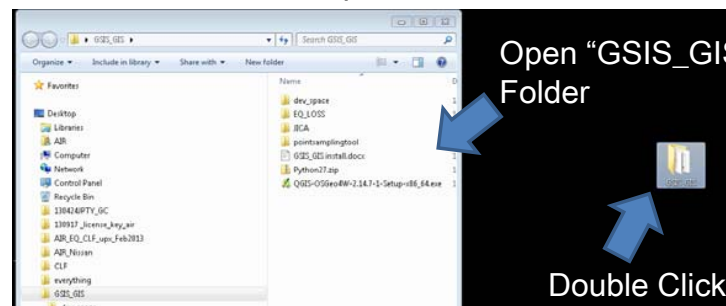


➤ Step.3  
You can see “GSIS\_GIS” Folder in “D” Drive.  
Copy “GSIS\_GIS” Folder and Paste to Desktop

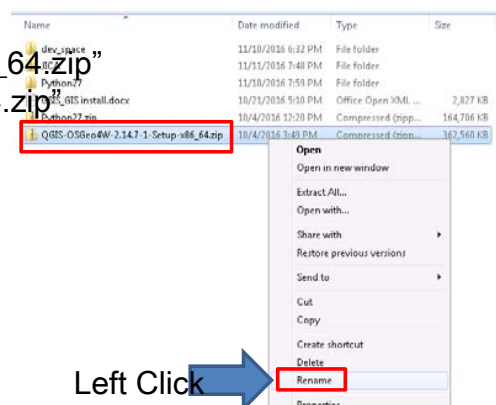


# 2. QGIS Installation

➤ Step.1  
Open “GSIS\_GIS” Folder on Desktop



➤ Step.2  
Left one Click “QGIS-OSGeo4W-2.14.7-1-Setup-x86\_64.zip”  
Right Click “QGIS-OSGeo4W-2.14.7-1-Setup-x86\_64.zip”  
Left Click “Rename”  
Rename  
from “QGIS-OSGeo4W-2.14.7-1-Setup-x86\_64.zip”  
to “QGIS-OSGeo4W-2.14.7-1-Setup-x86\_64.exe”



➤ Step.3

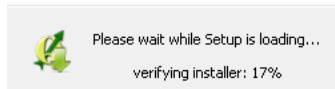
Double Click “QGIS-OSGeo4W-2.14.7-1-Setup-x86\_64.exe”

Name	Date modified	Type	Size
dev_space	11/10/2016 6:32 PM	File folder	
EQ_LOSS	11/10/2016 6:32 PM	File folder	
JICA	11/10/2016 6:32 PM	File folder	
pointsamplingtool	11/10/2016 6:32 PM	File folder	
GIS_GIS install.docx	10/21/2016 5:10 PM	Office Open XML ...	2,827 KB
Python27.zip	10/4/2016 12:20 PM	Compressed (zipp...	164,706 KB
QGIS-OSGeo4W-2.14.7-1-Setup-x86_64.exe	10/4/2016 3:49 PM	Application	362,560 KB

Double Click

➤ Step.4

Setup is loading



➤ Step.5

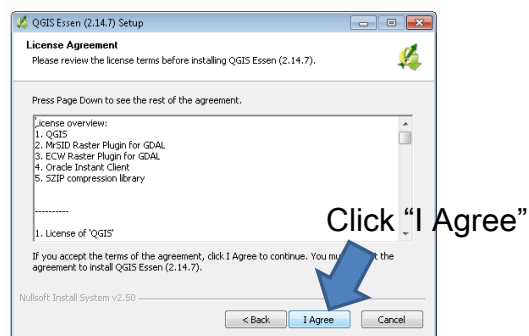
Click “Next” Button



➤ Step.6

Read License Agreement

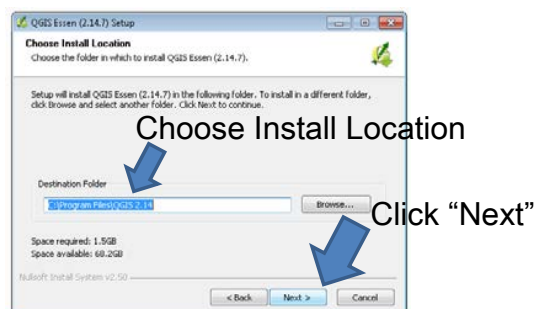
Click “I Agree” Button



➤ Step.7

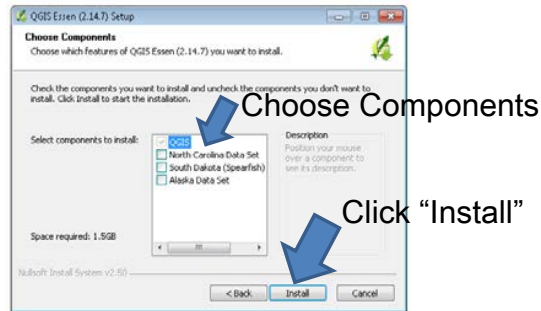
Choose Install Location

Click “Next” Button

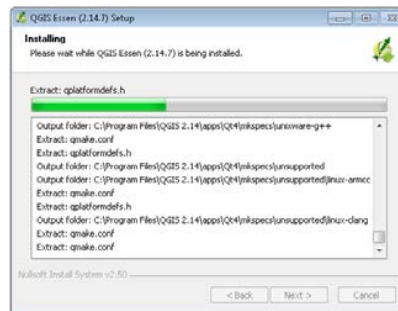


In this Training, please choose “C:\Program Files\QGIS 2.14” (Default)

- Step.8
- Choose Components
- Click “Install” Button



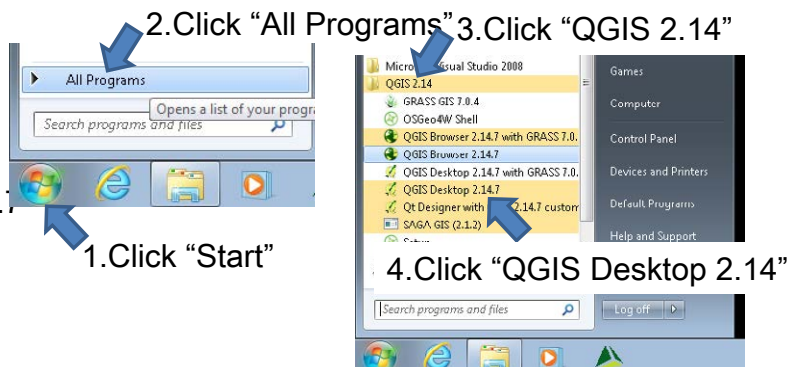
- Step.9
- Start Installation
- About 10 minutes



- Step.10
- Click “Finish” Button



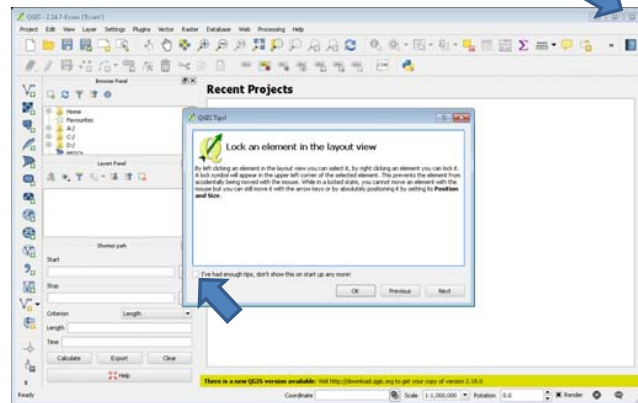
- Step.11
- 1.Click “Start”
- 2.Click “All Programs”
- 3.Click “QGIS 2.14”
- 4.Click “QGIS Desktop 2.14.7”



- Step.12  
Close “QGIS”



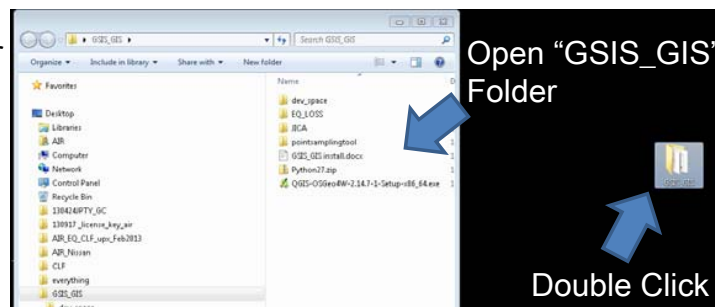
2.Close



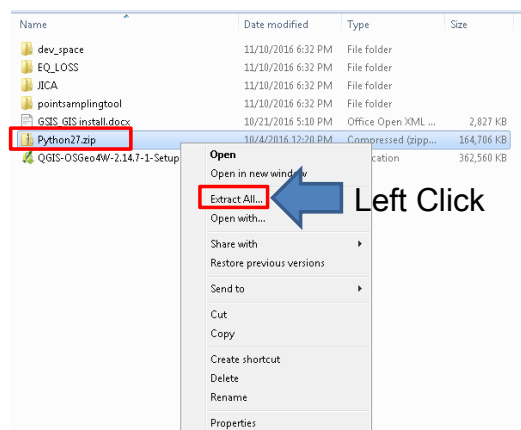
**QGIS Installation is finished!!**

### 3. Tool Installation

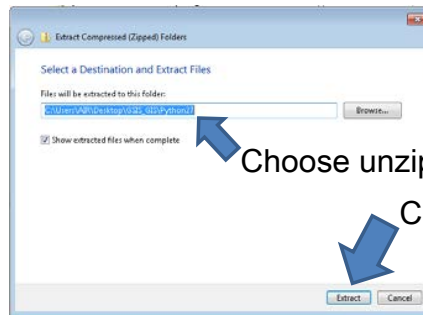
- Step.1  
Open “GSIS\_GIS” Folder  
on Desktop Again



- Step.2  
Left Click “Python27.zip”  
Right Click “Python27.zip”  
Left Click “Extract All...”



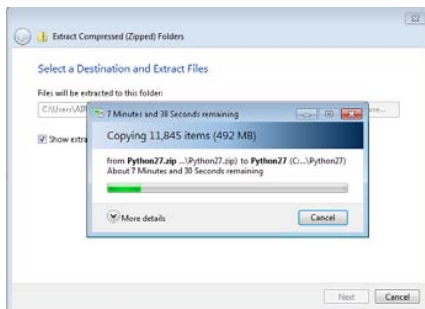
- Step.3  
Choose unzip Location  
Click “Extract” Button



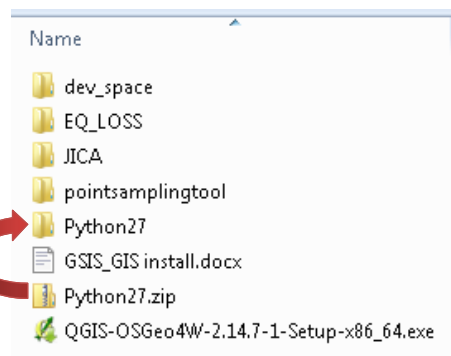
Choose unzip Location  
Click “Extract”

In this Training, please choose “C:\Users\%UserName\Desktop\GIS\_GIS\Python27” (Default)

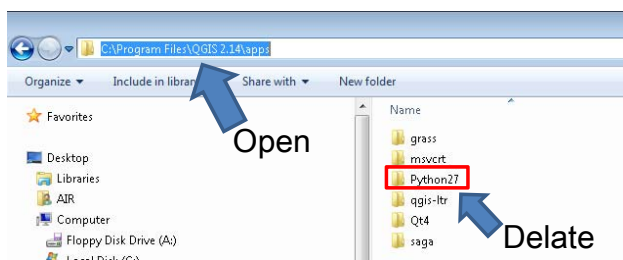
- Step.4  
Start Unzip



Unzipped

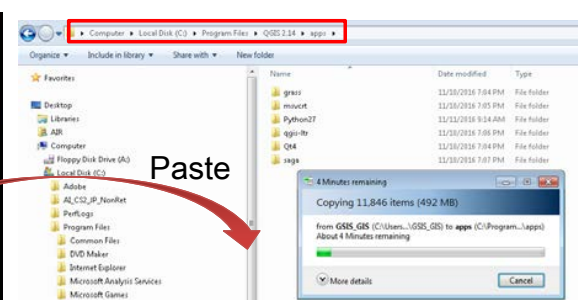
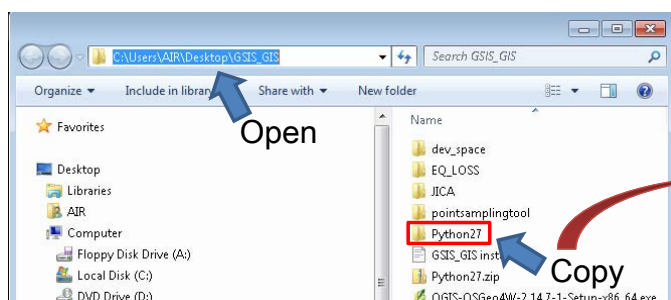


- Step.5  
Open “C:\Program Files\QGIS 2.14\apps” Folder  
Delete “Python27” Folder



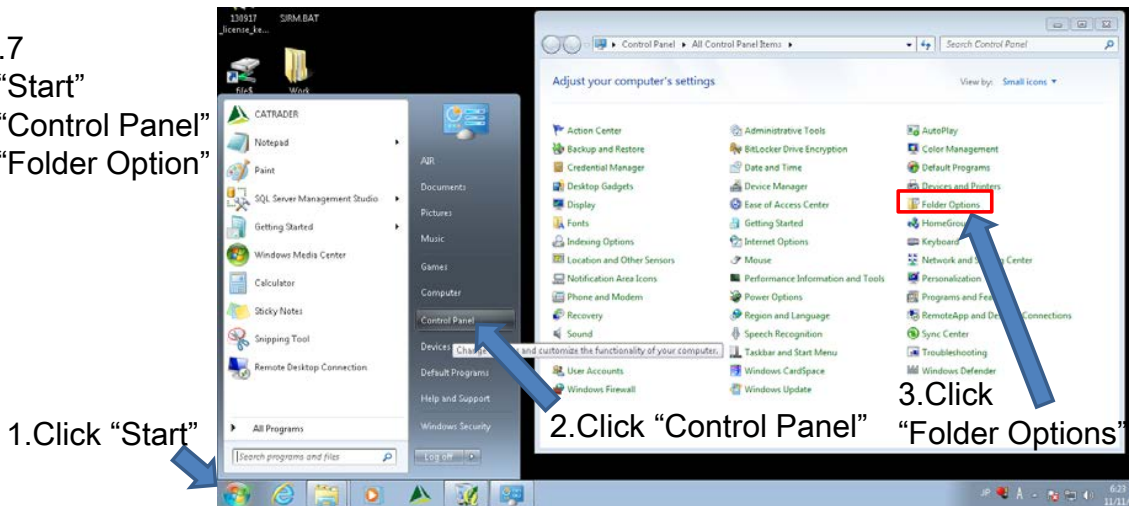
Click “Yes”

- Step.6  
Open “GIS\_GIS\Python27” Folder on Desktop and Copy “Python27” Folder  
Paste “Python27” Folder to “C:\Program Files\QGIS VER\apps”



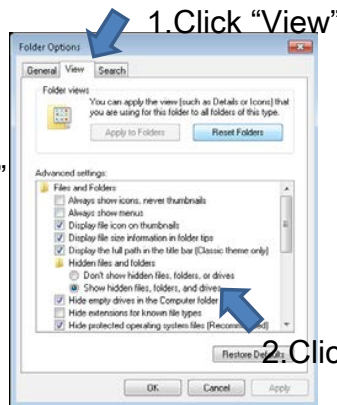
➤ Step.7

- 1.Click “Start”
- 2.Click “Control Panel”
- 3.Click “Folder Options”



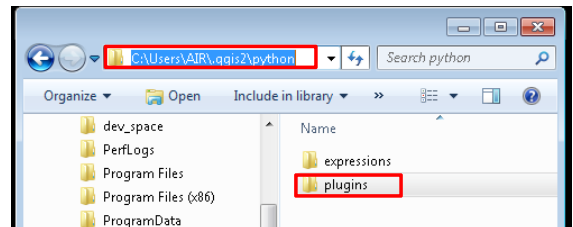
➤ Step.8

- 1.Click “View”
- 2.Click “Show hidden files, folders, ....”



➤ Step.9

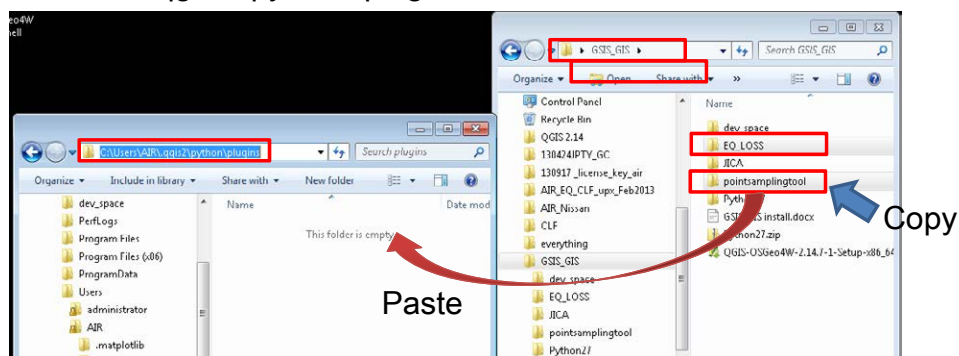
Open “C:¥Users¥User Name¥.qgis2¥python”  
Make “plugins” Folder



➤ Step.10

Open “C:¥Users¥AIR¥.qgis2¥python¥plugins” Folder  
Open “GIS\_GIS¥” Folder on Desktop and Copy “EQ\_LOSS”  
and “pointsamplingtool” Folder

Paste “EQ\_LOSS” and “pointsamplingtool” Folder  
to “C:¥Users¥AIR¥.qgis2¥python¥plugins” Folder

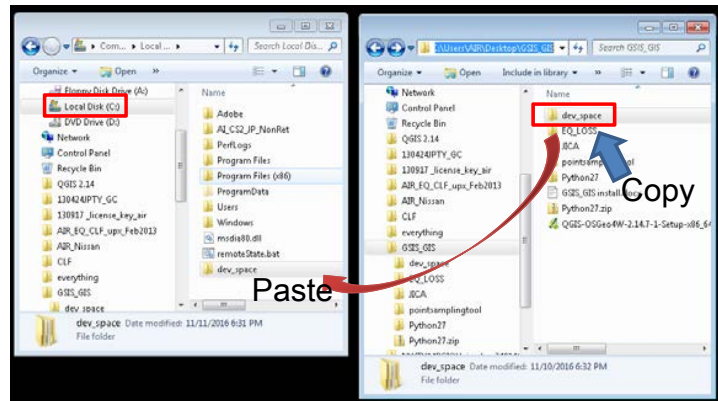




➤ Step.9

Open “GSIS\_GIS” Folder on Desktop and Copy “dev\_space” Folder

Paste “dev\_space” Folder to “C:¥”



➤ Step.10

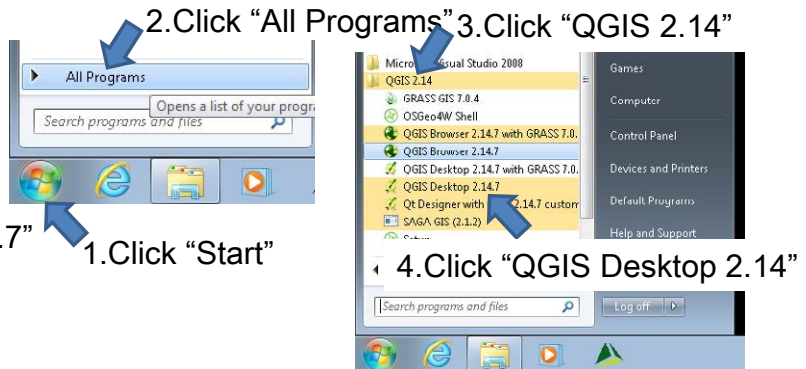
Open QGIS

1.Click “Start”

2.Click “All Programs”

3.Click “QGIS 2.14”

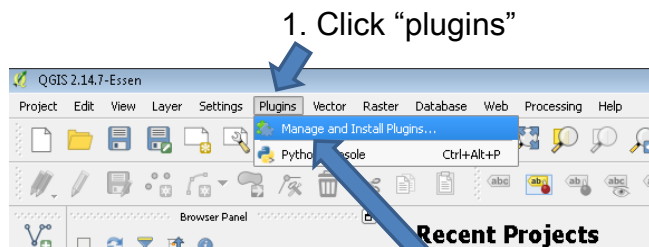
4.Click “QGIS Desktop 2.14.7”



➤ Step.11

Click “plugins”

Click “Manage and Install Plugins”

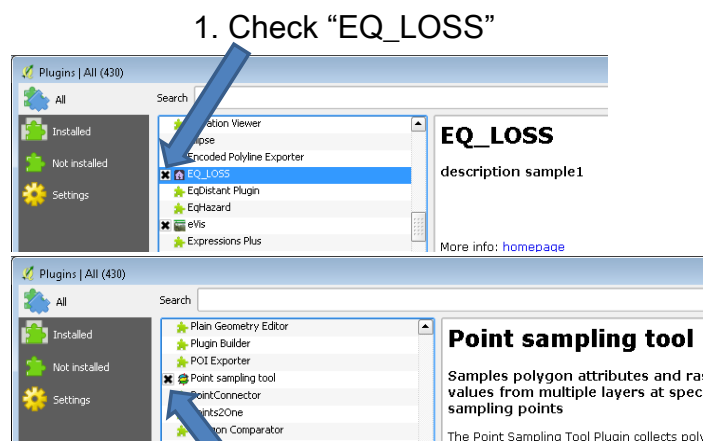


2. Click “Manage and Install Plugins”

➤ Step.10

1. Check “EQ\_LOSS”

2. Check “pointsamplingtool”

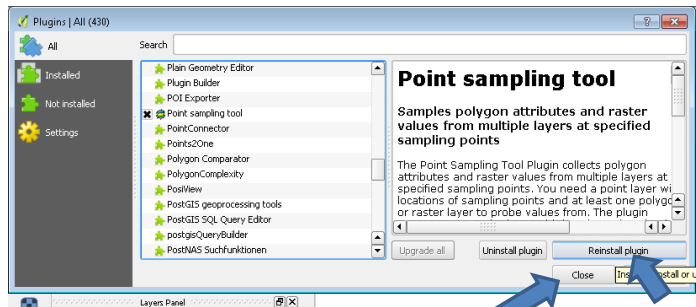


2. Check “pointsamplingtool”



#### ➤ Step.11

- 1.Click “Reinstall plugin”
- 2.Click “Close”

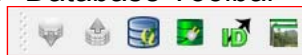


2.Click “Close”

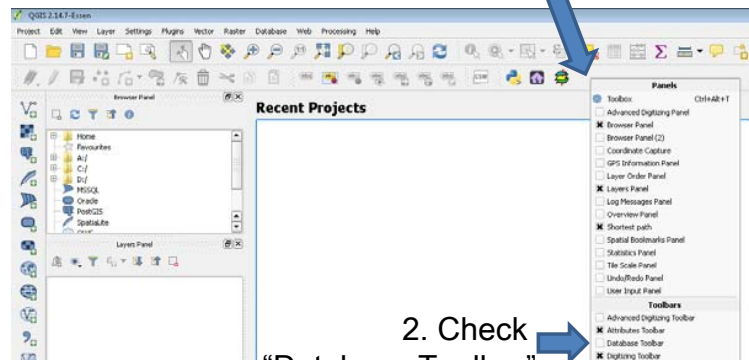
1.Click “Reinstall plugin”

#### ➤ Step.12

1. Left Check around Tool bar
2. Check “Database Toolbar”
3. Show “Database Toolbar”



1.Left Check around here



2. Check  
“Database Toolbar”

**Tool Installation is finished!!**

## 4. How to Calculate Risk Based Price

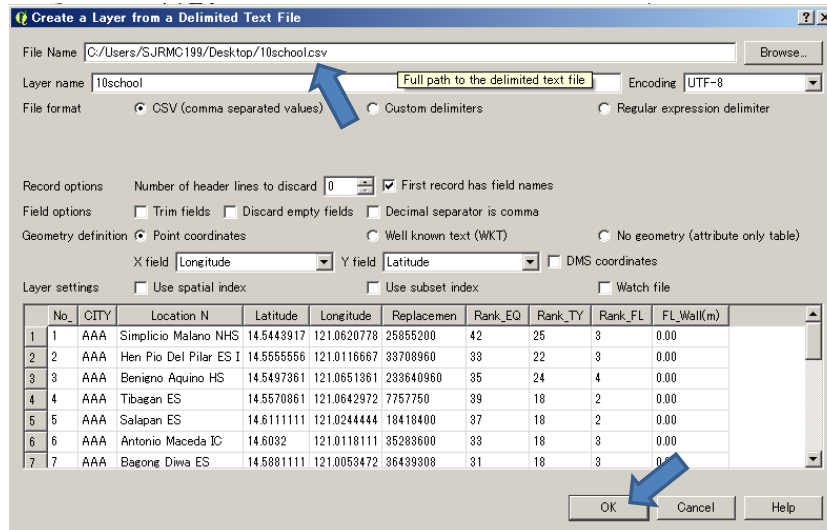
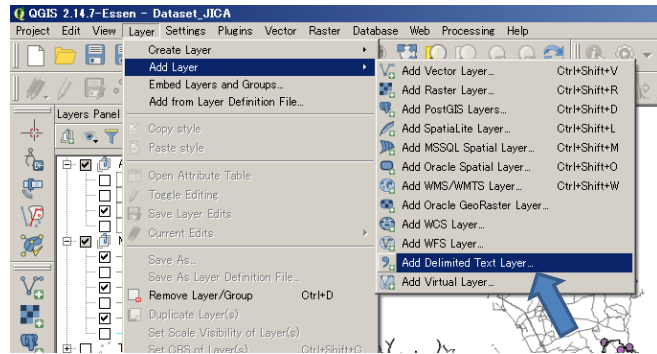
#### ➤ Step.1

- 1.Make Import Data(Exposure data) using Microsoft Excel
- 2.Save the exposure data by csv format(eg:10school.csv)

	A	B	C	D	E	F	G	H	I	J	K
1	No_	CITY	Location N	Latitude	Longitude	Replaceme	Rank_EQ	Rank_TY	Rank_FL	FL_Wall(m)	
2	1	AAA	Simplicio Malano NHS	14.54439	121.0621	25855200	42	25	3	0	
3	2	AAA	Hen Pio Del Pilar ES I	14.55556	121.0117	33708960	33	22	3	0	
4	3	AAA	Benigno Aquino HS	14.54974	121.0651	2.34E+08	35	24	4	0	
5	4	AAA	Tibagan ES	14.55709	121.0643	7757750	39	18	2	0	
6	5	AAA	Salapan ES	14.61111	121.0244	18418400	37	18	2	0	
7	6	AAA	Antonio Maceda IC	14.6032	121.0118	35283600	33	18	3	0	
8	7	AAA	Bagong Diwa ES	14.58811	121.0053	36439308	31	18	3	0	
9	8	AAA	Antonio Luna ES	14.62676	120.9817	14048320	37	22	2	0	
10	9	AAA	Victoriano Mapa HS	14.59793	120.9923	1.44E+08	31	22	4	0	
11	10	AAA	A.Daeto ES	14.71139	120.9422	19937664	35	24	3	0	
12	11	BBB	Simplicio Malano NHS	14.54439	121.0621	25855200	42	25	3	1	
13	12	BBB	Hen Pio Del Pilar ES I	14.55556	121.0117	33708960	42	25	3	1	
14	13	BBB	Benigno Aquino HS	14.54974	121.0651	2.34E+08	42	25	4	1	
15	14	BBB	Tibagan ES	14.55709	121.0643	7757750	36	21	2	1	
16	15	BBB	Salapan ES	14.61111	121.0244	18418400	36	21	2	1	
17	16	BBB	Antonio Maceda IC	14.6032	121.0118	35283600	42	25	3	1	
18	17	BBB	Bagong Diwa ES	14.58811	121.0053	36439308	42	25	3	1	
19	18	BBB	Antonio Luna ES	14.62676	120.9817	14048320	36	21	2	1	
20	19	BBB	Victoriano Mapa HS	14.59793	120.9923	1.44E+08	42	25	4	1	

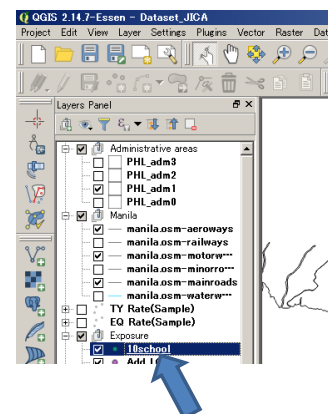
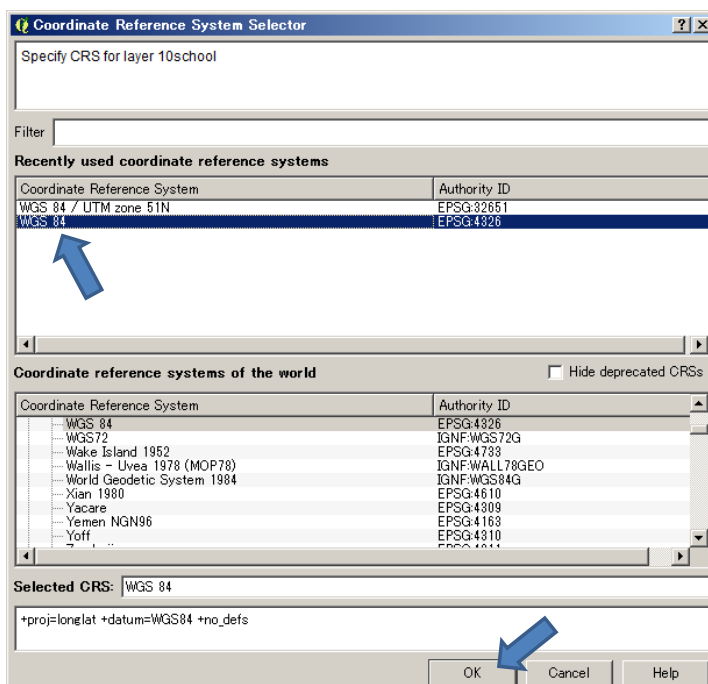
### ➤ Step.3

- Import Exposure data to Tool
- Open the QGIS file from JICA folder
- Click “Layer”
- Click “Add Layer”
- Click “Add Delimited Text Layer”
- Input the Exposure file Name(csv)
- Click “ok”



### ➤ Step.3(Continue)

- Select the coordinate system “WGS84”
- Click “ok”
- Exposure import is finished



➤ Step.4

Translate exposure data to calculation

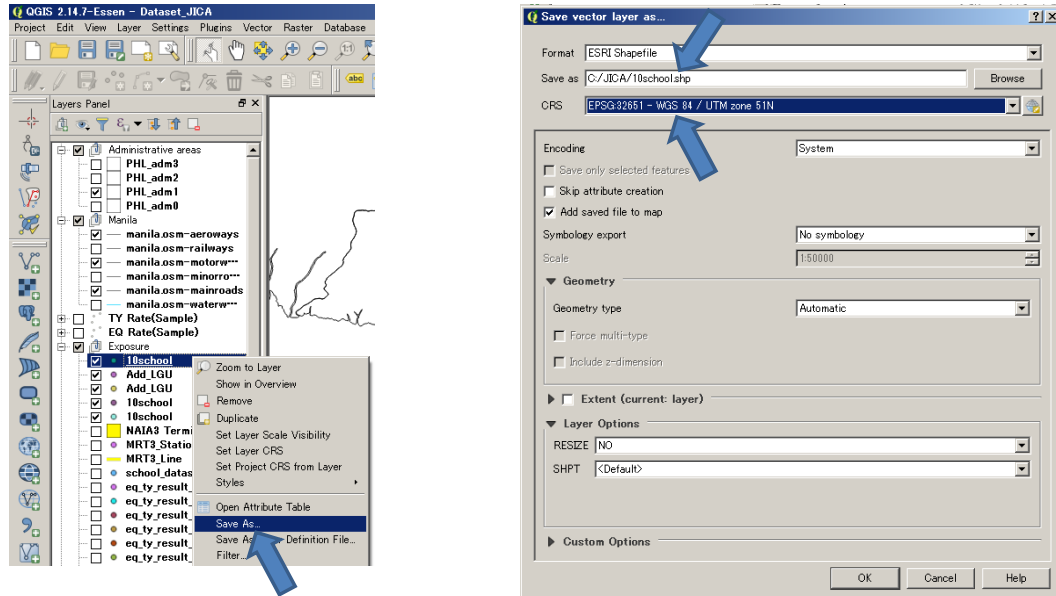
Left click imported exposure data Layer

Click “Save as”

Input the translate file name(eg:C:/JICA/10school.shp)

Choose ‘EPSG:32651 – WGS84 / UTM zone 51N’

Click “ok”



➤ Step.5

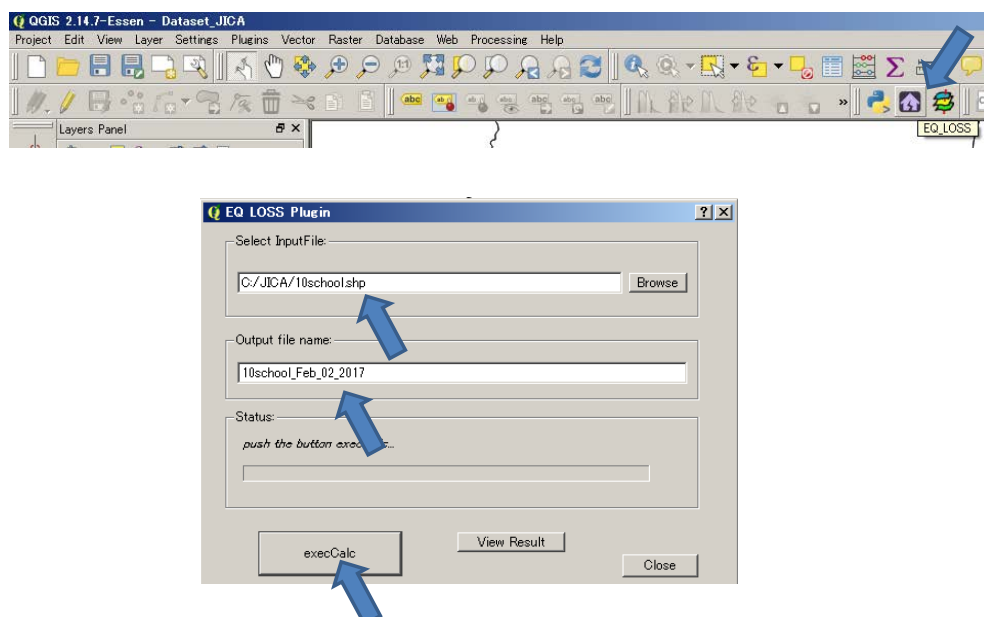
Calculate insurance premium rate

Click “EQ\_LOSS” icon

Input the exposure file name(eg:C:/JICA/10school.shp)

Input the output file name(eg:10school\_Feb\_02\_2017)

Click “execCalc”



### ➤ Step.5

Calculate insurance premium rate

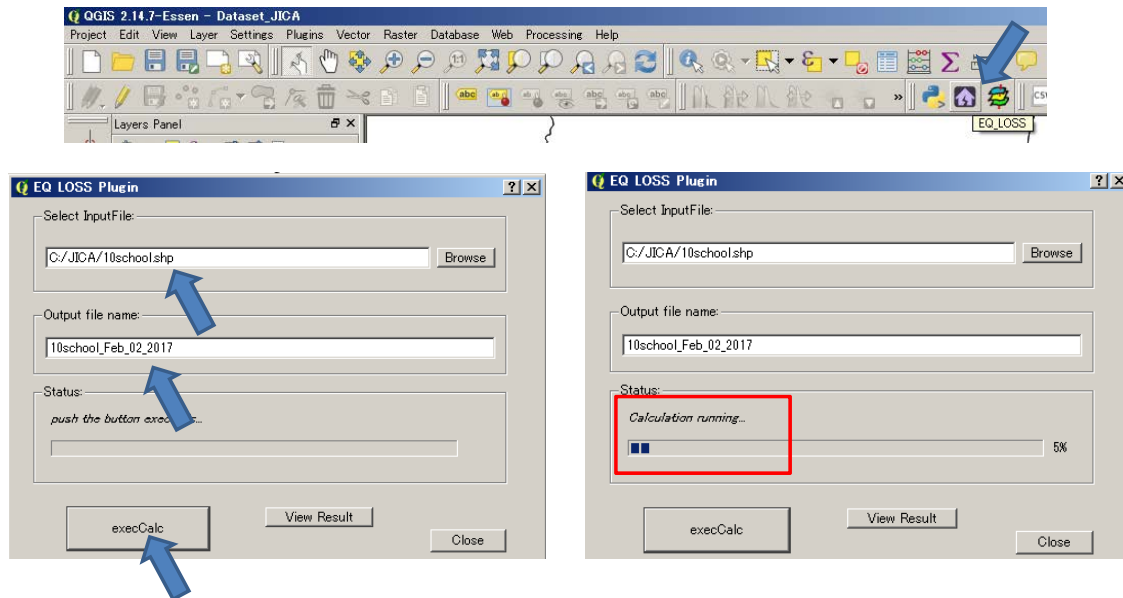
Click “EQ\_LOSS” icon

Input the exposure file name(eg:C:/JICA/10school.shp)

Input the output file name(eg:10school\_Feb\_02\_2017)

Click “execCalc”

Calculation will run



### ➤ Step.6

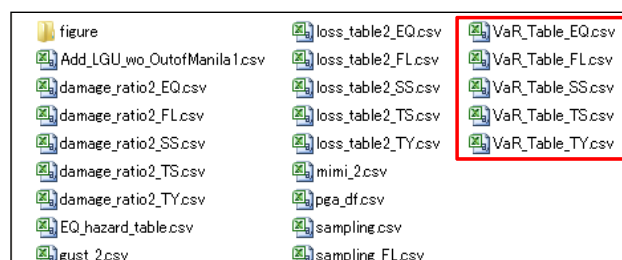
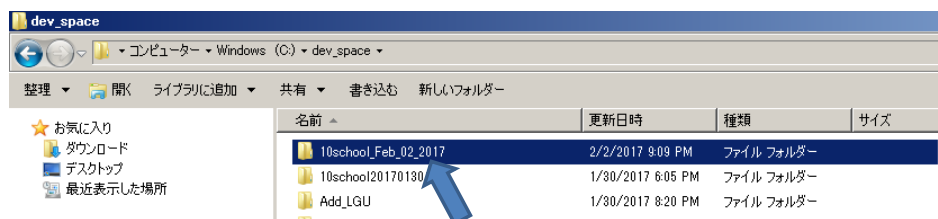
Check the results after calculation

Open the “C:\dev\_space\output file name” Folder






Output file name is named by the step.5

“VaR\_Table\_XX.csv” stored VaR table and insurance premium rate

EQ: Earthquake, FL: Flood, SS: Storm Surge, TS: Tsunami, TY: Typhoon



➤ Annex  
“VaR\_Table\_XX.csv” format

		Location1	Location2	Location3	Location4	Total Portfolio		
								
		S00001	S00002	S00003	S00004	Total		
Exceedance of Probability (Year)	1000	9,870,690.51	12,403,994.54	20,298,558.97	13,172,388.17	52,670,733.80	VaR (Value at Risk)	
	500	8,565,917.75	10,936,118.39	17,478,027.07	10,739,305.94	47,408,616.18		
	400	7,952,244.60	10,520,778.46	15,410,274.55	9,840,196.46	44,763,320.33		
	300	6,471,606.86	8,670,946.09	13,072,144.57	7,391,997.05	36,821,248.99		
	200	3,874,840.62	5,387,276.94	10,301,243.91	4,916,756.03	23,101,519.92		
	150	3,161,886.86	4,353,795.26	8,426,615.93	3,842,681.74	19,724,548.77		
	100	2,034,166.68	2,922,777.06	5,621,329.21	2,852,103.23	13,353,830.64		
	50	835,745.97	1,039,517.11	2,111,780.13	972,577.11	5,100,883.47		
AAL		81,765.66	108,260.11	202,130.40	103,938.53	496,094.71	Pure Premium Standard Deviation	
STD		591,500.49	782,610.61	1,287,465.94	773,669.61	3,399,629.20		
Replacement Cost		27,585,000.00	33,569,000.00	54,520,950.00	37,400,467.00	153,075,417.00	Replacement Cost Insurance premium rate	
Rate		0.30%	0.32%	0.37%	0.28%	0.32%		