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APPENDIX

The Work Steps of Land Change Analysis

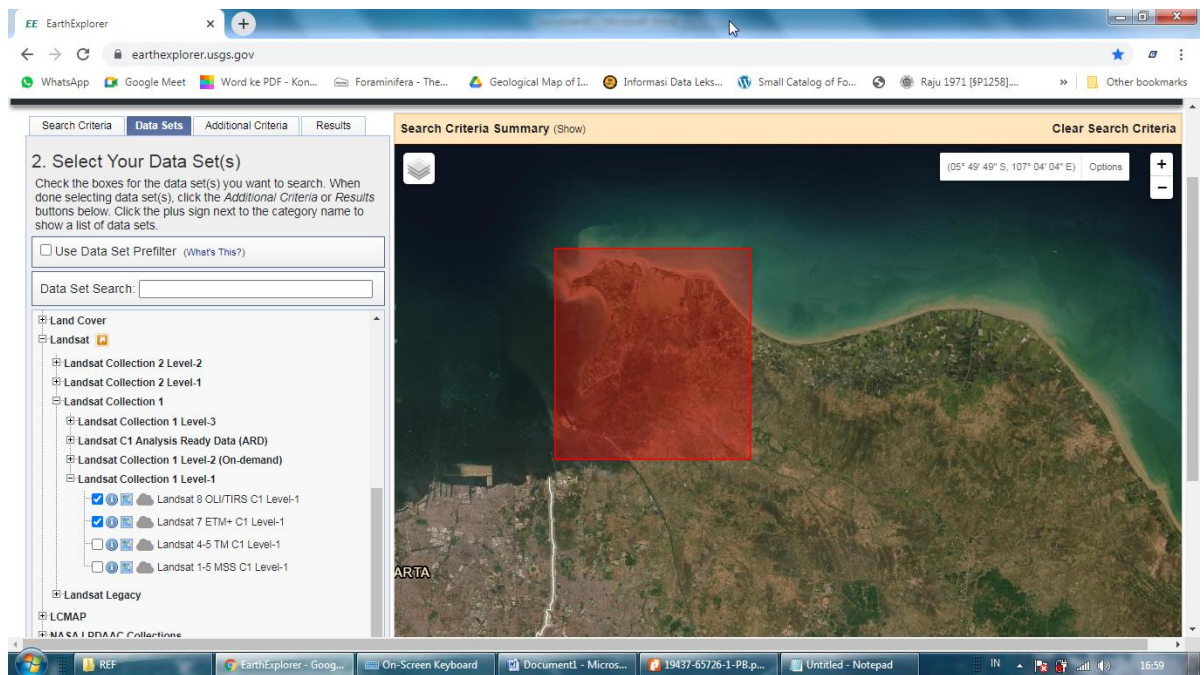
a. Methodology

The type of data used is quantitative data. Quantitative data is information data in the form of numeric or numeric symbols. Based on the number symbols, quantitative calculations can be made to produce a generally accepted conclusion in a parameter. This quantitative data is in the form of vegetation index value obtained from processing of Landsat satellite image data and the area in each classification class. The data used are secondary data in the form of Landsat 7 and Landsat 8 satellite imagery.

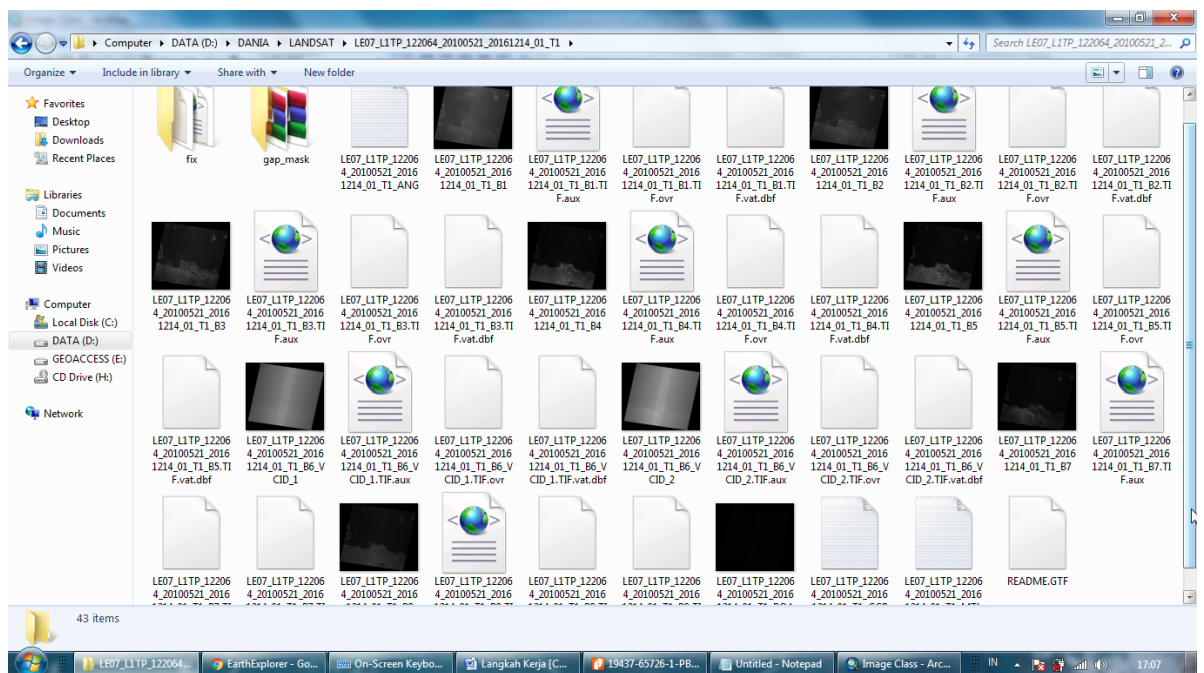
Changes in land cover can be identified by classifying the land cover. The land cover classification class consists of six, namely river bodies, constructed buildings, agriculture, mangrove forests, ponds, sea water / puddles.

b. Retrieval of Landsat Image Data

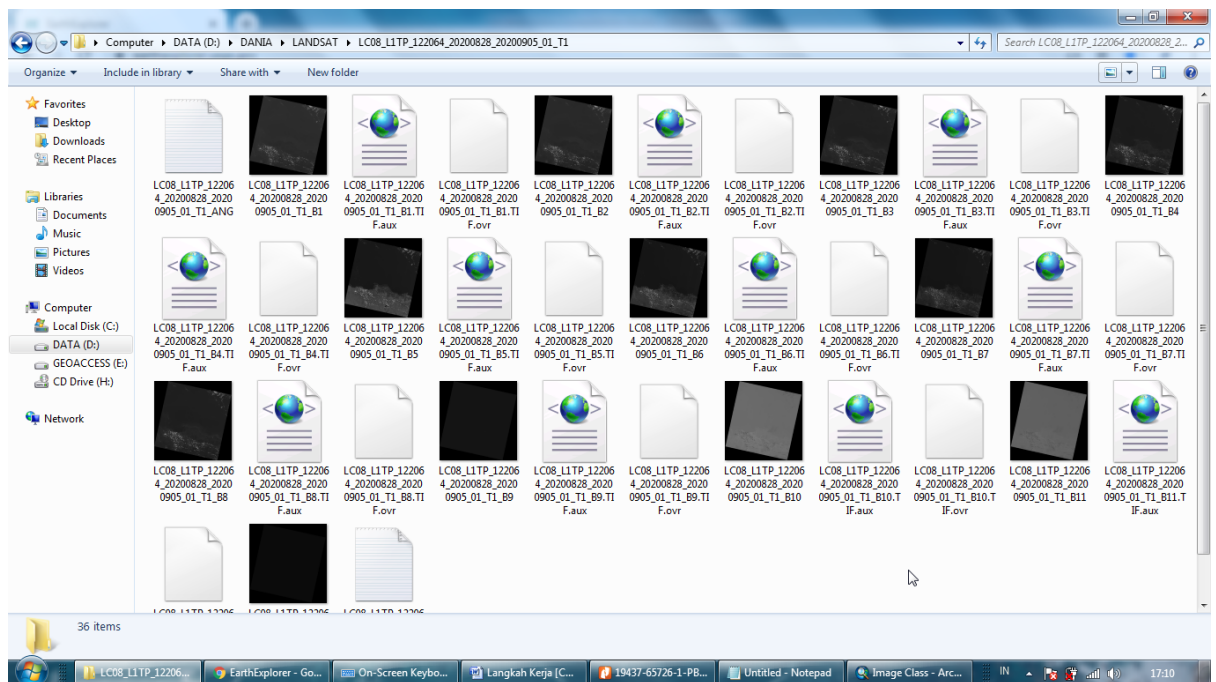
The selection of Landsat image data in this study is because the Landsat image data has a good spatial resolution of 30 meters and a temporal resolution of 16 days so that it is considered sufficient for use in land change. Landsat images in this study were obtained from the United States Geological Survey (USGS).



<https://earthexplorer.usgs.gov/>



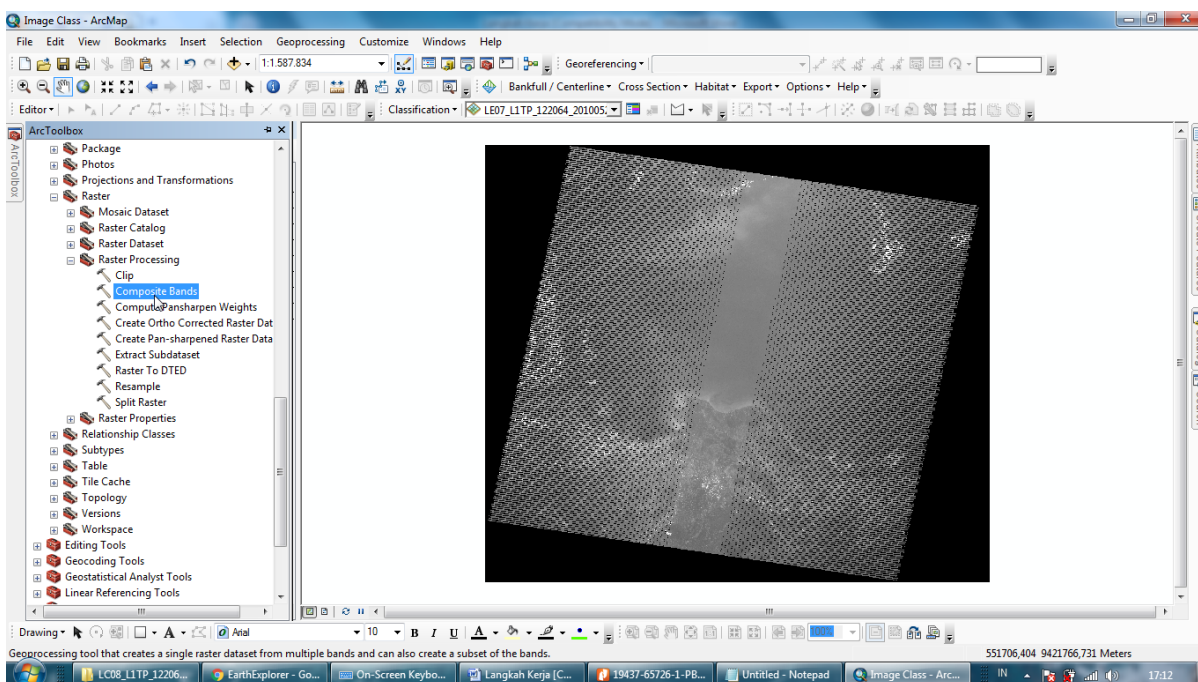
Landsat 7 has 8 Channel Bands [B1-B8]



Landsat 8 has 11 Channel Bands [B1-B11]

c. Land Cover Classification

The land cover classification is carried out using the supervised classification method. This method uses a combination of RGB bands (Red, Green, and Blue). This combination of RGB bands is obtained from the composite results of band 1 blue, band 2 green, and band 3 red for Landsat 7 and band 2 blue, band 3 green, and band 4 red for Landsat 8 to get the original color (True Color). The results of the Supervised classification obtain land cover maps according to the Landsat data year.



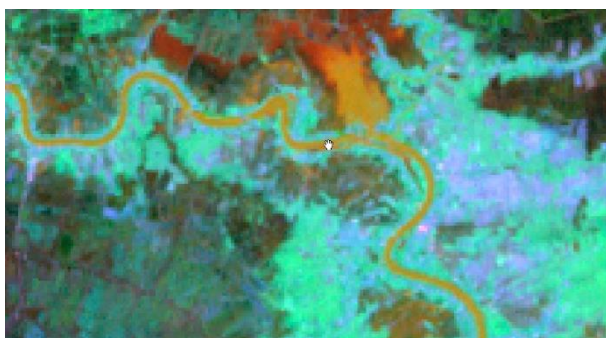
Composite All Channel Bands



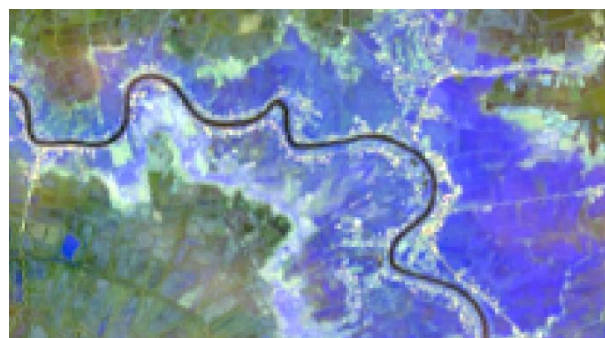
True Color can use Composite Band 3,2,1 on Landsat 7



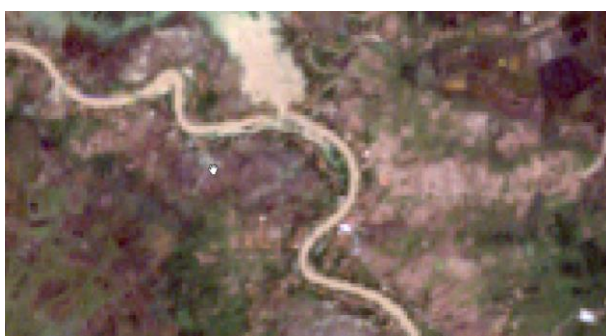
True Color can use Composite Band 4,3,2 on Landsat 8



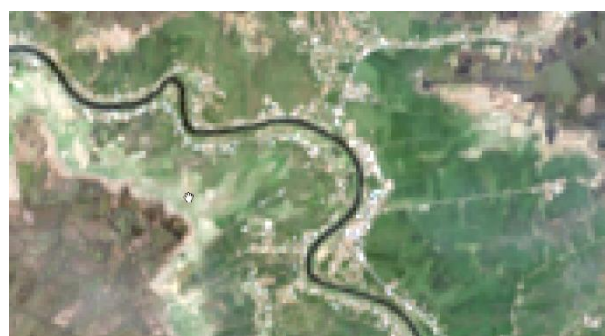
Composite Band 1,4,5 on Landsat 7 with brown color to identify water



Composite Band 1,4,5 on Landsat 8 with dark brown color to identify water



Composite Band 3,2,1 on Landsat 7 with whitish brown color to identify buildings



Composite Band 4,3,2 on Landsat 8 with whitish brown to identify Buildings



Composite Band 5,4,3 on Landsat 7 in green to identify agriculture



Composite Band 6,5,2 in Landsat 8 in green to identify agriculture



Composite Band 5,4,3 on Landsat 7 with blackish blue color to identify ponds



Composite Band 6,5,2 on Landsat 8 with blackish blue color to identify ponds



Composite Band 3,4,5 on Landsat 8 with green highlighter to identify mangroves



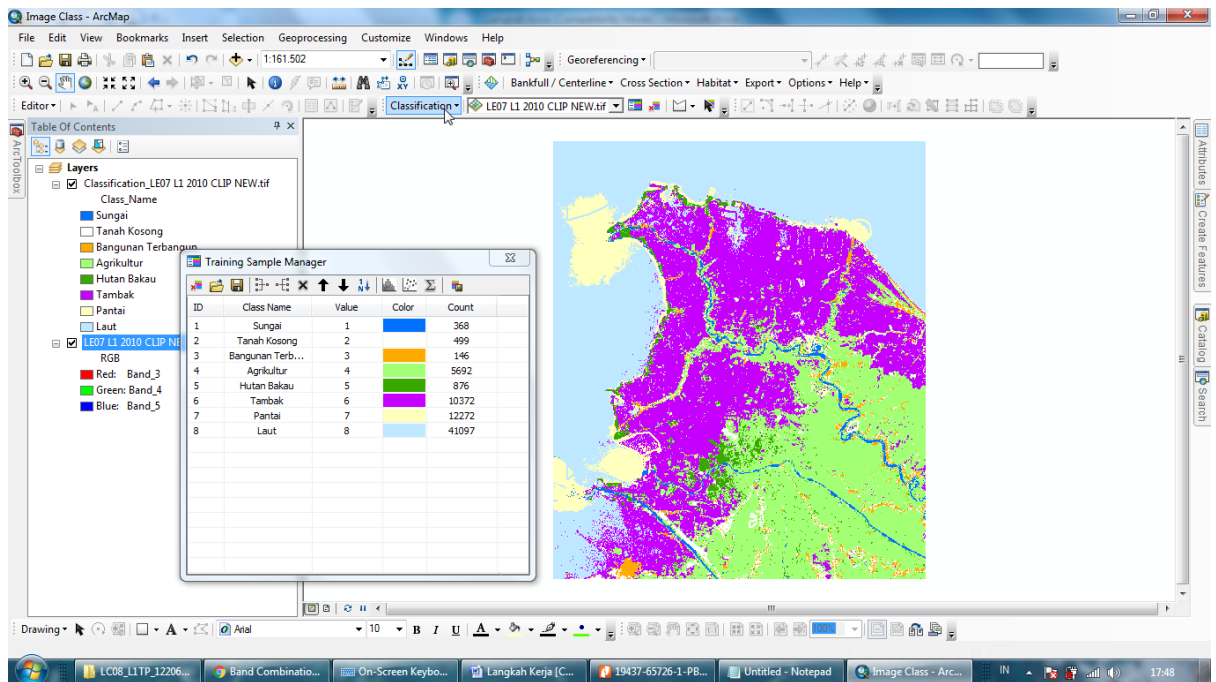
Composite Band 4,5,6 on Landsat 8 with green highlighter to identify mangroves

The screenshot shows the ArcMap interface with a classification legend window open. The legend lists eight classes with their corresponding colors and counts:

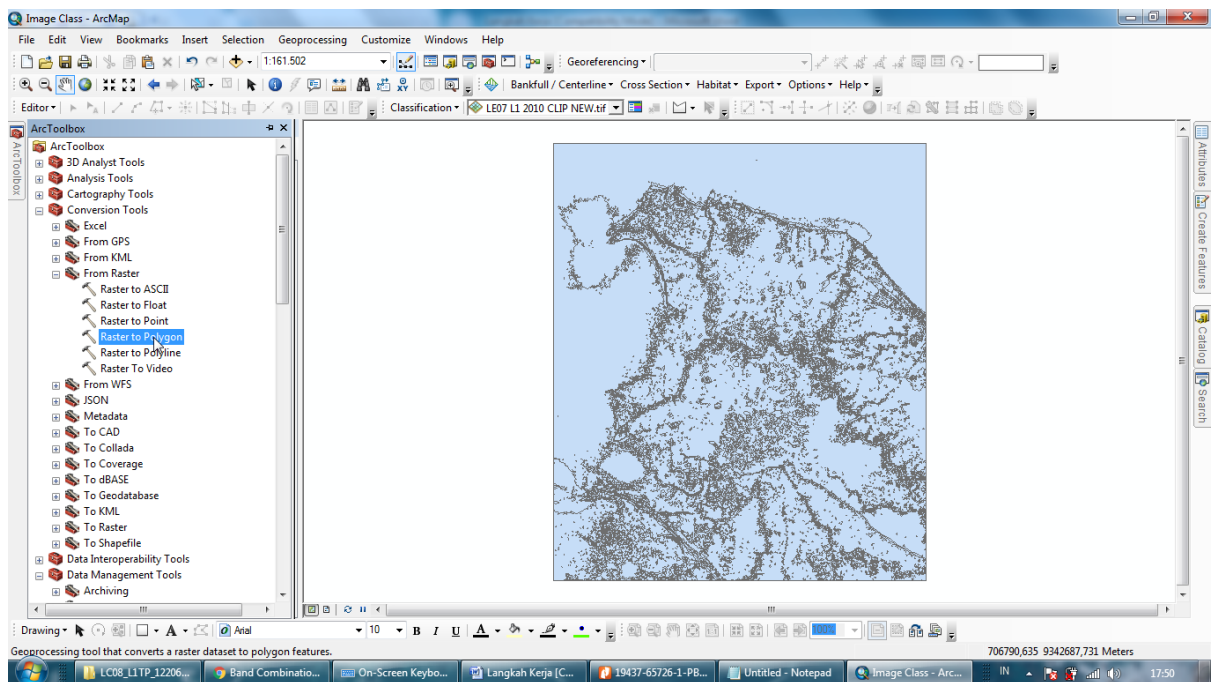
ID	Class Name	Value	Color	Count
1	Sungai	1	Blue	368
2	Tanah Kosong	2	Orange	499
3	Bangunan Terb...	3	Yellow	146
4	Agrikultur	4	Light Green	5692
5	Hutan Bakau	5	Dark Green	876
6	Tanah...	6	Purple	10372
7	Pantai	7	Light Blue	12272
8	Laut	8	Dark Blue	41097

The main map window shows a satellite image with colored polygons overlaid, representing the classified areas. The legend window also shows a 'Table Of Contents' with layers for 'LE07 LI 2010 CLIP NEW.tif' and 'RGB' (Red: Band_3, Green: Band_4, Blue: Band_5).

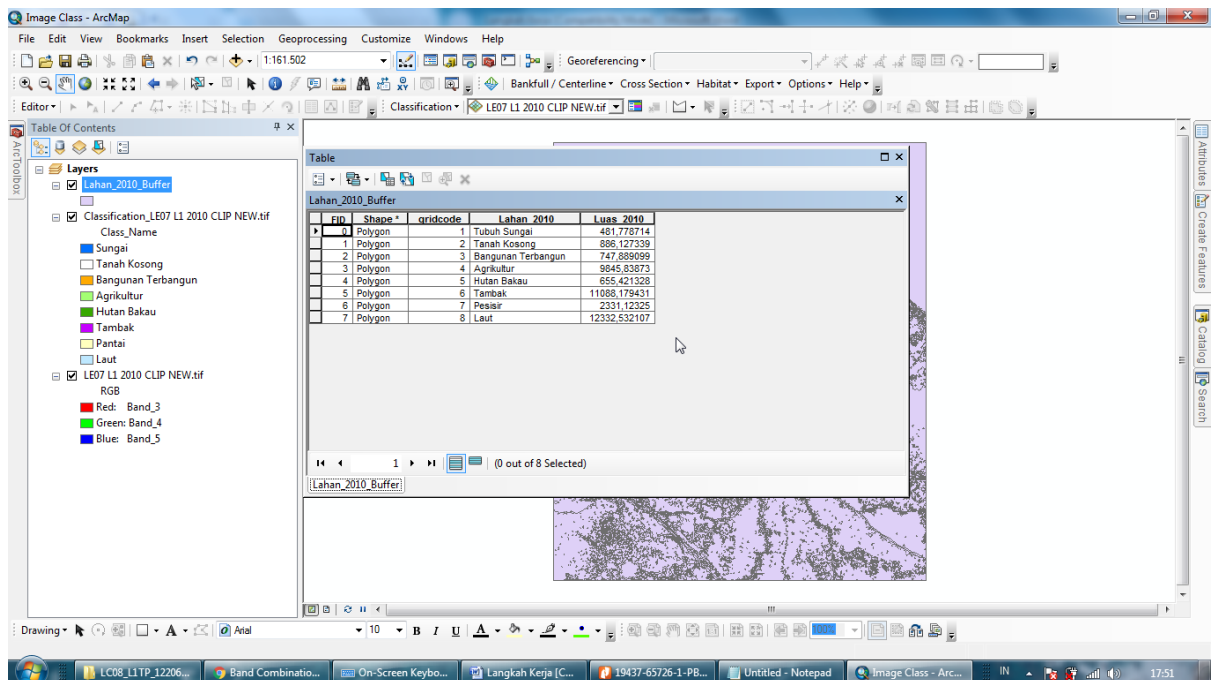
Perform a Training Sample on each land use that has been identified with the help of a composite band.



Land use is automatically classified based on the training sample carried out.



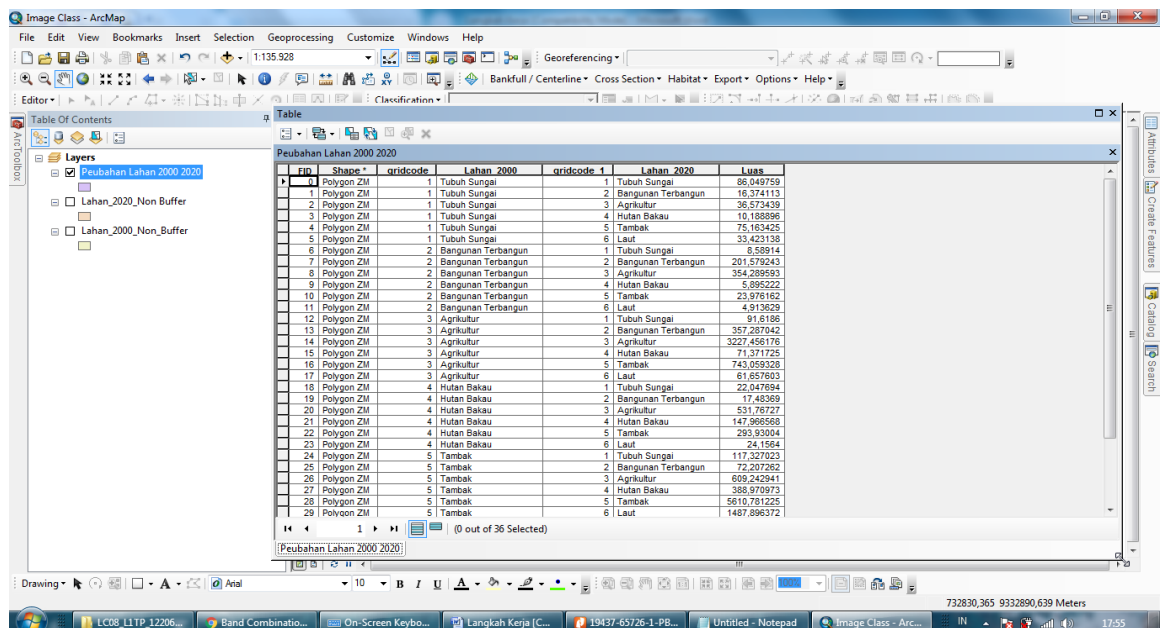
Convert Raster data to Polygon, then dissolve based on the same gridcode value.



Then the total area of each land use can be calculated

d. Seeing Changes in Land Cover

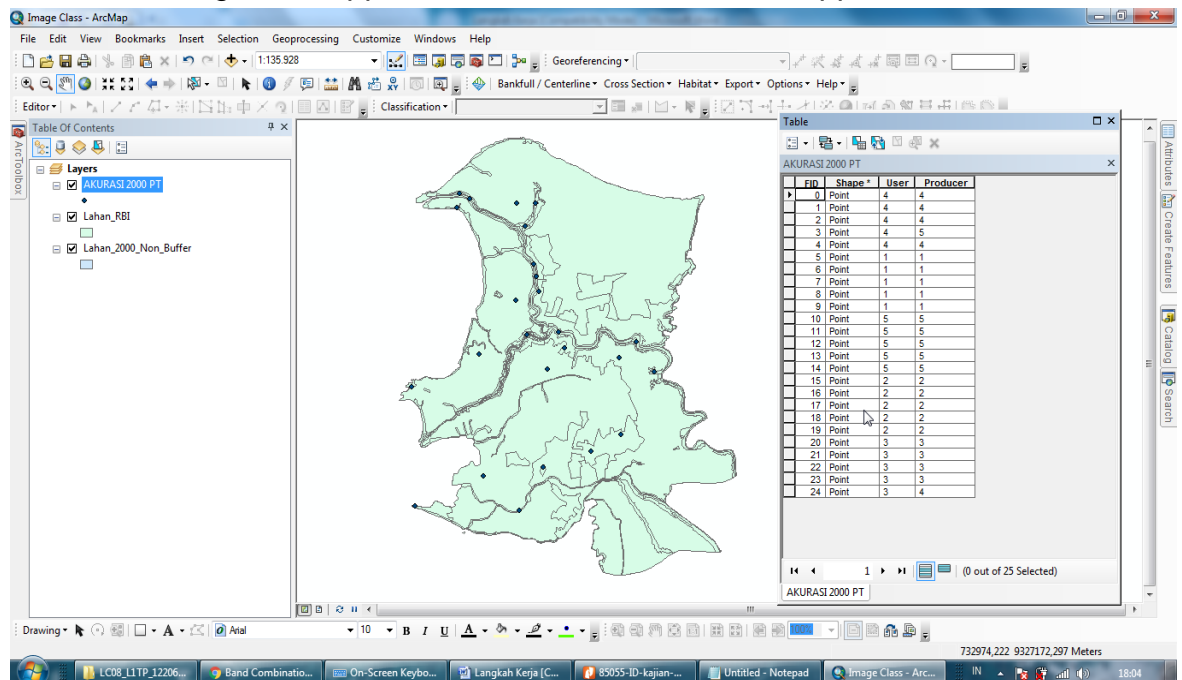
This can be done by conducting Geoprocessing (Union) of the period of land where changes will be known. Suppose that the change in order is



2000 vs 2020.

e. Classification Accuracy Assessment Analysis

The classification accuracy test stage is carried out by the accuracy test method using the Kappa coefficient method. The Kappa coefficient



value ranges from 0 to 1, in the process of mapping classification / land cover an acceptable accuracy value is 85% or 0.85 (Anderson, 1976). The Kappa coefficient is based on the consistency of the assessment by considering all aspects, namely producer's accuracy and user accuracy (commission error) obtained from the error matrix or confusion matrix.

Because in this study it was not possible to do a ground check, the data used for the producer test used the RBI Digital Scale 1 map data; 25,000 Edition-1 (1998/200) on the recording of Landsat 7 images in 2000. The accuracy test sample was taken five points randomly across the five identified land uses.

Perubahan Lahan 2000-2020 Non Buffer [Compatibility Mode] - Microsoft Excel

Home Insert Page Layout Formulas Data Review View Nitro Pro 8

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	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
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Ready

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Questionnaire for Disaster Preparedness

IDENTITY OF THE RESPONDENT

- 1. Name..... M / F
- 2. Age.....
- 3. Number of dependents : 1 2 3 4 5 >5
- 4. Length of stay : More than 10 years 6 – 10 years
 1 – 5 years 3 – 12 months
 < 3 months
- 5. Education: S1 S2 D1/D2/D3/D4
 SMA /SLTA Others.....
- 6. Occupation :

* Tick *čekkisir* (✓) to the columns provided, regarding your answers

As a respondent on this research, I declare that my answers in this survey are permitted to use by Pramadania Agustine (the Researcher) for her academic purposes only.

.....2020

.....

Part 1 Disaster Preparedness						
Num	Statements	Strongly Disagree	Disagree	Kinds Disagree	Kinds Agree	Strongly Agree
1	I know that oil spills can occur due to human negligence and natural phenomena.					
2	Our family has motivation to prepare for an oil spill event					
3	Our families discuss safety measures that can be taken in the event of an oil spill					
4	Every family member knows guidelines regarding emergency response in the event of an oil spill					
5	Our family prepares to provide light medicines that the family can use, such as medicine for fever, diarrhea, flu and cough					
6	Our family provides disaster preparedness bags and supplies which is easy to carry					
7	One of the family members conduct training on disaster preparedness					
8	Our family ensures that they are aware of the signs (signs) of disaster danger by hearing the announcement from officer					
9	We know about sources of information for disaster warning from both traditional and local sources					
10	We have access to Disaster warning information					
11	We have preparedness materials disaster from the government					
12	Our family agreed to conduct an oil spill disaster preparedness simulation exercise					
13	I live in an area prone to oil spills					
14	Our family knows what to do when an oil spill occurs					

Part 1 Disaster Preparedness							
Num	Statements	Strongly Disagree	Disagree	Kinda Disagree	Kinda Agree	Agree	Strongly Agree
15	Keluarga kami tidak berpartisipasi dalam simulasi evakuasi						
16	Every family member has a role to play when the oil spill occurred						
17	Our family believes in an oil spill in the area where we live						
18	Our family prepared the battery reserve for emergency situations						
19	Our family has addresses of important facilities such as hospitals, firefighters, police, PAM, PLN, Telkom						
20	Our family can get information about the disaster from social media						
21	One of the family members attended a seminar on oil spill disaster preparedness						
22	Our family has a means of communication with which to contact family / relatives / friends						
23	Our family has a means of transportation for family evacuation						
24	Our family had an agreement on a place to meet when the oil spill happened						
25	Our family occupies the same house has building standards for areas prone to oil spill disaster						
26	Our family evacuated when a disaster occurs						
27	Our family has relatives / relatives / friends who provide temporary shelter disaster happened						
28	Our family has a practical food supply (no need to cook and it lasts long) to deal with emergencies						
29	Our family does not have telephone numbers for important facilities such as hospitals, fire engines, police, PAM, PLN, Telkom which can be contacted during conditions Emergency						

Part 1 Disaster Preparedness							
Num	Statements	Strongly Disagree	Disagree	Kinda Disagree	Kinda Agree	Agree	Strongly Agree
30	One of the family members has skills related to disaster preparedness						
31	We have savings or savings to deal with emergency conditions when a disaster occurs						
32	Families conduct training and simulation of disaster warning systems						
33	Our family is active in participating in all series of disaster preparedness training and simulations						
34	Our family provides alternative lighting tools for families in times of emergency (flashlights and emergency lamps)						
35	Our family has a first aid kit which is easy to carry						
36	The family has maps, evacuation routes family and family gathering place in case of an oil spill disaster						
37	I understand that shortly before the oil spill there was unusual activity of ships delivering oil or drilling for oil						
38	Our family has a supply of bottled drinks to deal with emergencies						
39	Our family knows that communication tools are needed in an emergency						
40	Our family is looking for information disaster preparedness						
41	Family members are involved in disaster preparedness seminars and training						
42	Our family monitors disaster preparedness bags regularly						

Part 2 Perception of Disaster Risk						
Num	Statements	Strongly Disagree	Disagree	Kinda Disagree	Kinda Agree	Strongly Agree
1	I think preparing for an oil spill disaster is my responsibility					
2	I feel that preparedness is useless to protect against an oil spill disaster					
3	I feel that science and technology help ensure that we are ready to face oil spill disaster					
4	In my opinion, schools or other community organizations should assist communities in learning preparedness against oil spill disaster					
5	A fate that will decide what I will be like when the oil spill disaster strikes					
6	I feel that planning effective preparedness for oil spill disasters is the responsibility of the government					
7	How much risk is received due to an oil spill disaster depends on what I do to minimize it					
8	I think the bad effects of an oil spill can be reduced with adequate preparation					
9	If an oil spill disaster has occurred recently, it is unlikely that it will happen again soon					
10	I feel that apart from property loss and death, the oil spill disaster has other negative effects					

Part 2 Perception of Disaster Risk						
Num	Statements	Strongly Disagree	Disagree	Kinda Disagree	Kinda Agree	Strongly Agree
11	I am more worried if the people closest to me are worried about the oil spill disaster					
12	I continued to follow directions from the government during the oil spill disaster even though I didn't understand why					
13	The benefits of preparing for an oil spill disaster outweigh the costs					
14	I feel that scientists agree on how to reduce the catastrophic impact of the oil spill					

SWOT QUESTIONNAIRE

1. State the internal strength factors faced in the management of the coastal area of ~~Muara~~

~~Gembong~~:

- a.....
- b.....
- c.....
- d.....
- e.....

2. State the internal weakness factors faced in the management of the ~~Muara Gembong~~ coastal area:

- a.....
- b.....
- c.....
- d.....
- e.....

3. State the external opportunity factors faced in the management of the ~~Muara Gembong~~ coastal area:

- a.....
- b.....
- c.....
- d.....
- e.....

4. State the external threat factors faced in the management of the coastal area of ~~Muara~~ ~~Gembong~~:

- a.....
- b.....
- c.....
- d.....
- e.....

AHP Questionnaire

1. In the context of Coastal Zone Management to protect the coastal area of Muara Gembong from oil pollution, according to you, which actor is more important?

Left column	Left and Right Coloumn Equally important	Fill in if the ACTOR in the Left Column is more important than the ACTOR in the Right Column									Fill in if the ACTOR in the Right Column is more important than the ACTOR in the Left Column									Right Coloumn
	1	2	3	4	5	6	7	8	9	2	3	4	5	6	7	8	9			
Local Government																		NGO		
Local Government																		Akademisi		
Local Government																		Masyarakat		
Local Government																		Pengelola Pariwisata		
NGO																		Academics		
NGO																		Coastal residents		
NGO																		Tourism Manager		
Academics																		Coastal residents		
Academics																		Tourism Manager		
Coastal residents																		Tourism Manager		

2. In the context of Coastal Zone Management to protect the Muara Gembong coastal area from oil pollution, according to you, which aspect of management is more important related to the Local Government?

Left column	Left and Right Coloumn Equally important	Fill in if the ACTOR in the Left Column is more important than the ACTOR in the Right Column									Fill in if the ACTOR in the Right Column is more important than the ACTOR in the Left Column									Right Coloumn
	1	2	3	4	5	6	7	8	9	2	3	4	5	6	7	8	9			
Fishery Business																		Transportation		
Fishery Business																		Conservation		
Fishery Business																		Tourism		
Transportation																		Conservation		
Transportation																		Tourism		
Conservation																		Tourism		

3. In the context of Coastal Zone Management to protect the coastal area of Muara Gembong from oil pollution, according to you, which aspects of management are more important related to NGOs

Left column	Left and Right Coloumn Equally important	Fill in if the ACTOR in the Left Column is more important than the ACTOR in the Right Column									Fill in if the ACTOR in the Right Column is more important than the ACTOR in the Left Column									Right Coloumn
	1	2	3	4	5	6	7	8	9	2	3	4	5	6	7	8	9			
Fishery Business																		Transportation		
Fishery Business																		Conservation		
Fishery Business																		Tourism		

Left column	Left and Right Coloumn Equally important	Fill in if the ACTOR in the Left Column is more important than the ACTOR in the Right Column									Fill in if the ACTOR in the Right Column is more important than the ACTOR in the Left Column									Right Coloumn
	1	2	3	4	5	6	7	8	9	2	3	4	5	6	7	8	9			
Transportation																		Conservation		
Transportation																		Tourism		
Conservation																		Tourism		

4. In the context of Coastal Zone Management to protect the coastal area of Muara Gembong from oil pollution, according to you, which aspects of management are more important related to academics?

Left column	Left and Right Coloumn Equally important	Fill in if the ACTOR in the Left Column is more important than the ACTOR in the Right Column									Fill in if the ACTOR in the Right Column is more important than the ACTOR in the Left Column									Right Coloumn
	1	2	3	4	5	6	7	8	9	2	3	4	5	6	7	8	9			
Fishery Business																		Transportation		
Fishery Business																		Conservation		
Fishery Business																		Tourism		
Transportation																		Conservation		
Transportation																		Tourism		
Conservation																		Tourism		

5. In the context of Coastal Zone Management to protect the coastal area of Muara Gembong from oil pollution, according to you, which management aspect is more important related to Coastal Residents?

Left column	Left and Right Coloumn Equally important	Fill in if the ACTOR in the Left Column is more important than the ACTOR in the Right Column									Fill in if the ACTOR in the Right Column is more important than the ACTOR in the Left Column									Right Coloumn
	1	2	3	4	5	6	7	8	9	2	3	4	5	6	7	8	9			
Fishery Business																		Transportation		
Fishery Business																		Conservation		
Fishery Business																		Tourism		
Transportation																		Conservation		
Transportation																		Tourism		
Conservation																		Tourism		

6. In the context of Coastal Zone Management to protect the coastal area of Muara Gembong from oil pollution, according to you, which aspect of management is more important related to tourism management?

Left column	Left and Right Coloumn Equally important	Fill in if the ACTOR in the Left Column is more important than the ACTOR in the Right Column									Fill in if the ACTOR in the Right Column is more important than the ACTOR in the Left Column									Right Coloumn
	1	2	3	4	5	6	7	8	9	2	3	4	5	6	7	8	9			
Fishery Business																		Transportation		
Fishery Business																		Conservation		

Left column	Left and Right Coloumn Equally important	Fill in if the ACTOR in the Left Column is more important than the ACTOR in the Right Column									Fill in if the ACTOR in the Right Column is more important than the ACTOR in the Left Column									Right Coloumn
	1	2	3	4	5	6	7	8	9	2	3	4	5	6	7	8	9			
Fishery Business																		Tourism		
Transportation																		Conservation		
Transportation																		Tourism		
Conservation																		Tourism		

7. In the context of Coastal Zone Management to protect the coastal area of Muara Gembong from oil pollution, according to you, which management aspect is more important related to fisheries business?

Left column	Left and Right Coloumn Equally important	Fill in if the ACTOR in the Left Column is more important than the ACTOR in the Right Column									Fill in if the ACTOR in the Right Column is more important than the ACTOR in the Left Column									Right Coloumn
	1	2	3	4	5	6	7	8	9	2	3	4	5	6	7	8	9			
Increased Synergy and Coordination between related parties																		Optimization of related technology devices		
Increased Synergy and Coordination between related parties																		Improvement of guidance, supervision and control mechanisms		

Left column	Left and Right Coloumn Equally important	Fill in if the ACTOR in the Left Column is more important than the ACTOR in the Right Column									Fill in if the ACTOR in the Right Column is more important than the ACTOR in the Left Column									Right Coloumn
	1	2	3	4	5	6	7	8	9	2	3	4	5	6	7	8	9			
Optimization of related technology devices																		Improvement of guidance, supervision and control mechanisms		

8. In the context of Coastal Zone Management to protect the Muara Gembong coastal area from oil pollution, according to you, which management aspect is more important related to transportation?

Left column	Left and Right Coloumn Equally important	Fill in if the ACTOR in the Left Column is more important than the ACTOR in the Right Column									Fill in if the ACTOR in the Right Column is more important than the ACTOR in the Left Column									Right Coloumn
	1	2	3	4	5	6	7	8	9	2	3	4	5	6	7	8	9			
Increased Synergy and Coordination between related parties																		Optimization of related technology devices		
Increased Synergy and Coordination between related parties																		Improvement of guidance, supervision and control mechanisms		

Left column	Left and Right Coloumn Equally important	Fill in if the ACTOR in the Left Column is more important than the ACTOR in the Right Column									Fill in if the ACTOR in the Right Column is more important than the ACTOR in the Left Column									Right Coloumn
	1	2	3	4	5	6	7	8	9	2	3	4	5	6	7	8	9			
Optimization of related technology devices																			Improvement of guidance, supervision and control mechanisms	

9. In the context of Coastal Zone Management to protect the Muara Gembong coastal area from oil pollution, according to you, which management aspect is more important related to conservation?

Left column	Left and Right Coloumn Equally important	Fill in if the ACTOR in the Left Column is more important than the ACTOR in the Right Column									Fill in if the ACTOR in the Right Column is more important than the ACTOR in the Left Column									Right Coloumn
	1	2	3	4	5	6	7	8	9	2	3	4	5	6	7	8	9			
Increased Synergy and Coordination between related parties																			Optimization of related technology devices	
Increased Synergy and Coordination between related parties																			Improvement of guidance, supervision and control mechanisms	

Left column	Left and Right Coloumn Equally important	Fill in if the ACTOR in the Left Column is more important than the ACTOR in the Right Column									Fill in if the ACTOR in the Right Column is more important than the ACTOR in the Left Column									Right Coloumn
	1	2	3	4	5	6	7	8	9	2	3	4	5	6	7	8	9			
Optimization of related technology devices																			Improvement of guidance, supervision and control mechanisms	

10. In the context of Coastal Zone Management to protect the coastal area of Muara Gembong from oil pollution, according to you, which management aspect is more important related to tourism?

Left column	Left and Right Coloumn Equally important	Fill in if the ACTOR in the Left Column is more important than the ACTOR in the Right Column									Fill in if the ACTOR in the Right Column is more important than the ACTOR in the Left Column									Right Coloumn
	1	2	3	4	5	6	7	8	9	2	3	4	5	6	7	8	9			
Increased Synergy and Coordination between related parties																			Optimization of related technology devices	
Increased Synergy and Coordination between related parties																			Improvement of guidance, supervision and control mechanisms	

Left column	Left and Right Coloumn Equally important	Fill in if the ACTOR in the Left Column is more important than the ACTOR in the Right Column									Right Coloumn							
	1	2	3	4	5	6	7	8	9	2		3	4	5	6	7	8	9
Optimization of related technology devices																		Improvement of guidance, supervision and control mechanisms

Respondent 1

Compare the relative importance with respect to: Goal: The Management Strategies to Protect Coastal Area in Muara Gembong from Oil-Polluted Seawater

Circle one number per row below using the scale:
1 = Equal 3 = Moderate 5 = Strong 7 = Very strong 9 = Extreme

1	Local Government	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Non-Governmental O
2	Local Government	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Academics
3	Local Government	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Coastal Residents
4	Local Government	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Tourist Area Manage
5	Non-Governmental O	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Academics
6	Non-Governmental O	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Coastal Residents
7	Non-Governmental O	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Tourist Area Manage
8	Academics	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Coastal Residents
9	Academics	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Tourist Area Manage
10	Coastal Residents	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Tourist Area Manage

Compare the relative preference with respect to: Local Government (L: .584)

Circle one number per row below using the scale:
1 = Equal 3 = Moderate 5 = Strong 7 = Very strong 9 = Extreme

1	Fishery Business	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Sea Transportation
2	Fishery Business	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Conservation
3	Fishery Business	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Tourism
4	Sea Transportation	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Conservation
5	Sea Transportation	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Tourism
6	Conservation	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Tourism

Compare the relative preference with respect to: Non-Governmental Organization (NGO) (L: .090)

Circle one number per row below using the scale:
1 = Equal 3 = Moderate 5 = Strong 7 = Very strong 9 = Extreme

1	Fishery Business	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Sea Transportation
2	Fishery Business	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Conservation
3	Fishery Business	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Tourism
4	Sea Transportation	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Conservation
5	Sea Transportation	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Tourism
6	Conservation	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Tourism

Compare the relative preference with respect to: Academics (L: .205)

Circle one number per row below using the scale:
1 = Equal 3 = Moderate 5 = Strong 7 = Very strong 9 = Extreme

1	Fishery Business	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Sea Transportation
2	Fishery Business	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Conservation
3	Fishery Business	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Tourism
4	Sea Transportation	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Conservation
5	Sea Transportation	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Tourism
6	Conservation	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Tourism

Compare the relative preference with respect to: Coastal Residents (L: .064)

Circle one number per row below using the scale:
1 = Equal 3 = Moderate 5 = Strong 7 = Very strong 9 = Extreme

1	Fishery Business	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Sea Transportation
2	Fishery Business	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Conservation
3	Fishery Business	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Tourism
4	Sea Transportation	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Conservation
5	Sea Transportation	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Tourism
6	Conservation	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Tourism

Compare the relative preference with respect to: Tourist Area Manager (L: .057)

Circle one number per row below using the scale:
1 = Equal 3 = Moderate 5 = Strong 7 = Very strong 9 = Extreme

1	Fishery Business	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Sea Transportation
2	Fishery Business	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Conservation
3	Fishery Business	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Tourism
4	Sea Transportation	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Conservation
5	Sea Transportation	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Tourism
6	Conservation	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Tourism

Compare the relative preference with respect to: Fishery Business (L: .250)

Circle one number per row below using the scale:
1 = Equal 3 = Moderate 5 = Strong 7 = Very strong 9 = Extreme

1	Synergy & coordinato	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Optimization of relat
2	Synergy & coordinato	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	The control mechanis
3	Optimization of relat	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	The control mechanis

Compare the relative preference with respect to: Sea Transportation (L: .250)

Circle one number per row below using the scale:
1 = Equal 3 = Moderate 5 = Strong 7 = Very strong 9 = Extreme

1	Synergy & coordinato	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Optimization of relat
2	Synergy & coordinato	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	The control mechanis
3	Optimization of relat	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	The control mechanis

Compare the relative preference with respect to: Conservation (L: .250)

Circle one number per row below using the scale:
1 = Equal 3 = Moderate 5 = Strong 7 = Very strong 9 = Extreme

1	Synergy & coordinato	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Optimization of relat
2	Synergy & coordinato	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	The control mechanis
3	Optimization of relat	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	The control mechanis

Compare the relative preference with respect to: Tourism (L: .250)

Circle one number per row below using the scale:
1 = Equal 3 = Moderate 5 = Strong 7 = Very strong 9 = Extreme

1	Synergy & coordinato	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Optimization of relat
2	Synergy & coordinato	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	The control mechanis
3	Optimization of relat	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	The control mechanis

Respondent 2

Compare the relative importance with respect to: Goal: The Management Strategies to Protect Coastal Area in Muara Gembong from Oil-Polluted Seawater

Circle one number per row below using the scale:
1 = Equal 3 = Moderate 5 = Strong 7 = Very strong 9 = Extreme

1	Local Government	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Non-Governmental O
2	Local Government	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Academics
3	Local Government	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Coastal Residents
4	Local Government	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Tourist Area Manage
5	Non-Governmental O	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Academics
6	Non-Governmental O	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Coastal Residents
7	Non-Governmental O	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Tourist Area Manage
8	Academics	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Coastal Residents
9	Academics	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Tourist Area Manage
10	Coastal Residents	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Tourist Area Manage

Compare the relative preference with respect to: Local Government (L: .468)

Circle one number per row below using the scale:
1 = Equal 3 = Moderate 5 = Strong 7 = Very strong 9 = Extreme

1	Fishery Business	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Sea Transportation
2	Fishery Business	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Conservation
3	Fishery Business	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Tourism
4	Sea Transportation	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Conservation
5	Sea Transportation	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Tourism
6	Conservation	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Tourism

Compare the relative preference with respect to: Non-Governmental Organization (NGO) (L: .136)

Circle one number per row below using the scale:
1 = Equal 3 = Moderate 5 = Strong 7 = Very strong 9 = Extreme

1	Fishery Business	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Sea Transportation
2	Fishery Business	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Conservation
3	Fishery Business	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Tourism
4	Sea Transportation	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Conservation
5	Sea Transportation	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Tourism
6	Conservation	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Tourism

Respondent 3

Circle one number per row below using the scale:
1 = Equal 3 = Moderate 5 = Strong 7 = Very strong 9 = Extreme

1	Local Government	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Non-Governmental O
2	Local Government	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Academics
3	Local Government	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Coastal Residents
4	Local Government	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Tourist Area Manage
5	Non-Governmental O	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Academics
6	Non-Governmental O	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Coastal Residents
7	Non-Governmental O	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Tourist Area Manage
8	Academics	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Coastal Residents
9	Academics	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Tourist Area Manage
10	Coastal Residents	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Tourist Area Manage

Compare the relative preference with respect to: Local Government (L: .567)

Circle one number per row below using the scale:
1 = Equal 3 = Moderate 5 = Strong 7 = Very strong 9 = Extreme

1	Fishery Business	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Sea Transportation
2	Fishery Business	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Conservation
3	Fishery Business	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Tourism
4	Sea Transportation	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Conservation
5	Sea Transportation	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Tourism
6	Conservation	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Tourism

Compare the relative preference with respect to: Non-Governmental Organization (NGO) (L: .169)

Circle one number per row below using the scale:
1 = Equal 3 = Moderate 5 = Strong 7 = Very strong 9 = Extreme

1	Fishery Business	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Sea Transportation
2	Fishery Business	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Conservation
3	Fishery Business	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Tourism
4	Sea Transportation	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Conservation
5	Sea Transportation	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Tourism
6	Conservation	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Tourism

Compare the relative preference with respect to: Academics (L: .151)

Circle one number per row below using the scale:
1 = Equal 3 = Moderate 5 = Strong 7 = Very strong 9 = Extreme

1	Fishery Business	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Sea Transportation
2	Fishery Business	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Conservation
3	Fishery Business	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Tourism
4	Sea Transportation	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Conservation
5	Sea Transportation	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Tourism
6	Conservation	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Tourism

Compare the relative preference with respect to: Coastal Residents (L: .033)

Circle one number per row below using the scale:
1 = Equal 3 = Moderate 5 = Strong 7 = Very strong 9 = Extreme

1	Fishery Business	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Sea Transportation
2	Fishery Business	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Conservation
3	Fishery Business	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Tourism
4	Sea Transportation	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Conservation
5	Sea Transportation	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Tourism
6	Conservation	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Tourism

Compare the relative preference with respect to: Tourist Area Manager (L: .081)

Circle one number per row below using the scale:
1 = Equal 3 = Moderate 5 = Strong 7 = Very strong 9 = Extreme

1	Fishery Business	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Sea Transportation
2	Fishery Business	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Conservation
3	Fishery Business	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Tourism
4	Sea Transportation	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Conservation
5	Sea Transportation	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Tourism
6	Conservation	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Tourism

Compare the relative preference with respect to: Academics (L: .277)

Circle one number per row below using the scale:
1 = Equal 3 = Moderate 5 = Strong 7 = Very strong 9 = Extreme

1	Fishery Business	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Sea Transportation
2	Fishery Business	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Conservation
3	Fishery Business	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Tourism
4	Sea Transportation	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Conservation
5	Sea Transportation	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Tourism
6	Conservation	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Tourism

Compare the relative preference with respect to: Coastal Residents (L: .051)

Circle one number per row below using the scale:
1 = Equal 3 = Moderate 5 = Strong 7 = Very strong 9 = Extreme

1	Fishery Business	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Sea Transportation
2	Fishery Business	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Conservation
3	Fishery Business	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Tourism
4	Sea Transportation	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Conservation
5	Sea Transportation	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Tourism
6	Conservation	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Tourism

Compare the relative preference with respect to: Tourist Area Manager (L: .068)

Circle one number per row below using the scale:
1 = Equal 3 = Moderate 5 = Strong 7 = Very strong 9 = Extreme

1	Fishery Business	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Sea Transportation
2	Fishery Business	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Conservation
3	Fishery Business	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Tourism
4	Sea Transportation	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Conservation
5	Sea Transportation	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Tourism
6	Conservation	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Tourism

Compare the relative preference with respect to: Sea Transportation (L: .250)

Circle one number per row below using the scale:
1 = Equal 3 = Moderate 5 = Strong 7 = Very strong 9 = Extreme

1	Synergy & coordinato	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Optimization of relate
2	Synergy & coordinato	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	The control mechanis
3	Optimization of relate	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	The control mechanis

Compare the relative preference with respect to: Fishery Business (L: .250)

Circle one number per row below using the scale:
1 = Equal 3 = Moderate 5 = Strong 7 = Very strong 9 = Extreme

1	Synergy & coordinato	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Optimization of relate
2	Synergy & coordinato	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	The control mechanis
3	Optimization of relate	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	The control mechanis

Compare the relative preference with respect to: Conservation (L: .250)

Circle one number per row below using the scale:
1 = Equal 3 = Moderate 5 = Strong 7 = Very strong 9 = Extreme

1	Synergy & coordinato	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Optimization of relate
2	Synergy & coordinato	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	The control mechanis
3	Optimization of relate	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	The control mechanis

Compare the relative preference with respect to: Tourism (L: .250)

Circle one number per row below using the scale:
1 = Equal 3 = Moderate 5 = Strong 7 = Very strong 9 = Extreme

1	Synergy & coordinato	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Optimization of relate
2	Synergy & coordinato	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	The control mechanis
3	Optimization of relate	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	The control mechanis

Compare the relative preference with respect to: Fishery Business (L: .250)

Circle one number per row below using the scale:
1 = Equal 3 = Moderate 5 = Strong 7 = Very strong 9 = Extreme

1	Synergy & coordinabo	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Optimization of relatex
2	Synergy & coordinabo	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	The control mechanisr
3	Optimization of relatex	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	The control mechanisr

Compare the relative preference with respect to: Sea Transportation (L: .250)

Circle one number per row below using the scale:
1 = Equal 3 = Moderate 5 = Strong 7 = Very strong 9 = Extreme

1	Synergy & coordinabo	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Optimization of relatex
2	Synergy & coordinabo	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	The control mechanisr
3	Optimization of relatex	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	The control mechanisr

Compare the relative preference with respect to: Conservation (L: .250)

Circle one number per row below using the scale:
1 = Equal 3 = Moderate 5 = Strong 7 = Very strong 9 = Extreme

1	Synergy & coordinabo	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Optimization of relatex
2	Synergy & coordinabo	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	The control mechanisr
3	Optimization of relatex	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	The control mechanisr

Compare the relative preference with respect to: Tourism (L: .250)

Circle one number per row below using the scale:
1 = Equal 3 = Moderate 5 = Strong 7 = Very strong 9 = Extreme

1	Synergy & coordinabo	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Optimization of relatex
2	Synergy & coordinabo	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	The control mechanisr
3	Optimization of relatex	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	The control mechanisr




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Signature:  Date: 12th May 2021

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