

## Appendix I: Delphi Questionnaire

<b>Respondent Information / Informasi Responden</b>	
<b>Name / Nama</b>	: .....
<b>Institution / Institusi</b>	: .....
<b>Position / Jabatan</b>	: .....

Please tick (✓) the boxes with the answer you think the most appropriate and give the reason (if needed).

*Silakan menandai (✓) kotak yang tersedia dengan jawaban yang anda rasa paling sesuai dan berikan alasannya (jika perlu).*

Disaster management is efforts of dealing with and avoiding disaster risks; it involves preparing for the disaster before it happens (pro-active) and disaster response as well as supporting and rebuilding society after disaster has occurred (re-active).

*Pengelolaan bencana adalah upaya-upaya untuk mengatasi dan mencegah resiko bencana, meliputi persiapan sebelum bencana terjadi (pro-aktif) serta tanggap darurat dan pembangunan kembali setelah bencana terjadi (re-aktif).*

1. Spatial Plan for NAD Province 1993-2008 valid for 25 years and revise every five years. Do you think the revision is needed periodically or only needed when extraordinary event like tsunami disaster happens?

*RTRW Prov. NAD 1993-2008 berlaku selama 25 tahun dan direvisi setiap lima tahun sekali. Menurut Anda perlukah hal ini dilakukan berkala atau hanya dilakukan jika terjadi kejadian luar biasa seperti bencana tsunami?*

(i) Periodically / Berkala

Agree / Setuju  1  2  3  4  5 Disagree / Tidak setuju

(ii) If extraordinary event happens / *Jika terjadi kejadian luar biasa*

Agree / *Setuju*    1    2    3    4    5  
               Disagree / *Tidak setuju*

2. The previous Spatial Plan for NAD Province (1993-2008) did not give adequate emphasis on disaster management aspect.

*RTRW Prov. NAD sebelumnya (1993-2008) tidak memberikan penekanan yang memadai terhadap aspek pengelolaan bencana.*

Agree / *Setuju*    1    2    3    4    5  
               Disagree / *Tidak setuju*

3. Draft of Spatial Plan for NAD Province must include disaster management aspect as one of considerations in development planning.

*Rancangan RTRW Prov. NAD yang baru harus memasukkan unsur pengelolaan bencana sebagai salah satu bahan pertimbangan dalam perencanaan pembangunan daerah.*

Agree / *Setuju*    1    2    3    4    5  
               Disagree / *Tidak setuju*

4. Disaster management applied must be based on local cultural values of the Acehese as coastal community that prefer to live near to the water.

*Pengelolaan bencana yang dilakukan harus mengikuti kaidah-kaidah nilai budaya masyarakat Aceh sebagai masyarakat pesisir yang lebih suka untuk hidup dekat dengan air.*

Agree / *Setuju*    1    2    3    4    5  
               Disagree / *Tidak setuju*

5. The present disaster management in Aceh is already combine the pro-active (before disaster: prevention, mitigation, and preparedness) and re-active (after disaster: emergency response and rehabilitation and reconstruction) approaches.

*Upaya pengelolaan bencana yang dilakukan di Aceh saat ini telah menggabungkan pendekatan pro-aktif (sebelum bencana: pencegahan, mitigasi dan kesiapsiagaan) dan re-aktif (setelah bencana: tanggap darurat dan rehabilitasi dan rekonstruksi).*

(i) Pro-active / Pro-aktif

Agree / Setuju  <sup>1</sup>  <sup>2</sup>  <sup>3</sup>  <sup>4</sup>  <sup>5</sup> Disagree / Tidak setuju

(ii) Re-active / Re-aktif

Agree / Setuju  <sup>1</sup>  <sup>2</sup>  <sup>3</sup>  <sup>4</sup>  <sup>5</sup> Disagree / Tidak setuju

6. Basically, (tsunami) disaster management strategy can be divided into 3 groups:

*Pada dasarnya strategi pengelolaan bencana (tsunami) dapat dibagi menjadi tiga kelompok:*

(i) keep tsunami away from urban area

*menghindarkan tsunami dari wilayah perkotaan*

(ii) prepare urban area for tsunami

*menyiapkan wilayah perkotaan terhadap tsunami*

(iii) keep urban area away from tsunami

*menghindarkan wilayah perkotaan dari tsunami*

The order of approach that can be applied in Aceh:

*Urutan pendekatan yang dapat dilaksanakan di Aceh:*

1). .....

2). .....

3). .....

Reason / Alasan: .....

.....

7. Is the approach that you choose (# 1) being implemented in Aceh?

*Apakah pendekatan yang Anda pilih (# 1) diimplementasikan di Aceh?*

Yes / *Ya*

No / *Tidak*

8. If yes, do you satisfied with the result?

*Jika ya, puaskah Anda dengan hasilnya?*

Satisfied / *Puas*    <sup>1</sup>    <sup>2</sup>    <sup>3</sup>    <sup>4</sup>    <sup>5</sup>    Dissatisfied / *Tidak puas*

Reason / *Alasan*: .....

.....

**Appendix 2: Delphi’s Summary of the First and Second Round**

No.	Question	Answer (Round 1)	Answer (Round 2)	Note
1.	Spatial Plan for NAD Province 1993-2008 valid for 25 years and revise every five years. Do you think the revision is needed periodically or only needed when extraordinary event like tsunami disaster happens?	<b>Periodically</b> <i>(Agree-Disagree)</i> 1 = 10 persons 2 = 4 persons 3 = none 4 = none 5 = 1 person Not answer = 1 person	<b>Periodically</b> <i>(Agree-Disagree)</i> 1 = 10 persons 2 = 4 persons 3 = none 4 = none 5 = 1 person Not answer = 1 person	No change
		<b>If extraordinary event happens</b> <i>(Agree-Disagree)</i> 1 = 8 persons 2 = 1 person 3 = none 4 = 3 persons 5 = 3 persons Not answer = 1 person	<b>If extraordinary event happens</b> <i>(Agree-Disagree)</i> 1 = 8 persons 2 = 2 persons 3 = none 4 = 2 persons 5 = 3 persons Not answer = 1 person	There is a change
2.	The previous Spatial Plan for NAD Province (1993-2008) did not give adequate emphasis on disaster management aspect.	<i>(Agree-Disagree)</i> 1 = 8 persons 2 = 5 persons 3 = 1 person 4 = 1 person 5 = none Not answer = 1 person	<i>(Agree-Disagree)</i> 1 = 8 persons 2 = 5 persons 3 = 1 person 4 = 1 person 5 = none Not answer = 1 person	No change

3.	Draft of Spatial Plan for NAD Province must include disaster management aspect as one of considerations in development planning.	<i>(Agree-Disagree)</i> 1 = 14 persons 2 = 2 persons 3 = none 4 = none 5 = none Not answer = none	<i>(Agree-Disagree)</i> 1 = 14 persons 2 = 2 persons 3 = none 4 = none 5 = none Not answer = none	No change
4.	Disaster management applied must be based on local cultural values of the Acehnese as coastal community that prefer to live near to the water.	<i>(Agree-Disagree)</i> 1 = 11 persons 2 = 1 person 3 = 4 persons 4 = none 5 = none Not answer = none	<i>(Agree-Disagree)</i> 1 = 11 persons 2 = 1 person 3 = 4 persons 4 = none 5 = none Not answer = none	No change
5.	The present disaster management in Aceh is already combine the pro-active (before disaster: prevention, mitigation, and preparedness) and re-active (after disaster: emergency response and rehabilitation and reconstruction) approaches.	<b>Pro-active</b>	<b>Pro-active</b>	No change
		<i>(Agree-Disagree)</i> 1 = 5 persons 2 = 5 persons 3 = 5 persons 4 = 1 person 5 = none Not answer = none	<i>(Agree-Disagree)</i> 1 = 5 persons 2 = 5 persons 3 = 5 persons 4 = 1 person 5 = none Not answer = none	
		<b>Re-active</b>	<b>Re-active</b>	No change
		<i>(Agree-Disagree)</i> 1 = 7 persons 2 = 4 persons 3 = 2 persons 4 = 1 person	<i>(Agree-Disagree)</i> 1 = 7 persons 2 = 4 persons 3 = 2 persons 4 = 1 person	

		5 = 1 person Not answer = 1 person	5 = 1 person Not answer = 1 person	
6.	Basically, (tsunami) disaster management approach can be divided into 3 groups: (i) keep tsunami away from urban area (ii) prepare urban area for tsunami (iii) keep urban area away from tsunami	<b>The order of approach that can be applied in Aceh:</b> i, ii, iii = 1 person ii, iii, i = 9 persons ii, i, iii = 2 person iii, ii, i = 2 persons ii only = 1 person iii only = 1 person <b>Reasons:</b> <i>i, ii, iii</i> The best way to avoid disaster is developing the urban or densely populated area away from identified HAZARD. However, due to some reasons post tsunami development in Aceh has neglected ideal spatial planning that the urban area has been built back in previously tsunami affected areas. in this condition then the newly developed urban area must be prepared for tsunami by developing early warning, evacuation route, and escape building facilities. These efforts should be in line with public	<b>The order of approach that can be applied in Aceh:</b> i, ii, iii = 1 person ii, iii, i = 10 persons ii, i, iii = 2 person iii, ii, i = 1 persons ii only = 1 person iii only = 1 person <b>Reasons:</b> Not asked	There is a change

		<p>awareness activities to develop community knowledge on disaster and disaster risk reduction</p>		
		<p><i>ii, iii, i</i></p>		
		<p>a. Aceh is a disaster-prone area, every individual in the community must realize, respond, and ready if it comes (<i>translation</i>)</p> <p>b. In general, urban area is located in the coastal area, so temporarily the urban development directed to the area that is relatively save (higher ground), the existing area needs to be manage with disaster mitigation approach (<i>translation</i>)</p> <p>c. It is very expensive to move or fortify the city. It is make sense if some parts of the city are seriously prepared to deal with tsunami disaster (<i>translation</i>)</p> <p>d. In order to develop urban area, disaster, such as tsunami etc is already been measured</p>		



		<p>to prevent loss from the community, government and other stakeholders (<i>translation</i>)</p> <p>e. Every region must conduct pro-active approach towards disaster (<i>translation</i>)</p> <p>f. Because Banda Aceh municipality is an old city with age of more than 800 years, which is located in the coastal are, as same as another regencies and municipalities locating in the coastal area (<i>translation</i>)</p> <p>g. It is better to avoid and prevent the disaster rather than react to it (<i>translation</i>)</p> <p>h. Tsunami cannot be avoided because it is given from natural phenomena. We are the one who should adjust ourselves (avoid, prepare, etc) (<i>translation</i>)</p> <p>i. Geographically the area is on disaster zone that difficult to avoid this. So disaster preparedness planning is</p>		
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		important than keep tsunami away		
		<i>ii, i, iii</i>		
		a. 18 regencies/municipalities from 23 regencies/municipalities in NAD located along the coastline (coastline more than 1,660 km), so tsunami risk needs to be prepared/minimized, both through structural mitigation and non structural mitigation ( <i>translation</i> )		
		b. For the long term development plan, urban area has to move to safer site and it is only relevant for 100 years maximum.		
		<i>iii, ii, i</i>		
		a. For developed urban area in the coastal area such as Banda Aceh municipality, the approach that most likely to be done is anticipating if tsunami happens again by building dykes, escape hill, escape road, escape building,		

		<p>alarm, etc. Moreover, settlement relocation from the coastal zone to the safer ground is also needed (<i>translation</i>)</p> <p>b. The impact (2004) is so extraordinary and beyond human technology control (already conducted by BAPPENAS). Next, urban area should be prepared from tsunami (<i>translation</i>)</p>		
		<i>ii only</i>		
		We must live with disaster, where ever the place ( <i>translation</i> )		
		<i>iii only</i>		
		This is the safest and the cheapest pro-active effort for long term investment ( <i>translation</i> )		
7.	Is the approach that you choose (# 1) being implemented in Aceh?	<i>Yes or No</i> Yes = 11 No = 5	<i>Yes or No</i> Yes = 11 No = 5	No change
8.	If yes, do you satisfied with the result?	<i>Satisfied-Dissatisfied</i> 1 = 1 person 2 = 5 persons 3 = 3 persons 4 = 1 person 5 = 1 person	<i>Satisfied-Dissatisfied</i> 1 = 1 person 2 = 5 persons 3 = 3 persons 4 = 1 person 5 = 1 person	No change

		Not answer = 5 persons (they answered no for the previous question)	Not answer = 5 persons (they answered no for the previous question)	
		<b>Reasons:</b>	<b>Reasons:</b>	
		1	Not asked	
		Not all society members are aware of disaster phenomenon ( <i>translation</i> )		
		2		
		a. The implemented approach is already good, but because of the limitation of time and budget there are still some activities that have not been conducted yet ( <i>translation</i> )		
		b. For Banda Aceh Municipality, escape buildings and early warning system are already been developed/built ( <i>translation</i> )		
		c. (1) Relocation areas provided by the government are still limited, (2) Not all the people want to use the relocation areas due to the unadequate transportation facility to the working area ( <i>translation</i> )		
		d. Less satisfied because some		

		<p>of tsunami anticipation efforts are not implemented well, for example un-robust dykes development, un-continue escape road etc. Moreover, more and more people build their houses along the coastline which is un-secure area (<i>translation</i>)</p> <p>e. As far as I know recently involving a disaster planning in a spatial plan and also evaluate. Even though in some case still have problem for implementing to the community.</p>		
		3		
		<p>a. Not satisfied yet. It needs process/time to achieve 'awareness' in the society (<i>translation</i>)</p> <p>b. It has not conducted continually (<i>translation</i>)</p> <p>c. Still need process (<i>translation</i>)</p>		
		4		
		Not satisfied until now because the tsunami spatial blue print		

		(PERPRES no. 30/2005) is not implemented fully. Most of urban area are built too close to the coast ( <i>translation</i> )		
		5		
		The implemented approach is already good, but because of the limitation of time and budget there are still some activities that have not been conducted yet ( <i>translation</i> )		
		Still have long way to go through, and government vision has to clear and aware for the next generation		

**Note:**

(*translation*) means that the original answer is in Bahasa Indonesia