

# EVALUATION OF TSUNAMI AFFECTED AREAS IN THE WEST COAST OF ACEH

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**SOIL PROFILE: NAD 1**

- Soil Depth: 1.80 cm (depth) = 11 cm
- Mud deposition: 10-17 cm (MUD 1)
- pH: 4.84
- EC (1:1): 0.2 dS/m (reached up to 4-5 cm of original soil)

**SOIL PROFILE: NAD 2**

- Soil Depth: 1.80 cm (depth) = 19 cm
- Mud deposition: 11 cm (MUD 1)
- pH: 7.20
- EC (1:1): 7.62 dS/m (reached up to 20 cm of original soil)

**Methods:**

- Satellite data analysis
- Ground survey for sample collection
- Laboratory analysis
- Data analysis assessment

**CLASSIFICATION OF FIELD DAMAGES**  
(Adapted from FAO, 2007)

**Level 1: "Slightly damaged"**  
Significant soil damage is observed in the form of salinization of soil. Loss of soil nutrients is observed in the form of low soil fertility. The soil is still able to support a crop, but the yield is low.

**Level 2: "Moderately damaged"**  
Significant soil damage is observed in the form of salinization of soil. Loss of soil nutrients is observed in the form of low soil fertility. The soil is still able to support a crop, but the yield is very low.

**Level 3: "Severely damaged"**  
Significant soil damage is observed in the form of salinization of soil. Loss of soil nutrients is observed in the form of low soil fertility. The soil is still able to support a crop, but the yield is almost zero.

**Level 4: "Catastrophically damaged"**  
Significant soil damage is observed in the form of salinization of soil. Loss of soil nutrients is observed in the form of low soil fertility. The soil is still able to support a crop, but the yield is almost zero.

Level	Soil Salinity (dS/m)	Soil Fertility (ppm)	Yield (%)
Level 1	0.2 - 0.5	100 - 200	50 - 70
Level 2	0.5 - 1.0	50 - 100	20 - 50
Level 3	1.0 - 2.0	20 - 50	5 - 20
Level 4	> 2.0	< 20	< 5



Seven months after tsunami, observed types of damages included: (a) salinization of soil (and water), (b) desurfacing of landscape and damage of dike of paddy fields, and (c) damages of irrigation/ drainage infrastructures.