

Characteristics of Sub-watershed in the Intensive Area

Sub-watershed No.

Sub-watershed - 24

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1) Catchment Area

Area

138 ha

Highest Point

1,005 m

Average Slope

31 %

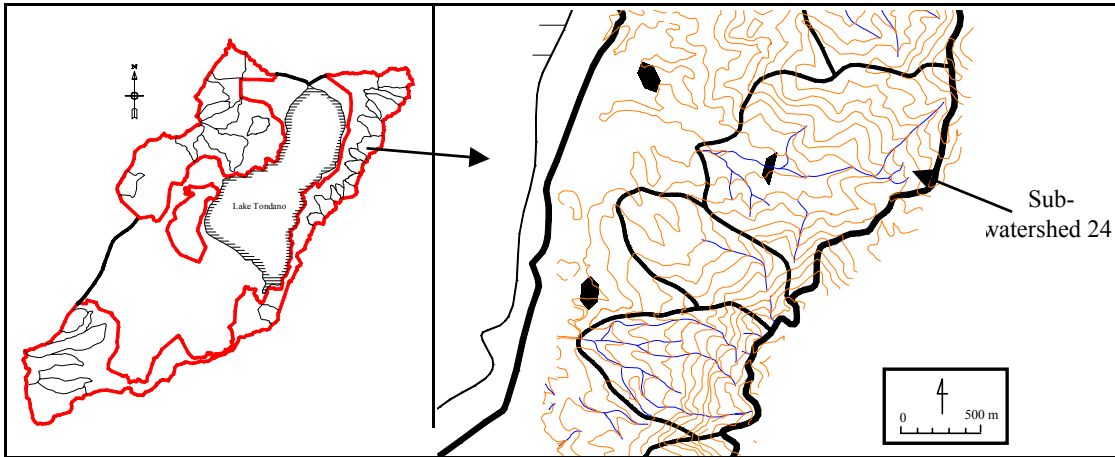
Lowest Point

698 m

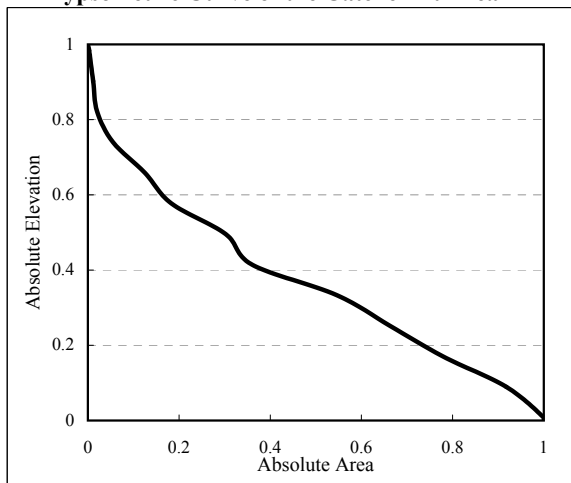
Elevation Difference

308 m

Plan



Hypsometric Curve of the Catchment Area



Land Use of Catchment Area

Natural/Semi-natural Forest	0 %
Secondary Forest	6 %
Planted Forest	0 %
Estate	57 %
Mixture of Estate and Dry-farming Land	23 %
Dry Farming Land	14 %
Pasture Land	0 %
Paddy Field	0 %
Swamp	0 %
Water Body	0 %
Settlement & Othres	0 %

Source:

1:50,000 Land Use Map prepared by JICA Study Team for Master Plan.

The Study on Critical Land and Protection Forest Rehabilitation at Tondano Watershed in the Republic of Indonesia

Japan International Cooperation Agency

Figure HAT2.25

Characteristics of Sub-watershed 24 (1/2)

Characteristics of Sub-watershed in the Intensive Area

Sub-watershed No.

Sub-watershed - 24

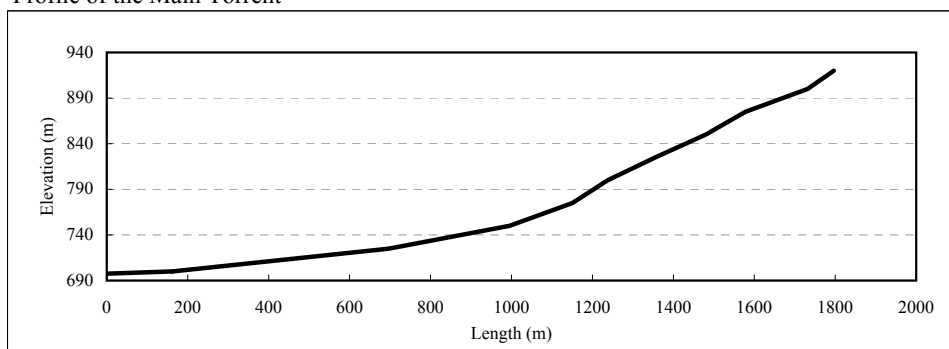
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2) Main Torrent

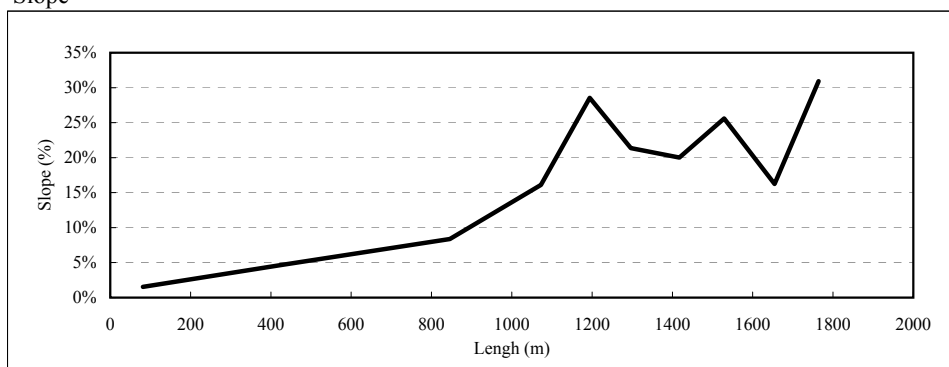
Mean Torrent Bed Gradient

19.3 %

Profile of the Main Torrent



Slope



Torrent Condition

Survey Point

TD-25

Bed Width

1.7 m

Bank Height

1.3 m

Bank Slope

90°

Gravel Condition

Min

5 cm

Max

60 cm

Average

10 cm

Uniformity

No

Coverage Ratio

95 %

Amount of Deposition

0

Land Use of Surrounding Area

Forest/Estate

Water Depth at the Time of Measurement

0.25 m

Water Color

Transparent and somewhat gray

Remarks

See Figure HAT2.32 for the survey point.

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Figure HAT2.25

Characteristics of Sub-watershed 24 (2/2)

Characteristics of Sub-watershed in the Intensive Area

Sub-watershed No.

Sub-watershed - 25

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1) Catchment Area

Area

129

 ha

Highest Point

1,005

 m

Average Slope

32

 %

Lowest Point

695

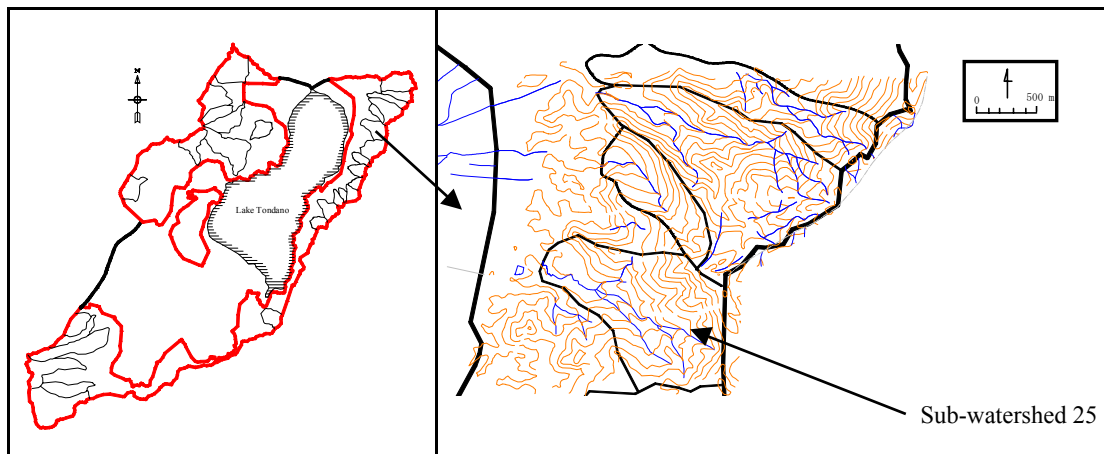
 m

Elevation Difference

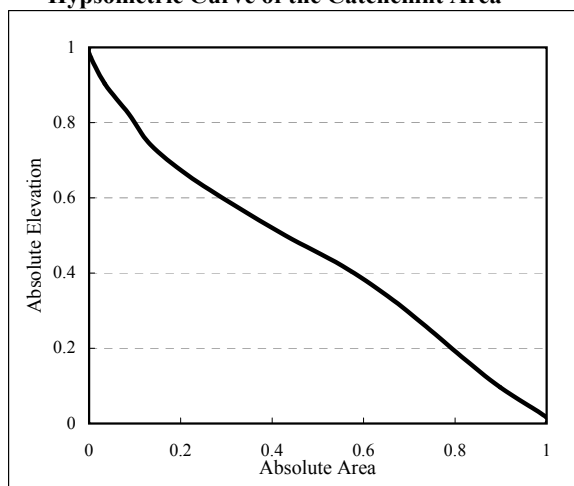
310

 m

Plan



Hypsometric Curve of the Catchment Area



Land Use of Catchment Area

Natural/Semi-natural Forest	3%
Secondary Forest	16%
Planted Forest	0%
Estate	47%
Mixture of Estate and Dry-farming Land	28%
Dry Farming Land	6%
Pasture Land	0%
Paddy Field	0%
Swamp	0%
Water Body	0%
Settlement & Othres	0%

Source:

1:50,000 Land Use Map prepared by JICA Study Team for Master Plan.

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Figure HAT2.26

Characteristics of Sub-watershed 25 (1/2)

Characteristics of Sub-watershed in the Intensive Area

Sub-watershed No.

Sub-watershed - 25

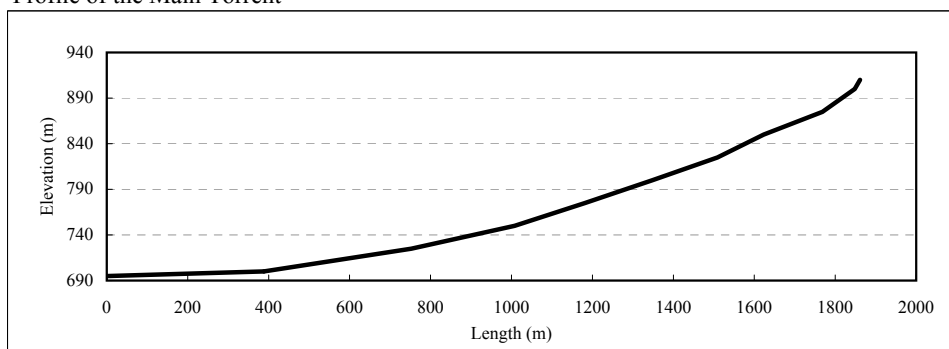
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2) Main Torrent

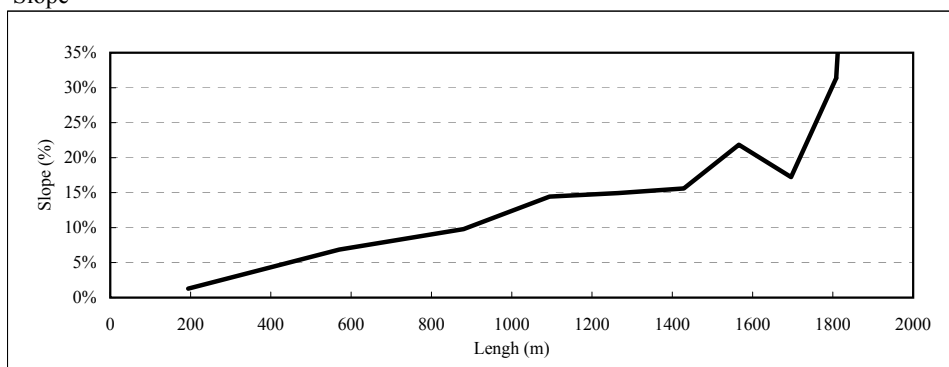
Mean Torrent Bed Gradient

18.2%

Profile of the Main Torrent



Slope



Torrent Condition

Survey Point

TD-27

Bed Width

2.2 m

Bank Height

1.8 m

Bank Slope

70°

Gravel Condition

Min

5 cm

Max

100 cm

Average

10 cm

Uniformity

No

Coverage Ratio

80 %

Amount of Deposition

0

Land Use of Surrounding Area

Forest/Grassland

Water Depth at the Time of Measurement

0.15 m

Water Color

Gray and somewhat yellow-brown

Remarks

See Figure HAT2.32 for the survey point.

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Figure HAT2.26

Characteristics of Sub-watershed 25 (2/2)