

Characteristics of Sub-watershed in the Intensive Area

Sub-watershed No.

Sub-watershed - 20

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1) Catchment Area

Area

62

ha

Highest Point

975

m

Average Slope

36

%

Lowest Point

695

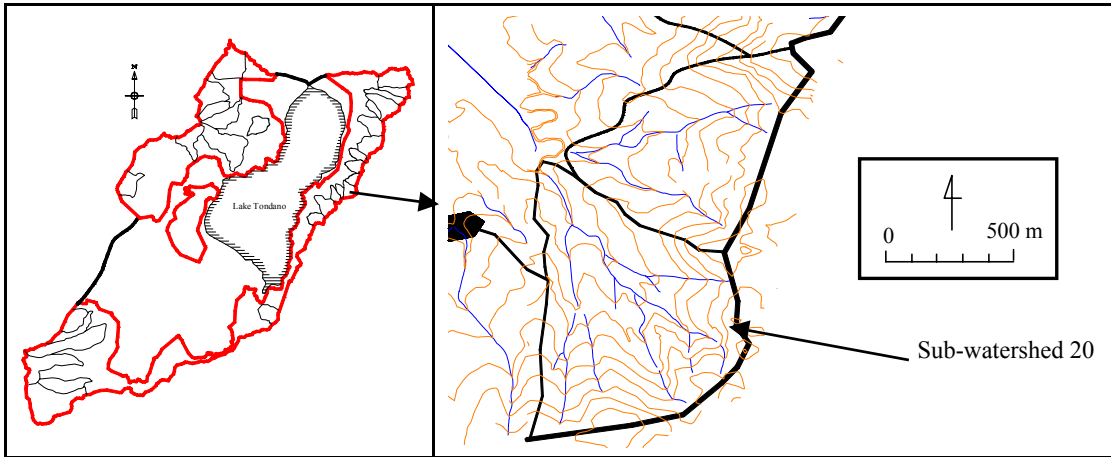
m

Elevation Difference

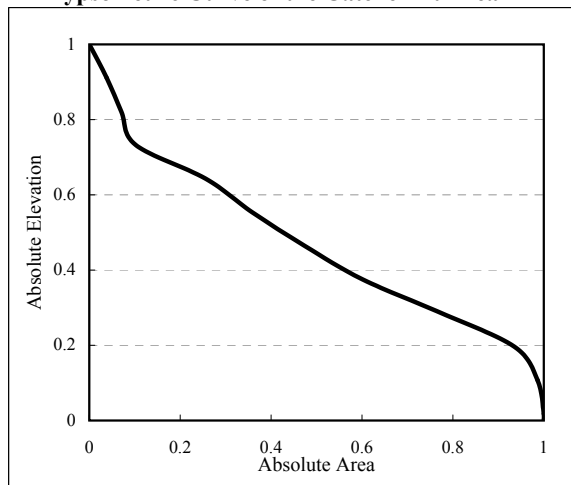
280

m

Plan



Hypsometric Curve of the Catchment Area



Land Use of Catchment Area

Natural/Semi-natural Forest	0%
Secondary Forest	0%
Planted Forest	0%
Estate	78%
Mixture of Estate and Dry-farming Land	22%
Dry Farming Land	0%
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 HAT2.21

Characteristics of Sub-watershed 20 (1/2)

Characteristics of Sub-watershed in the Intensive Area

Sub-watershed No.

Sub-watershed - 20

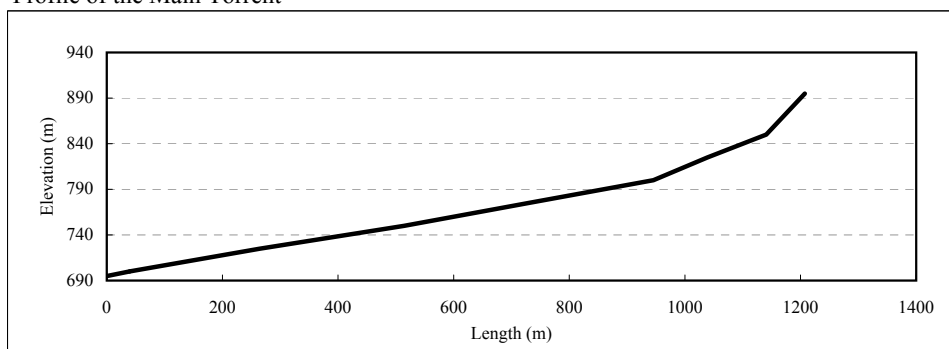
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2) Main Torrent

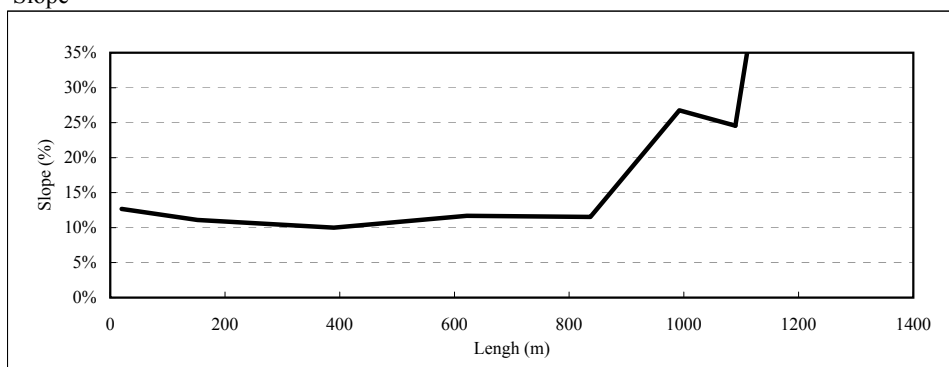
Mean Torrent Bed Gradient

27.4 %

Profile of the Main Torrent



Slope



Torrent Condition

Survey Point

TD-23

Bed Width

1.0 m

Bank Height

1.2 m

Bank Slope

90°

Gravel Condition

Min

20 cm

Max

150 cm

Average

30 cm

Uniformity

No

Coverage Ratio

50 %

Amount of Deposition

0 -

Land Use of Surrounding Area

Grassland

Water Depth at the Time of Measurement

0.1 m

Water Color

Transparent and colorless

Remarks

See Figure HAT2.32 for the survey point.

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Figure HAT2.21

Characteristics of Sub-watershed 20 (2/2)