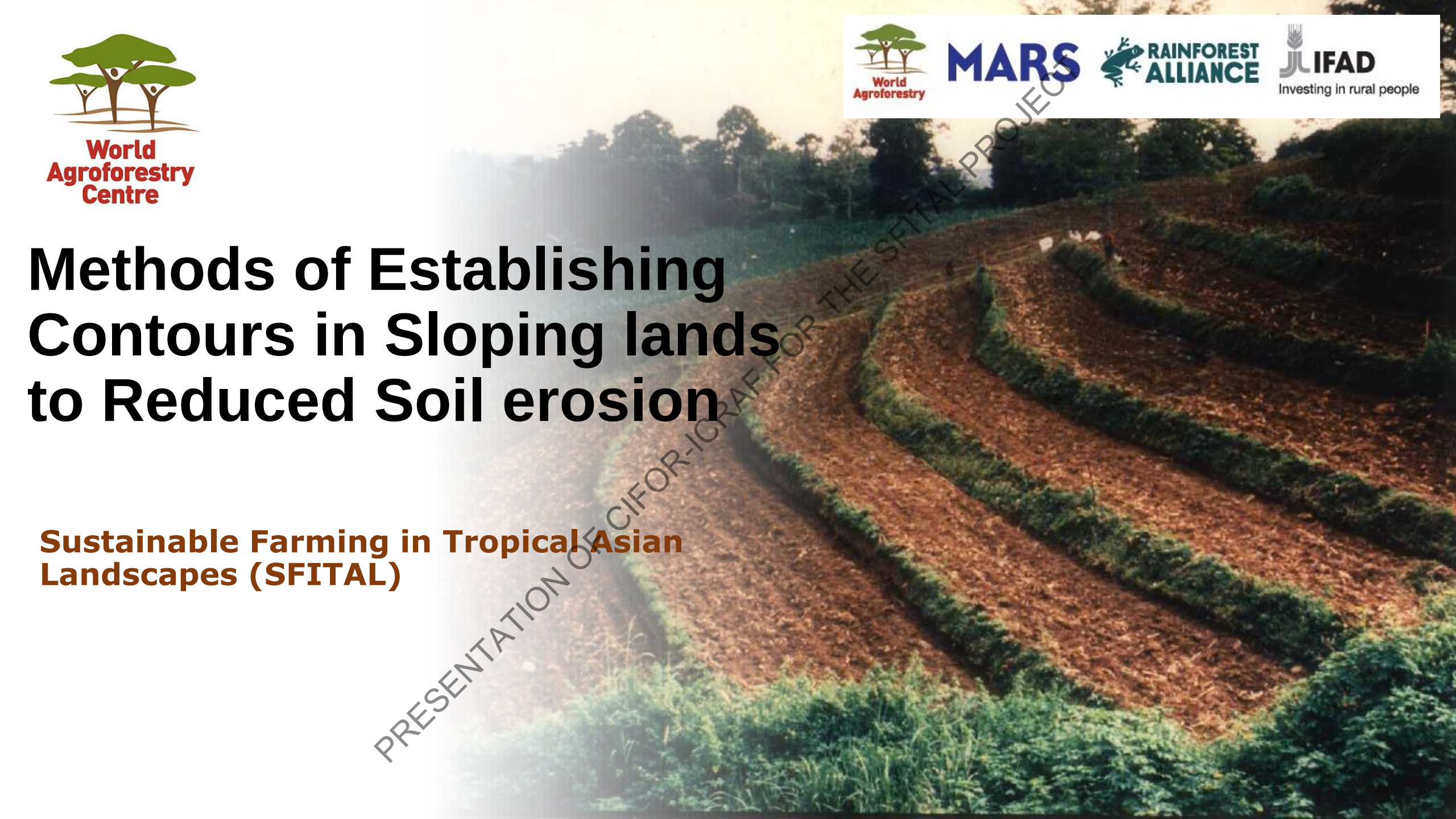
World Agroforestry Centre

Methods of Establishing Contours in Sloping lands to Reduced Soil erosion

Sustainable Farming in Tropical Asian Landscapes (SFITAL)



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Method of establishing Natural Vegetative Strips (NVS) – use of A-frame

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Practical Soil and Water Conservation Measures in Cacao-based Agroforestry System

- Soil fertility declines are a leading factor in decreasing cacao yields. The application of chemical fertilizer is often not an option for cacao smallholders, either because of a lack of access or its high cost.
- Soil management starts at the establishment of a cacao farm.
- By maintaining and improving the soil characteristics for cacao production across its life-cycle, production costs are reduced.

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Practical Soil and Water Conservation Measures in Cacao-based Agroforestry System

- For sloping areas, integrating contours using grass strips, fodder grasses or other materials available is recommended to minimise soil runoff.

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Making the A-frame

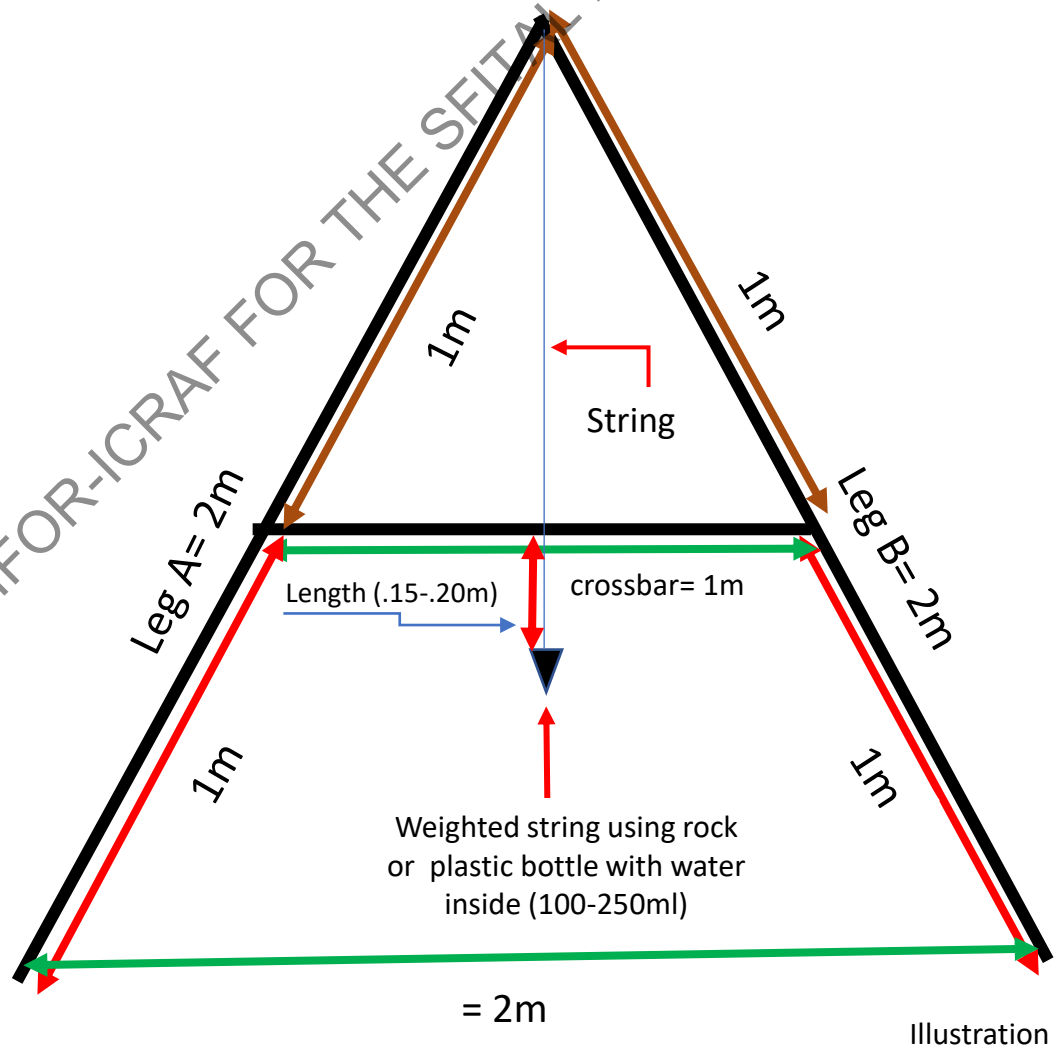

Illustration Source: Erwin B. Albios

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Making the A-frame

1. Use 3 wooden or bamboo poles about 4 cm in diameter.
2. Join the poles securely with notches and string or nails so that the joints do not slip.
3. Tie a string to the top of the A-frame.
4. Tie a rock or other weight to the other end of the string.
5. The weight must be heavy enough that it will not be blown by the wind.
6. The weight should hang about 20 cm below the crossbar.

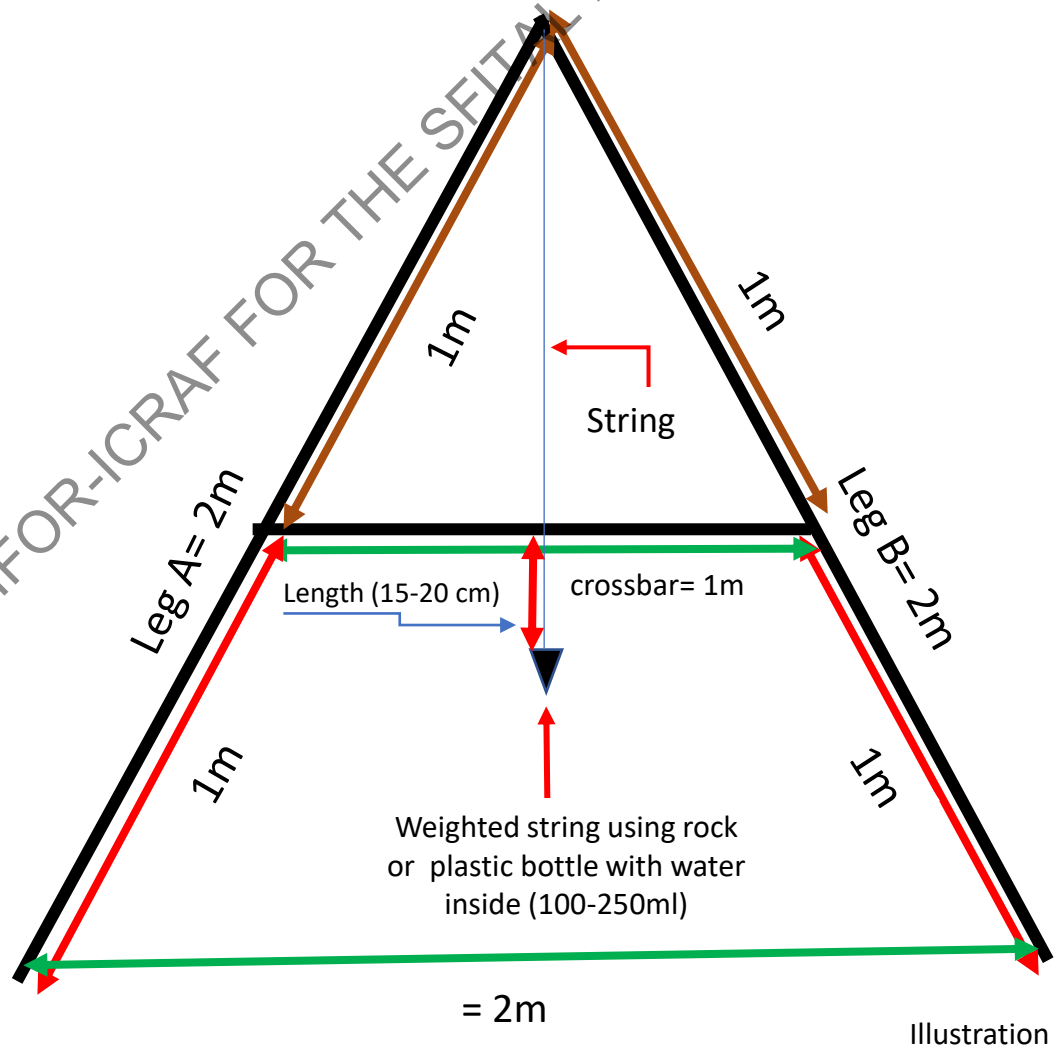

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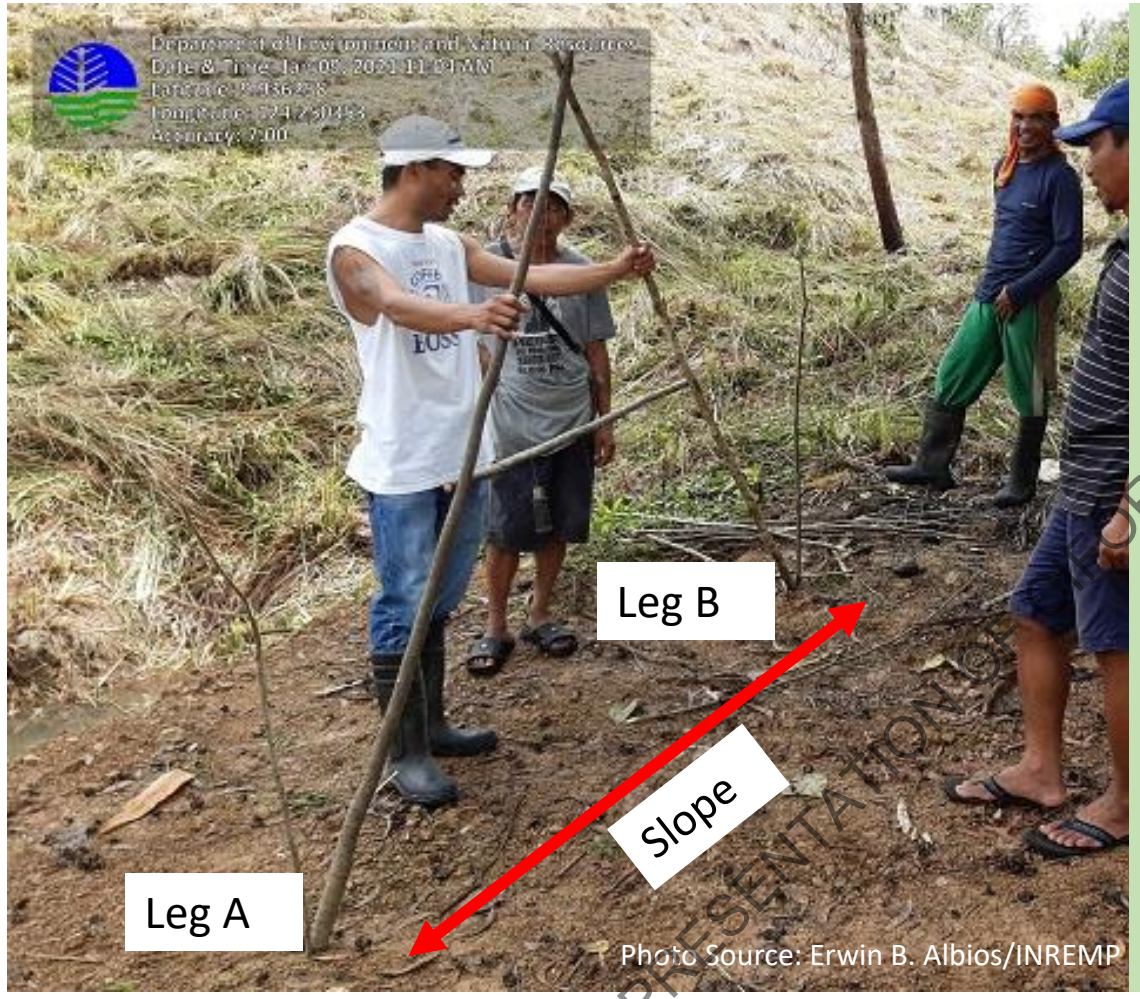
Illustration Source: Erwin B. Albios

Making the A-frame



✓Calibrate the A-Frame.

1. Place the A-frame on nearly level ground. Mark the spots where the legs (A and B) touch the ground. Mark the crossbar where the weighted string passes it ("mark 1").

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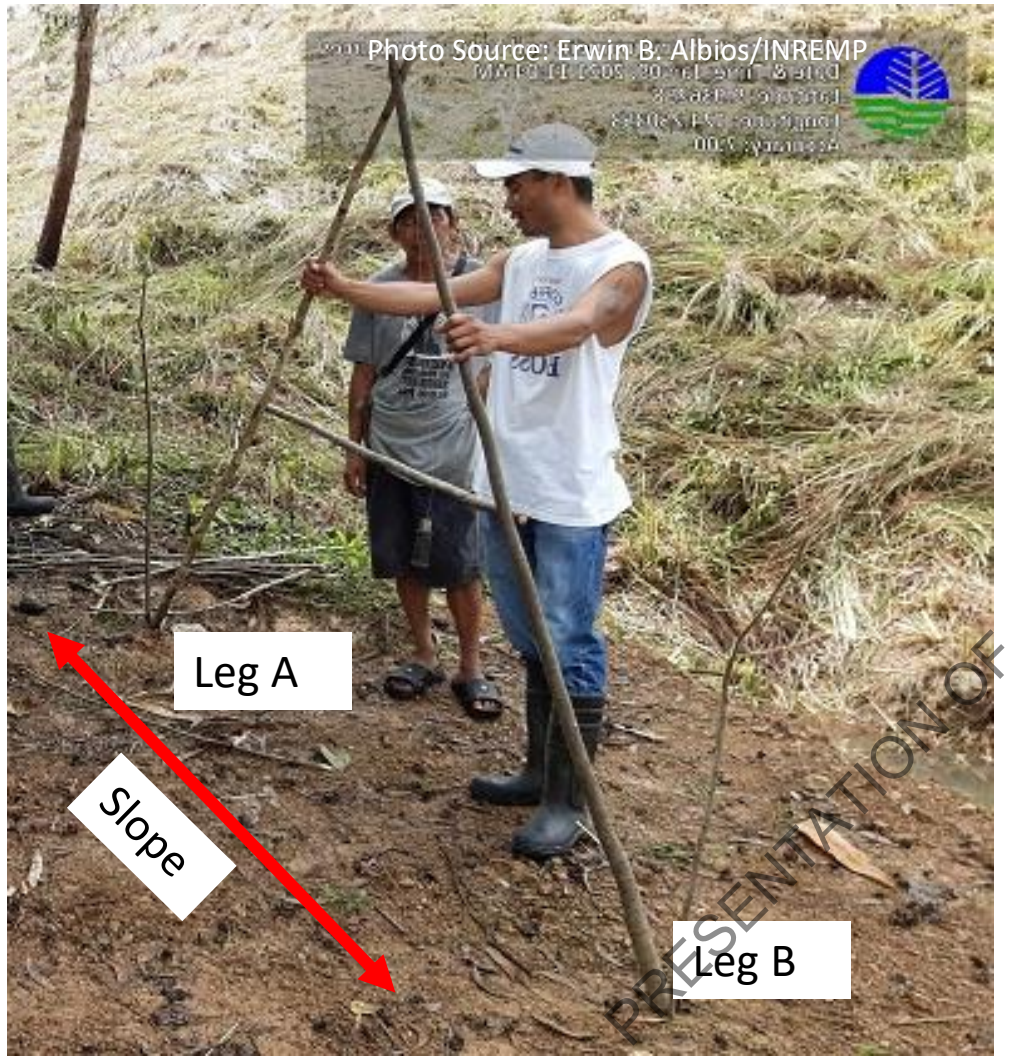
Making the A-frame



✓Calibrate the A-Frame.

2. Turn the A-frame so that leg A is exactly where leg B was, and leg B is exactly where leg A was.
3. Mark the crossbar where the string falls now ("mark 2").
4. If the two marks are the same, they are the midpoint.
5. If they are different, the midpoint is halfway between them.

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Making the A-frame

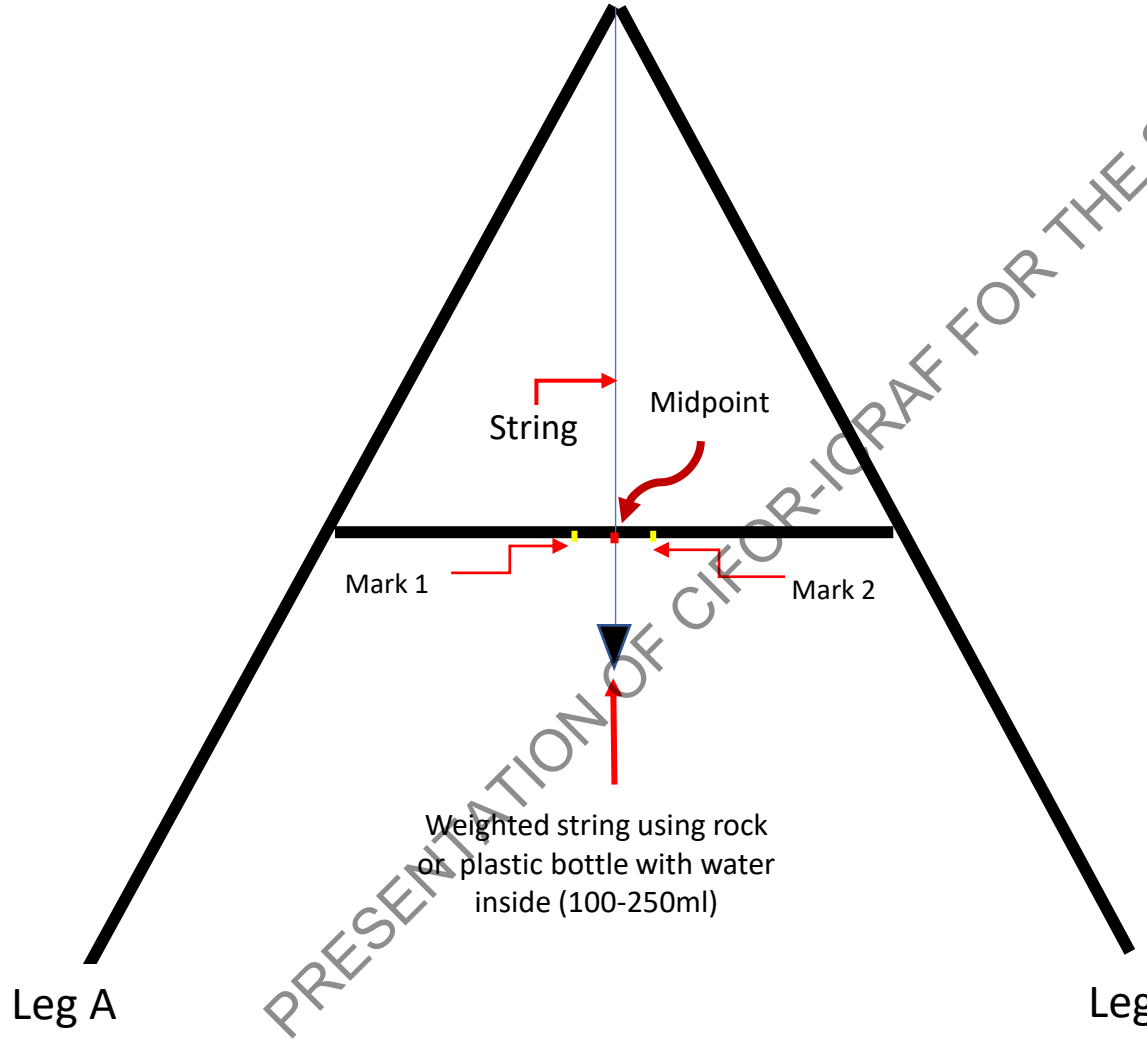

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Illustration Source: Erwin B. Albios

Making the A-frame

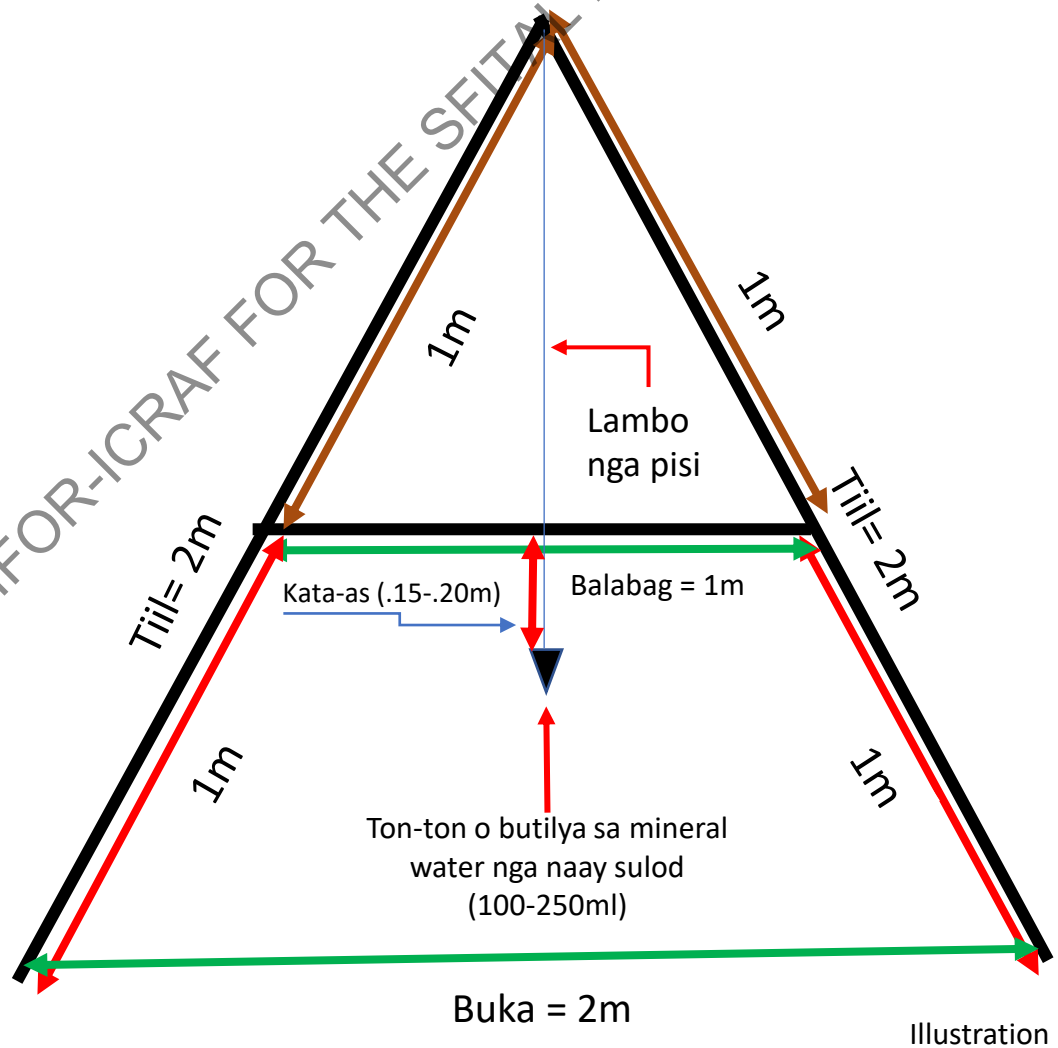

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Illustration Source: Erwin B. Albios

Marking a contour line

1. Cut and clear the tall grasses and other vegetation to make it easy to move around in the field.
2. Put the first stake and start laying out the contour in the middle of the slope.
3. Put leg "A" of the A-frame just above the stake so that it will not slip down.
4. Adjust the location of the location of leg "B" until the weighted string hangs at the midpoint of the crossbar.
5. The two legs are now level with each other (on the contour). Put a stake just below leg B.

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Marking a contour line

6. Keep leg B at the same spot and turn the A-frame around it.
7. Adjust leg A until the string hangs at the midpoint, and stake it.
8. Repeat steps 3 and 4 until the whole line is staked.
9. Where a small irregularity in the slope has caused a single stake to be crooked, the stake may be shifted to make the contour follow a smooth curve.

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Laying out contour lines using Carabao's back method

1. Lay out the first contour line in the center of the field using the A-frame.
2. Begin plowing along the contour at the location selected for the second contour line.
3. Observe the cow's head in relation to her tailbone. If the cow's head is higher than her tailbone, the cow is going uphill. Steer downhill a little.
4. If the cow's tailbone is higher than her head, the cow is going downhill. Steer uphill a little

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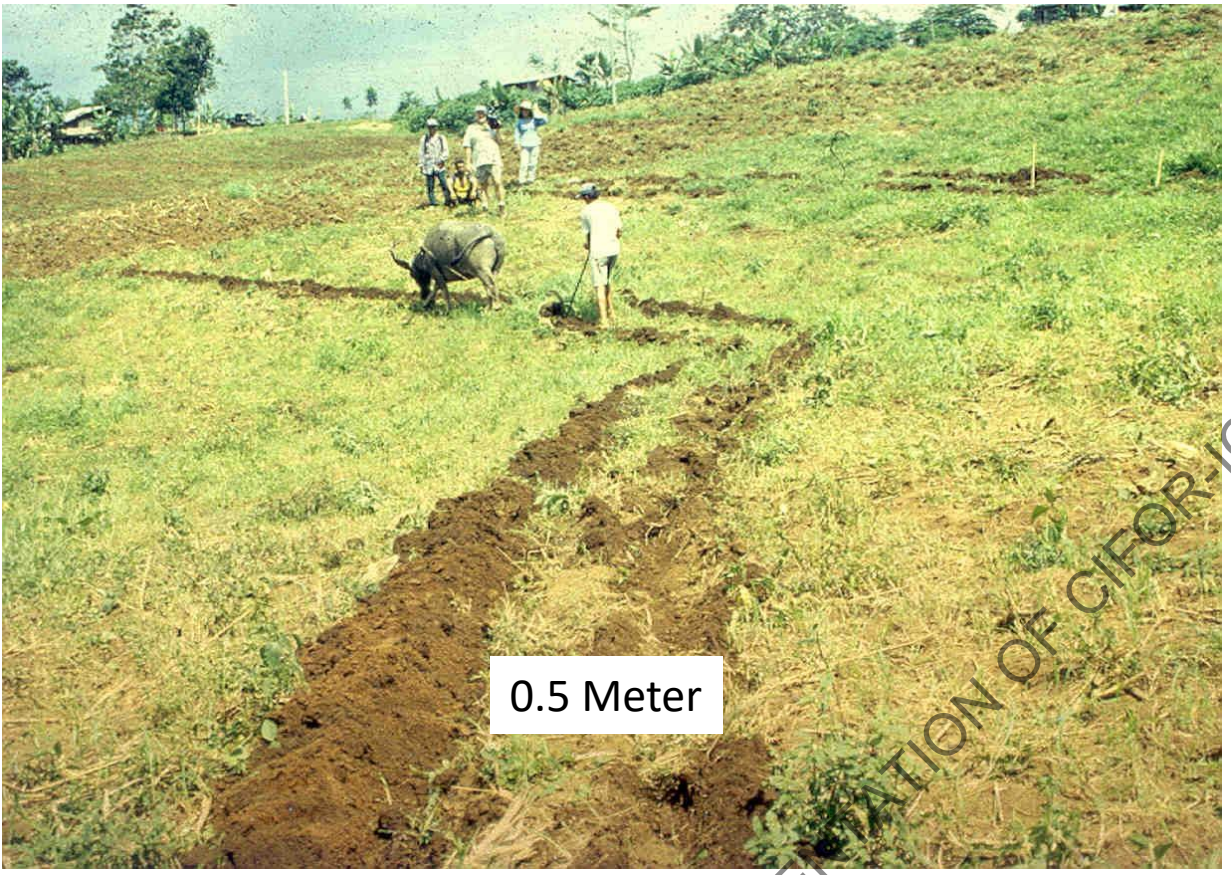
Laying out contour lines



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Laying out contour lines

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NVS technology provides the foundation for agroforestry adoption

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Let’s go to the field for an actual hands-on demonstration!

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SUSTAINABLE FARMING IN TROPICAL ASIAN LANDSCAPES (SFITAL)

Thank you!

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