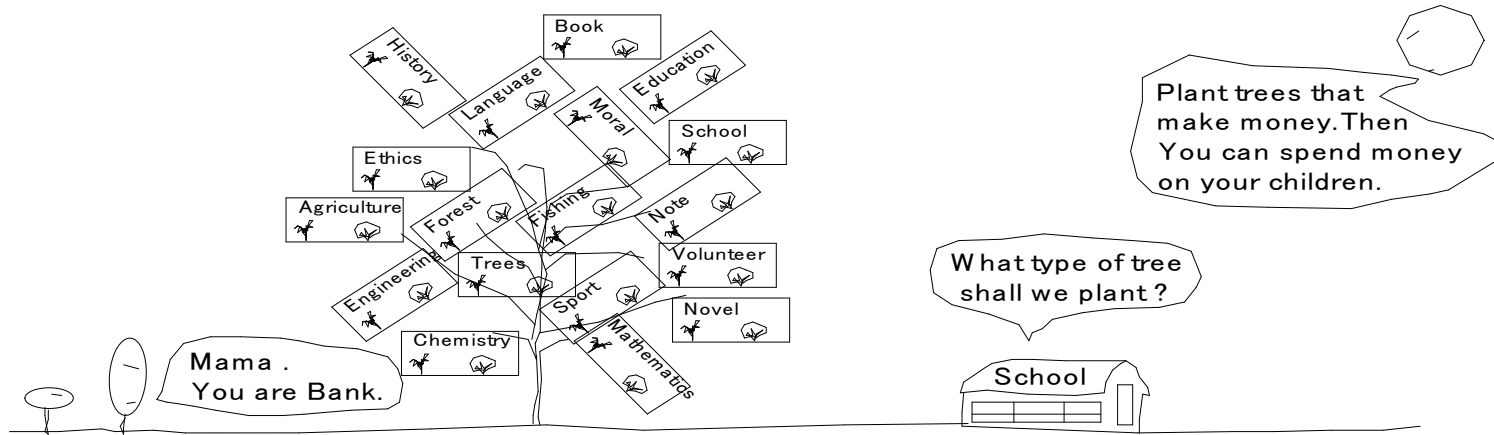


( 01 ) Tree and Forest  
Teach children the function of trees



(02) References

( 0 ) References		
( 1 ) Plant Tree Control Forest	Shiraishi Norihiko	NPO MORIMORI NET WORK IWANAMI BOOKSTORE PUBLISHING Co.,Ltd
( 2 ) Wonderful Tree and Function of Forest	Keiichi Sugio Hisao Sugawara	GAKUSHU KENKYUSYA PUBLISHING Co.,Ltd
( 3 ) Trees	Hushou Ozawa	DAI NIPPON TOSHO PUBLISHING Co.,Ltd
( 4 ) Our Life with Trees	Tadashi Yokoyama	KUMON PUBLISHING Co.,Ltd
( 5 ) Forest	Takahisa Hanya Masaki Honma	TOSHO INSATSU PUBLISHING Co.,Ltd
( 6 ) Forest Protect Our Land	Masaru Ayano	BUNKAN PUBLISHING Co.,Ltd
( 7 ) Forest and Grassland	Hiroto Yamaoka	FROBEL-KAN PUBLISHING Co.,Ltd.TOKYO
( 8 ) Forest is Treasure of The Earth ( Future of Forest )	Akira Miyawaki	YUMANI Co.,Ltd.TOKYO
( 9 ) Forest is Treasure of The Earth ( Forest Crying )	Akira Miyawaki	YUMANI Co.,Ltd.TOKYO
( 10 ) Forest is Treasure of The Earth ( Forest is Life Souce )	Akira Miyawaki	YUMANI Co.,Ltd.TOKYO
( 11 ) Mankind Live With Forest	Hushou Ozawa Masanori Tanaka	DAI NIPPON TOSHO PUBLISHING Co.,Ltd
( 12 ) The Use of Trees	Hushou Ozawa Yuushirou Miwa	DAI NIPPON TOSHO PUBLISHING Co.,Ltd
( 13 ) Shape of Trees	Hushou Ozawa Yoshio Yamaoka	DAI NIPPON TOSHO PUBLISHING Co.,Ltd

只野敏夫  
TADANO TOSHIO

- (01) Tree and Forest
- (02) References
- (03) Contents
- 1 (1) How to Plant Trees (1 )
- 2 (2) How to Plant Trees (2 )
- 3 (3) How to Measure Height and Width of Tree
- 4 (4 ) Plant Trees and Proper Location
- 5 (5 ) Bleeding for Good Trees
- 6 (6 ) Keep Forest from Animal
- 7 (7 ) Keep Forest from Natural Disaster
- 8 (8) How to Plant Trees (1 )
- 9 (9) How to Plant Trees (2 )
- 10 (10 ) Roadside Tree (1)
- 11 (11 ) Roadside Tree (2)
- 12 (12 ) Tree Spread Water
- 13 (13 ) Tree's Evaporation and Temperature of Town
- 14 (14 ) Village's Forest
- 15 (15 ) Bamboo Forest
- 16 (16 ) Mush Room and Coal pit
- 17 (17 ) Fallen Leaves and Leaf Mold
- 18 (18 ) Keep Beach with Mangrove
- 19 (19 ) To Plant Trees in Foreign Country
- 20 (20 ) Keep Forest Bring Up Fish
- 21 (21) Why Do Forest Die ?
- 22 (22) Forest Disappear from The Earth
- 23 (23) Forest Lose
- 24 (24) Global Warming
- 25 (25) Effect of Forest
- 26 (26) Fallen Leaves of Forest
- 27 (27) Forest
- 28 (28) Annual Ring
- 29 (29) Die Cloth With Vegetation
- 30 (30) Weave a Basket
- 31 (31) Treasure of Forest
- 32 (32) Phanerogam and Fern
- 33 (33) Water Circulation of Forest
- 34 (34) Forest Circulation
- 35 (35) Forest Expansion
- 36 (36) We Damage Forest
- 37 (37) Forest Reserve
- 38 (38) Forest Decrease
- 39 (39) Soil Outflow After Cutting Trees
- 40 (40) Desertification
- 41 (41) Forest on The Beach
- 42 (42) Proper Location and Proper Trees
- 43 (43) Damages of Forest
- 44 (44) Artificial Forest and Natural Forest

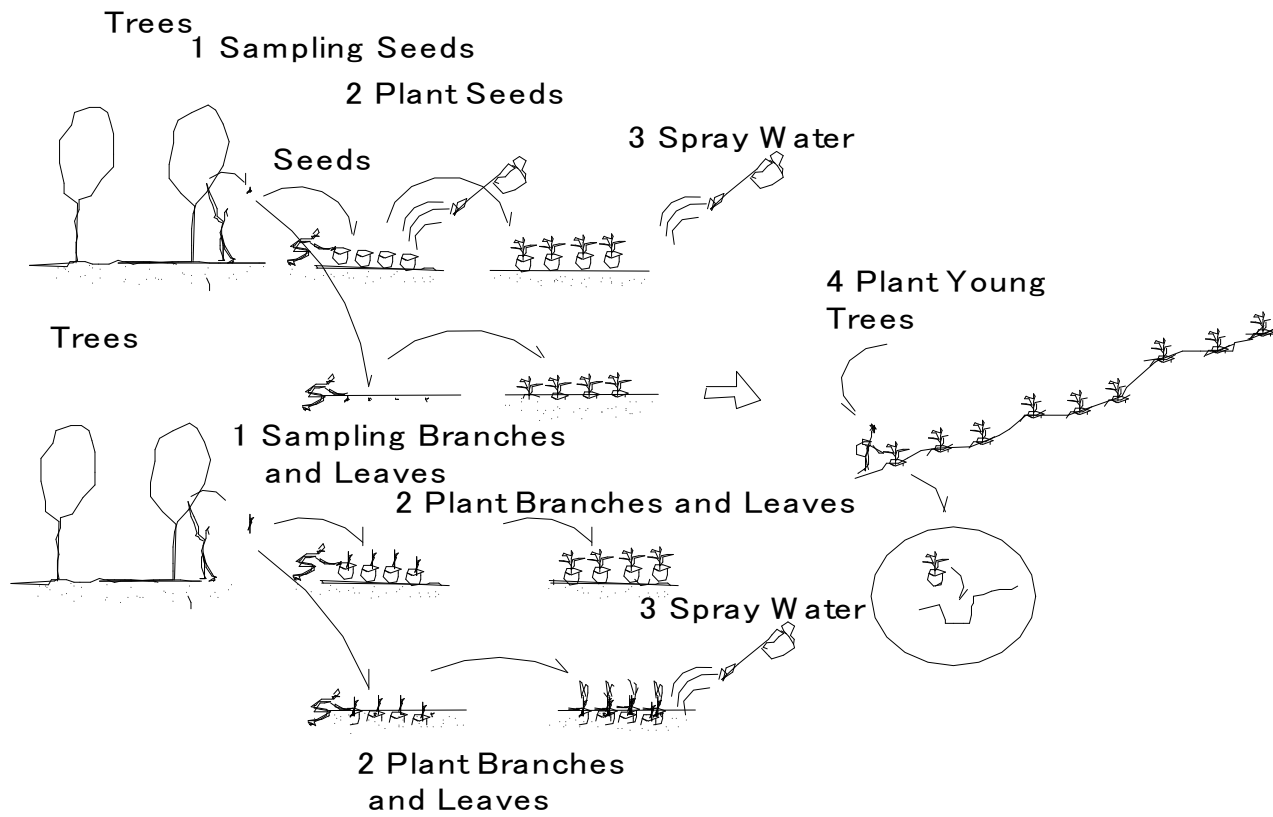
- 45 (45) Roadside Trees (3 )
- 46 (46) Grow Forest
- 47 (47) The four Seasons of Trees
- 48 (48) Japanese Lacquer
- 49 (49) Paper from Wood
- 50 (50) Trees of City
- 51 (51) Forest Die
- 52 (52) Many Flood after Cutting Trees
- 53 (53) Recover Green on Rock Ground
- 54 (54) Protect Land Collapse
- 55 (55) Vegetation Bags
- 56 (56) Sowing by Helicopter
- 57 (57) Damages by Animal
- 58 (58) Artificial Forest and Natural Forest (2)
- 59 (59) Forest Reserve (2 )
- 60 (60) Forest Lose (2 )
- 61 (61) Forest Lose (3 )
- 62 (62) Forest Lose (4 )
- 63 (63) Soil Outflow After Cutting Trees (2 )
- 64 (64) Wind Break Forest
- 65 (65) Acid Rain Acid Soil
- 66 (66) Soil Outflow After Cutting Trees (3 )
- 67 (67) Forestry Road
- 68 (68) Forestry Road (2 )
- 69 (69) Forestry Road (3 )
- 70 (70) Damages of Forest (2 ) a Pine Weevil
- 71 (71) Natural Forest without Hands
- 72 (72) Forest Investigation
- 73 (73) Trees Can Not Grow Up (Sand Hill, Sand Dune )
- 74 (74) Trees Can Not Grow Up (Grass Land on High Mountain ) (2 )
- 75 (75) Trees Can Not Grow Up (on Waterside ) (3 )
- 76 (76) Weak Natural Grassland by Environment Changes
- 77 (77) Meadow Control by Men
- 78 (78) The Grove of The Village Shrine
- 79 (79) Maintain Green of Grass
- 80 (80) The Grove of The Village Shrine (2 )
- 81 (81) Syrup and Insects
- 82 (82) Grow Minimize Copse (Forest ) with Acorn (seeds)
- 83 (83) Fallen Leaves of Forest and Earthworm
- 84 (84) Effect of Forest (2 )
- 85 (85) Forest is a Green Dam
- 86 (86) Forestry Road (4 ) Trees are Dying of Strong Wind
- 87 (87) Forestry Road (5 ) Many Animal are Separated
- 88 (88) Trees of City (2 ) Small Animal Escape into Green Park
- 89 (89) Trees of City (3 ) Filter of Dust, Noise and Exhaust Gas
- 90 (90) Forest Brake Big Wave (Tsunami)
- 91 (91) Evergreen Broadleaf Trees and Conifer Trees

- 92 (92) The Grove of The Village Shrine (3 )
- 93 (93) What Types of Tree Shall We Plant ?
- 94 (94) Plant Trees
- 95 (95) Plant Trees
- 96 (96) True Forest
- 97 (97) True Forest and Grass (Lawn )
- 98 (98) Village's Forest (SATOYAMA ) II
- 99 (99) Why Did Ancient Civilization Lose Forest ?
- 100 (100) Why Did Ancient Civilization Lose Forest ?(II)
- 101 (101) Mankind Found Fire and Agriculture
- 102 (102) Why Did Rome Civilization Ruin ?
- 103 (103) Rich Country and Poor Country
- 104 (104) Immigrant Bloom after Cutting Trees
- 105 (105) Immigrant Can Not Enter The Grove of The Village Shrine (Chinjuno-Mori)
- 106 (106) Naturalized Animal Enter after Cutting Trees
- 107 (107) It is Difficult to Recover Broken Natural Forest
- 108 (108) Forest Supply Food for Fish
- 109 (109) Forest Disappearance and Civilization Ruin
- 110 (110) Tree and Forest
- 111 (111) Village's Forest (SATOYAMA)
- 112 (112) Over Pasturage (Over Grazing ) Lead to Forest Destruction
- 113 (113) Water Circulation of Forest (2 )
- 114 (114) Plants and Life
- 115 (115) Plants and Life (2 )
- 116 (116) Ecosystem (I)
- 117 (117) Ecosystem (II)
- 118 (118) Ecosystem (III)
- 119 (119) Ecosystem (IV)
- 120 (120) Food Chain
- 121 (121) Terminator on The Earth
- 122 (122) Polytheism
- 123 (123) House Forest
- 124 (124) Forestry
- 125 (125) Rule of Forest (I )
- 126 (126) Rule of Forest (II )
- 127 (127) Rule of Forest (III)
- 128 (128) Amazon is Lung of The Earth
- 129 (129) Future of Forest
- 130 (130) Preservation of Tropical Forest
- 131 (131) Forest Guidance
- 132 (132) Nut and Medicine of Forest
- 133 (133) Keep Forest Bring up Fish (II )
- 134 (134) Sap of Tree (Syrup )
- 135 (135) The Use of Charcoal
- 136 (136) Recycling of Paper
- 137 (137) Firewood for Fuel
- 138 (138) Shortage of Firewood

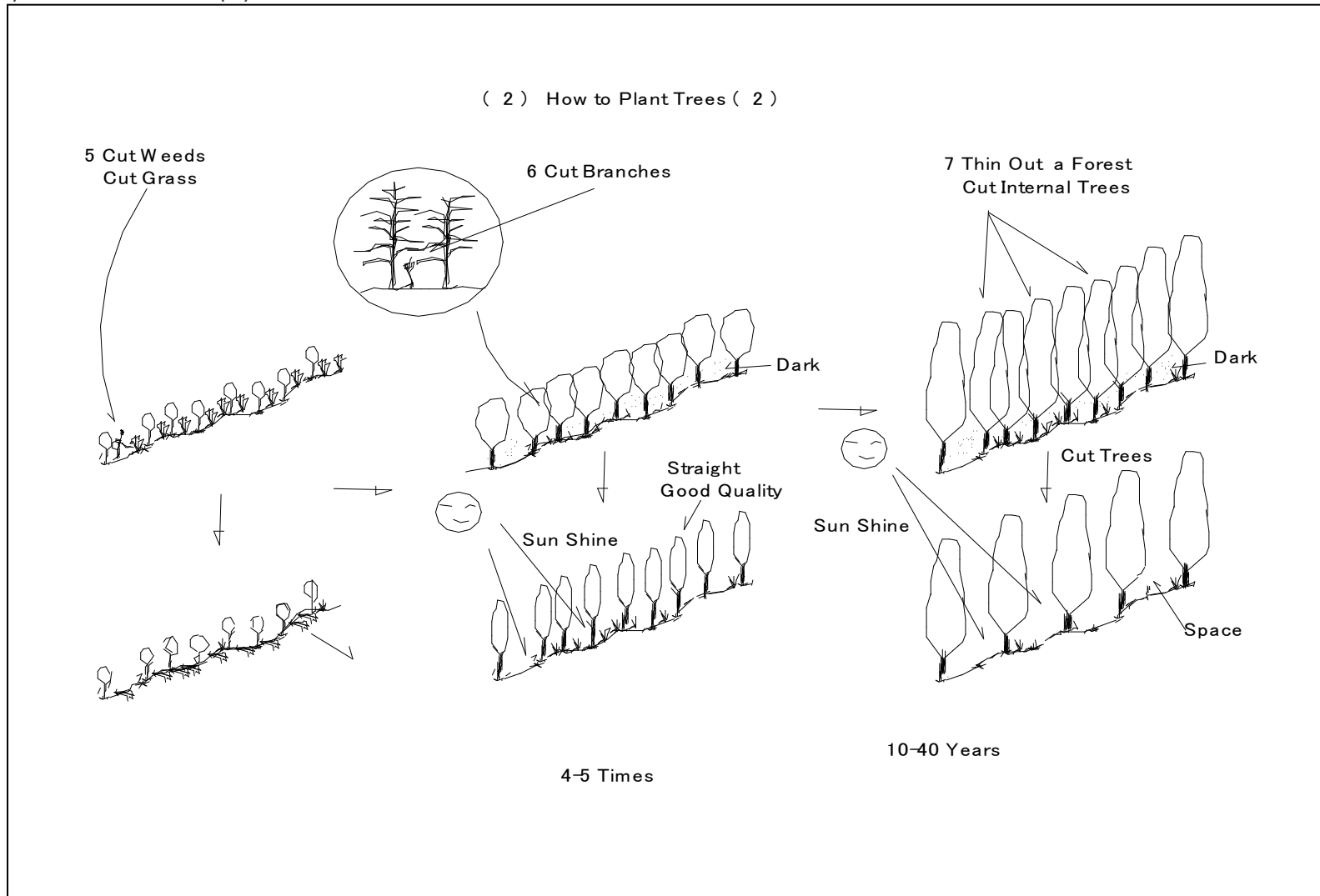
- 139 (139) Wood (Timber ) from Trees
- 140 (140) Goodness of Wood (Timber )
- 141 (141) Dry Wood (Timber )
- 142 (142) Super Wood
- 143 (143) Engineering Board
- 144 (144) Plywood
- 145 (145) Particle Board
- 146 (146) Fiber Board
- 147 (147) Wooden Floor and Carpet Floor
- 148 (148) Wooden House
- 149 (149) Wood are Proof Against Fire
- 150 (150) Precut Processing
- 151 (151) Log House
- 152 (152) Wooden School
- 153 (153) Large Scale Wooden Building
- 154 (154) Wooden Bridge
- 155 (155) Trees in Life
- 156 (156) Grow Trees

(1) How to Plant Trees (1)

( 1 ) How to Plant Trees ( 1 )



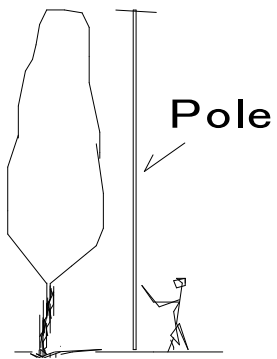
(2) How to Plant Trees (2)



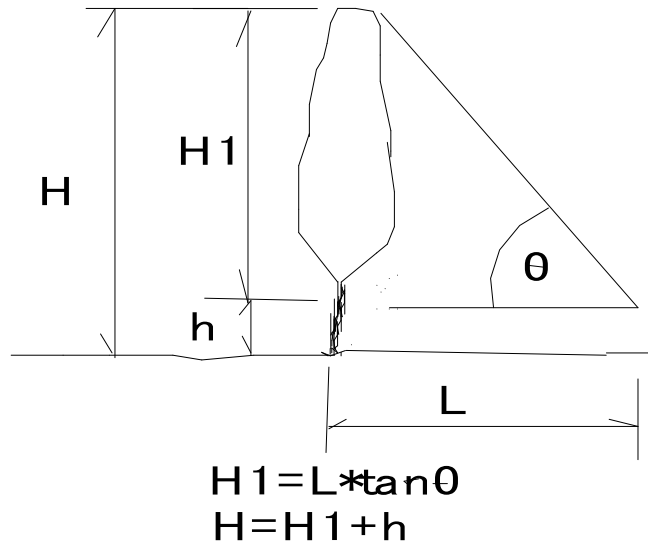


( 3 ) How to Measure Height and Width of Tree

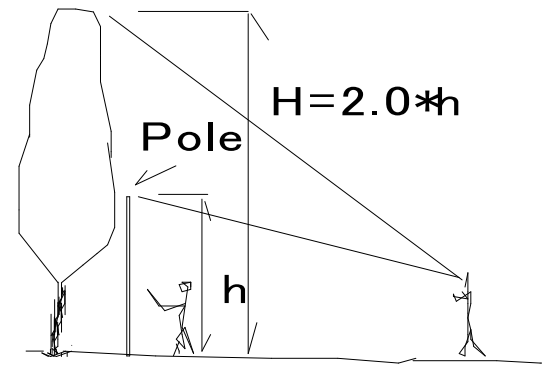
( 1 ) Direct Measure



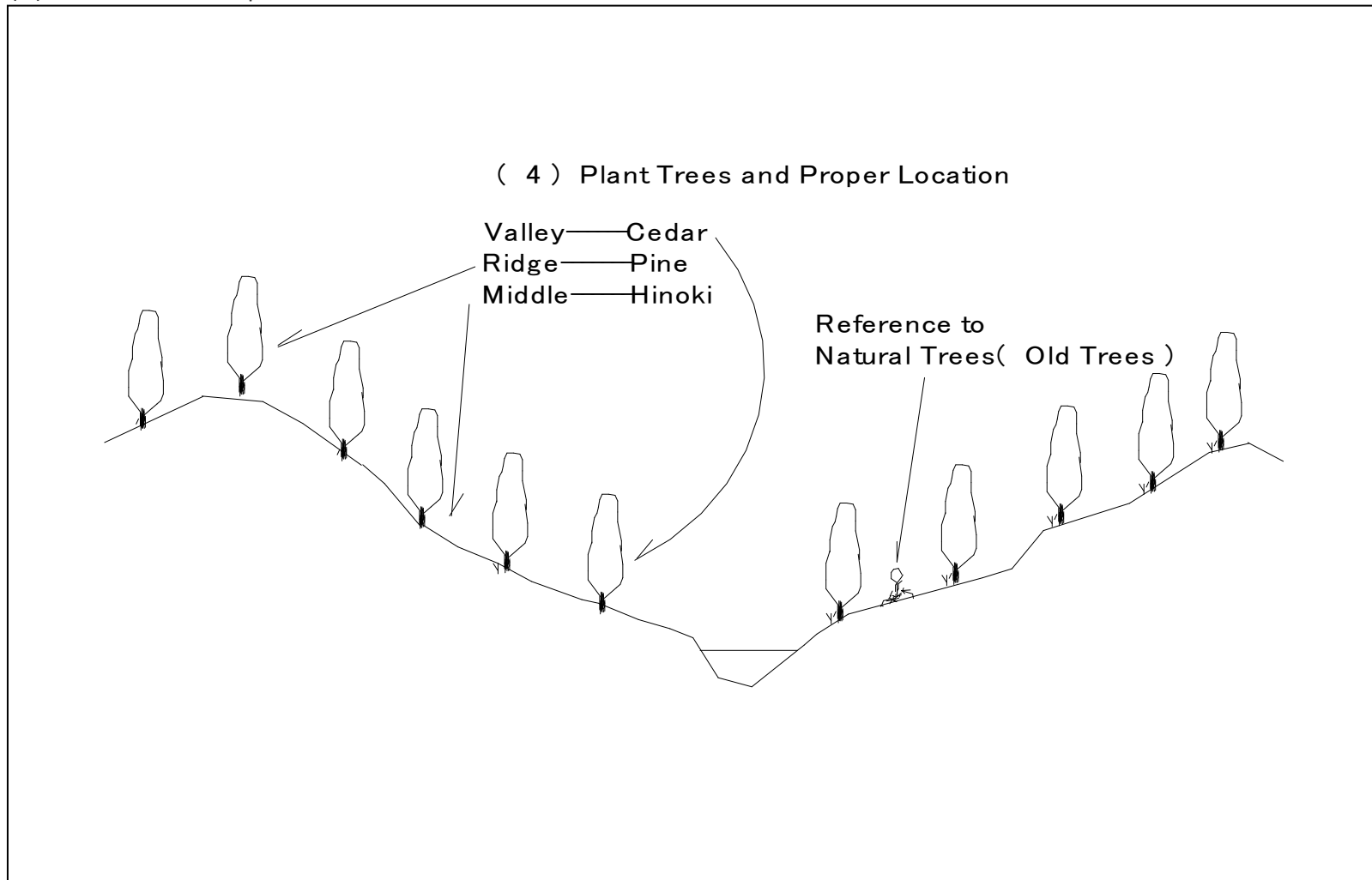
( 2 ) Use Measure Instrument



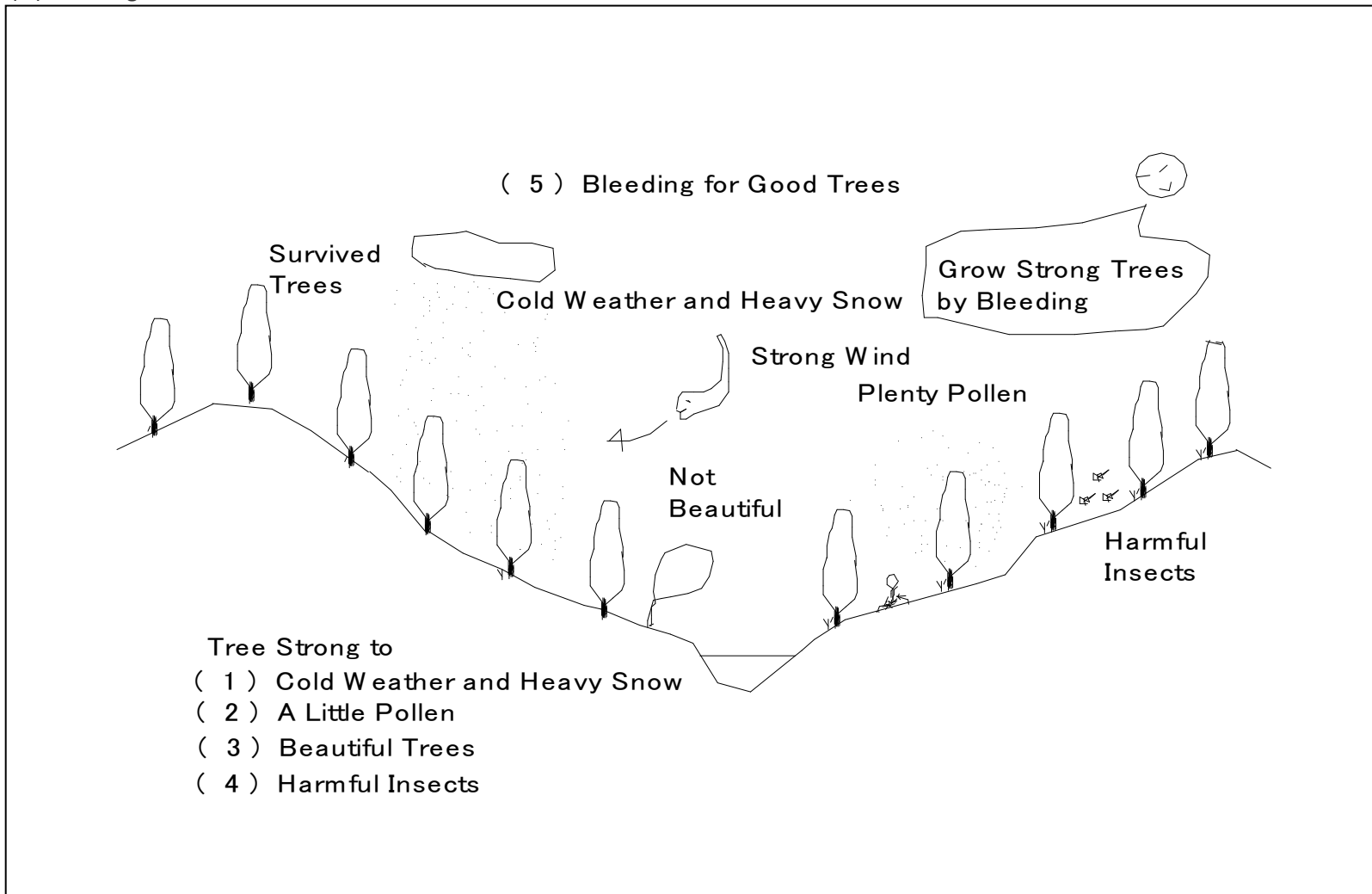
( 3 ) Indirect Measure ( Estimate )



(4) Plant Trees and Proper Location

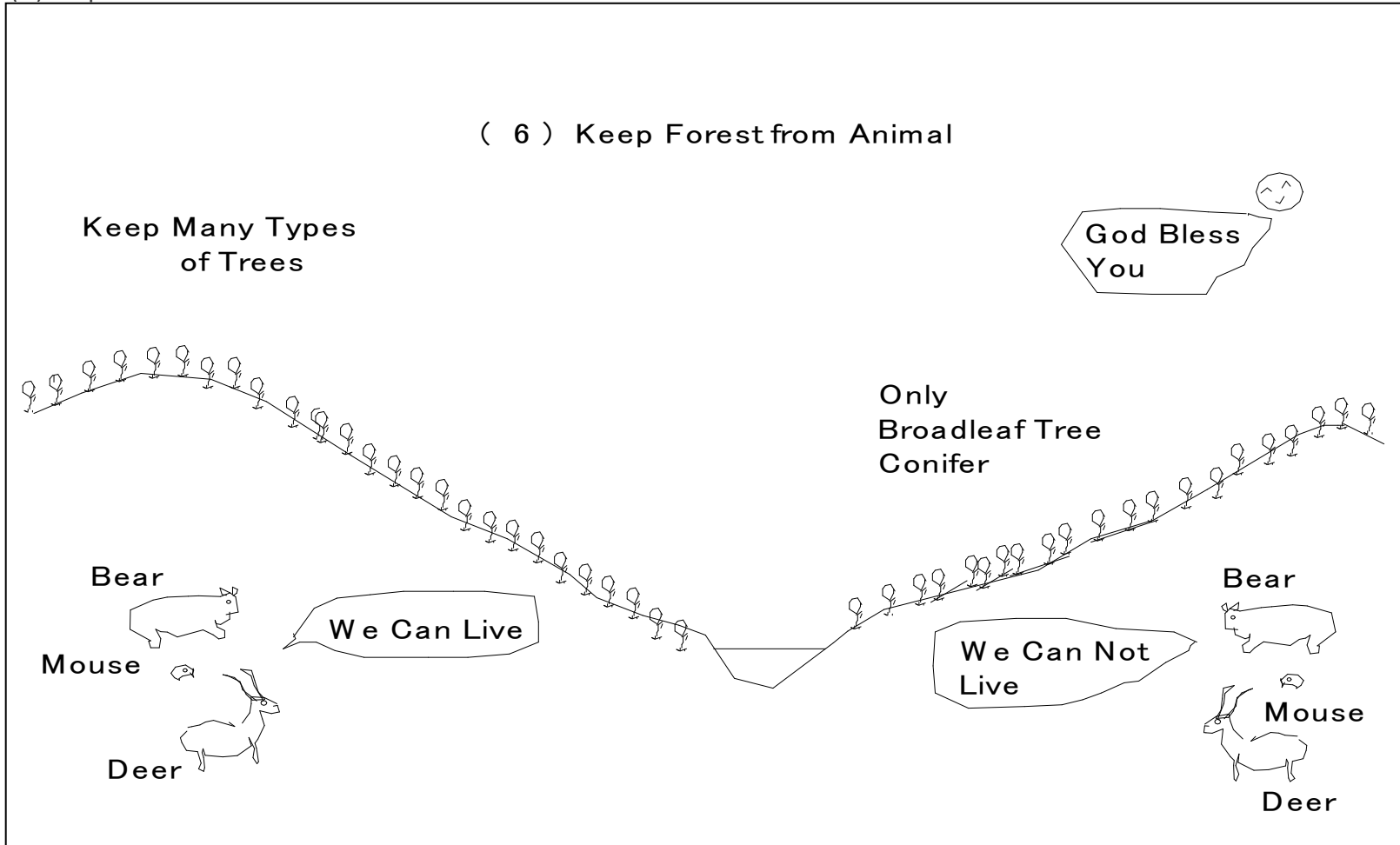


(5) Bleeding for Good Trees

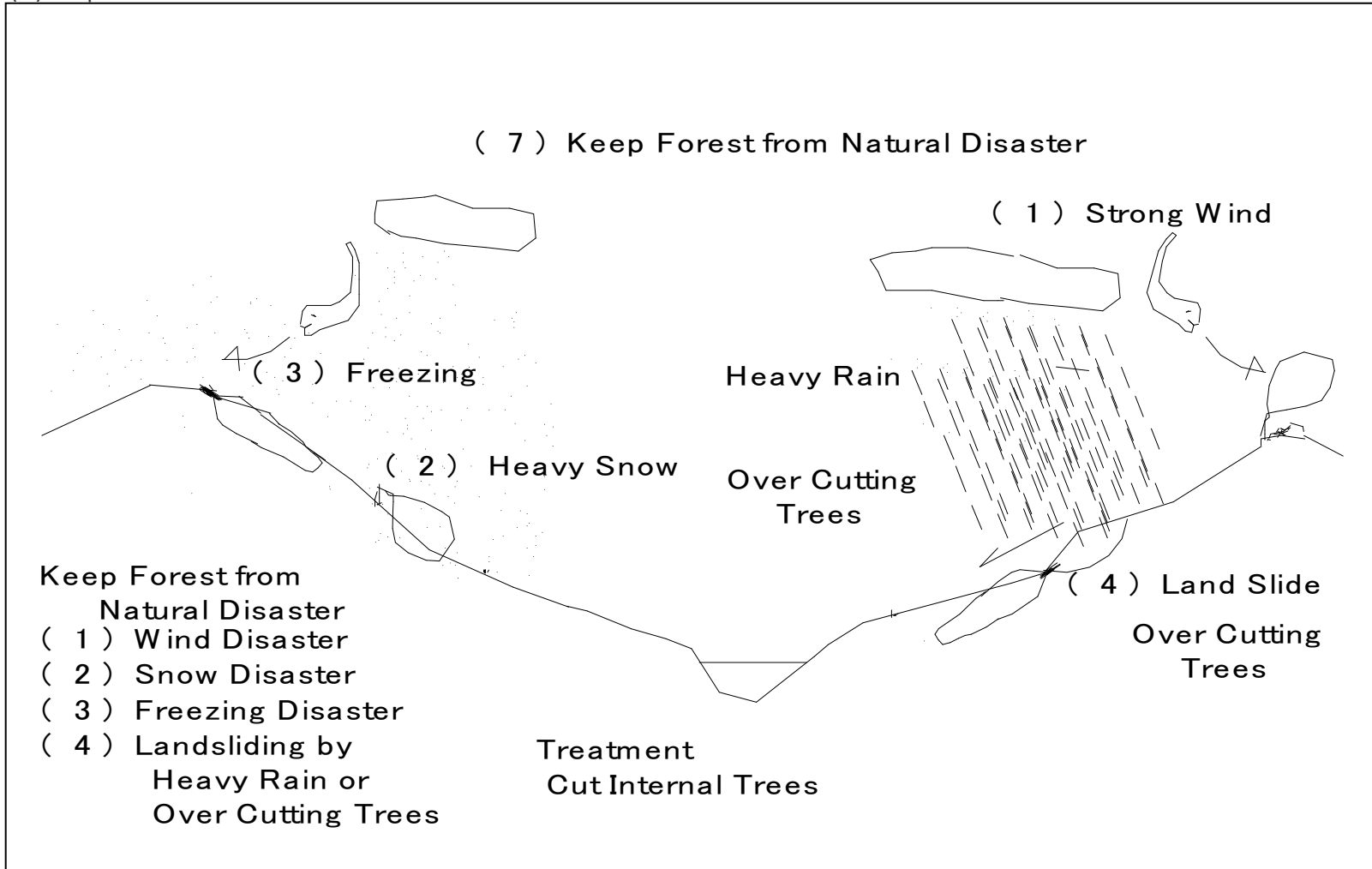


(6) Keep Forest from Animal

( 6 ) Keep Forest from Animal

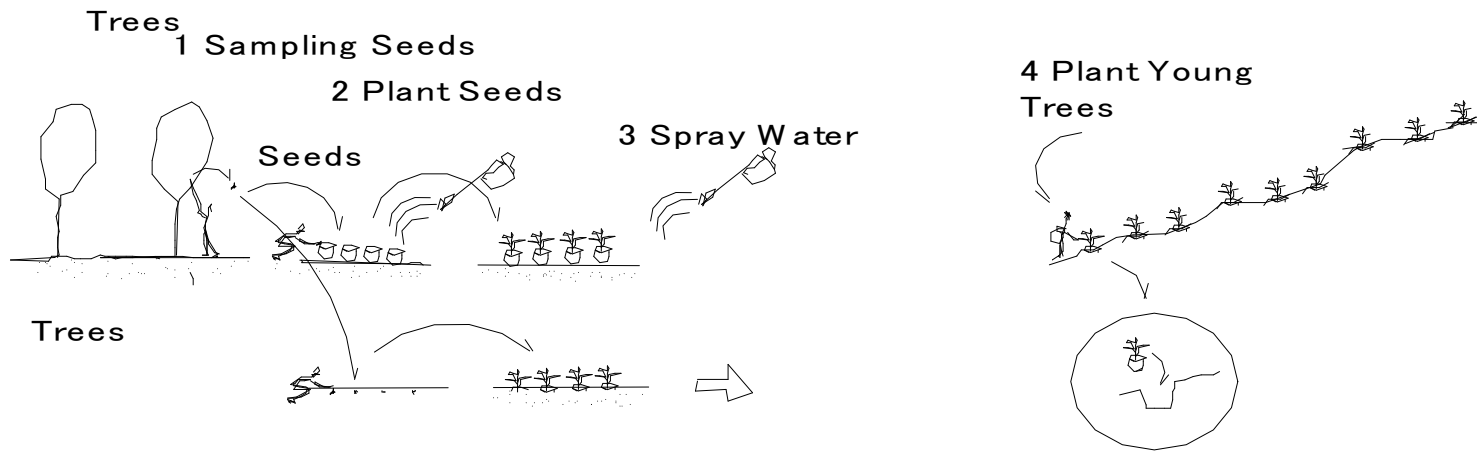


(7) Keep Forest from Natural Disaster



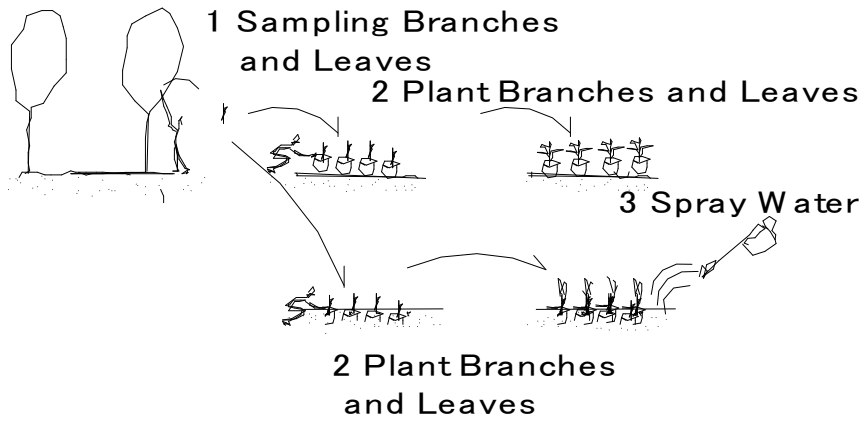
(8) How to Plant Trees (1)

( 8 ) How to Plant Trees ( 1 )

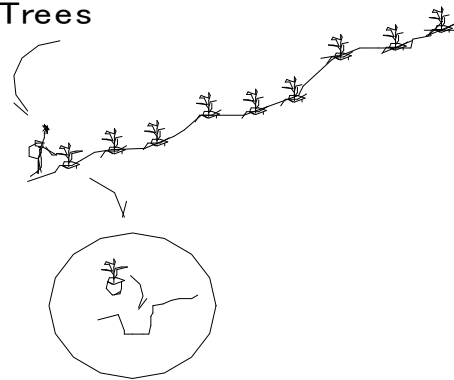


(9) How to Plant Trees (2)

( 9 ) How to Plant Trees ( 1 )

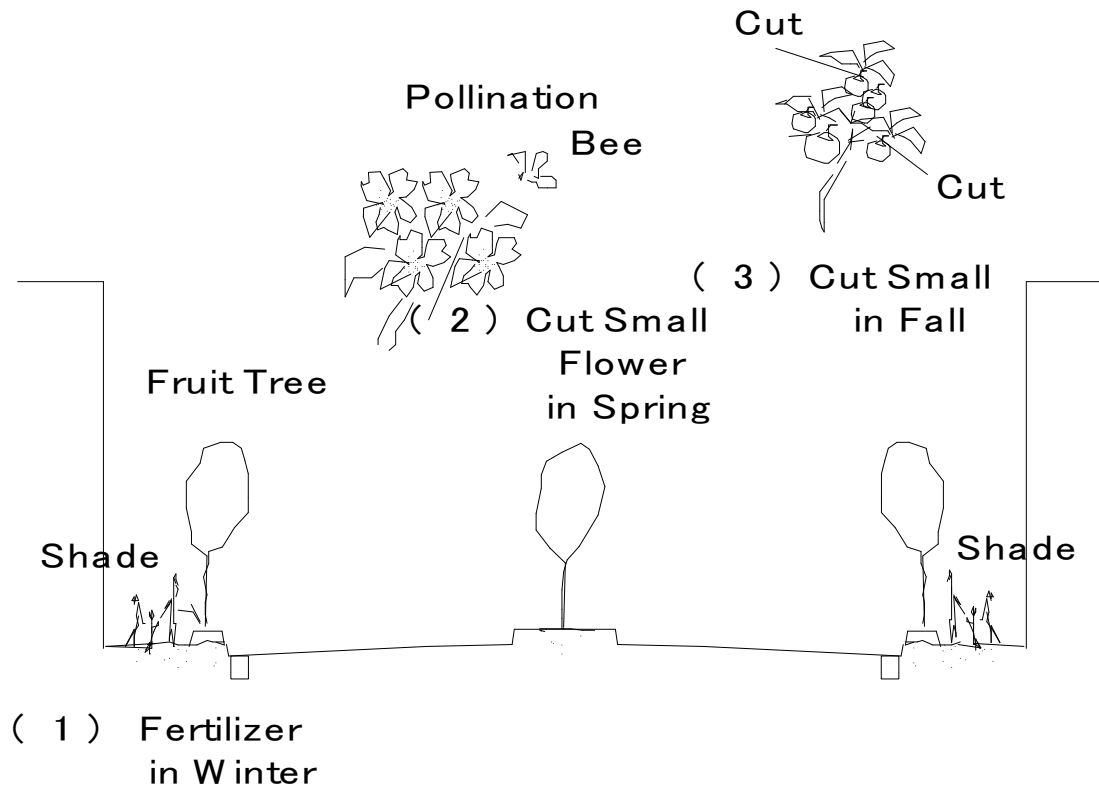


4 Plant Young Trees



(10) Roadside Tree (1)

( 10 ) Roadside Tree ( 1 )



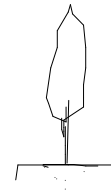


(11) Roadside Tree (2)

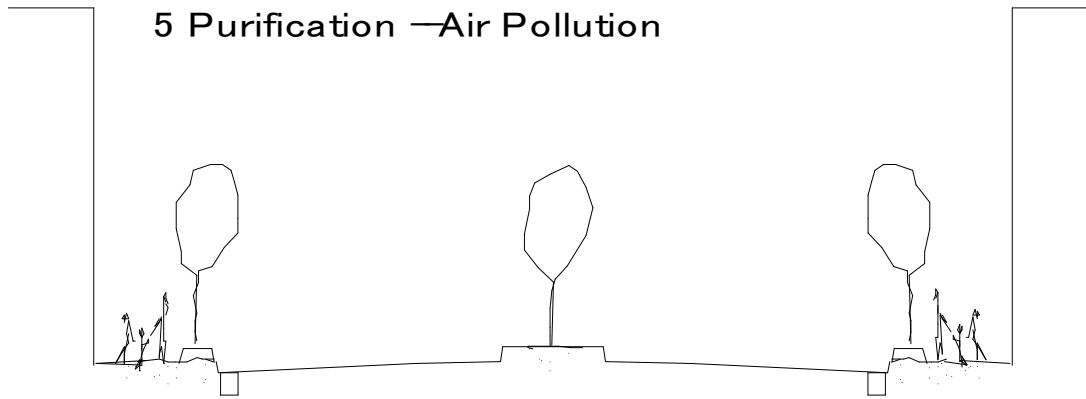
( 11 ) Roadside Tree ( 2 )

**Effection**

- 1 Young Leaves in Spring
- 2 Cool Shade in Summer
- 3 Colored Leaves in Fall
- 4 Disaster Prevention
- 5 Purification —Air Pollution



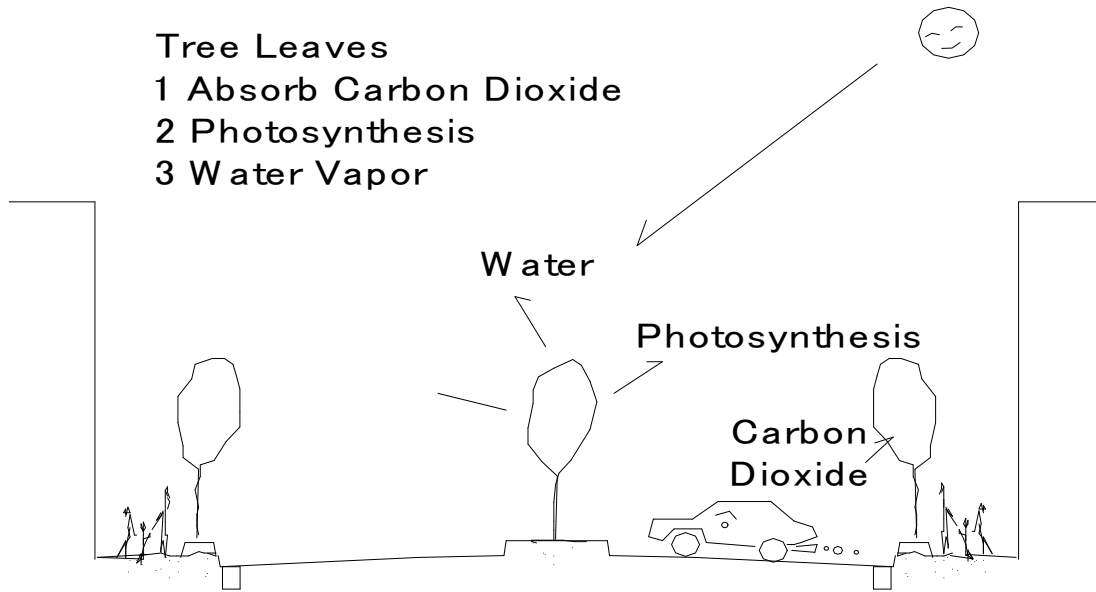
**Maidenhair Tree**



(12) Tree Spread Water

( 12 ) Tree Spread Water

- Tree Leaves  
1 Absorb Carbon Dioxide  
2 Photosynthesis  
3 Water Vapor

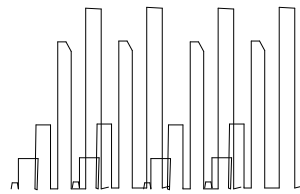


(13) Tree's Evaporation and Temperature of Town

( 13 ) Tree's Evaporation and Temperature of Town



Too Hot!

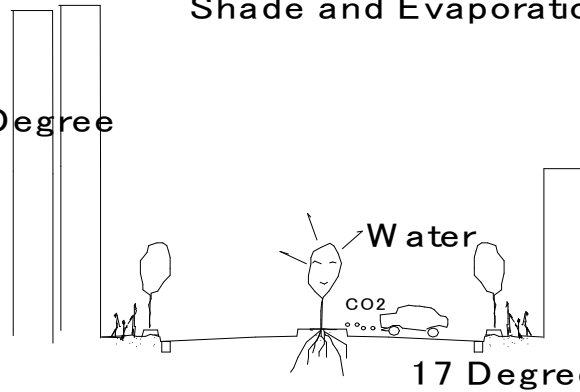


Heat Island Phenomenon  
Urban  
Temperature — Up

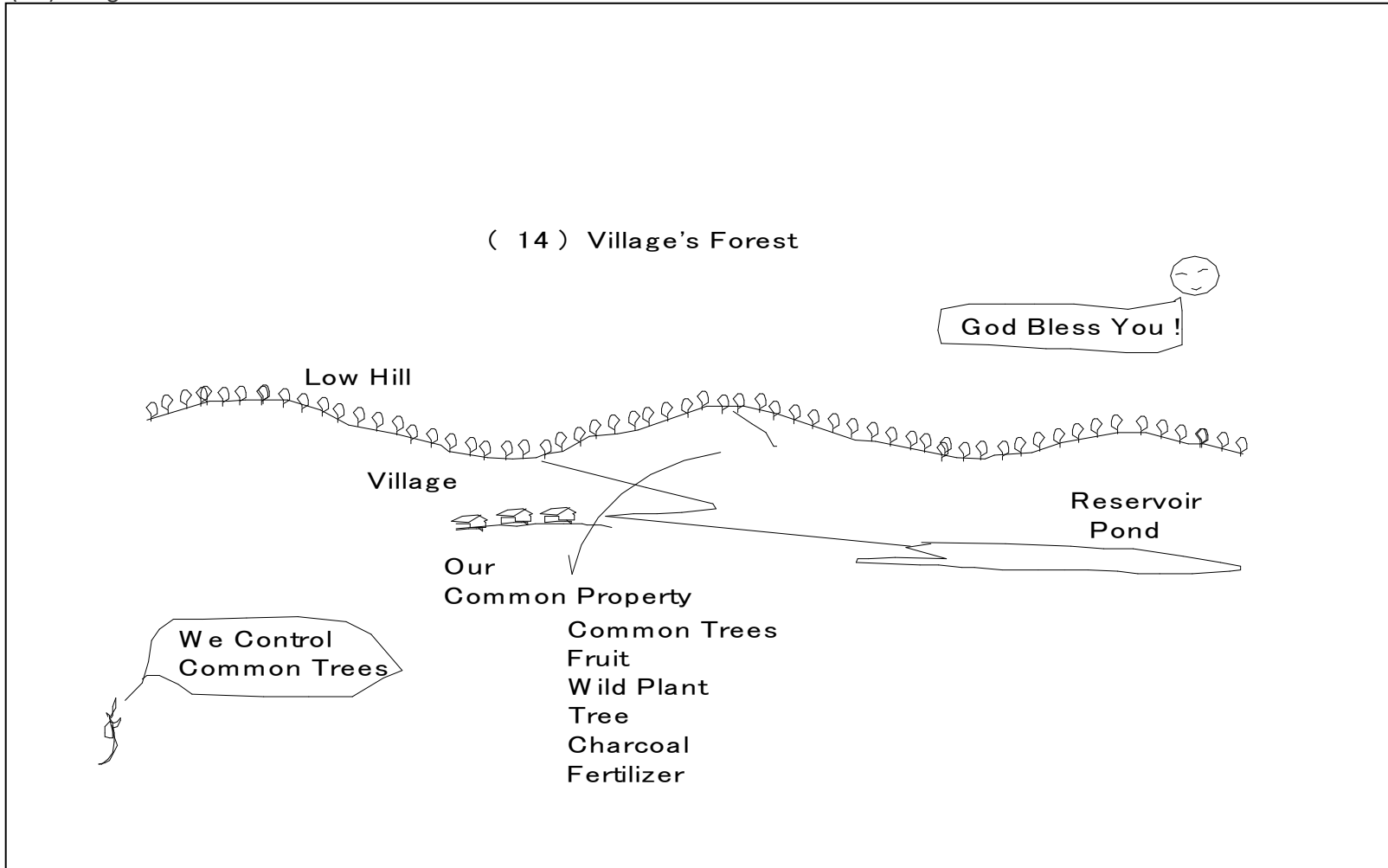
Trees  
Cool Down

Shade and Evaporation

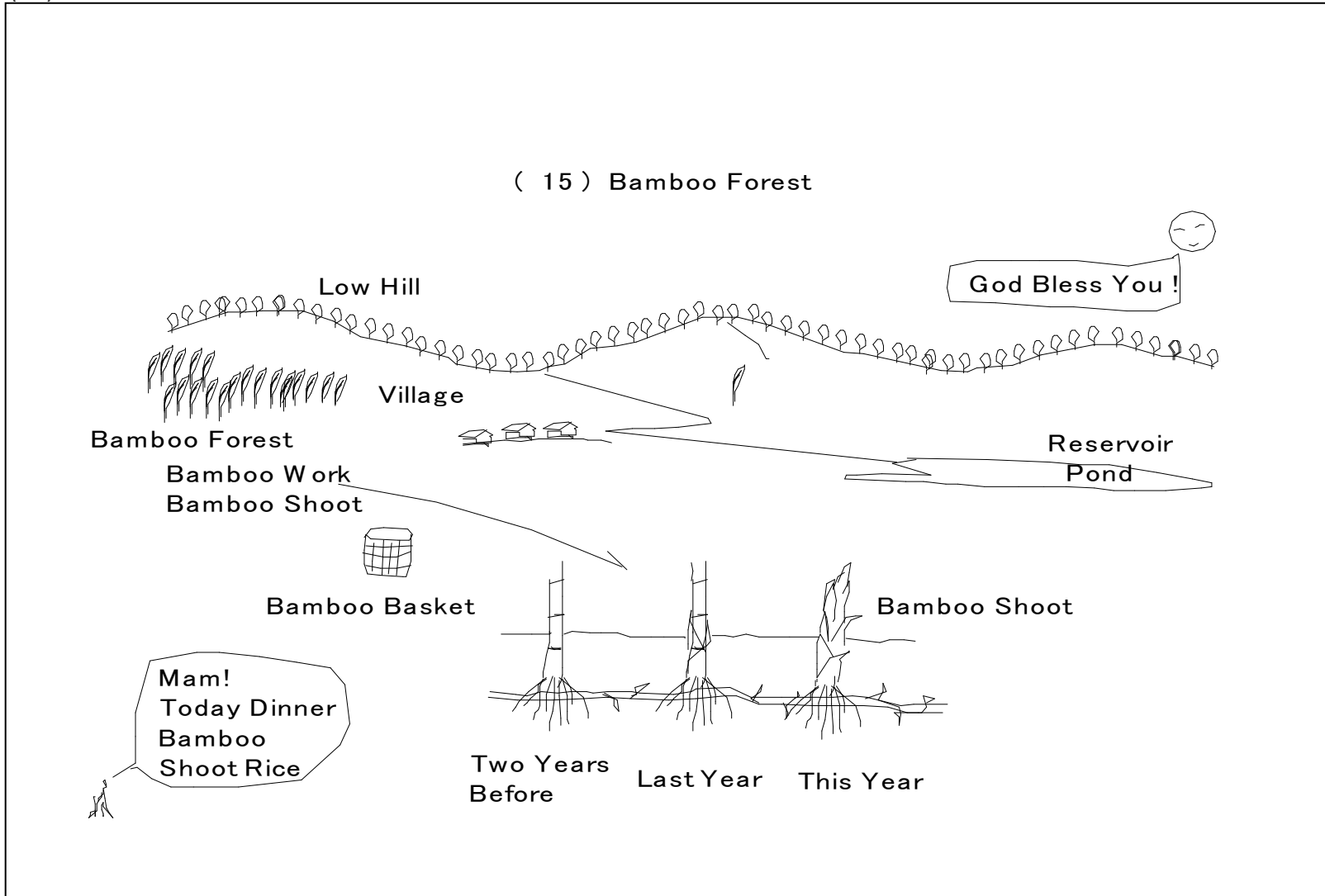
22 Degree



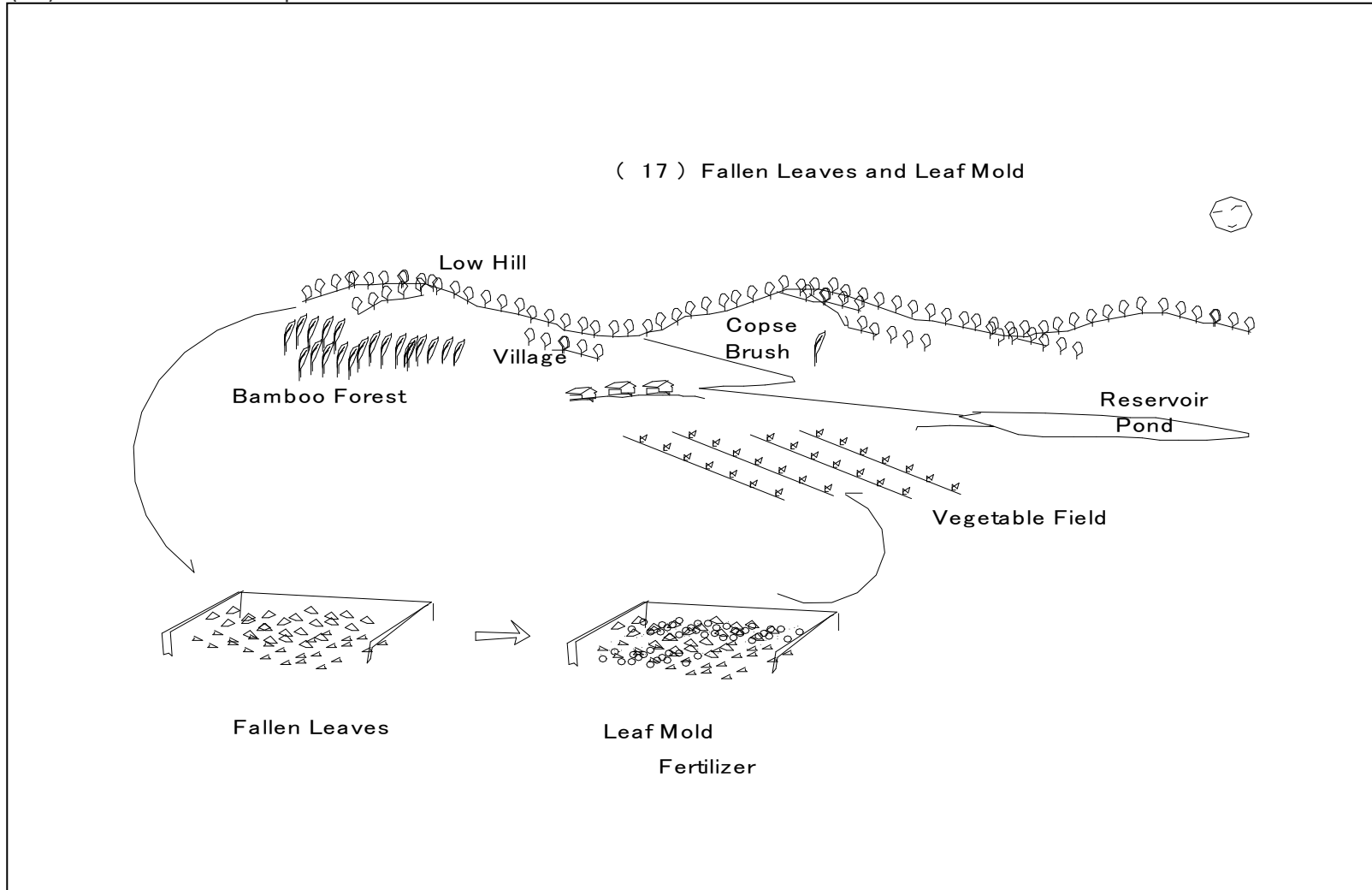
17 Degree



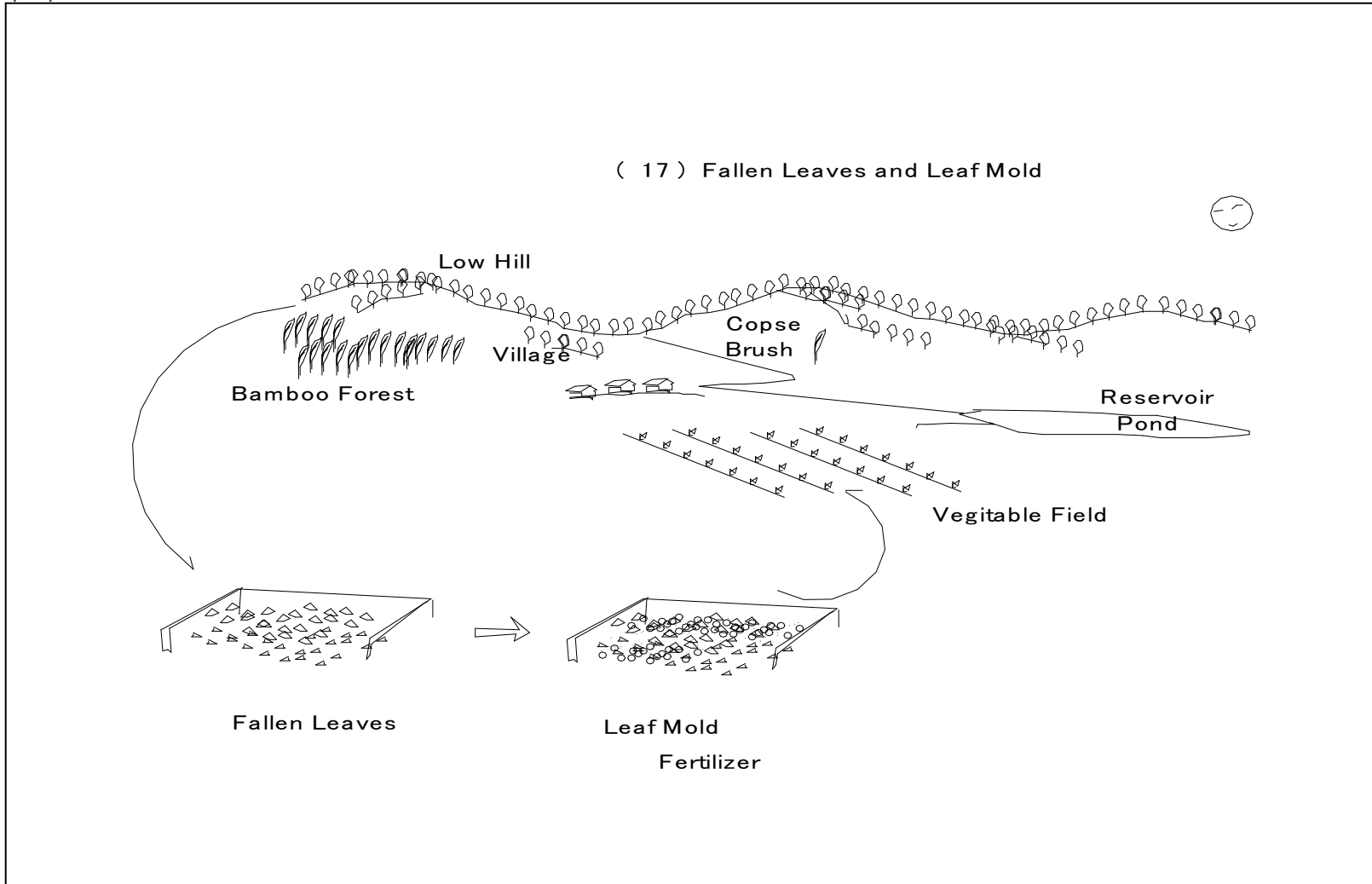
(15) Bamboo Forest



(16) Mush Room and Coal pit



(17) Fallen Leaves and Leaf Mold

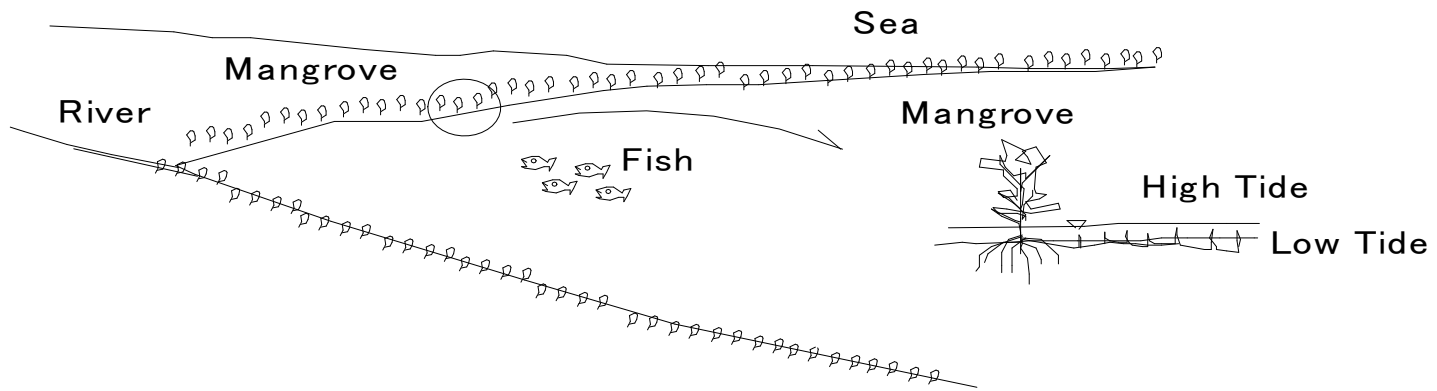


(18) Keep Beach with Mangrove

( 18 ) Keep Beach with Mangrove

Tropical Zone  
Subtropics

Beautiful

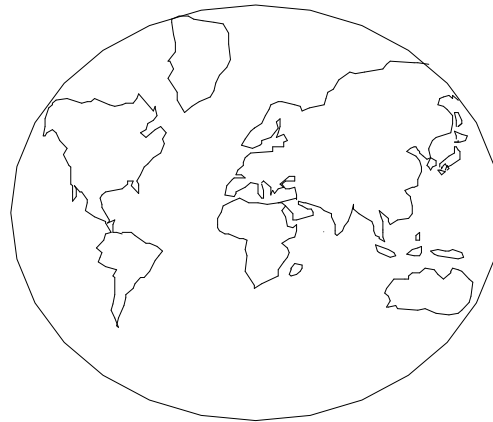




(19) To Plant Trees in Foreign Country

( 19 ) To Plant Trees in Foreign Country

We Hope The Earth  
to be Green



The Earth

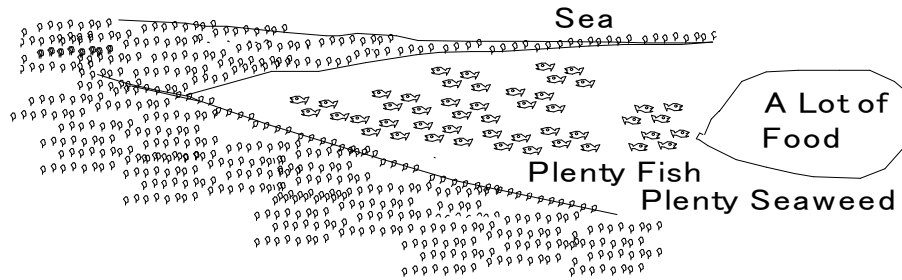
God Bless You



(20) Keep Forest Bring Up Fish

## ( 20 ) Keep Forest Bring up Fish

Plenty Trees



If You Want Fish,  
To Plant Trees

No Trees

River

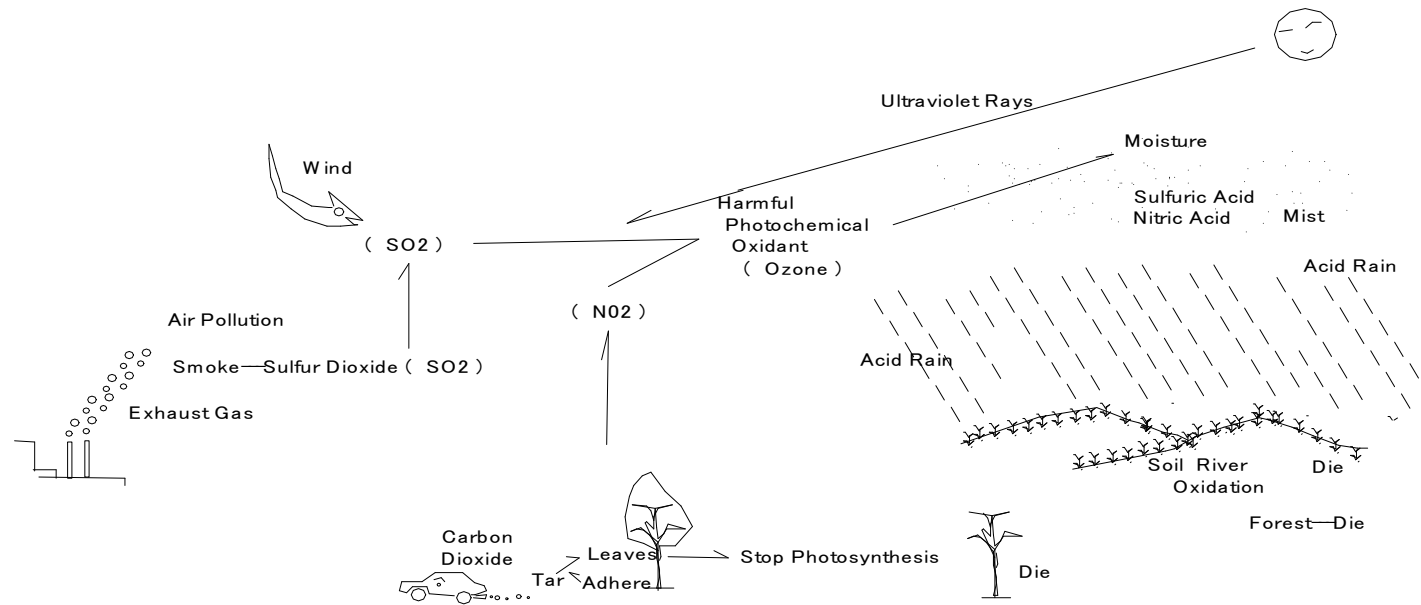
Sea

No Seaweed  
No Fish

This diagram illustrates a coastal environment where the forest has been removed. A river flows into the sea. The sea is empty of fish and seaweed. The labels 'No Trees', 'River', and 'Sea' are positioned at the top, while 'No Seaweed' and 'No Fish' are written in the water.

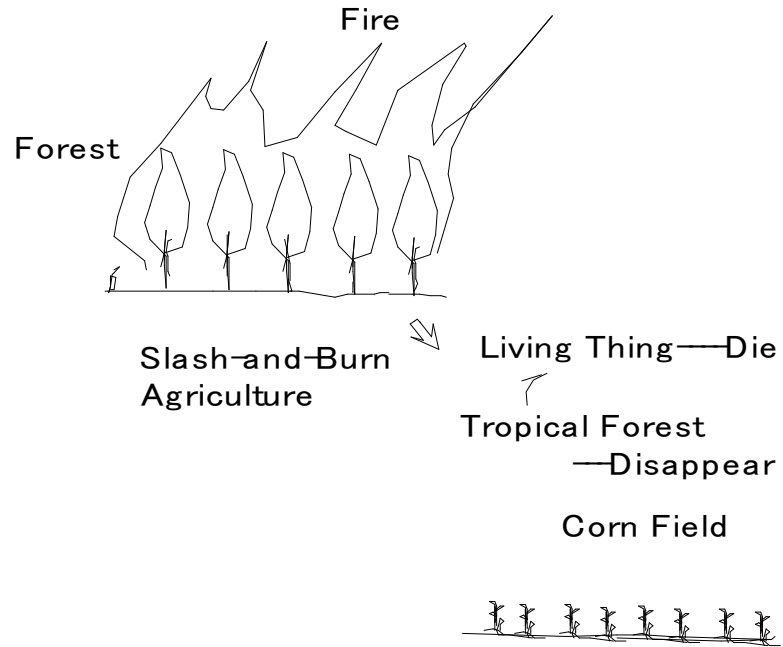
(21) Why Do Forest Die ?

( 21 ) Why Do Forest Die ?



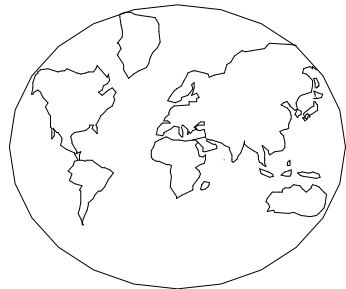
(22) Forest Disappear from The Earth

( 22 ) Forest Disappear from The Earth



(23) Forest Lose

( 23 ) Forest Lose



The Earth

Temperature-Up

Carbon Dioxide—  
—Increase

CO2

Forest  
Lost

Fire

Heat

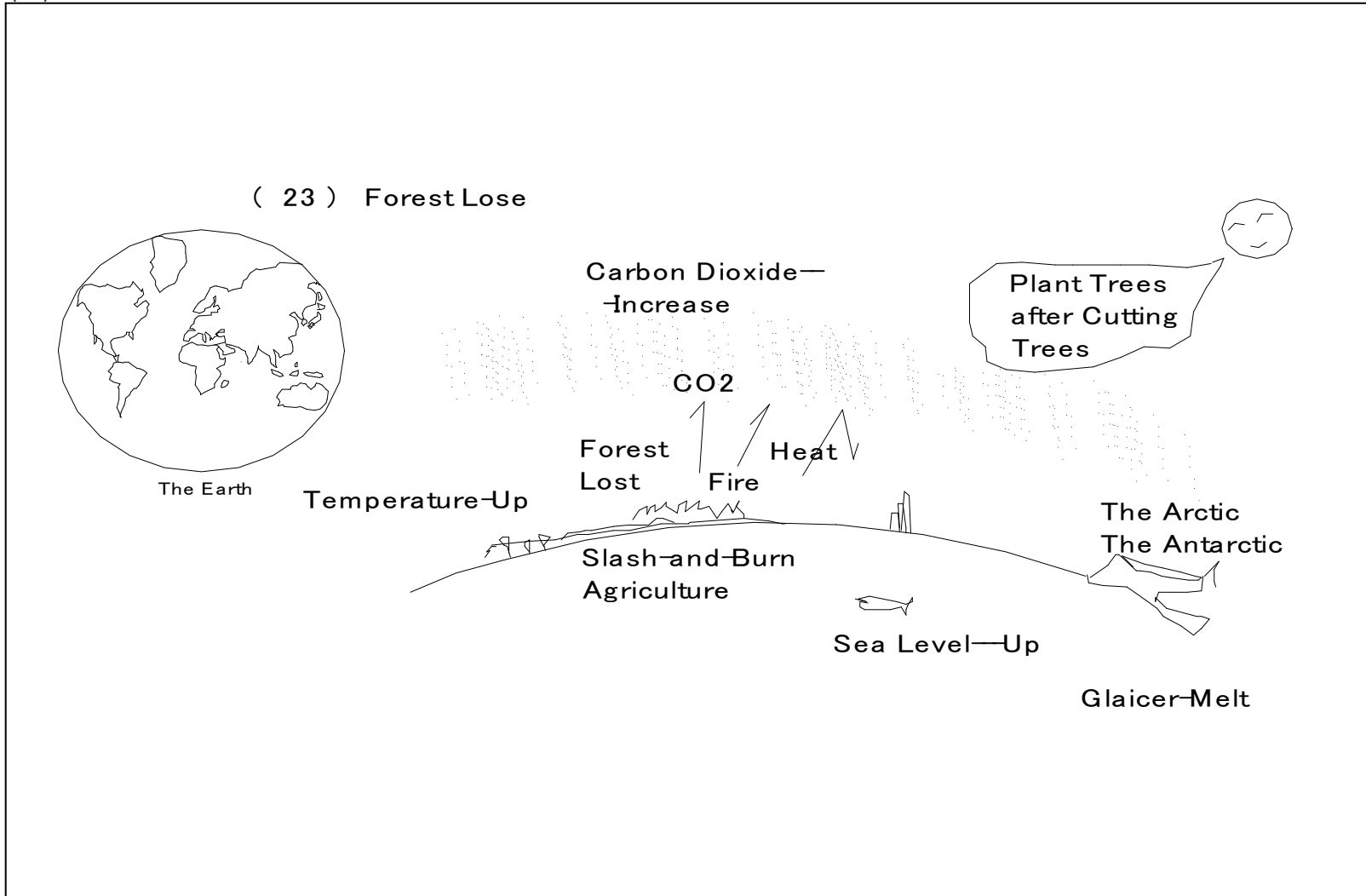
Slash-and-Burn  
Agriculture

Sea Level—Up

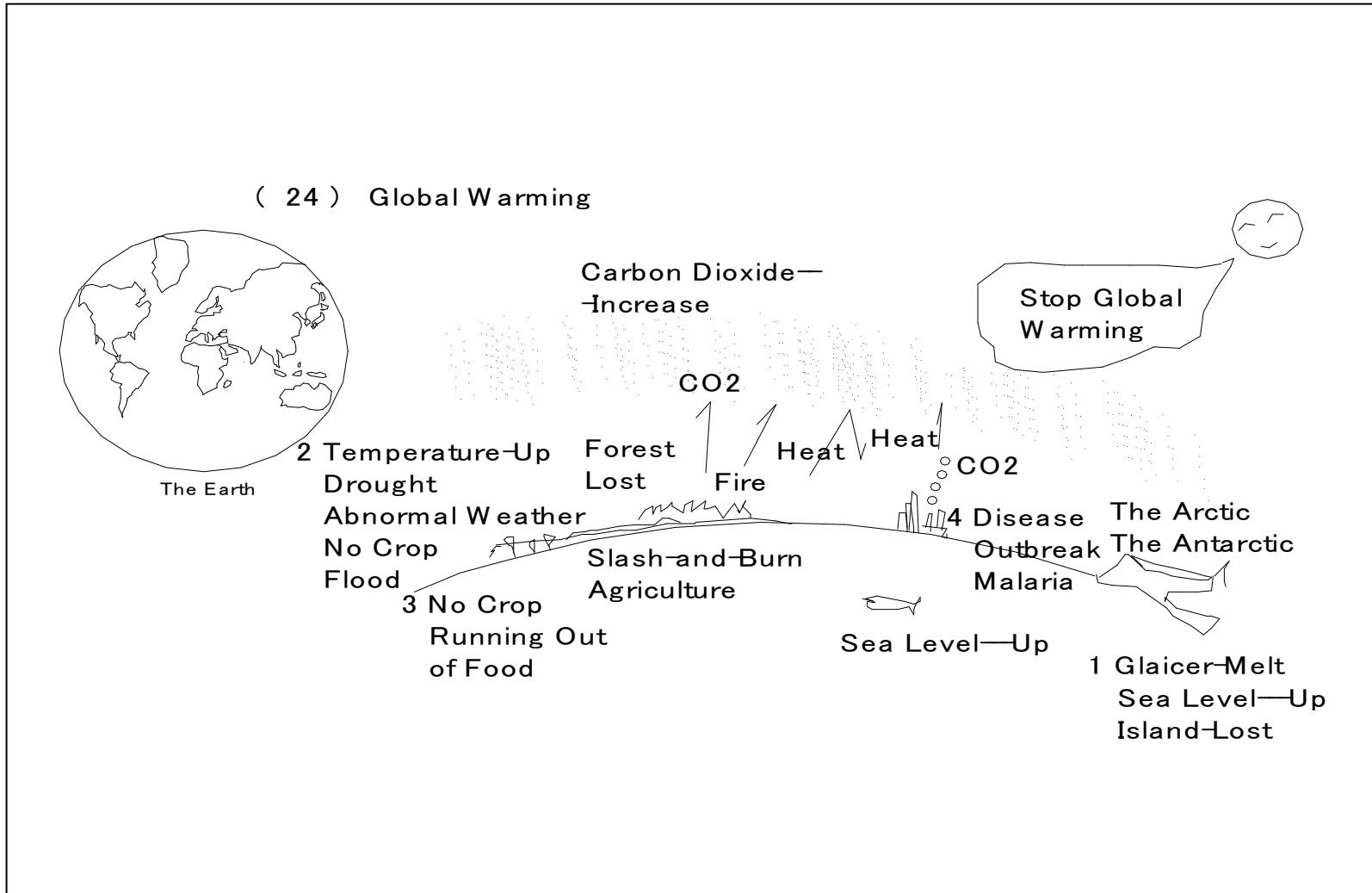
Plant Trees  
after Cutting  
Trees

The Arctic  
The Antarctic

Glaicer—Melt



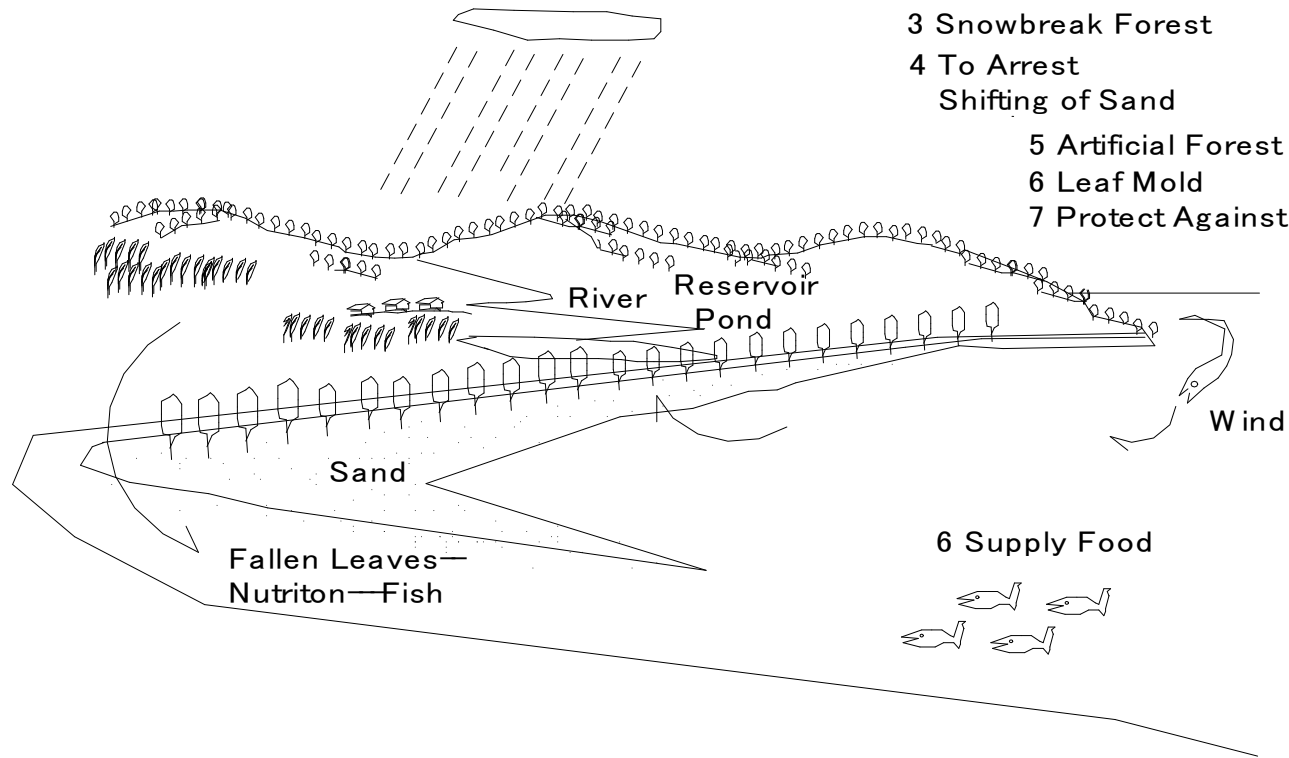
(24) Global Warming



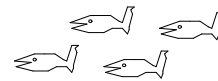
(25) Effect of Forest

( 25 ) Effect of Forest

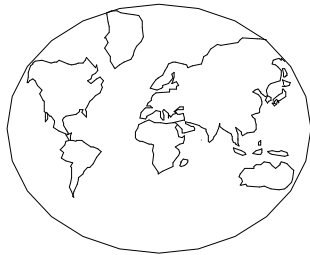
- 1 Source of Water Forest
- 2 Wind Break Forest
- 3 Snowbreak Forest
- 4 To Arrest Shifting of Sand
- 5 Artificial Forest
- 6 Leaf Mold
- 7 Protect Against Fire



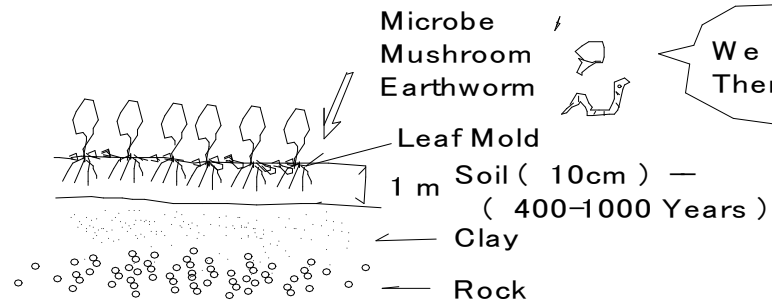
6 Supply Food



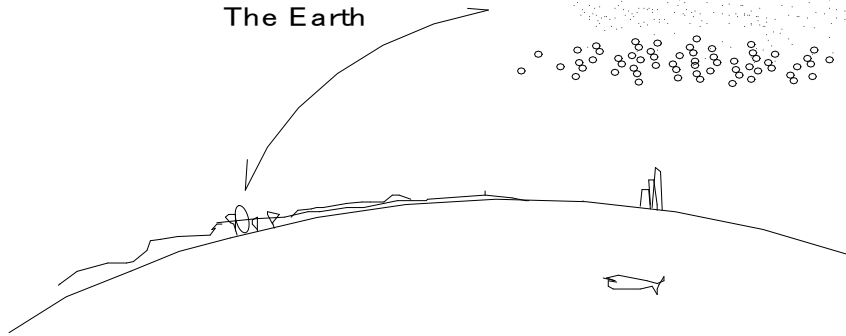
# ( 26 ) Fallen Leaves of Forest



The Earth

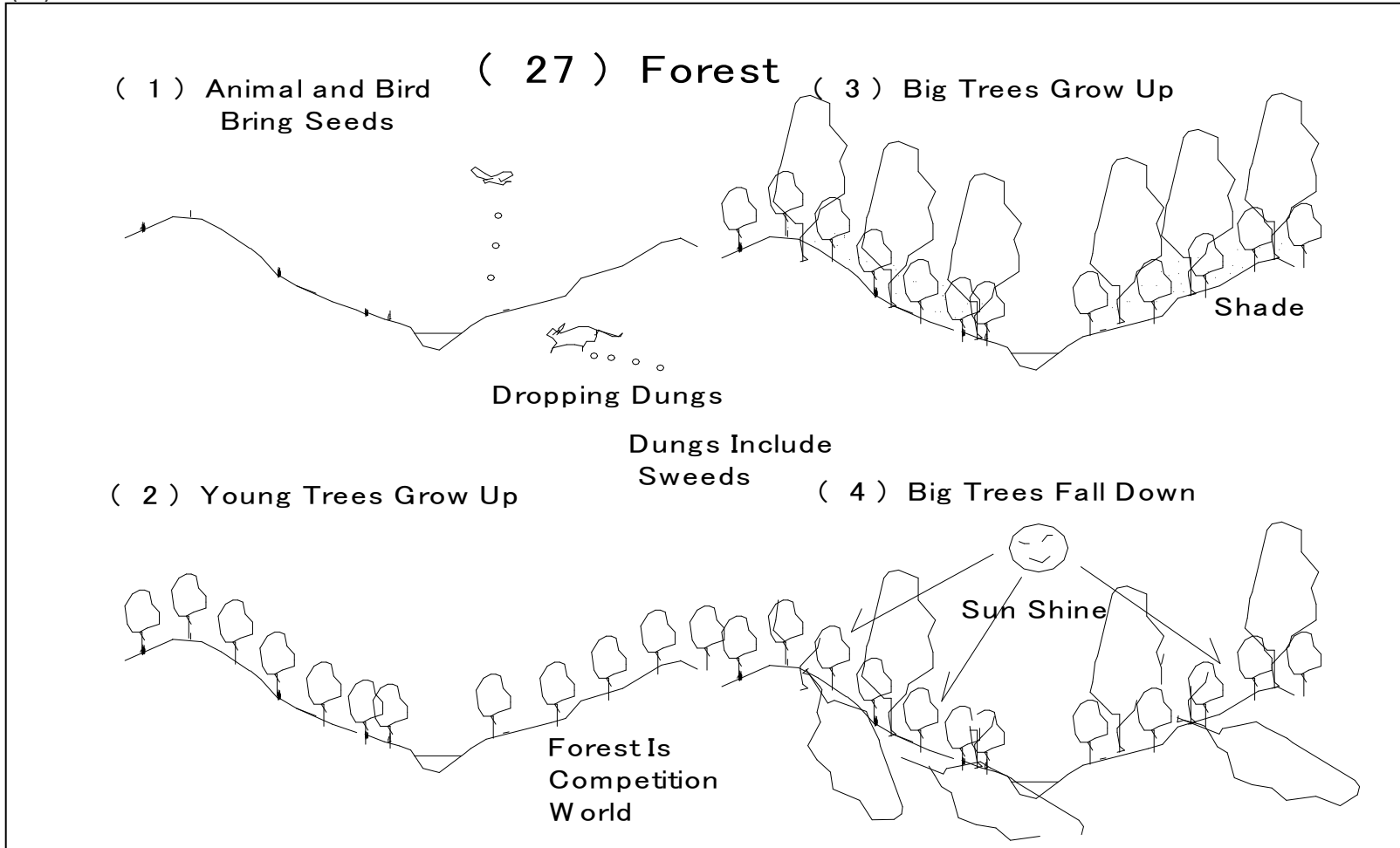


We Eat Leaf Mold  
Then We Make Soil





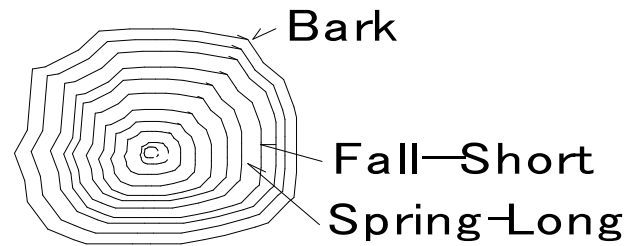
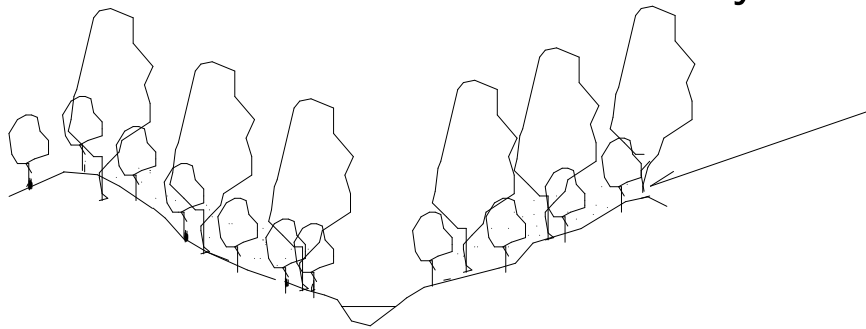
(27) Forest



( 28 ) Annual Ring

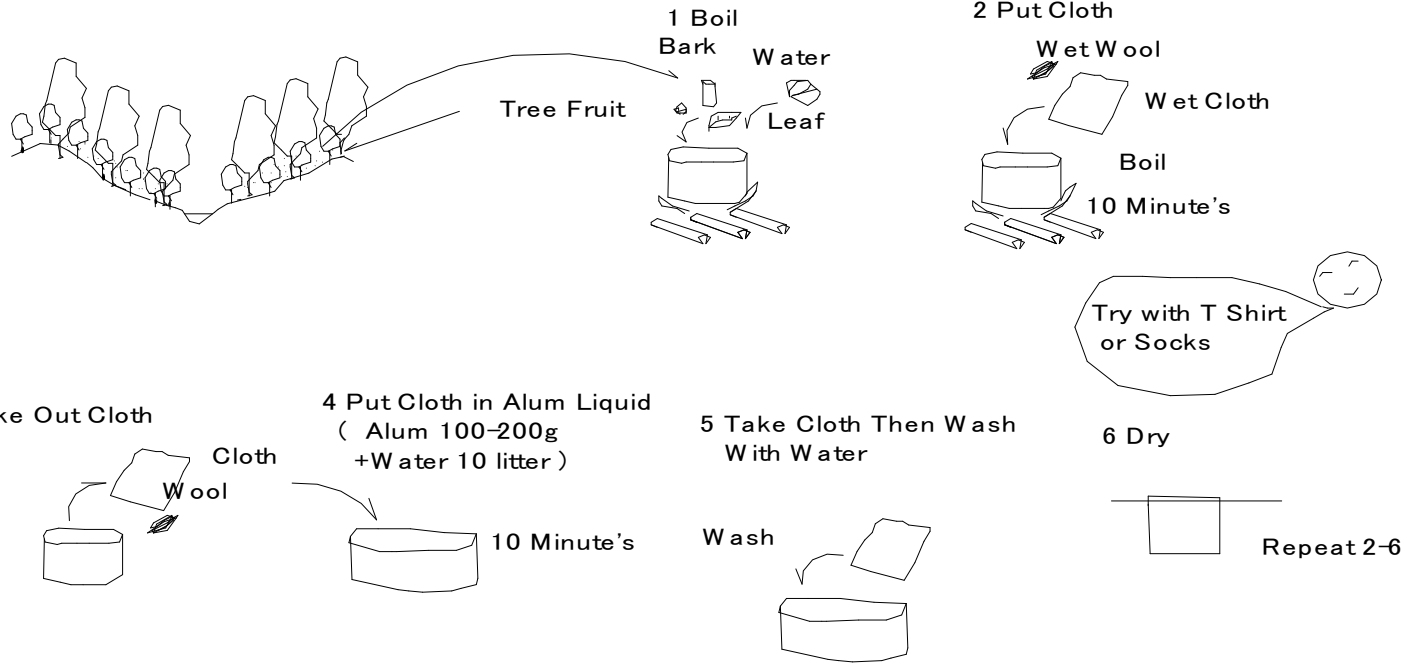
Annual Ring  
:Calendar of  
Nature

Annual Ring  
Age Year  
by Year

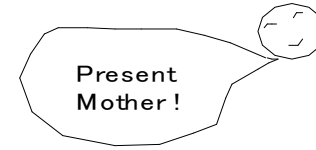


(29) Die Cloth With Vegetation

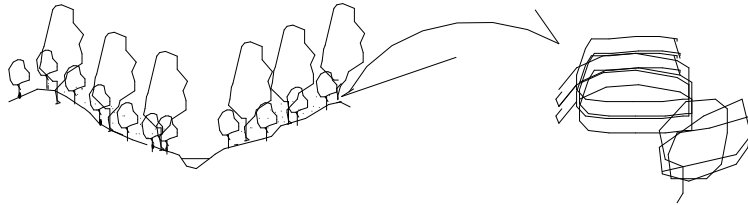
( 29 ) Die Cloth with Vegetation



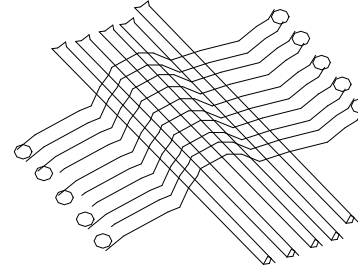
# ( 30 ) Weave a Basket



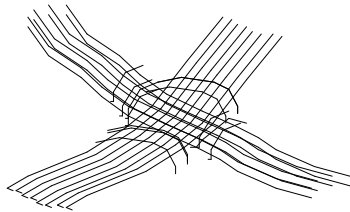
1 Prepare  
Long Vine  
Thick Vine



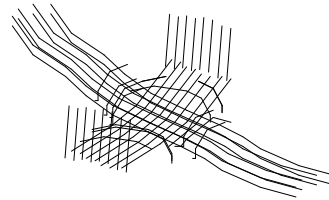
2 Put 5 Pieces  
of Vine



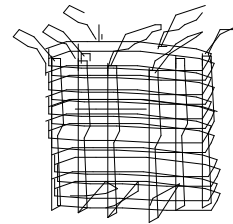
3 Weave with Thin Vine



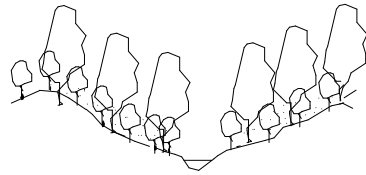
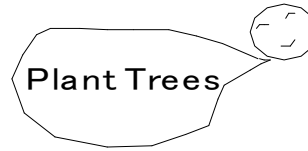
4 Weave with  
Cross Vine



5 Basket



# ( 31 ) Treasure of Forest



Tree Fruit  
Strawberry  
Chestnut

A small cluster of icons representing tree fruits: a strawberry and several chestnuts.

## Jam

1 Pick Strawberries



2 Wash Strawberries



3 Boil over  
Low Heat



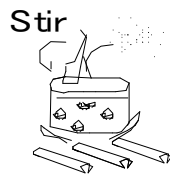
5 Mix Remained of Sugar  
into Strawberries



6 Pour Strawberries Jam  
into a Glass Bottle



4 Mix Half of Sugar



# ( 32 ) Phanerogam and Fern



The Earth



Flower  
Phanerogam  
160,000-280,000  
Species

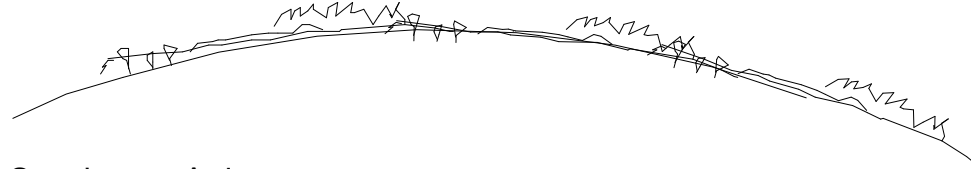


A Lot of  
Species Live  
in Forest



Fern 140,000-20,000  
Species

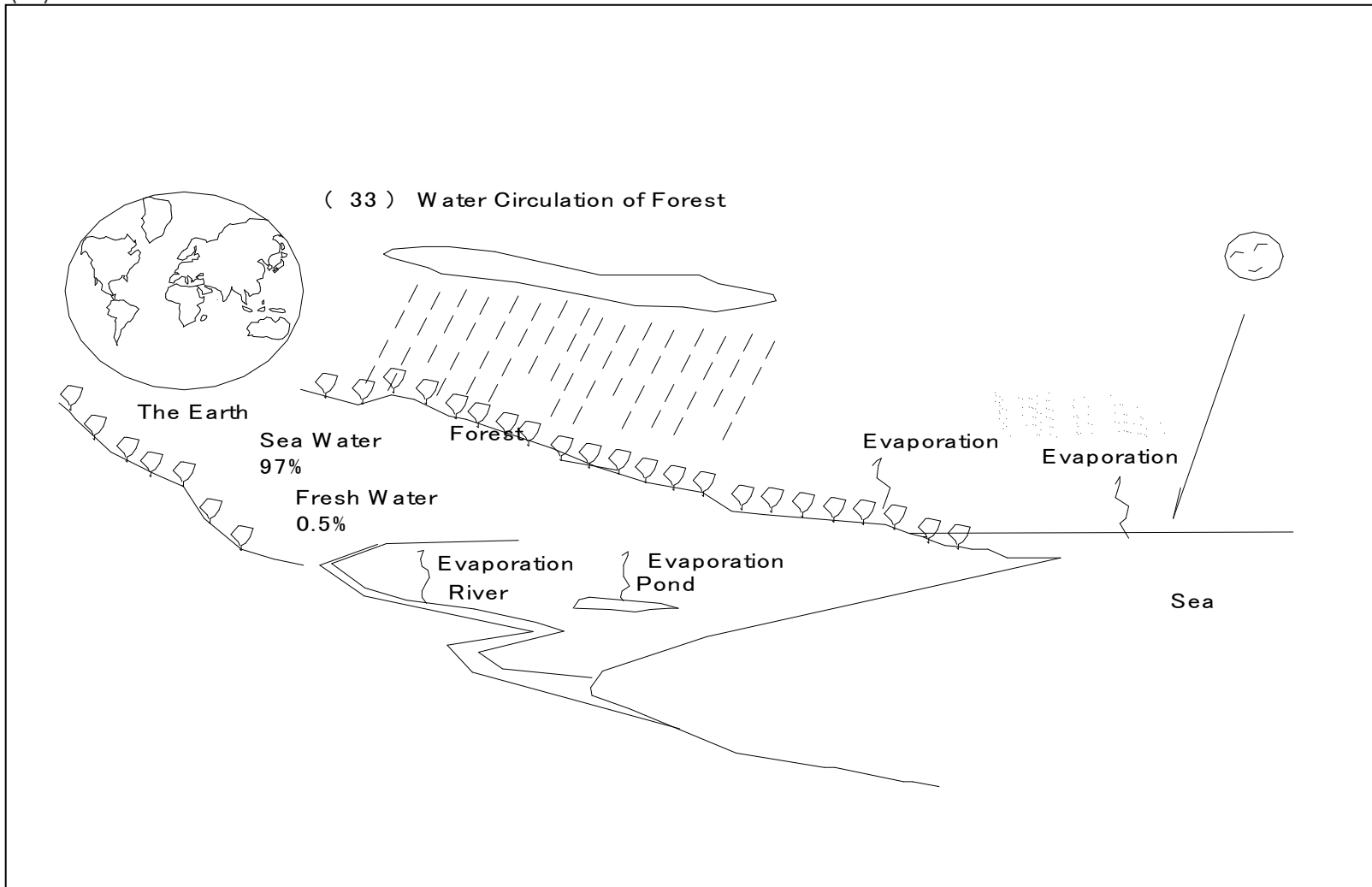
Jungle



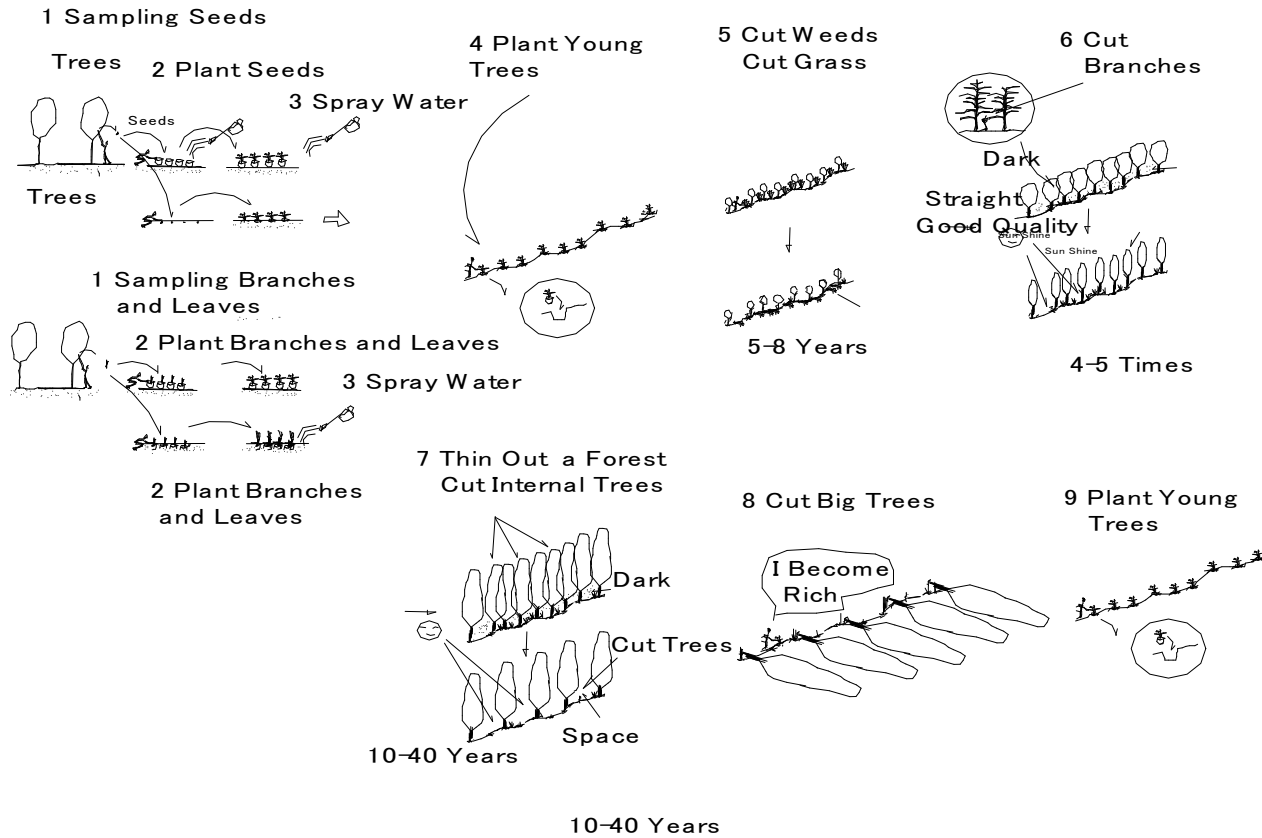
Southeast Asia  
Tropical Forest 10 % of All Species

Phanerogam  
25,000  
Species

(33) Water Circulation of Forest

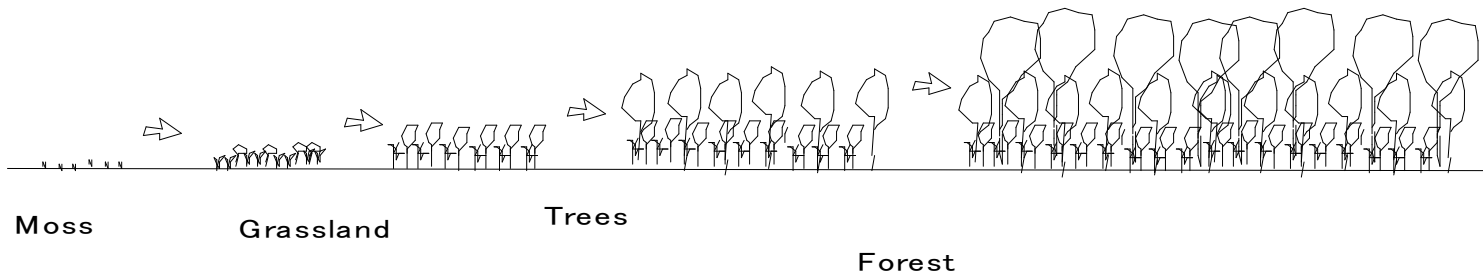


# ( 34 ) Forest Circulation

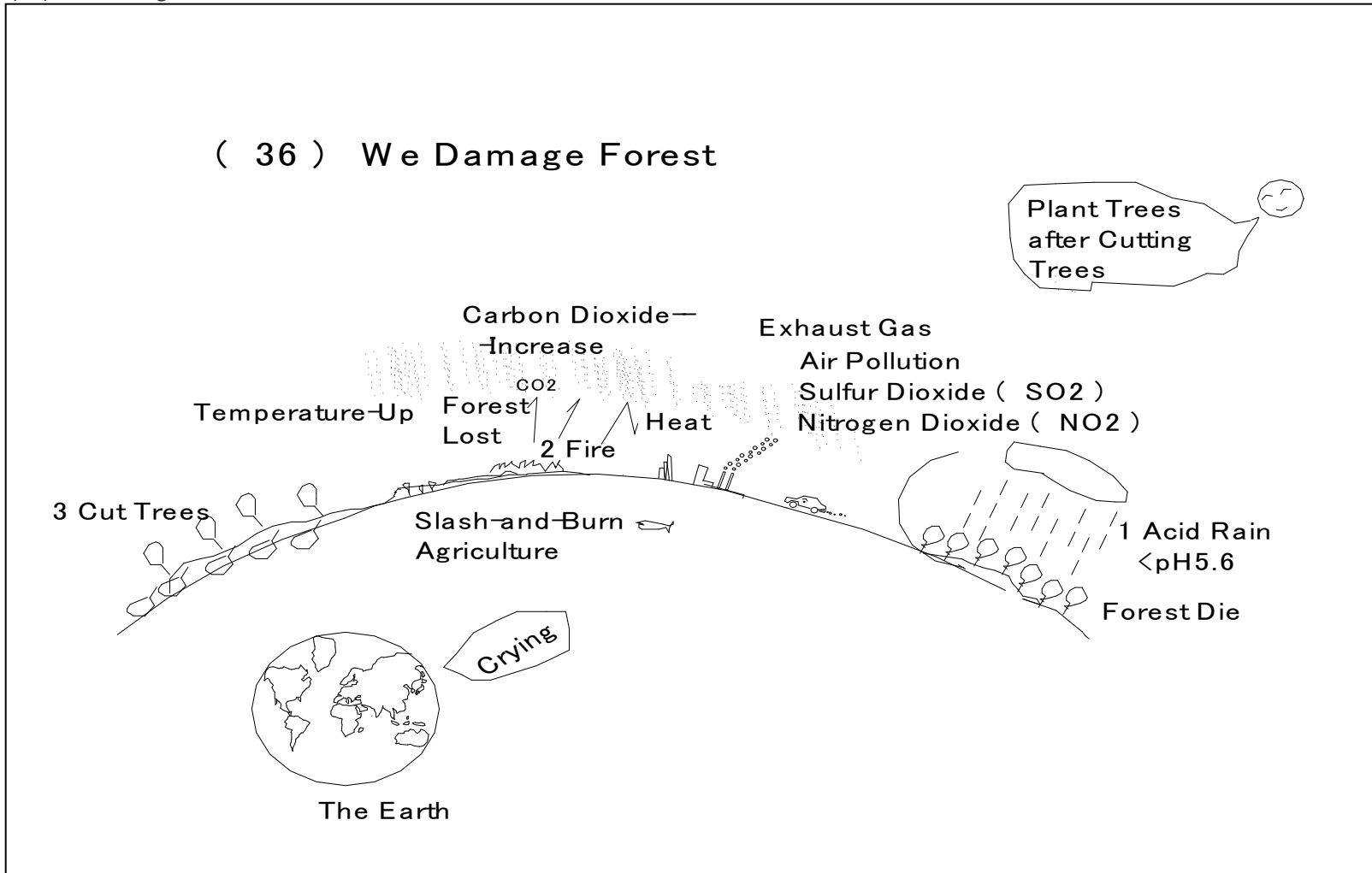




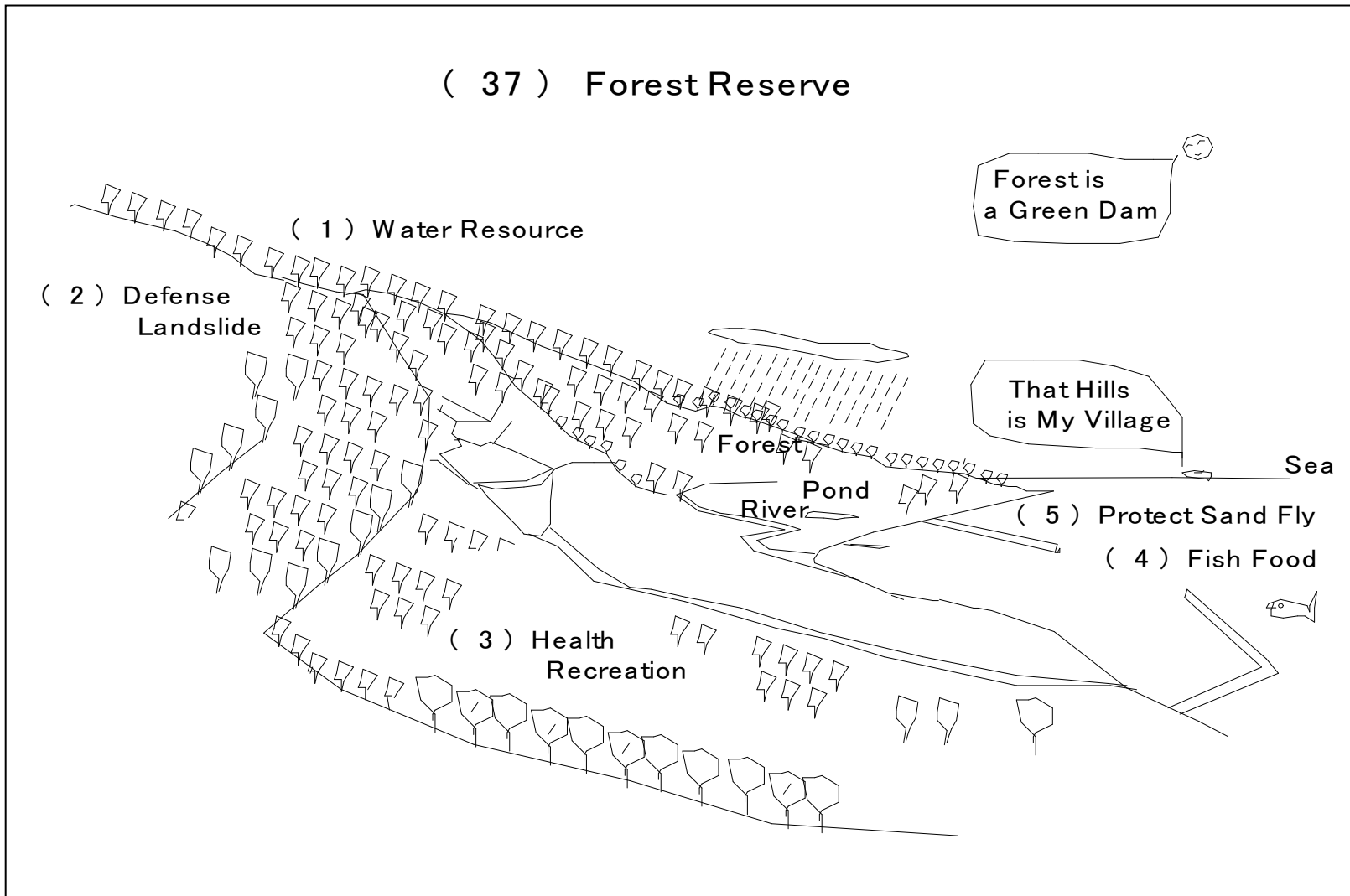
# ( 35 ) Forest Expansion



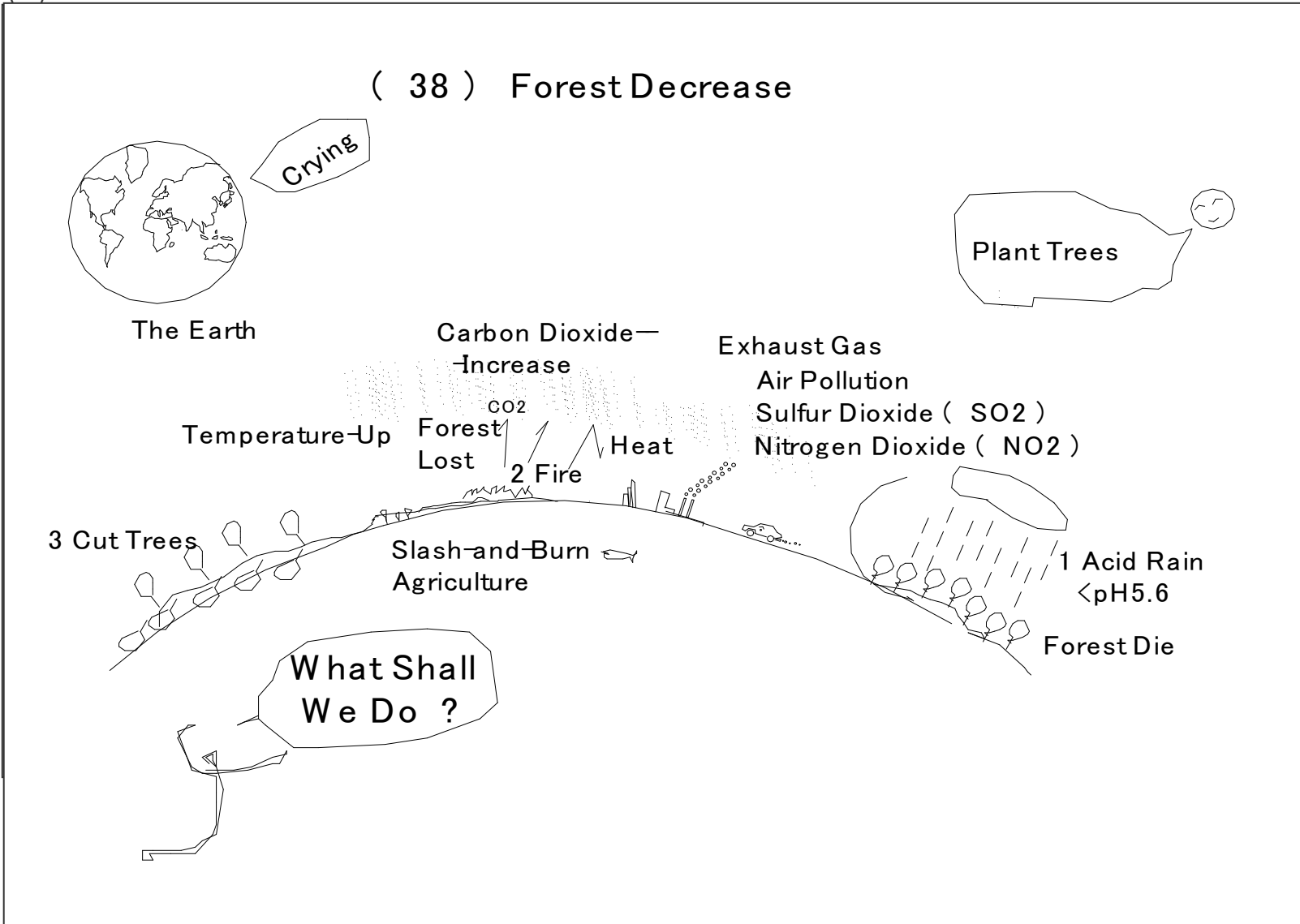
( 36 ) We Damage Forest



(37) Forest Reserve



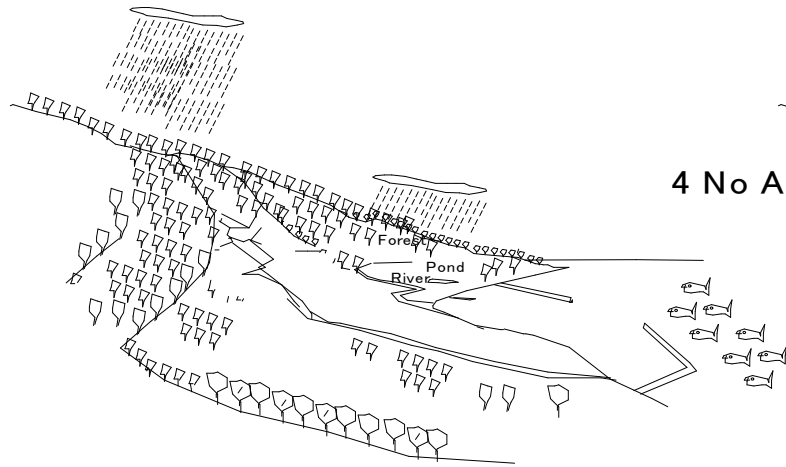
# ( 38 ) Forest Decrease



(39) Soil Outflow After Cutting Trees

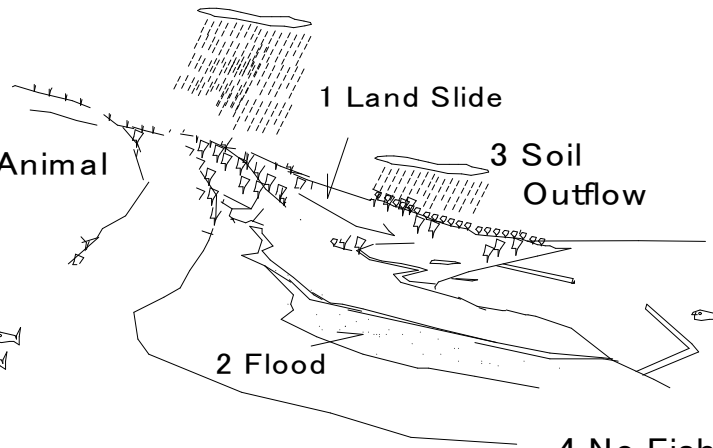
( 39 ) Soil Outflow After Cutting Trees

A Forest is  
Green Dam



4 No Animal

A Lot of Trees



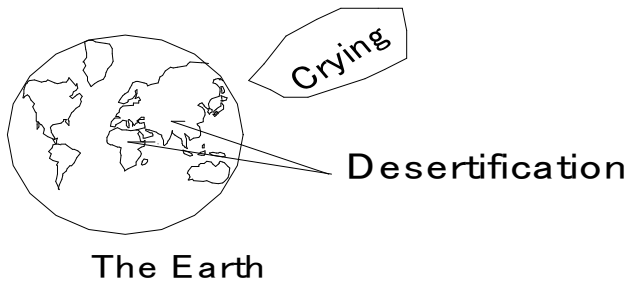
3 Soil  
Outflow

2 Flood

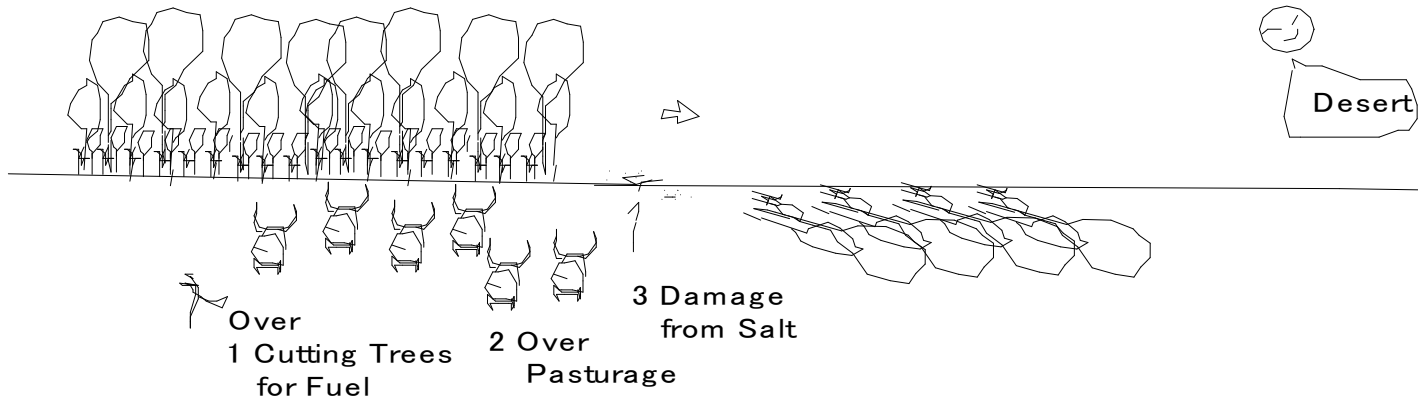
4 No Fish

After Cutting Trees

# ( 40 ) Desertification



4 No Rainfall



( 41 ) Forest on The Beach

Wind Break Fence

Young Trees

Straw  
Branches  
Dead Grass

No Trees

Sea

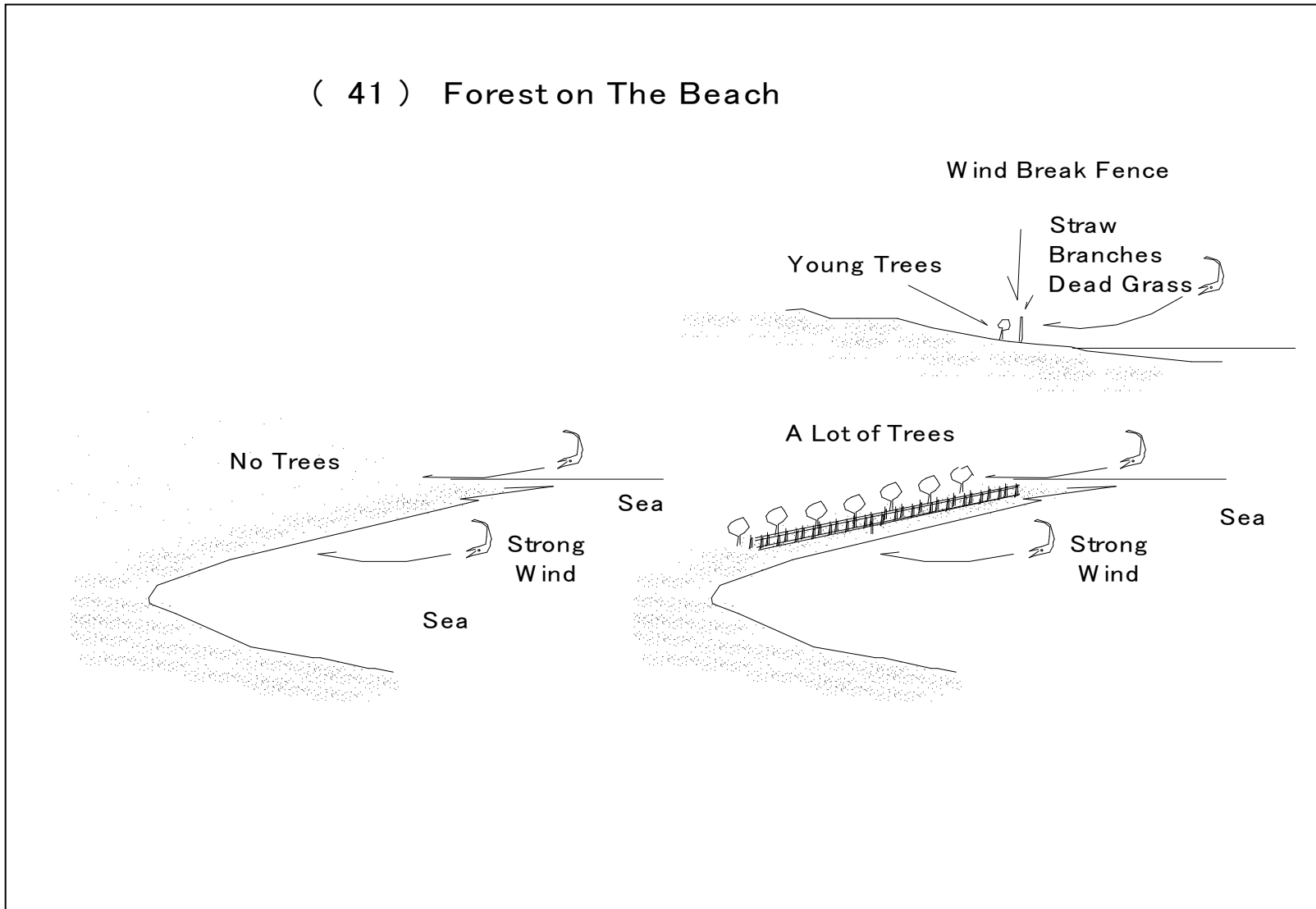
Strong  
Wind

Sea

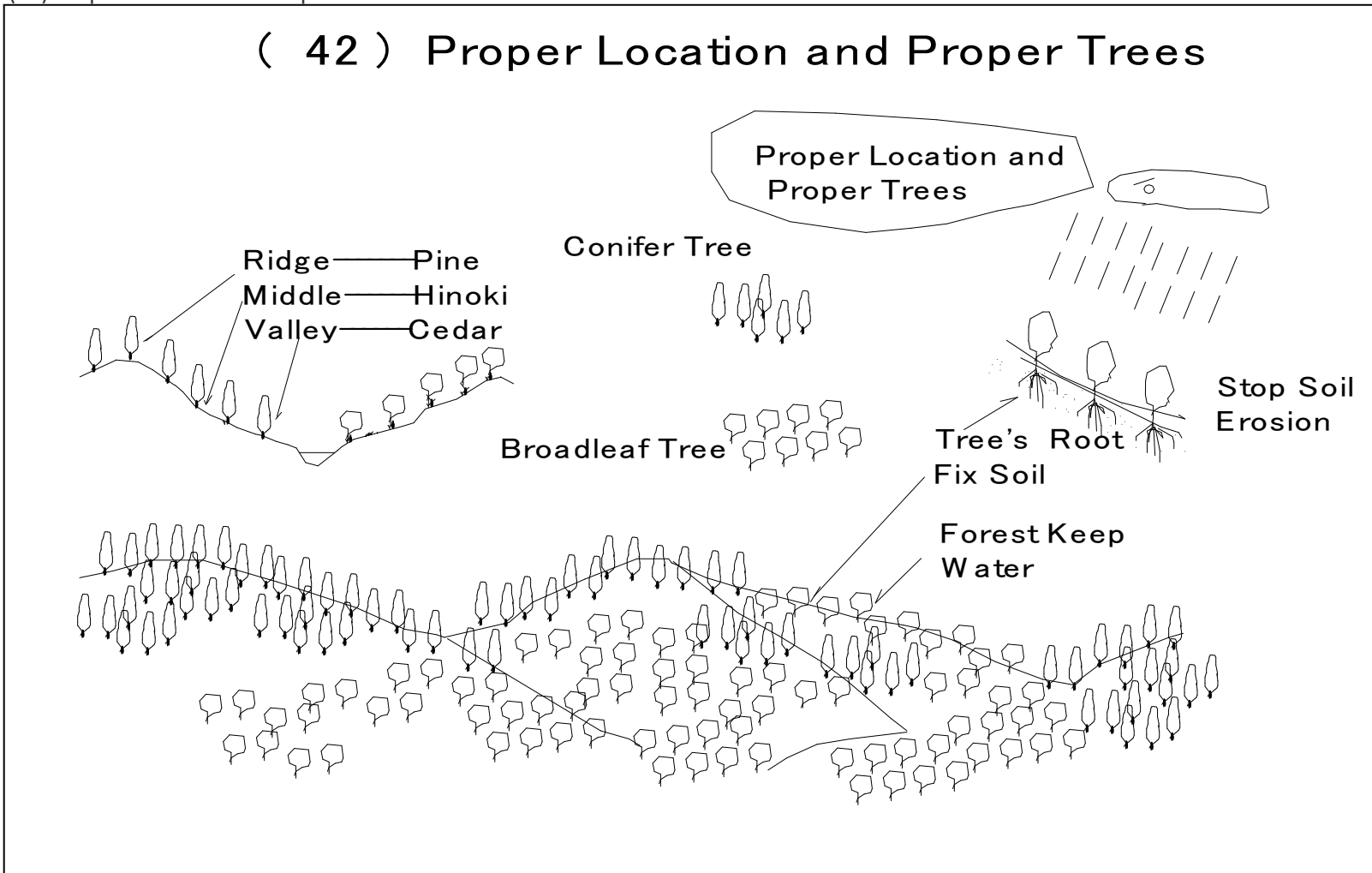
A Lot of Trees

Sea

Strong  
Wind



# ( 42 ) Proper Location and Proper Trees





(43) Damages of Forest

( 43 ) Damages of Forest

Keep Forest from  
Natural Disaster

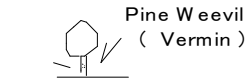
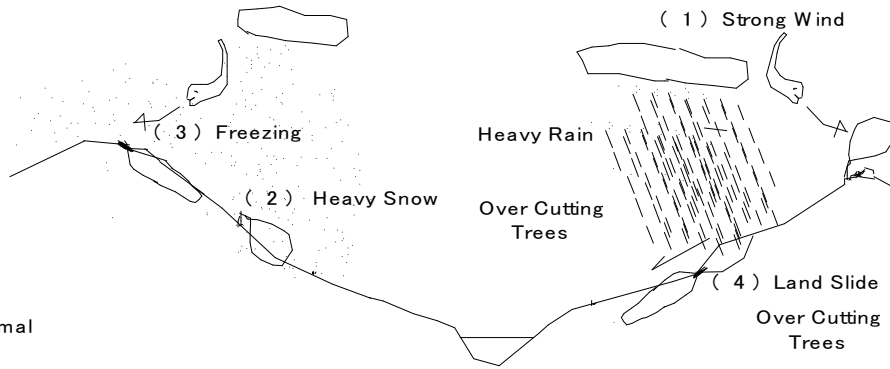
- ( 1 ) Wind Disaster
- ( 2 ) Snow Disaster
- ( 3 ) Freezing Disaster
- ( 4 ) Land sliding by  
Heavy Rain or  
Over Cutting Trees

( 1 ) Weather Damages  
Strong Wind  
Heavy Snow  
Drought

Damages from Animal  
Deer Mouse

Damages by Men  
Acid Rain

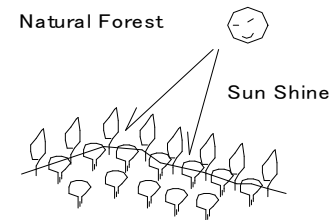
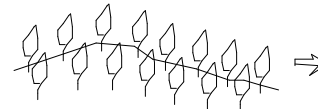
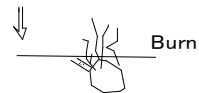
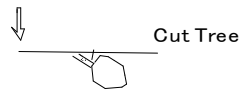
Pine Weevil  
Treatment  
Burn



Treatment  
Cut Internal Trees

Artificial Forest

Natural Forest

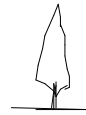
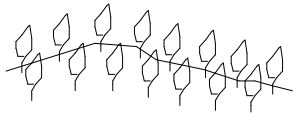


Many Types of Trees

## ( 44 ) Artificial Forest and Natural Forest

### Artificial Forest

Men Plant Trees



Conifer  
Board Pillar  
Cedar



Leaves Do Not  
Fallen in Winter

### Natural Forest

A Lot of  
Wild Living Things



Fallen Leaves Trees  
Wide Leaves  
Beech

Many Types of Trees

Fallen  
Leaves

Nourishment

( 45 ) Roadside Tree ( 3 )

Effecton

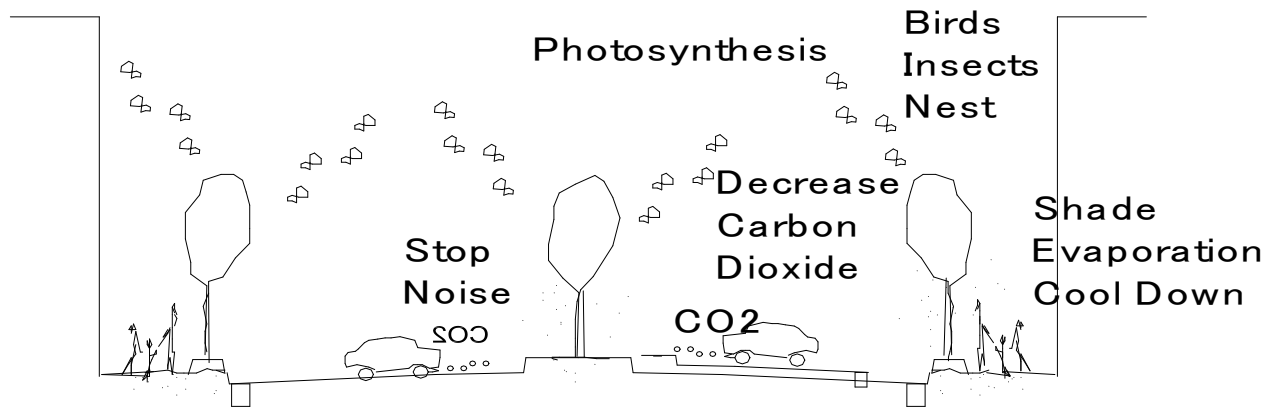
- 1 Young Leaves in Spring
- 2 Cool Shade in Summer
- 3 Colored Leaves in Fall
- 4 Disaster Prevention
- 5 Purification —Air Pollution

Tree Leaves

- 1 Absorb Carbon Dioxide
- 2 Photosynthesis
- 3 Water Vapor

Heat Island Phenomenon  
Urban  
Temperature—Up

Temperature—Down

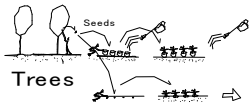


(46) Grow Forest

( 46 ) Grow Forest

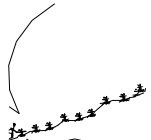
1 Sampling Seeds

2 Plant Seeds  
Trees

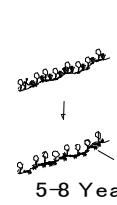


3 Spray Water

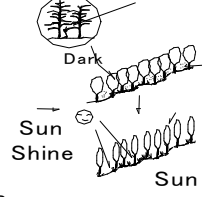
4 Plant Young  
Trees



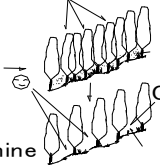
5 Cut Weeds  
Cut Grass



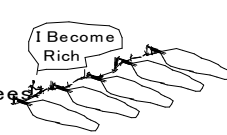
6 Cut  
Branches



7 Thin Out a Forest  
Cut Internal Trees



8 Cut Big Trees

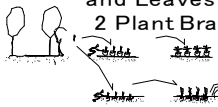


9 Plant Young  
Trees



1 Sampling Branches  
and Leaves

2 Plant Branches and Leaves  
3 Spray Water



2 Plant Branches  
and Leaves

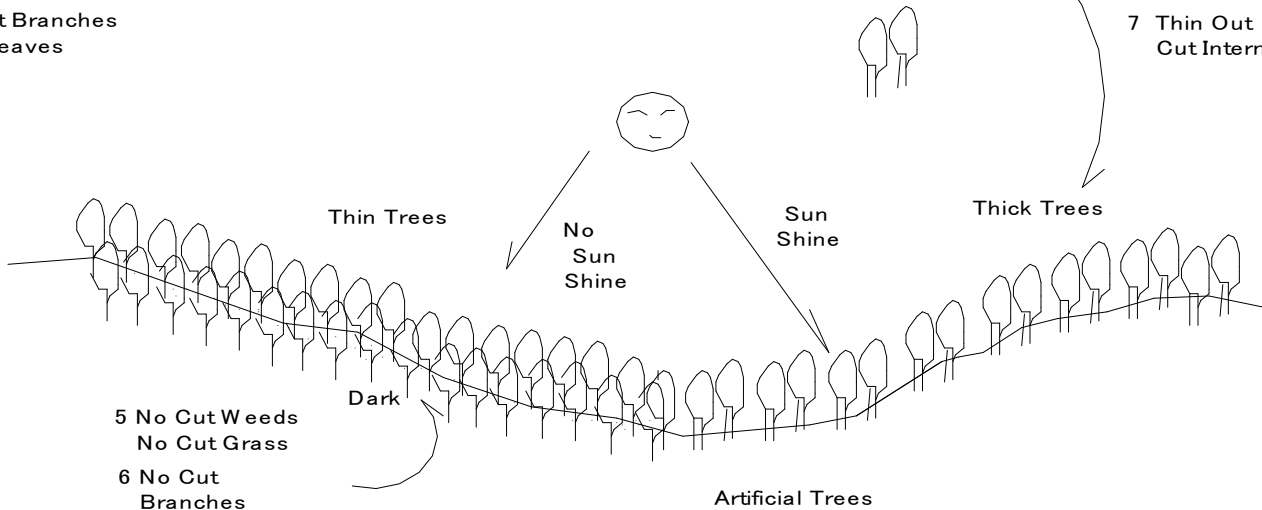
5-8 Years

Straight  
Good Quality  
4-5 Times

5 Cut Weeds  
Cut Grass

6 Cut  
Branches

7 Thin Out a Forest  
Cut Internal Trees

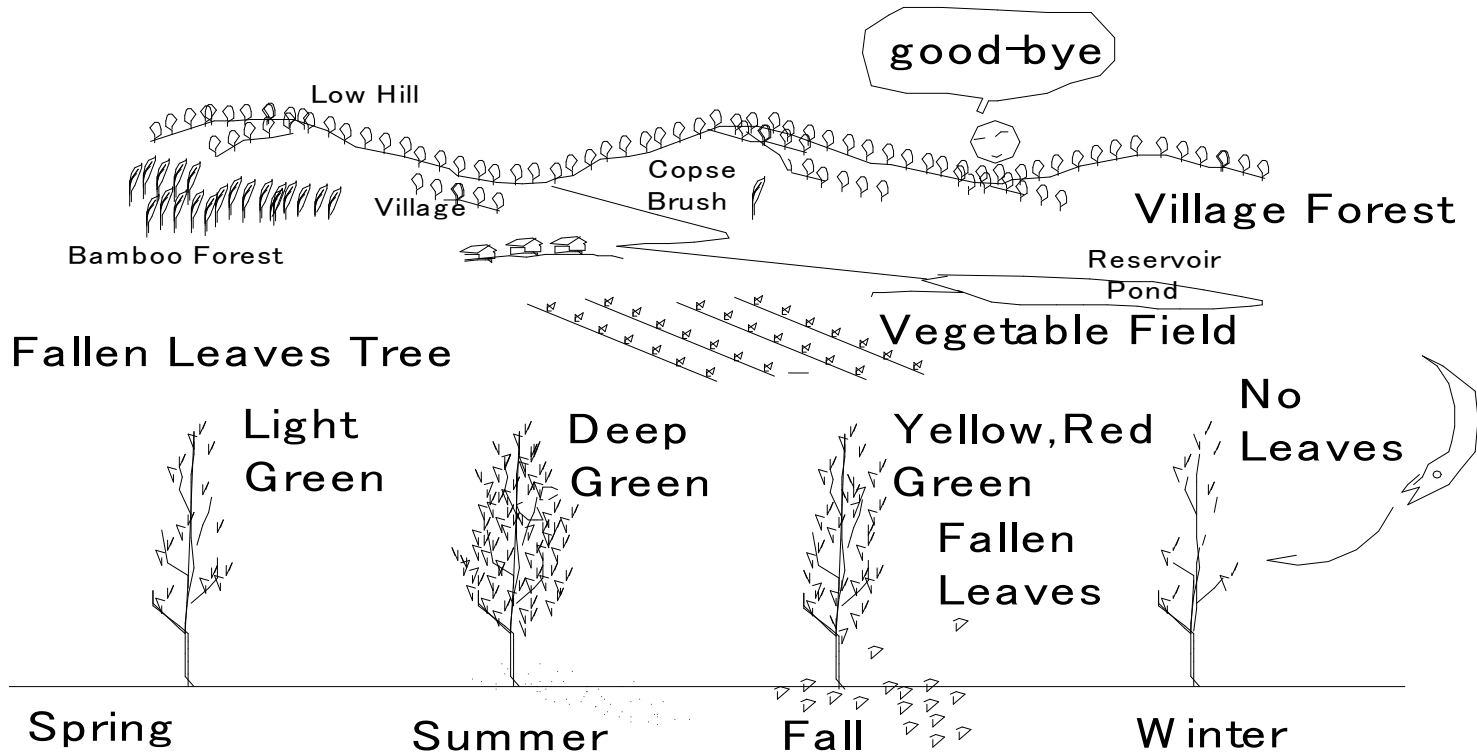


5 No Cut Weeds  
No Cut Grass

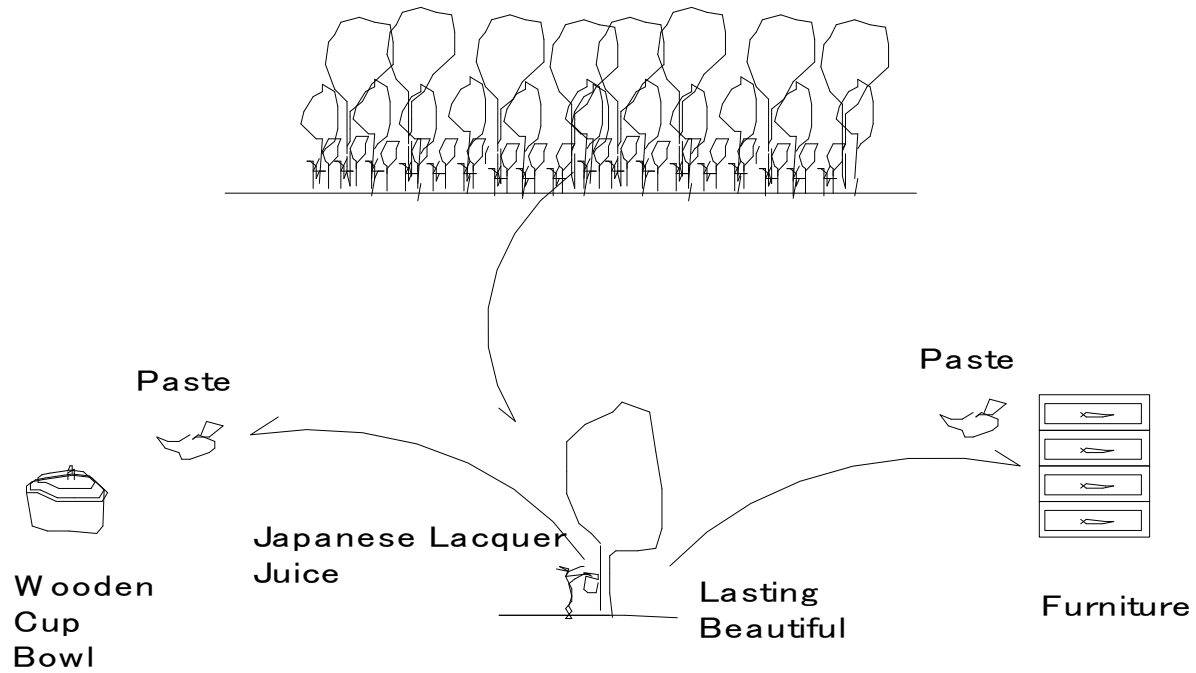
6 No Cut  
Branches

7 No Thin Out a Forest  
No Cut Internal Trees

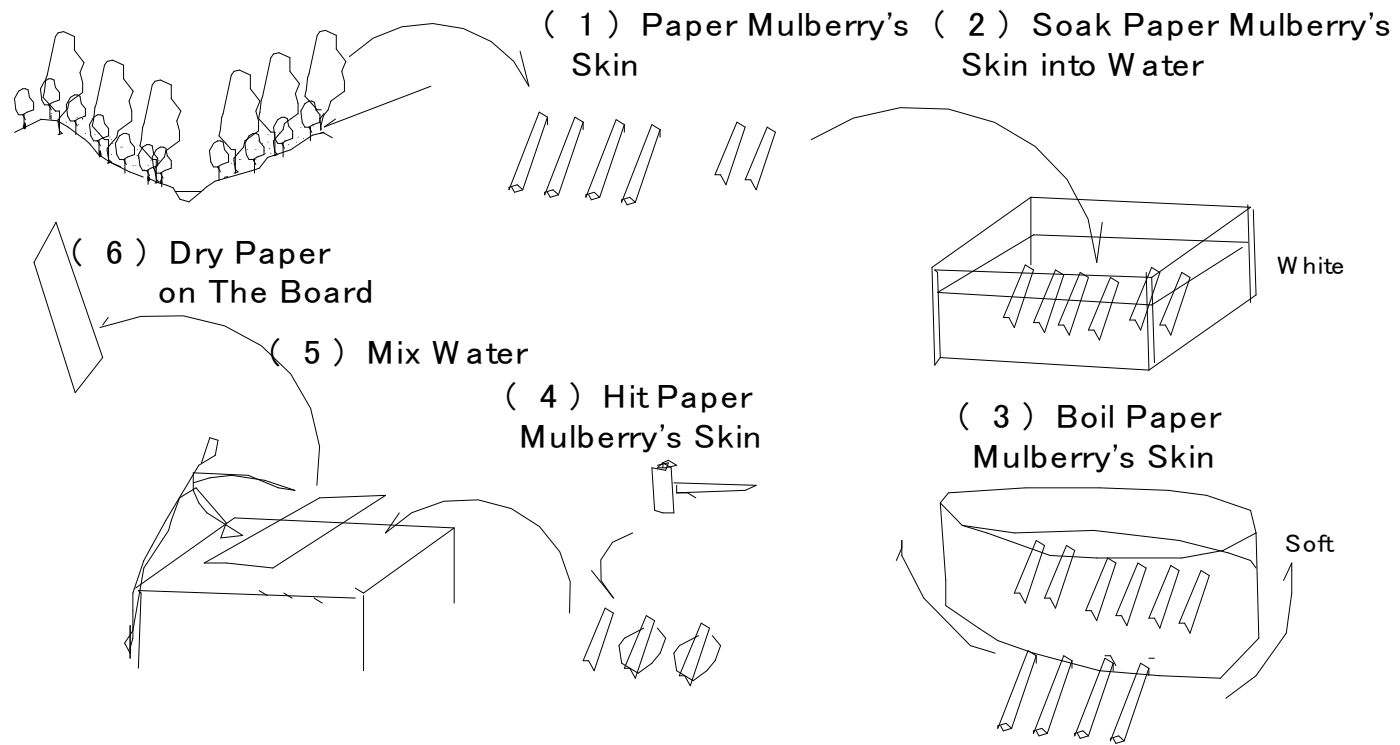
# ( 47 ) The four Seasons of Trees



# ( 48 ) Japanese Lacquer



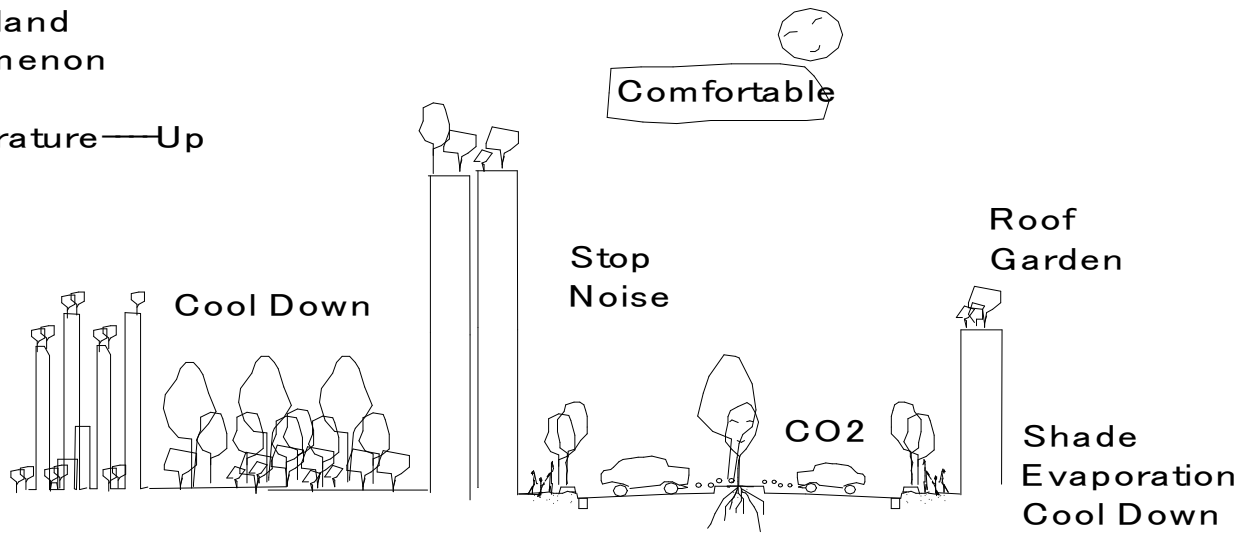
# ( 49 ) Paper from Wood



(50) Trees of City

( 50 ) Trees of City

Heat Island  
Phenomenon  
Urban  
Temperature — Up

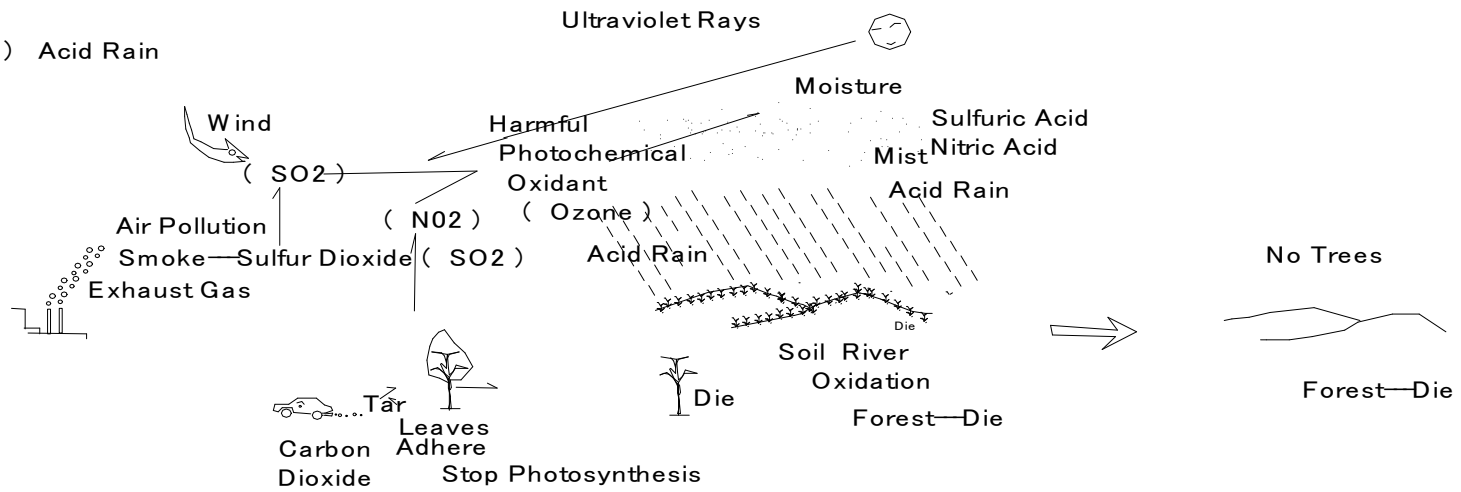




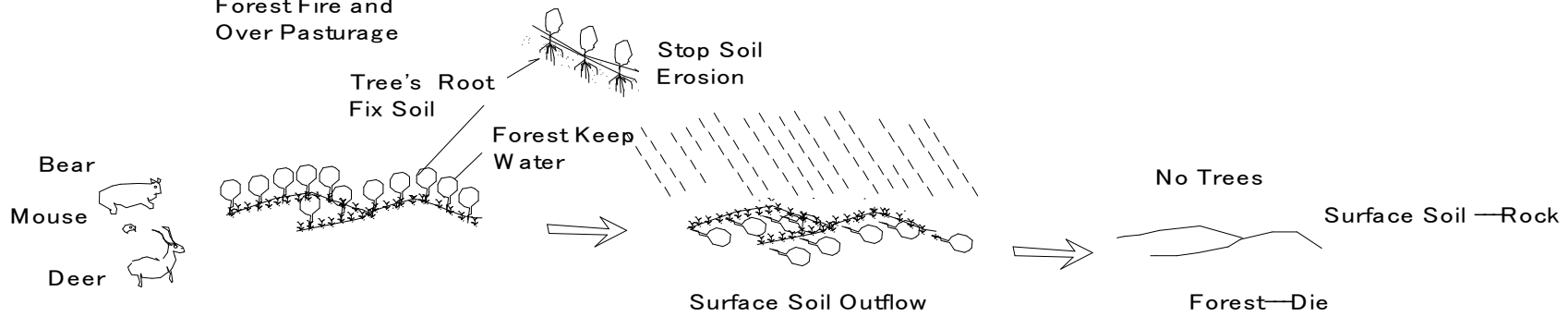
(51) Forest Die

( 51 ) Forest Die

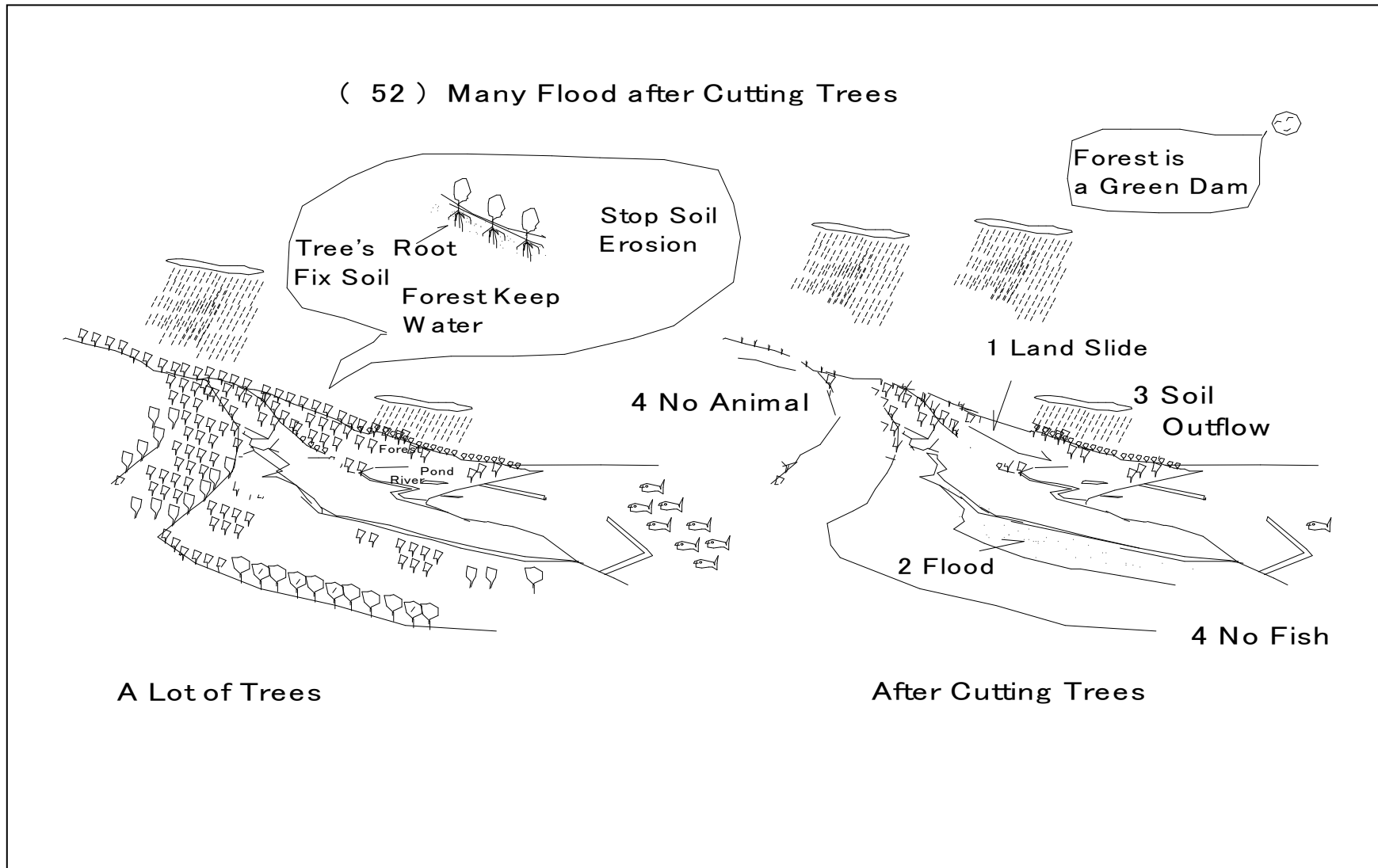
( 1 ) Acid Rain



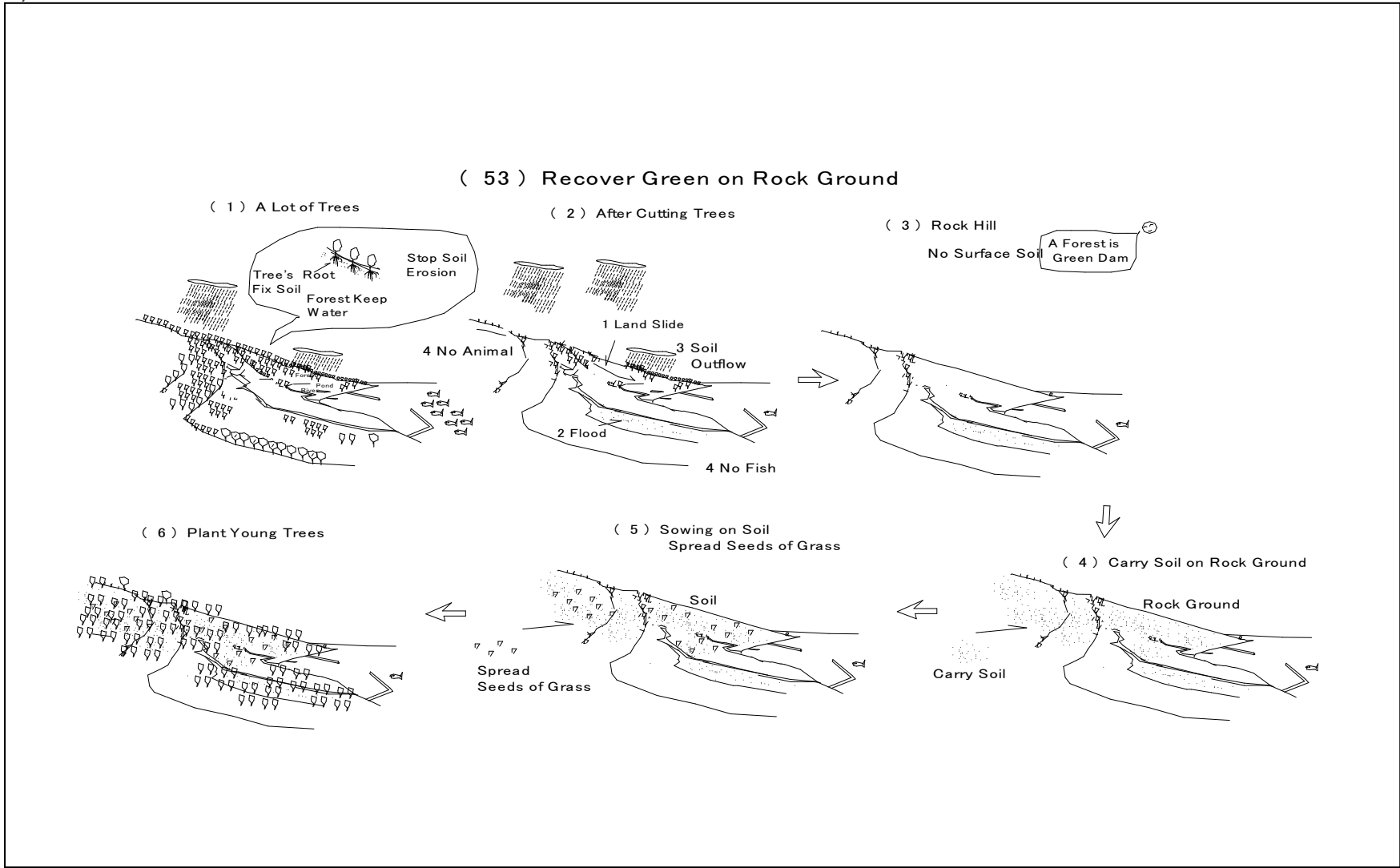
( 2 ) Over Cutting Trees  
Forest Fire and  
Over Pasturage



(52) Many Flood after Cutting Trees

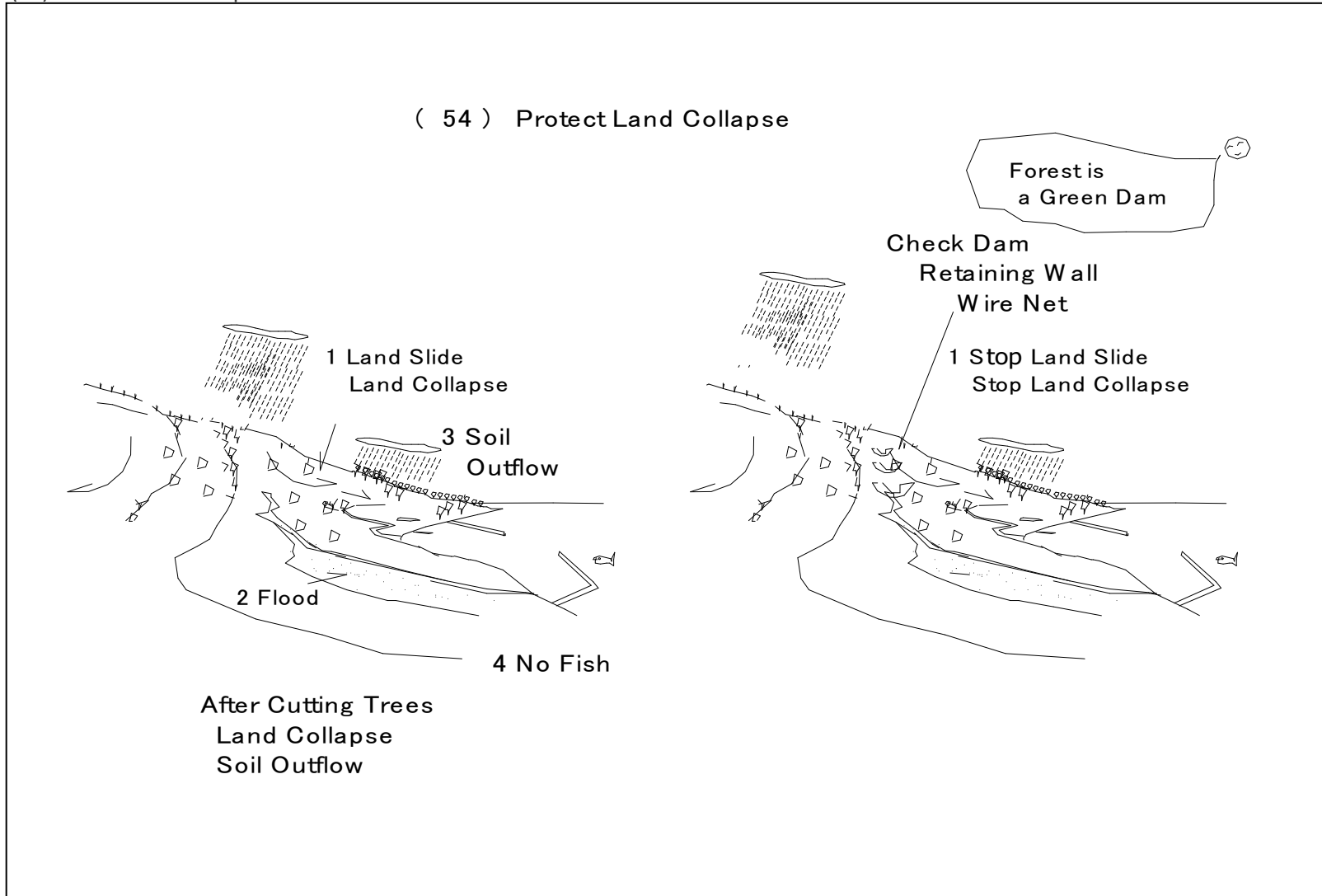


(53) Recover Green on Rock Ground



(54) Protect Land Collapse

( 54 ) Protect Land Collapse



# ( 55 ) Vegetation Bags

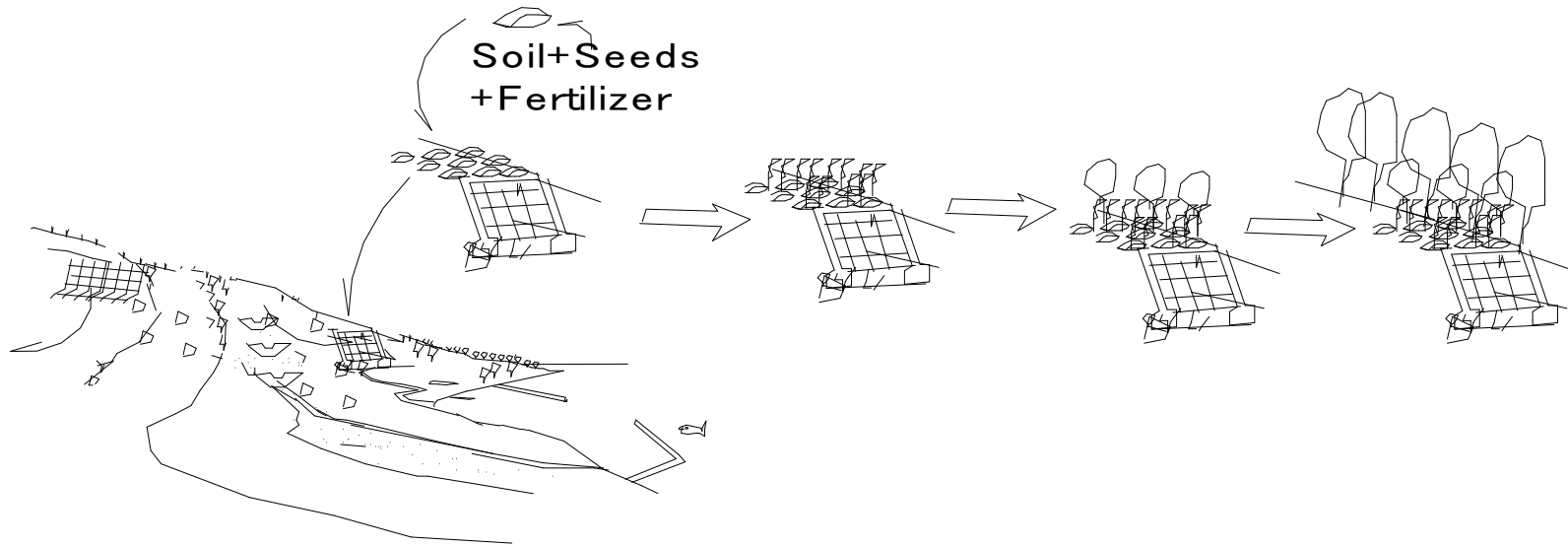
A Forest is  
Green Dam

1 Vegetation Bag  
Hemp Bag  
Straw Bag

2 Grass  
Grow Up

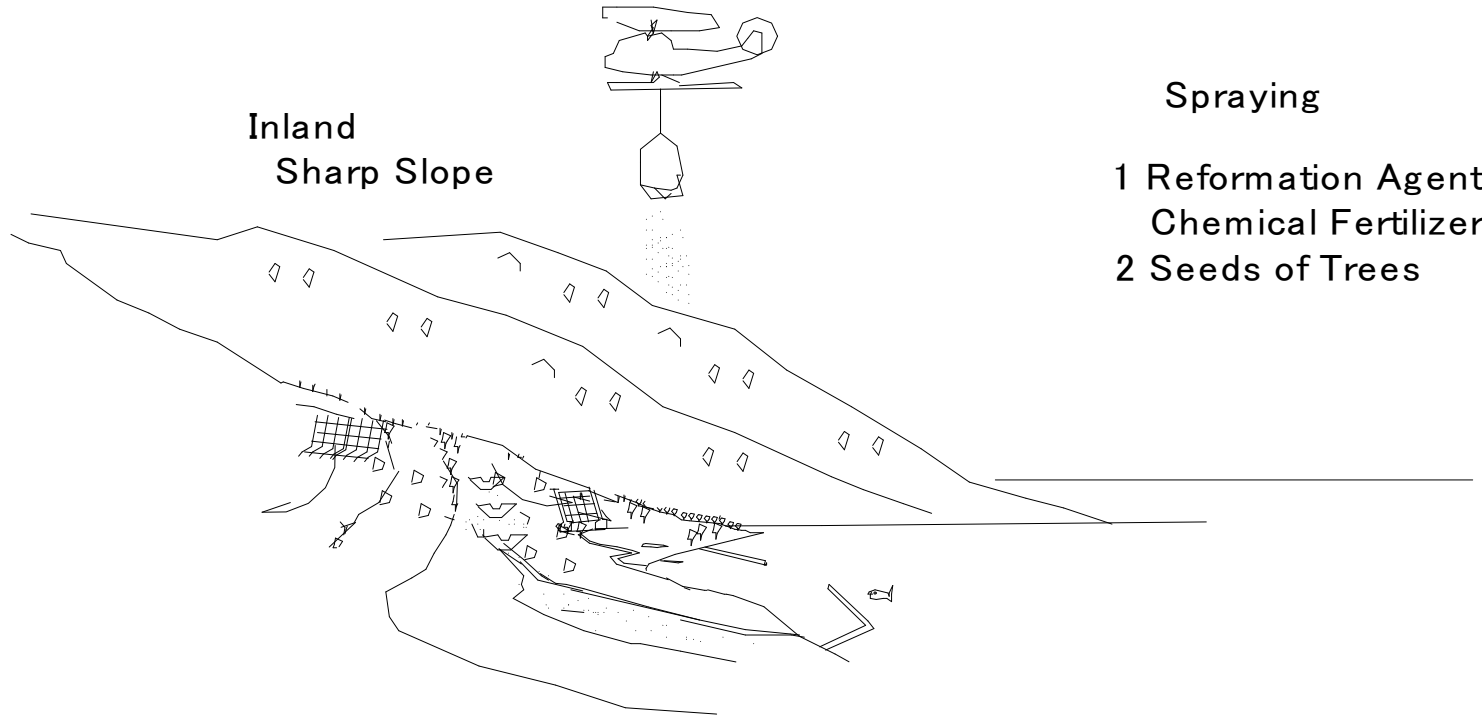
3 Plant  
Young Trees

4 Forest



# ( 56 ) Sowing by Helicopter

A Forest is  
Green Dam 



Inland  
Sharp Slope

Spraying

- 1 Reformation Agent
- Chemical Fertilizer
- 2 Seeds of Trees

( 57 ) Damages by Animal

Keep Many Types  
of Trees

Young Tree

God Bless  
You

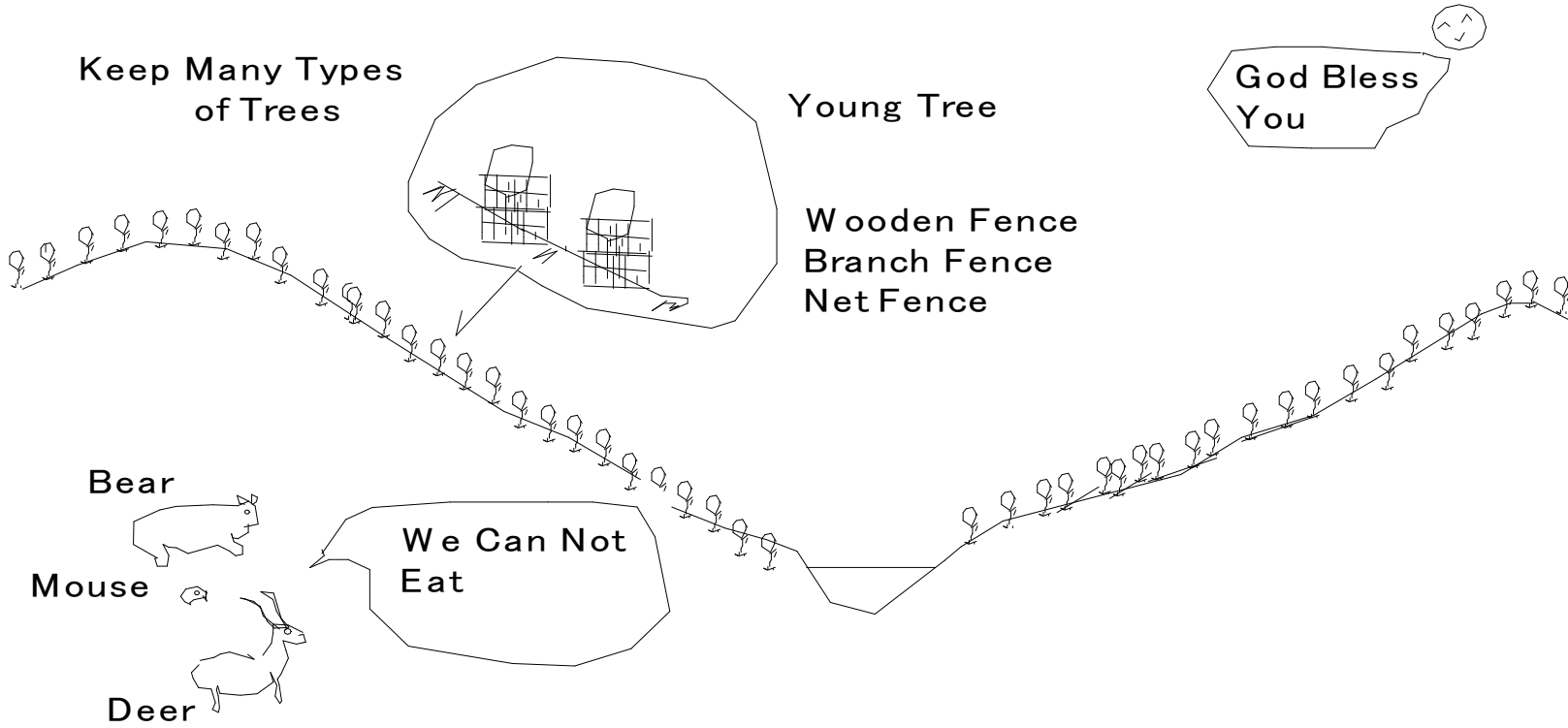
Wooden Fence  
Branch Fence  
Net Fence

We Can Not  
Eat

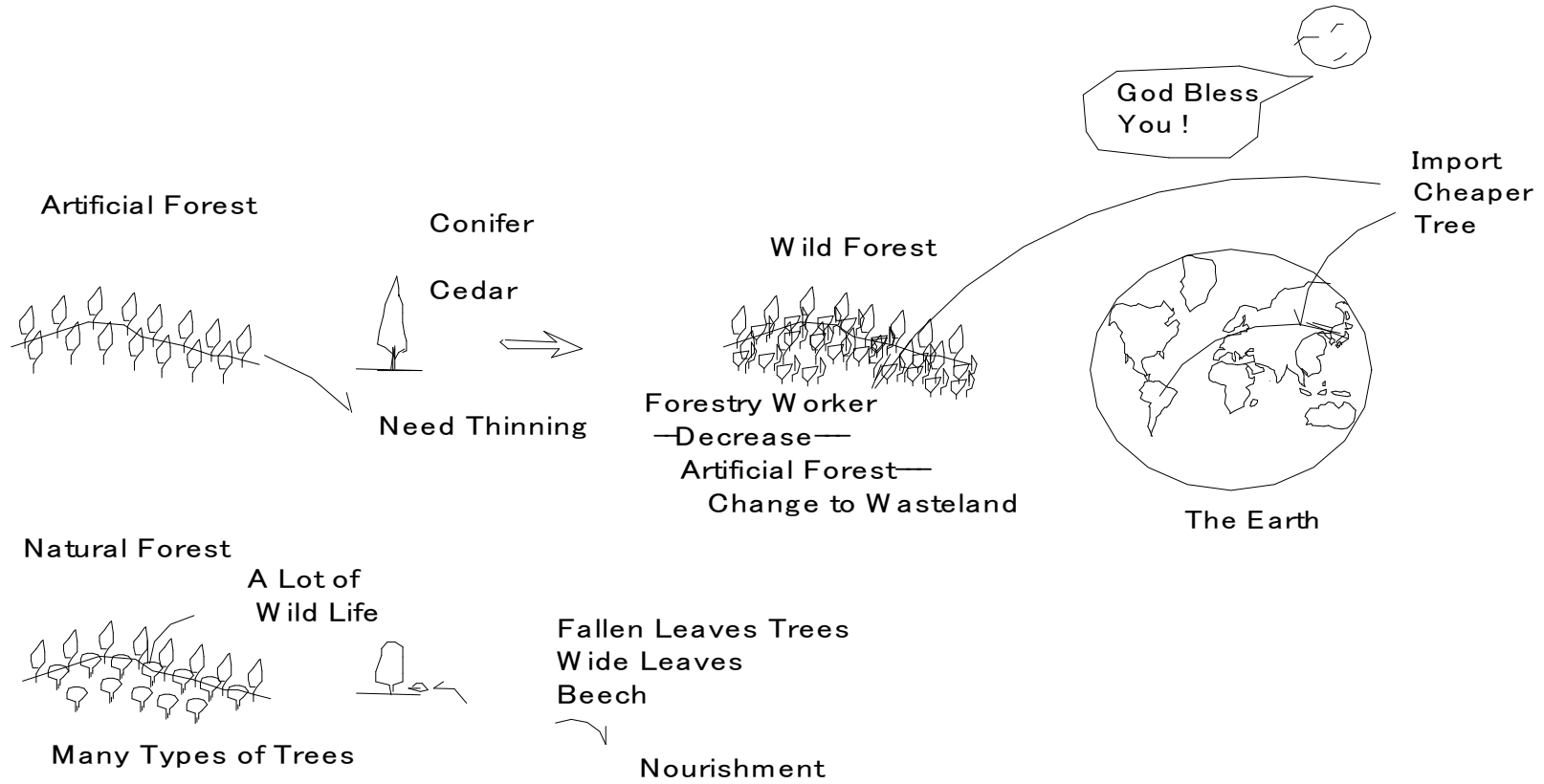
Bear

Mouse

Deer



( 58 ) Artificial Forest and Natural Forest ( 2 )





( 59 ) Forest Reserve ( 2 )

( 37 ) Forest Reserve

( 50 ) Trees of City

( 1 ) Water Resource

Mix

Broadleaf Trees

Conifer Forest

Natural Forest ( 5 ) Protect

Forest is

a Green Dam

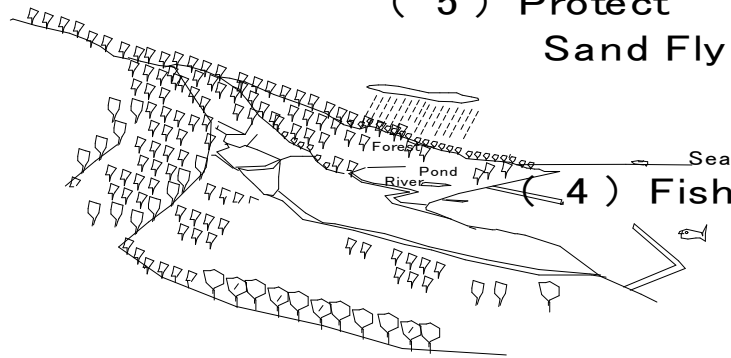
Heat Island

Phenomenon

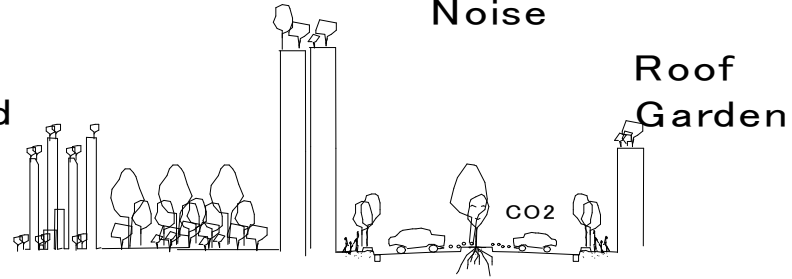
Urban

Sand Fly Temperature — Up

3 Stop  
Noise



( 4 ) Fish Food



( 2 ) Defense  
Landslide

( 3 ) Health  
Recreation

Camp

Hiking

Forest Bathing

1 Cool Down

2 Stop Fire

Shade

Evaporation

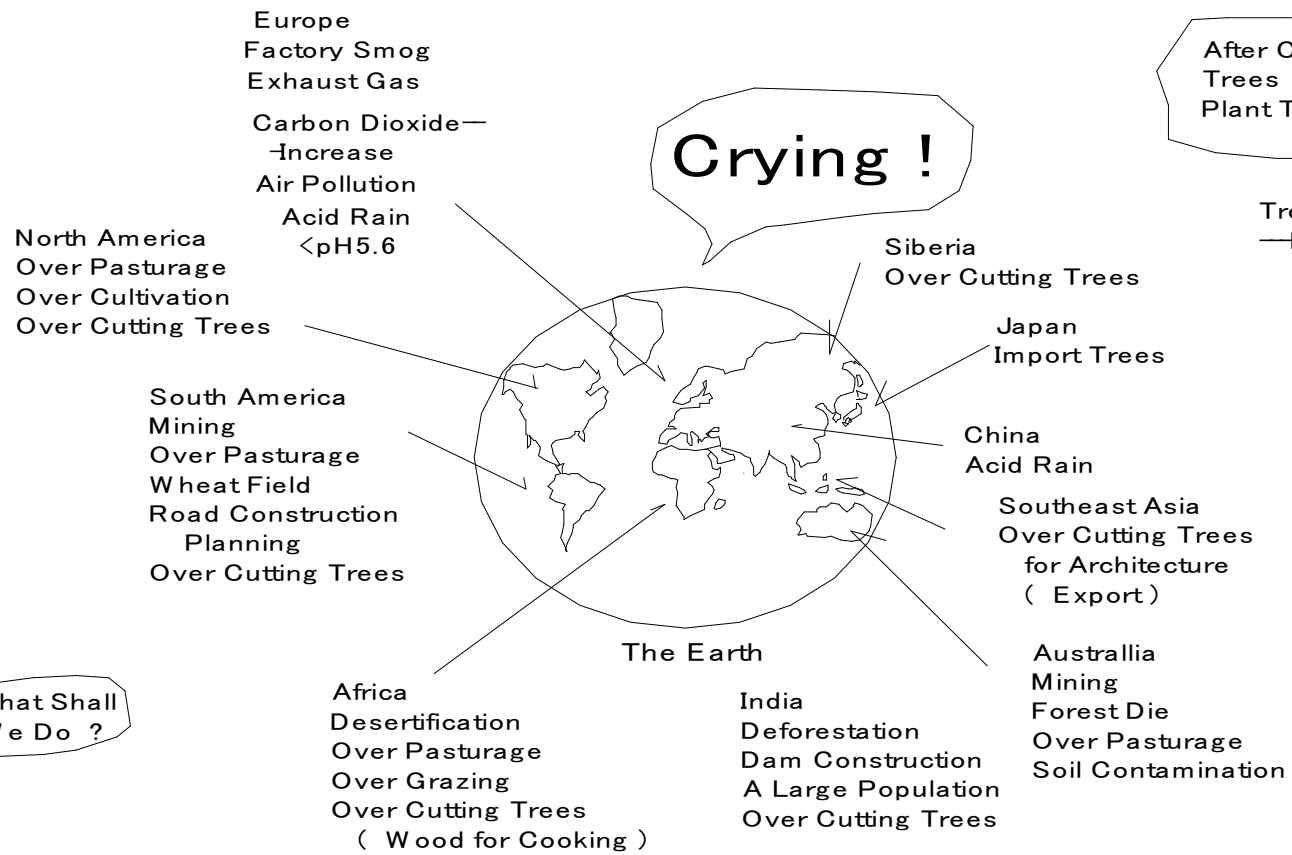
Cool Down

( 60 ) Forest Lose ( 2 )

Crying !

After Cutting  
Trees  
Plant Trees

Tropical Forest  
—Lose



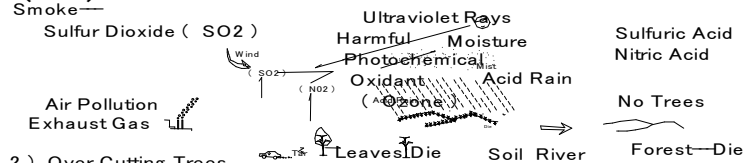
What Shall  
We Do ?

(61) Forest Lose (3)

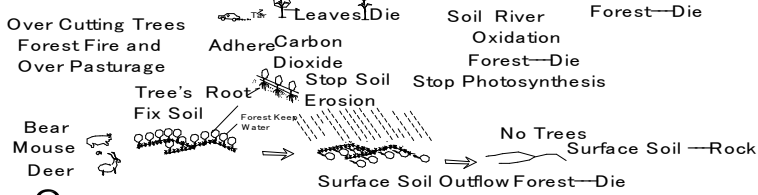
( 61 ) Forest Lose ( 3 )

( 51 ) Forest Die

( 1 ) Acid Rain



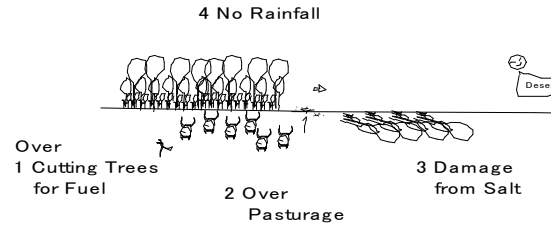
( 2 ) Over Cutting Trees  
Forest Fire and  
Over Pasturage



(5) Over Pasturage

( 40 ) Desertification

( 4 ) Desertification

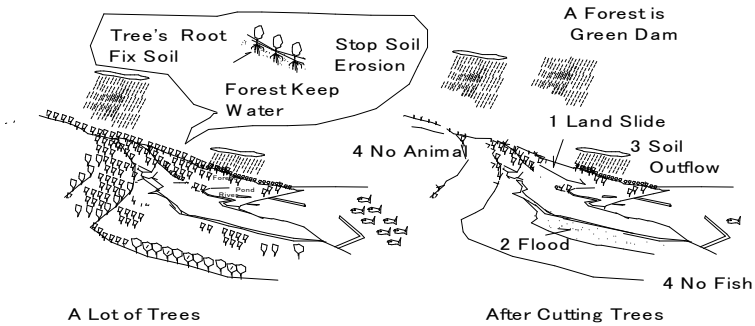
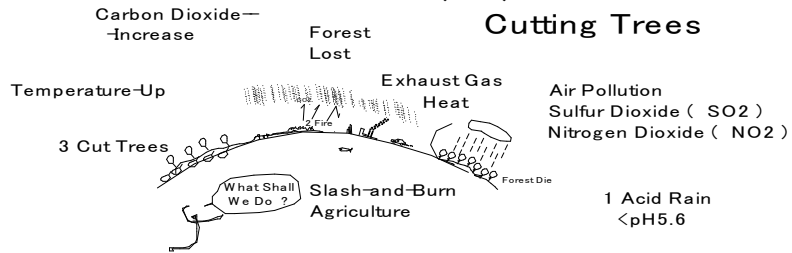


( 52 ) Many Flood  
after Cutting Trees

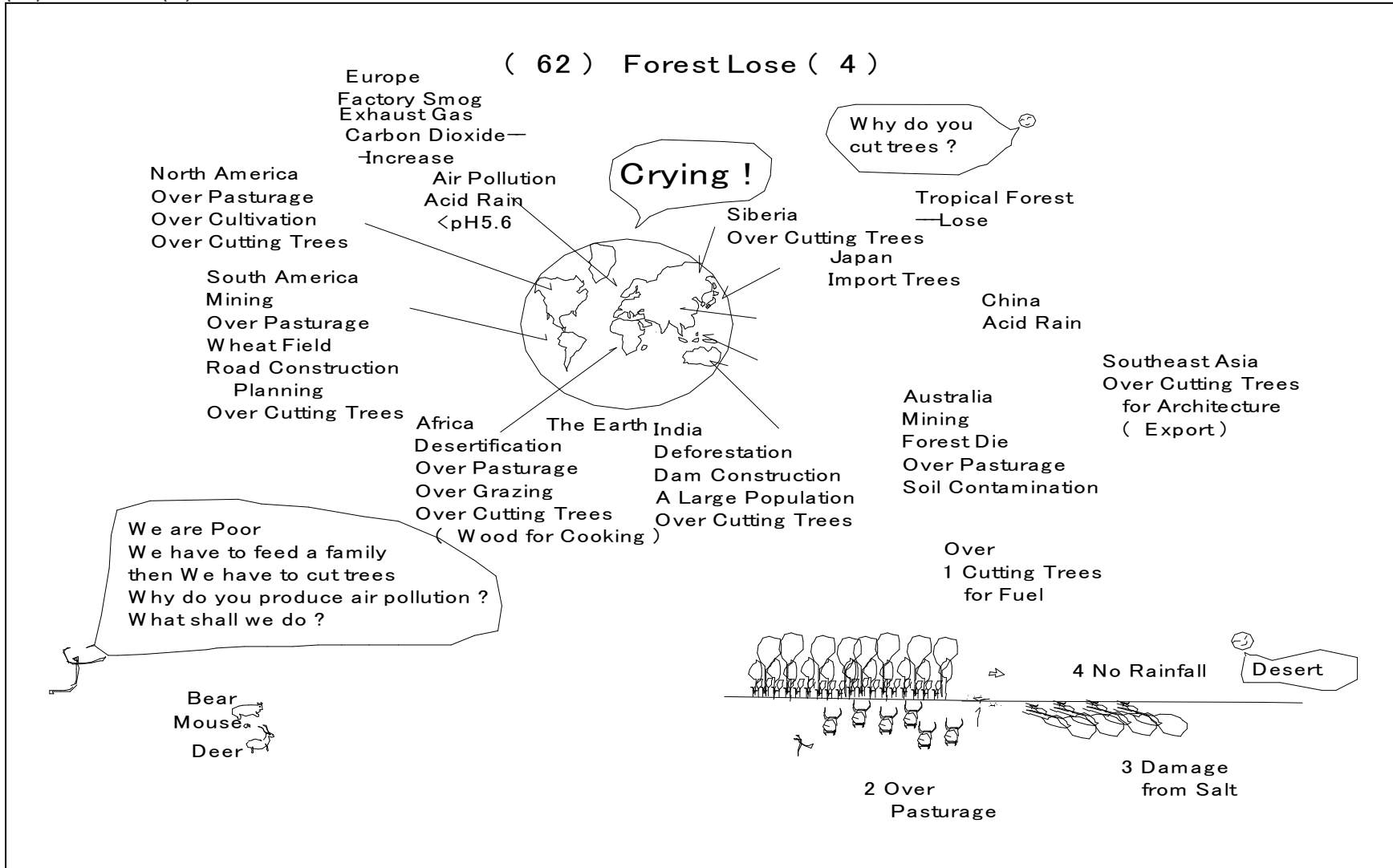
( 3 ) Soil Erosion

( 38 ) Forest Decrease

( 2 ) Over Cutting Trees

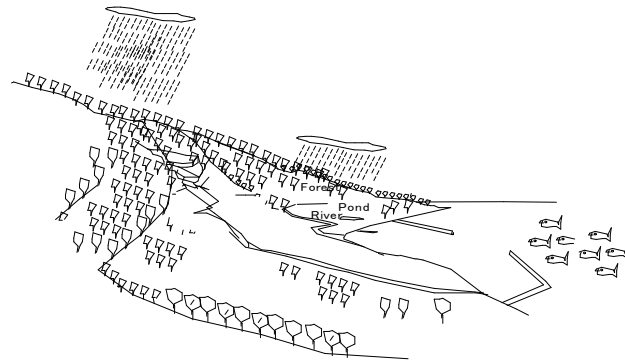


( 62 ) Forest Lose ( 4 )



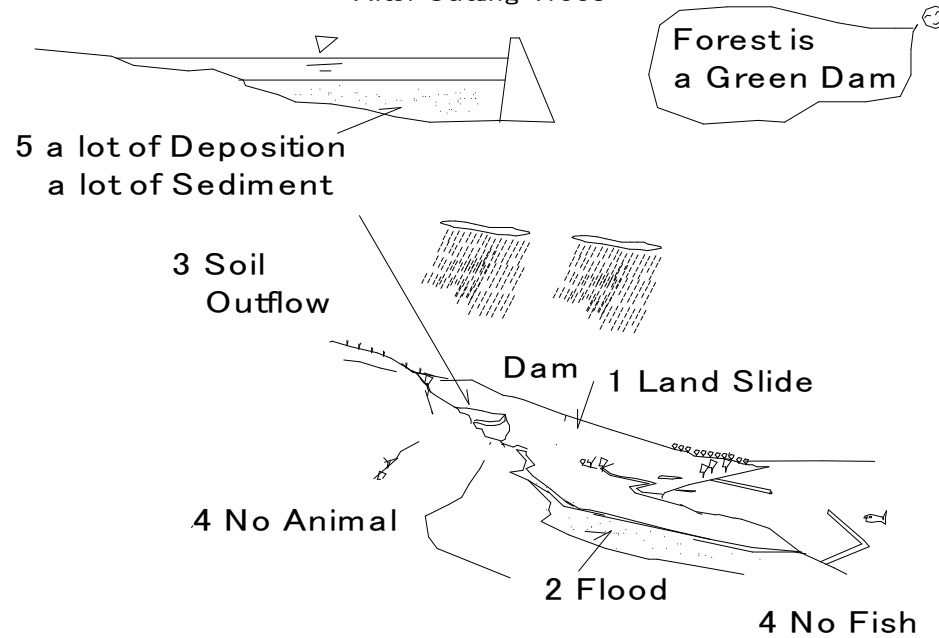
( 63 ) Soil Outflow After Cutting Trees ( 2 )

A Lot of Trees



- 1 No Land Slide
- 2 No Flood
- 3 No Soil Outflow
- 4 A Lot of Animal
- 5 a little of Deposition  
a little of Sediment

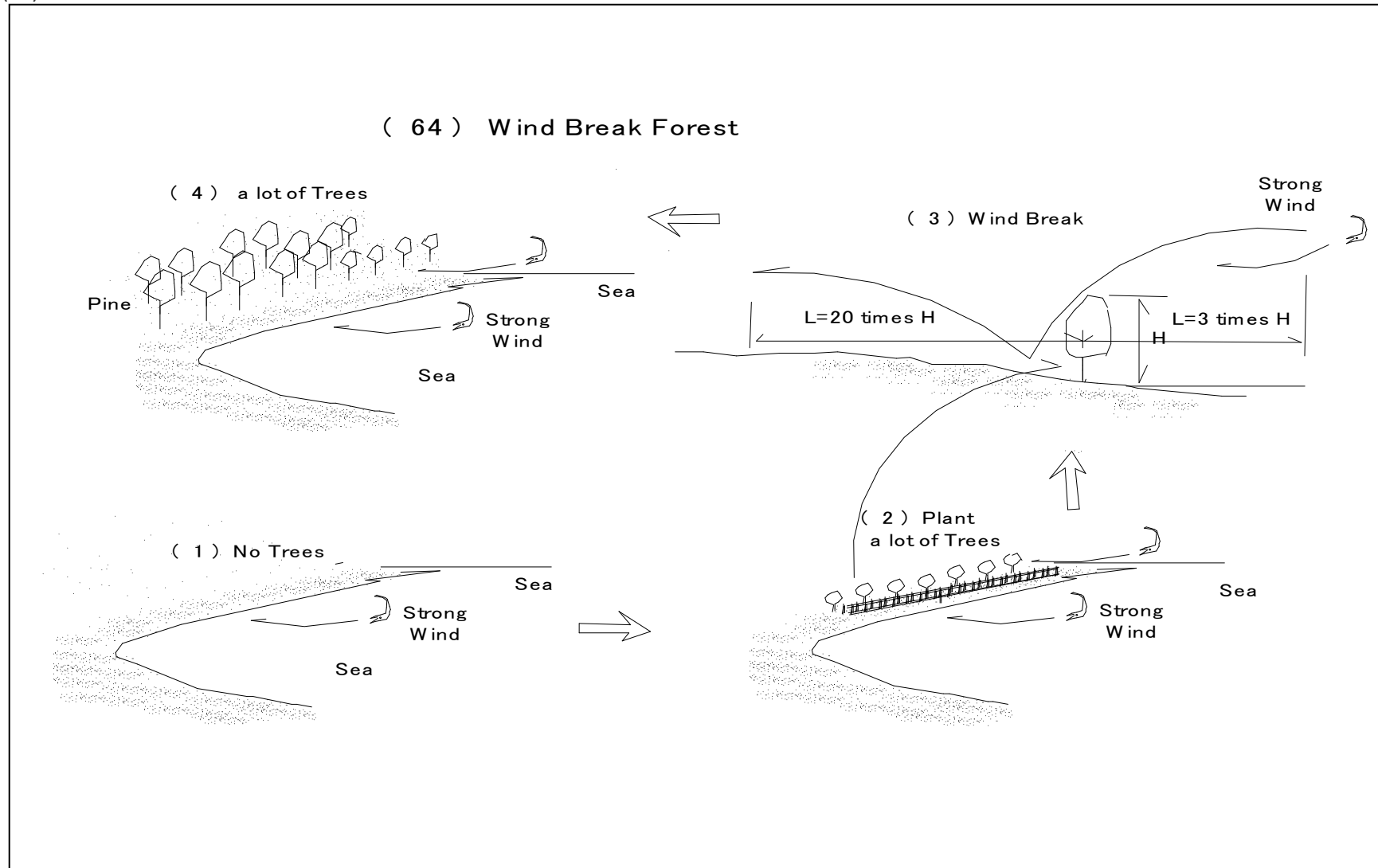
After Cutting Trees



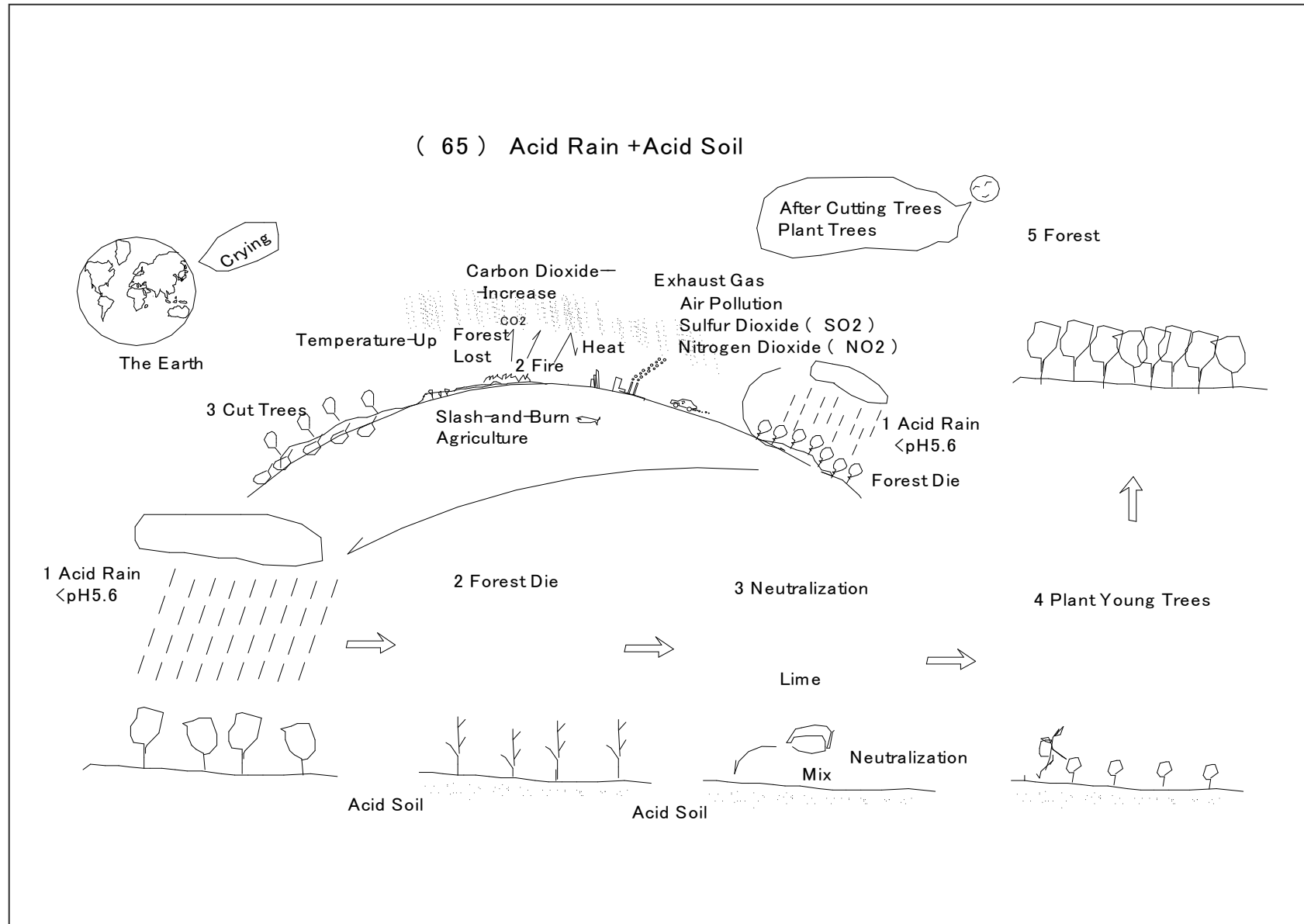
Forest is a Green Dam

(64) Wind Break Forest

( 64 ) Wind Break Forest

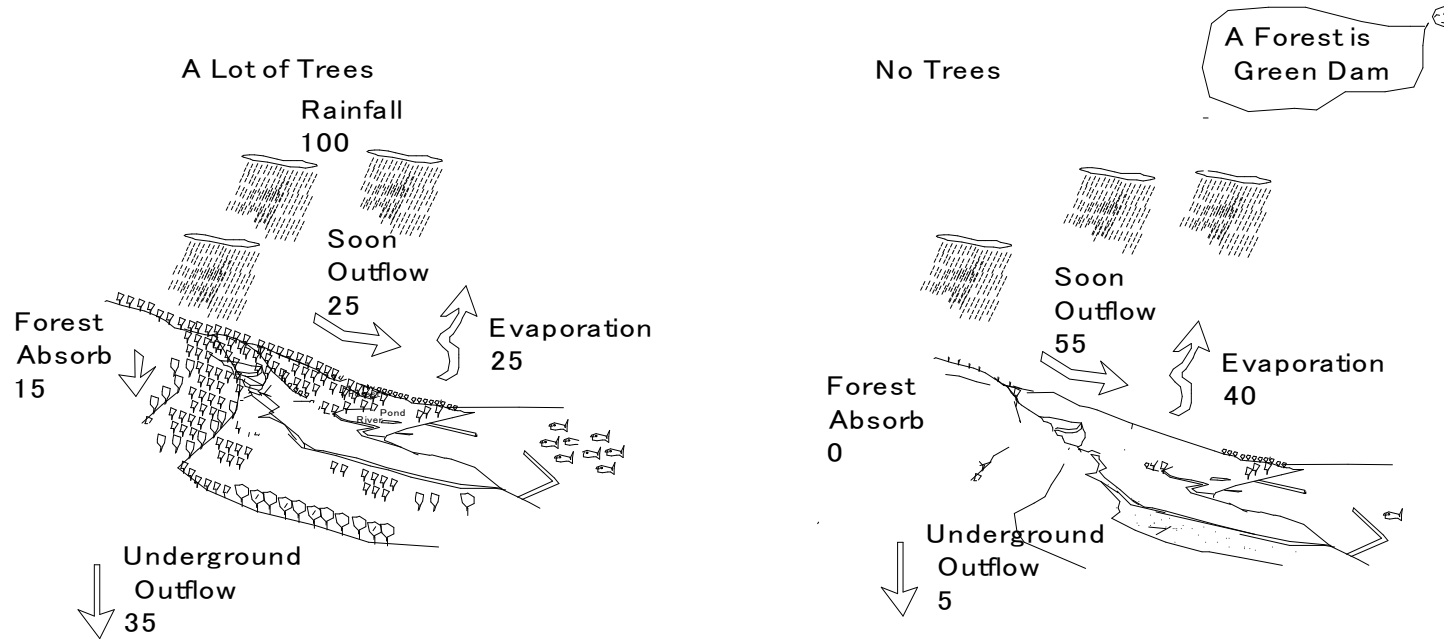


(65) Acid Rain+Acid Soil



(66) Soil Outflow After Cutting Trees (3)

( 66 ) Soil Outflow After Cutting Trees ( 3 )



	Rainfall	Evaporation	Soon Outflow	Forest Absorb	Underground Outflow
A Lot of Trees	100	25	25	15	35
No Trees	100	40	55	0	5

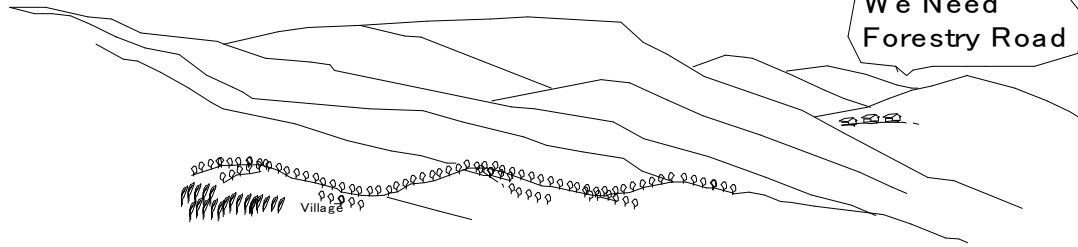


( 67 ) Forestry Road

No Woodland  
Path

We Need  
Forestry Road

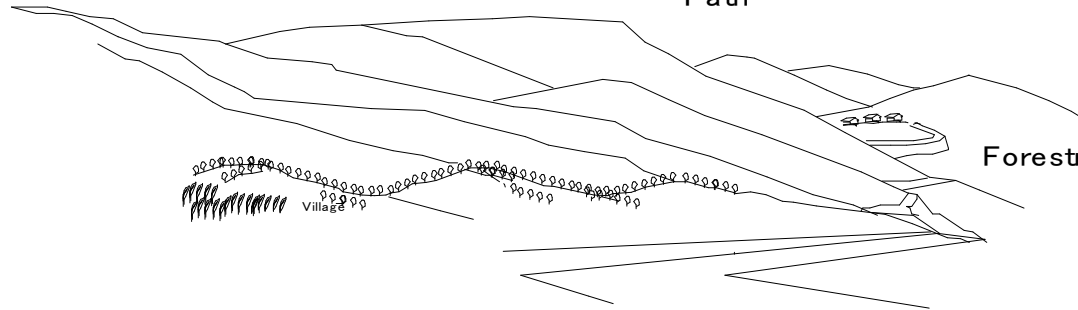
No Job  
Young Men  
Leave for Town  
Nobody Comes



Woodland  
Path

Plenty Jobs  
Young Men  
Return to Village  
Visitor Come

Forestry Road



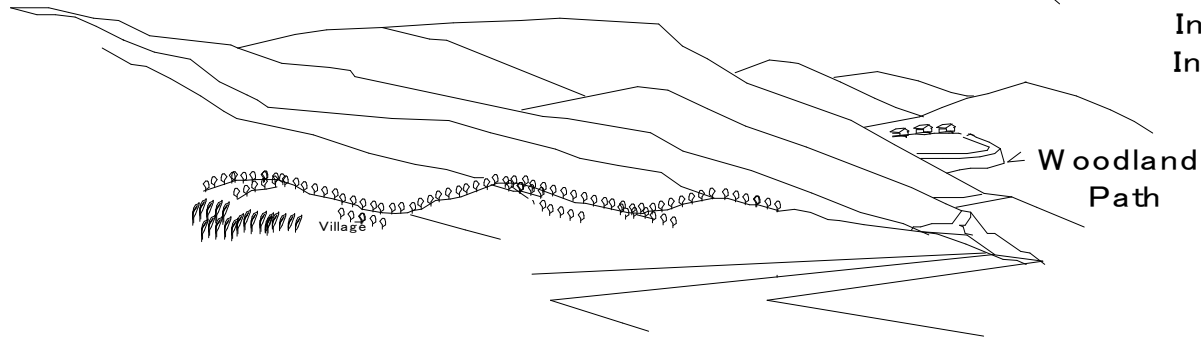
( 68 ) Forestry Road ( 2 )

( 1 ) Forestry Road  
Control Forest  
Wood Transport  
Villager's Convenient

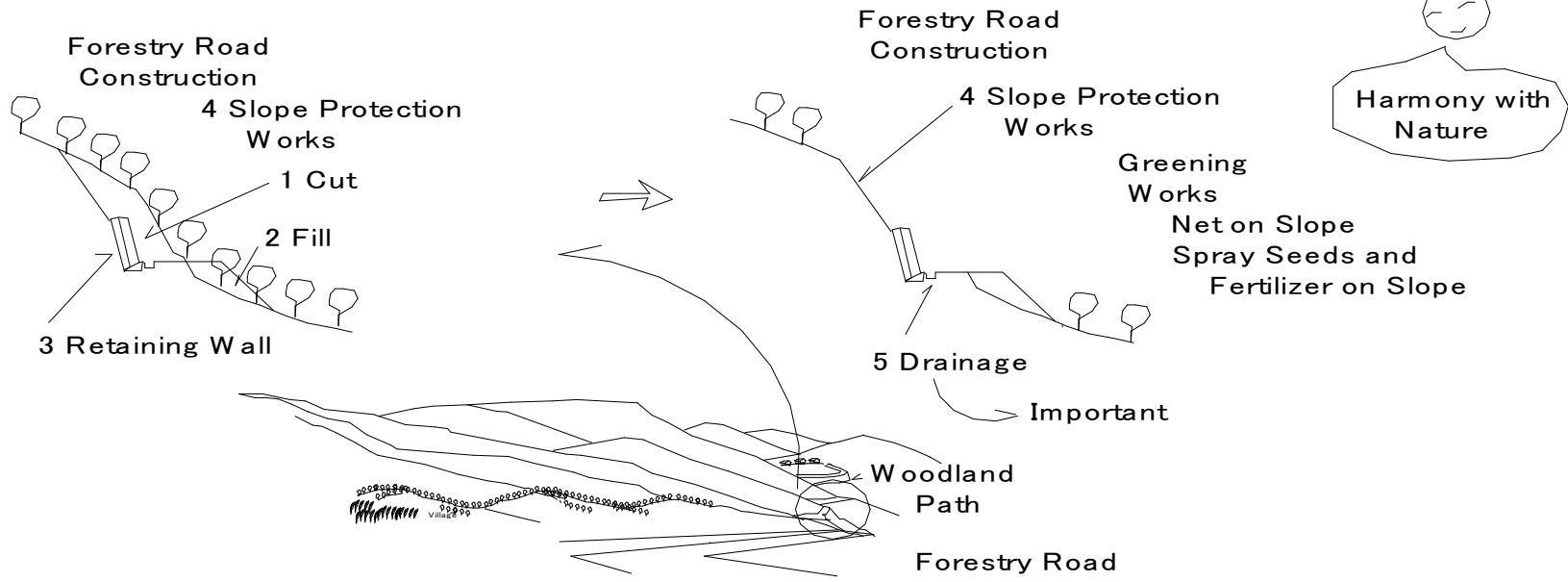
Decide Route  
of Woodland Path

Discuss with  
Owner of Land

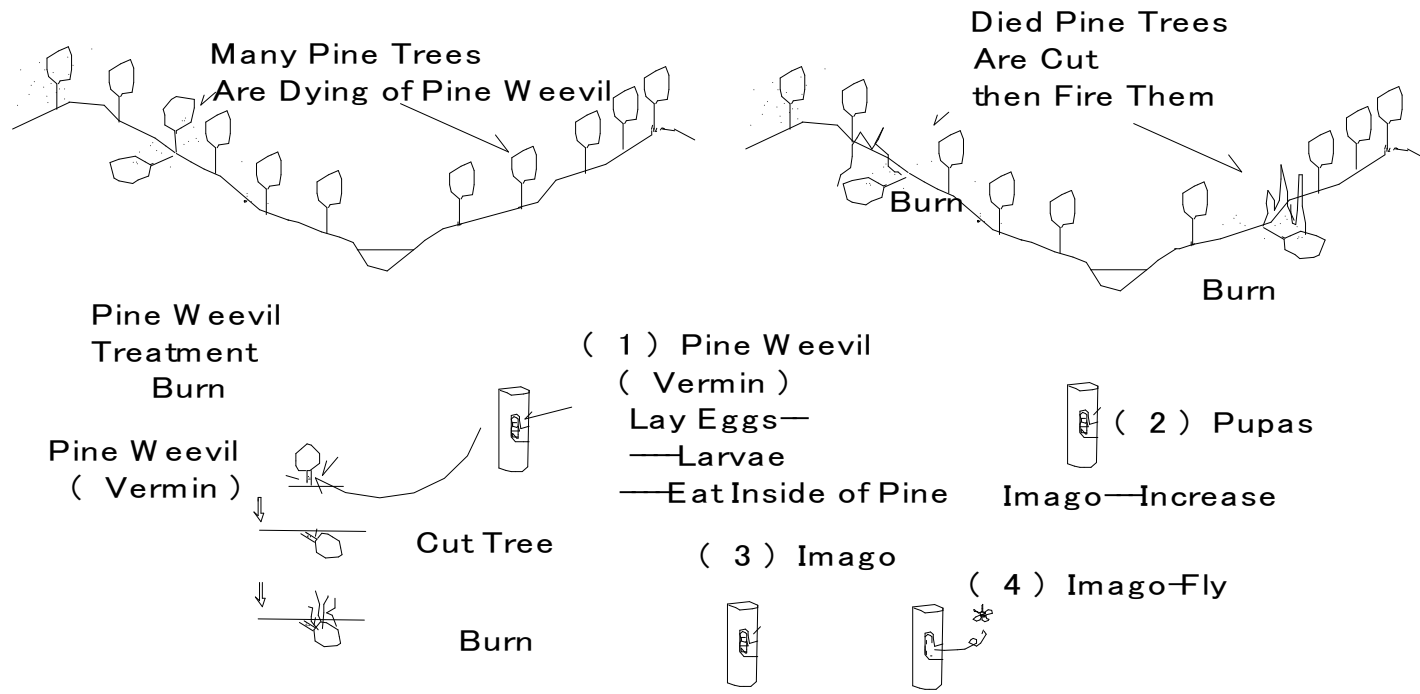
( 2 ) Investigation  
Influence to Nature  
Influence to Life



( 69 ) Forestry Road ( 3 )



## ( 70 ) Damages of Forest ( 2 ) a Pine Weevil



( 71 ) Natural Forest without Hands



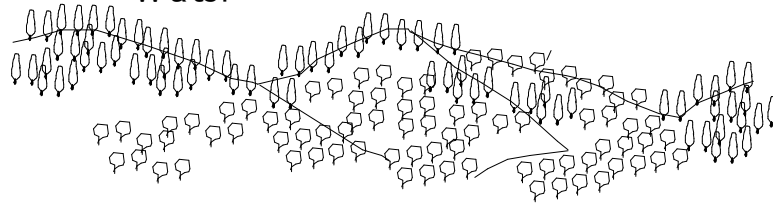
Fallen  
Leaves Trees

Broadleaf Trees

Forest Keep  
Water

Natural Forest

A Lot of  
Wild Life



Fallen  
Leaves

Many Types of Trees

Nourishment

Bear  
Mouse  
Deer

Wonderful !

a Lot of Animal  
Resources of Inheritance  
Crop Improvement



## ( 72 ) Forest Investigation

Investigate and Record

Kind

Height

Thickness

Ages

Maintenance Condition

Natural Forest

Artificial Forest

1 Source of Water Forest

2 Wind Break Forest

3 Snow Break Forest

4 To Arrest

Shifting of Sand

5 Artificial Forest

6 Leaf Mold

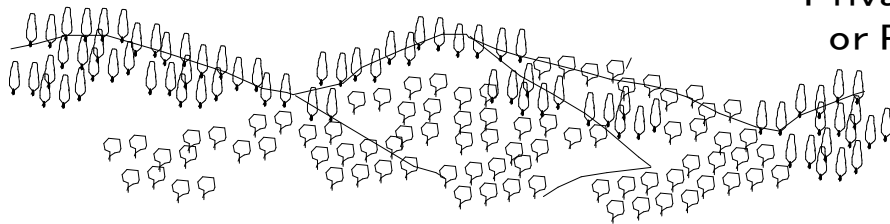
7 Protect Against Fire

Broadleaf Trees

Who is Owner ?

Private

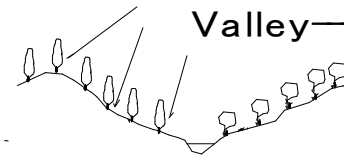
or Public



Ridge — Pine

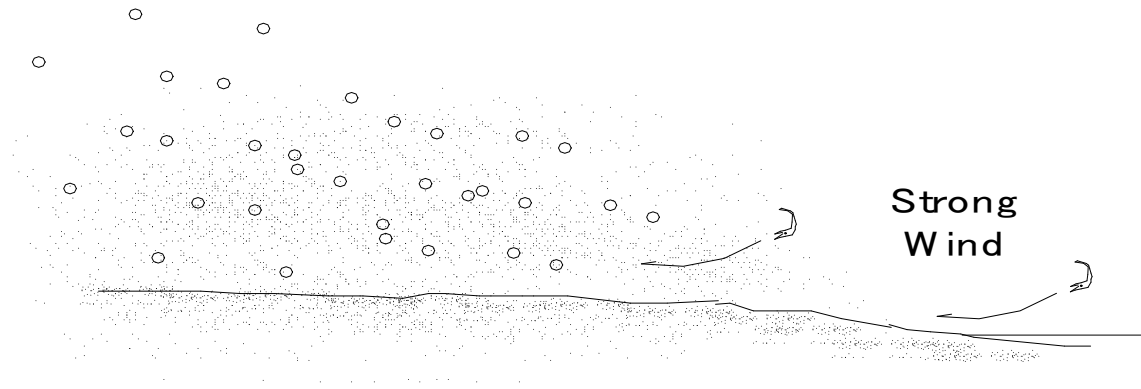
Middle — Hinoki

Valley — Cedar



(73) Trees Can Not Grow Up (Sand Hill, Sand Dune)

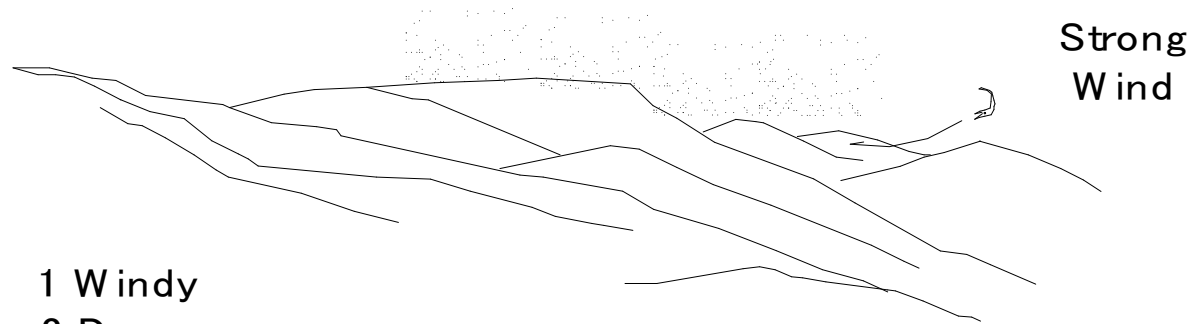
( 73 ) Trees Can Not Grow Up ( Sand Hill , Sand Dune )



- 1 Windy
- 2 Dry
- 3 Carry Sand  
by Strong Wind
- 4 Strong Sun Shine
- 5 No Rain
- 6 Salt Breeze Includes Salt
- 7 No Muck
- 8 No Fertilizer

(74) Trees Can Not Grow Up (Grass Land on High Mountain ) (2)

( 74 ) Trees Can Not Grow Up  
( Grass Land on High Mountain ) ( 2 )



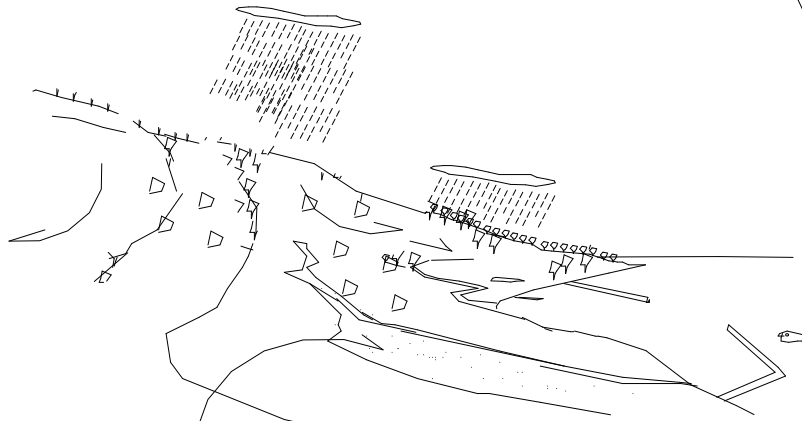
- 1 Windy
- 2 Dry
- 3 Carry Sand  
by Strong Wind
- 4 Strong Sun Shine
- 5 No Rain
- 6 No Muck
- 7 No Fertilizer
- 8 Low Temperature



(75) Trees Can Not Grow Up (on Waterside ) (3 )

( 75 ) Trees Can Not Grow Up  
( on Waterside ) ( 3 )

Forest is  
a Green Dam



1 Sand Sediment  
by Flood or River Flowing

Sand Sediment ( Deposit )

Trees Do Not Grow Up

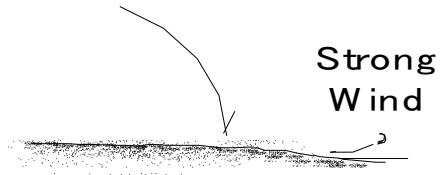
Grassland

Marsh Swamp Meadow

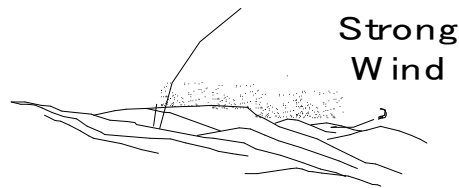
a Little of Fertilizer

( 76 ) Weak Natural Grassland by Environment Change

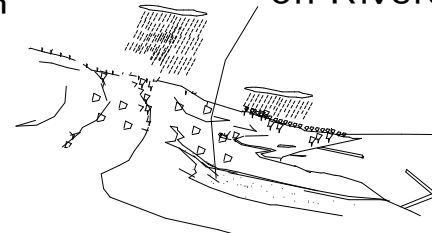
Grassland on Sand Hill , Sand Dune



Grass Land on High Mountain



Grass Land on Riverside



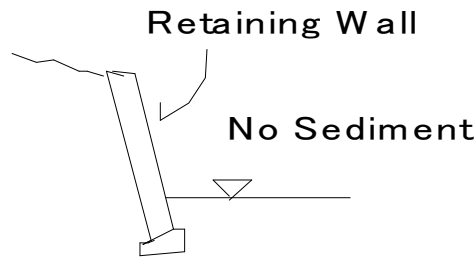
Flood or River flowing

( 1 ) Men Enter on Natural Grass Land



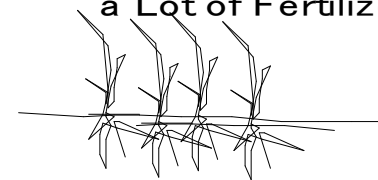
Grass — Died  
Soil — Hard

( 2 ) River Retaining Wall Construction

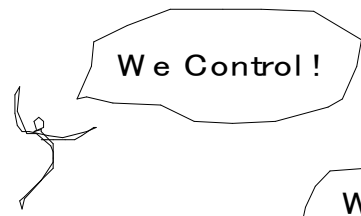


( 3 ) Dry Wetland or a Lot of Fertilizer

The Grassland was Grown Over with Weeds or a Lot of Fertilizer



( 77 ) Meadow Control by Men



1 Meadow :Grassland:Pasture  
Spread Seeds +Fertilizer  
Men Control

( 78 ) The Grove of The Village Shrine

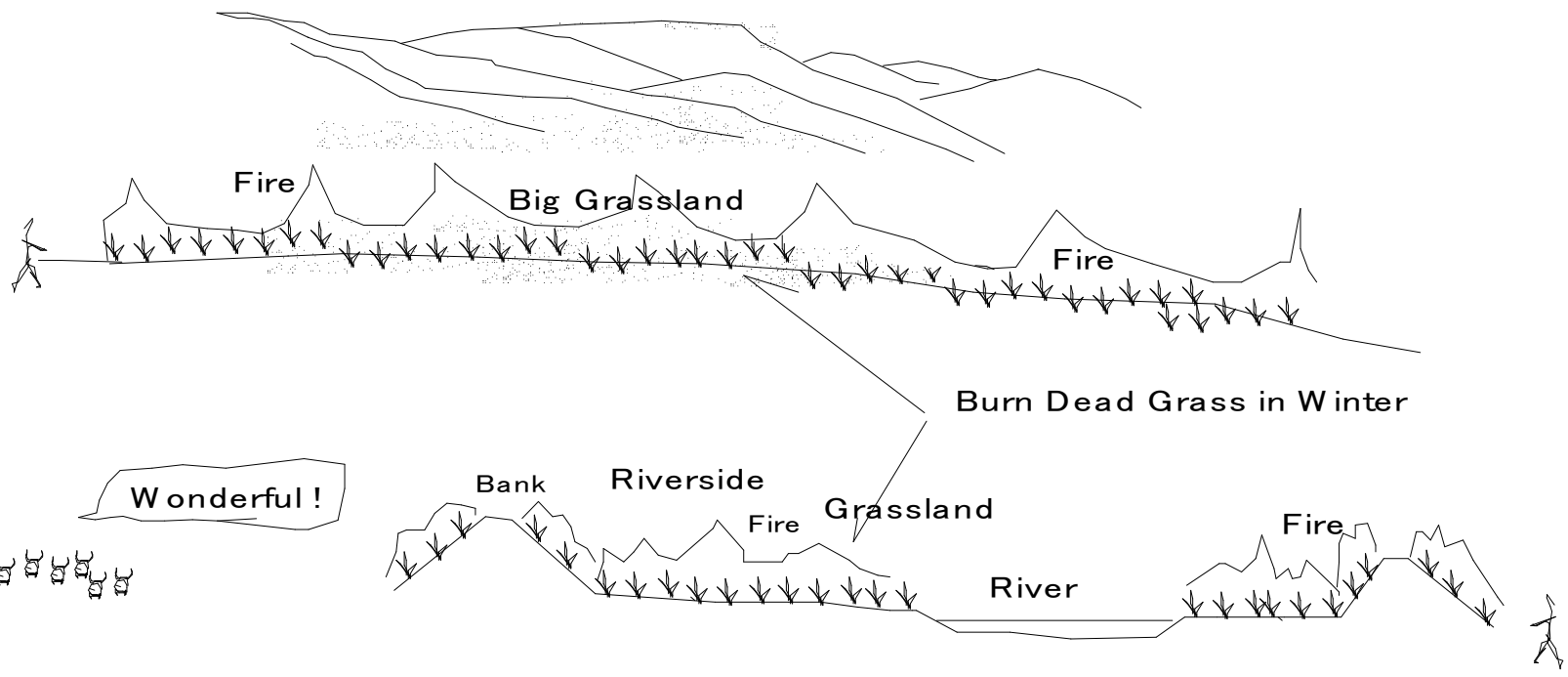
God Live  
in Native Forest



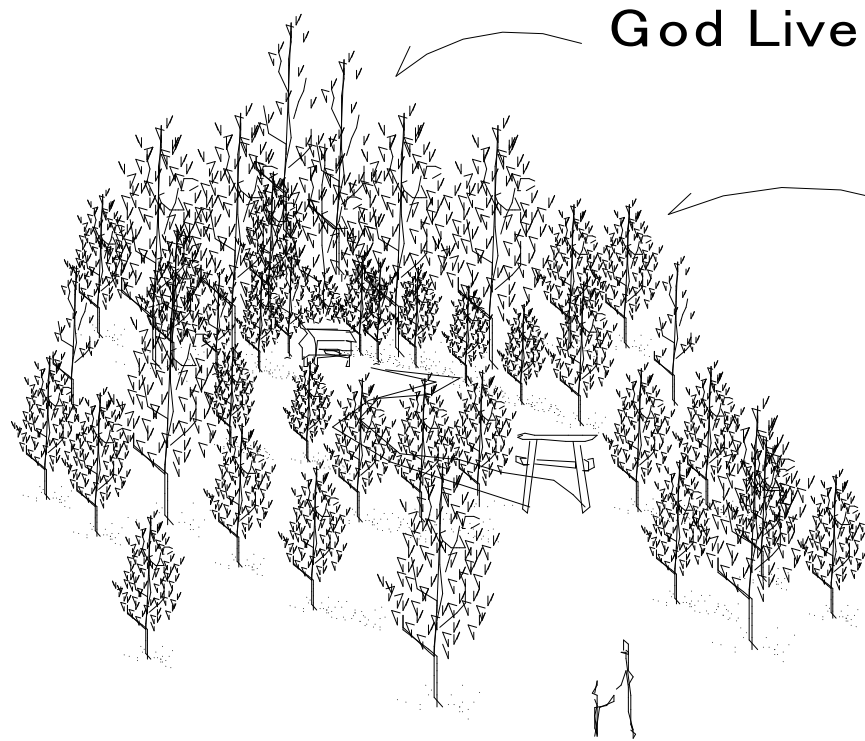
(79) Maintain Green of Grass

( 79 ) Maintain Green of Grass

God Bless You !



( 80 ) The Grove of The Village Shrine ( 2 )



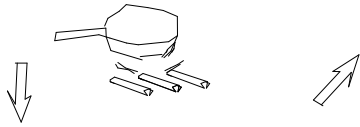
God Live in a Big Tree

Without men's Hand  
Old Trees and Grass

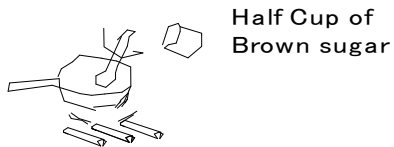
( 81 ) Syrup and Insects

Syrup

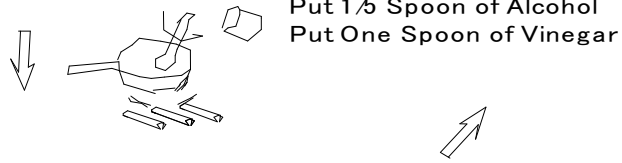
1 Put One Cup Water in Pot then Boil



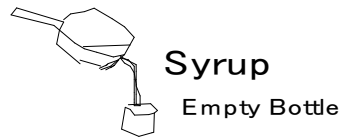
2 After Boiling Put half Cup of Brown sugar Boil in Low Heat



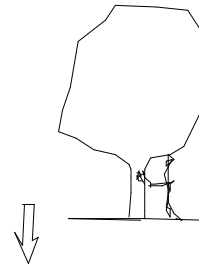
3 After Boiling Put 1/5 Spoon of Alcohol Put One Spoon of Vinegar then Boil for a While



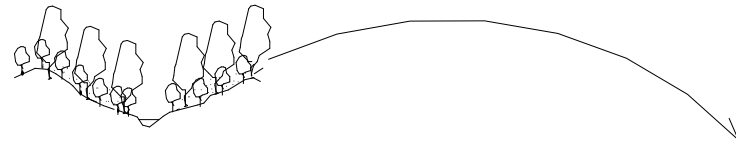
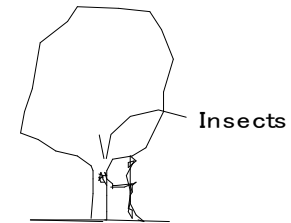
4 After Cool Put in Empty Bottle



5 Paste Syrup on Tree in Evening

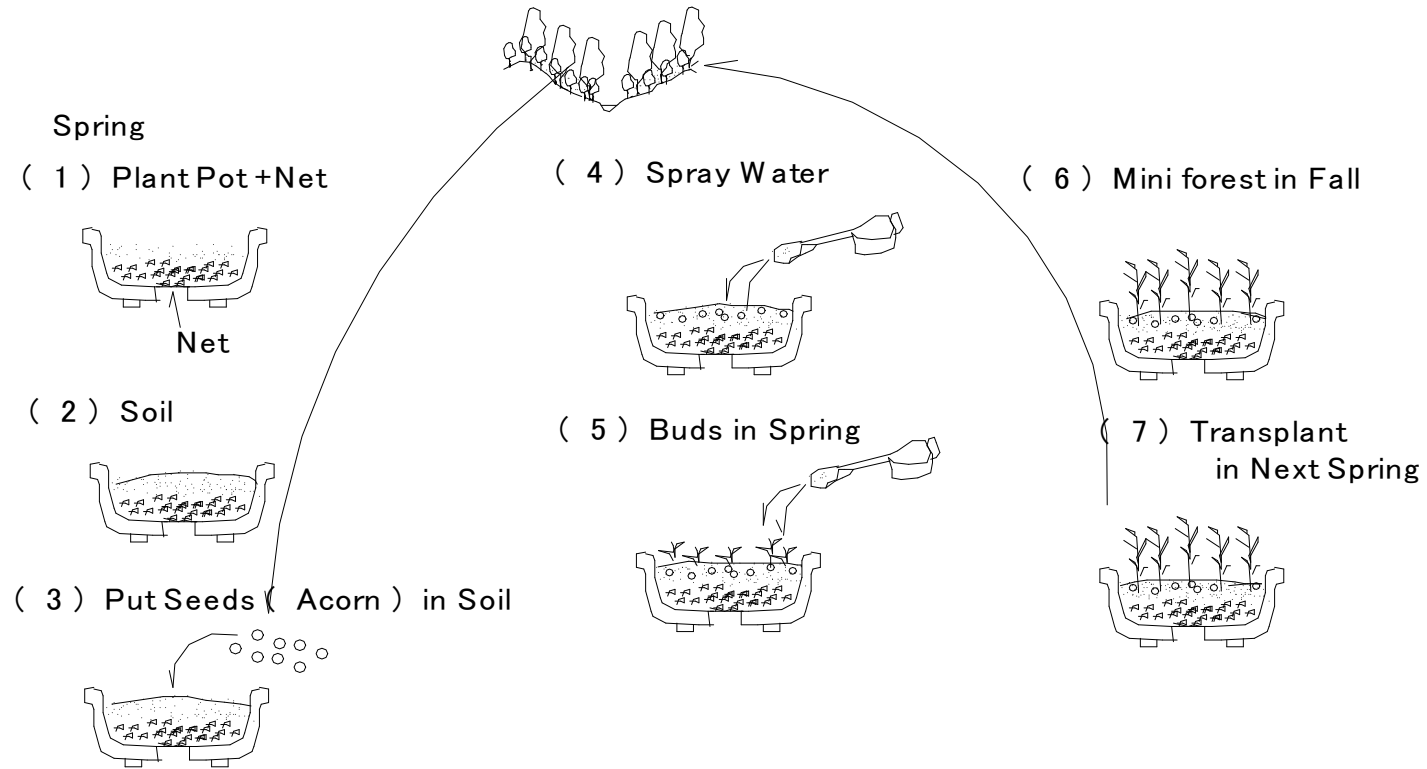


6 Collect Insects in Morning



(82) Grow Minisize Copse (Forest ) with Acorn (seeds)

( 82 ) Grow Mini size Copse ( Forest )  
with Acorn ( Seeds )





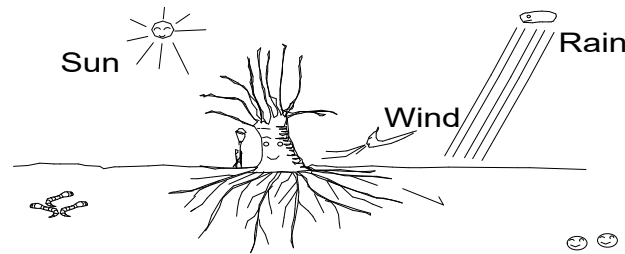
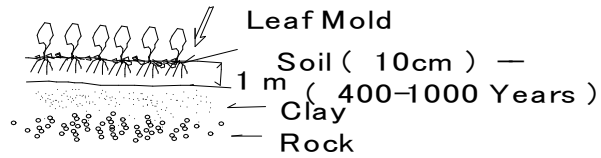
# ( 83 ) Fallen Leaves of Forest and Earthworm

Forest is Green Dam

Microbe  
Mushroom  
Earthworm



We Eat Leaf Mold  
Then We Make Soil



BaoBab Tree

3 Worm Brothers  
We Make Soil Rich.  
Water Is My Mother.  
Root Is My Father.  
Soil Is My Life.

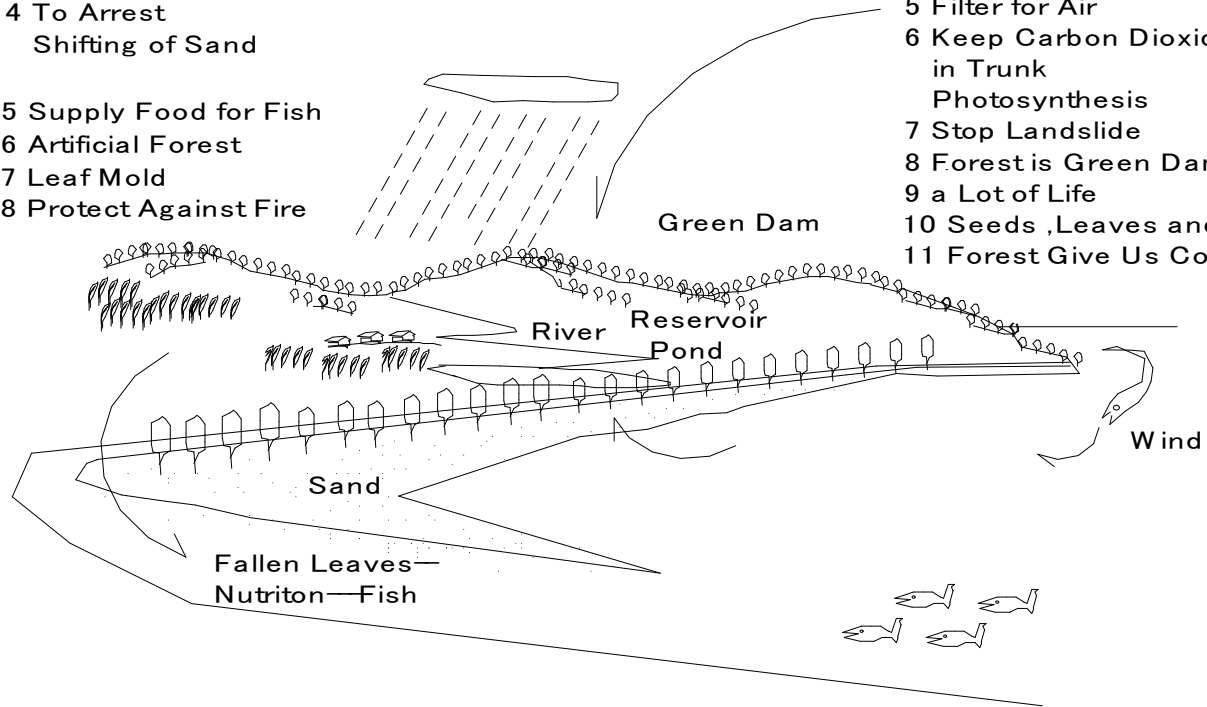


3 Soil Brothers

( 84 ) Effect of Forest ( 2 )

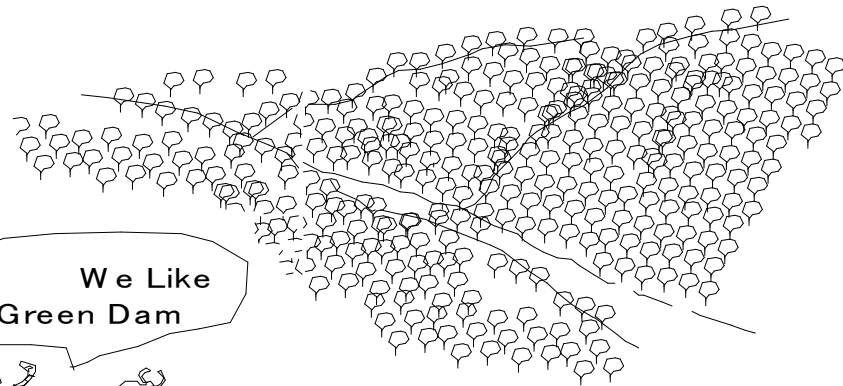
- 1 Source of Water
- 2 Wind Break Forest
- 3 Snow break Forest
- 4 To Arrest Shifting of Sand
- 5 Supply Food for Fish
- 6 Artificial Forest
- 7 Leaf Mold
- 8 Protect Against Fire

- 1 Use Wood for Building House  
Materials for Furniture
- 2 Wood or Charcoal
- 3 Mushroom
- 4 Windbreak
- 5 Filter for Air
- 6 Keep Carbon Dioxide CO2  
in Trunk  
Photosynthesis
- 7 Stop Landslide
- 8 Forest is Green Dam
- 9 a Lot of Life
- 10 Seeds ,Leaves and Plants are Food
- 11 Forest Give Us Contentment



( 85 ) Forest is a Green Dam

Green Forest Dam



We Like a Green Dam

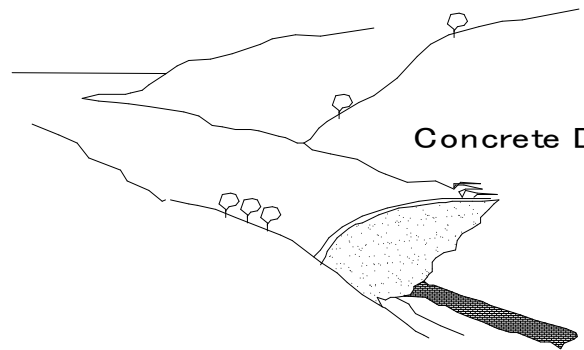


Earthworms



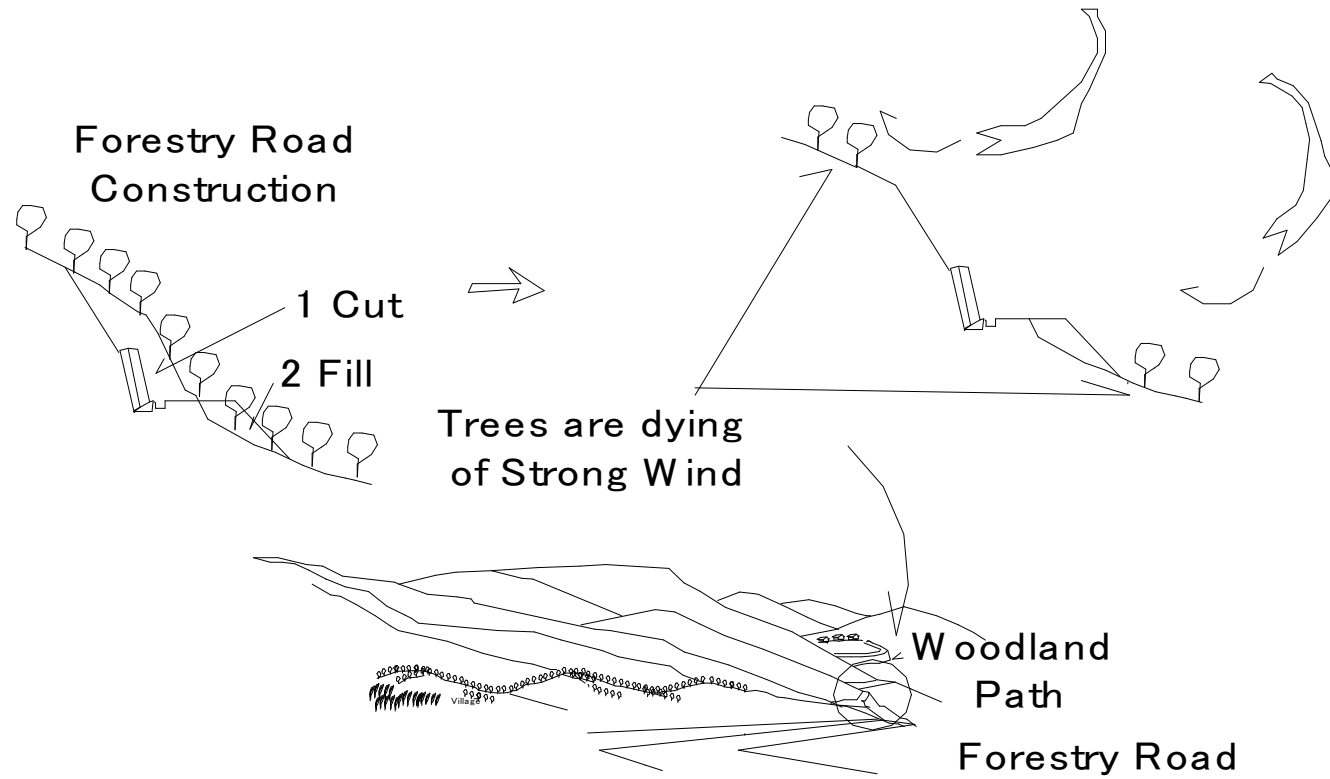
Cow

Which One is Better ?

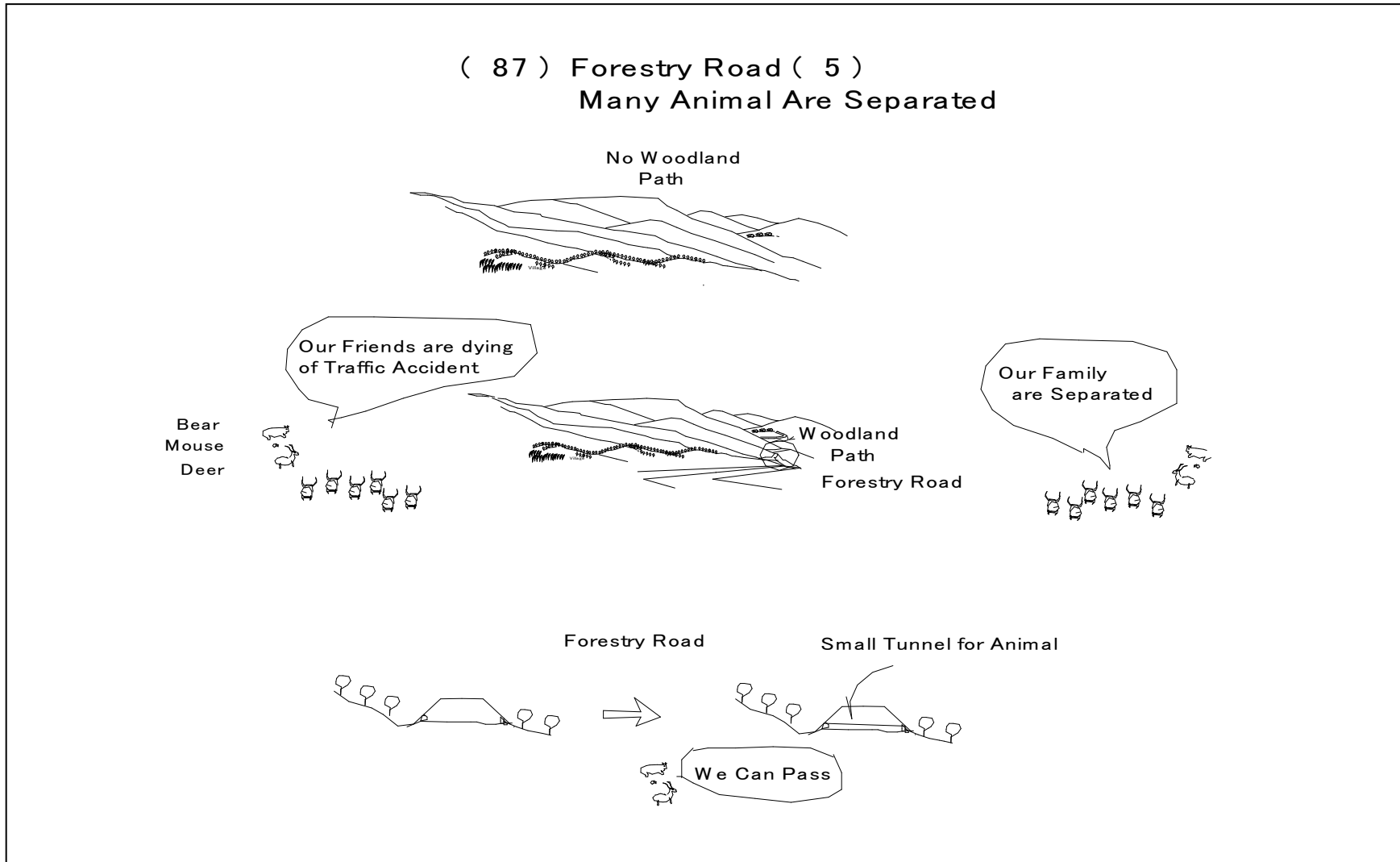


Concrete Dam

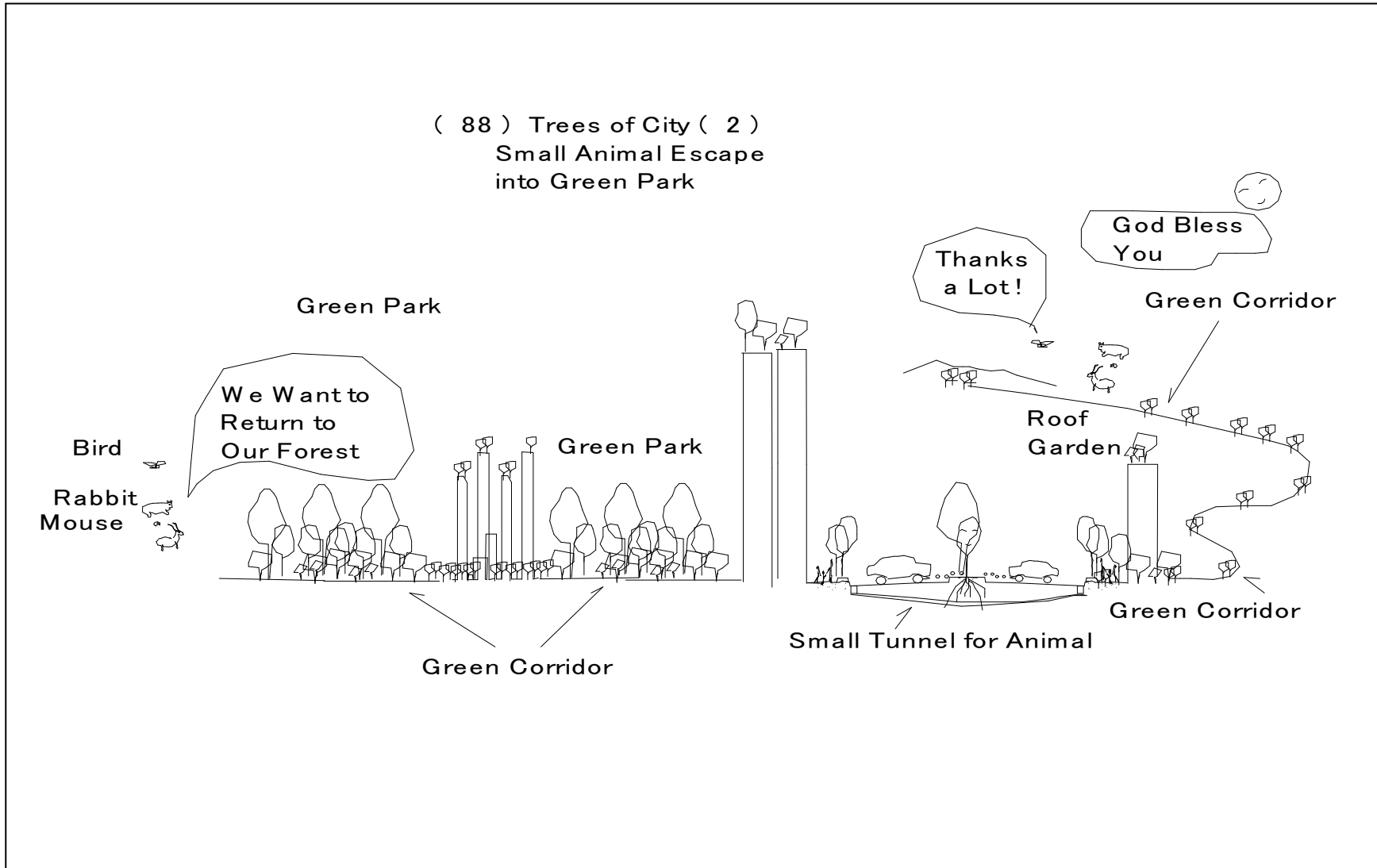
( 86 ) Forestry Road ( 4 )  
Trees are Dying of Strong Wind



(87) Forestry Road (5) Many Animal are Separated



(88) Trees of City ( 2 ) Small Animal Escape into Green Park



(89) Trees of City (3) Filter of Dust, Noise and Exhaust Gas

( 89 ) Trees of City ( 3 )  
Filter of Dust,Noise and Exhaust Gas

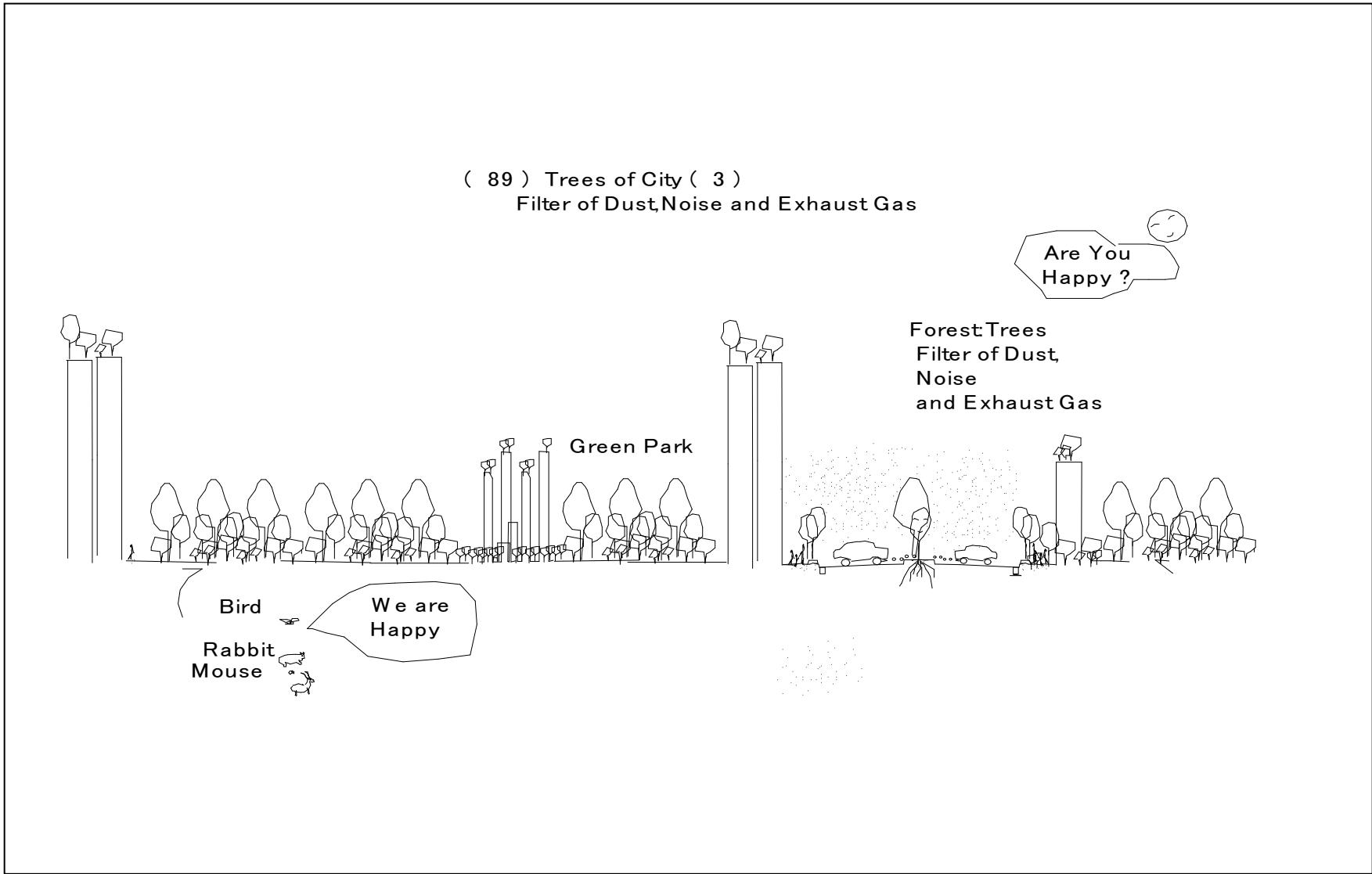
Are You  
Happy ?

Forest Trees  
Filter of Dust,  
Noise  
and Exhaust Gas

Green Park

Bird  
Rabbit  
Mouse

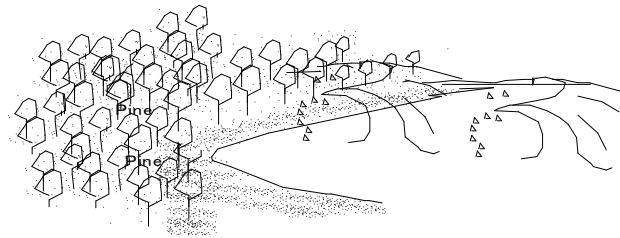
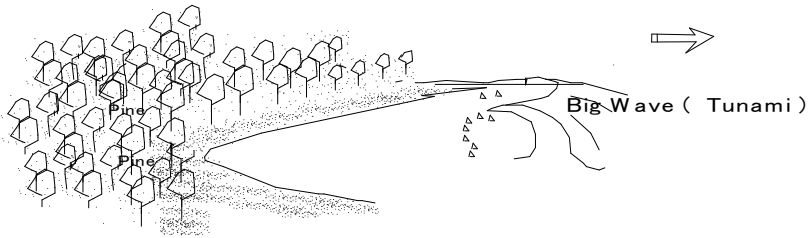
We are  
Happy



( 90 ) Forest Brake Big Wave ( Tsunami )

( 1 ) a lot of Trees

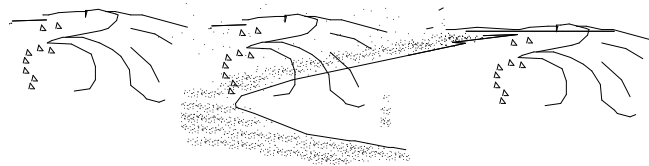
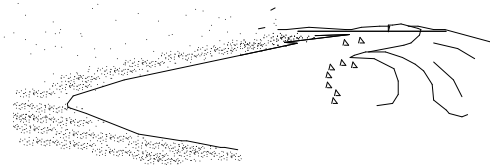
Forest Brake Big Wave ( Tsunami )



Big Wave ( Tsunami )

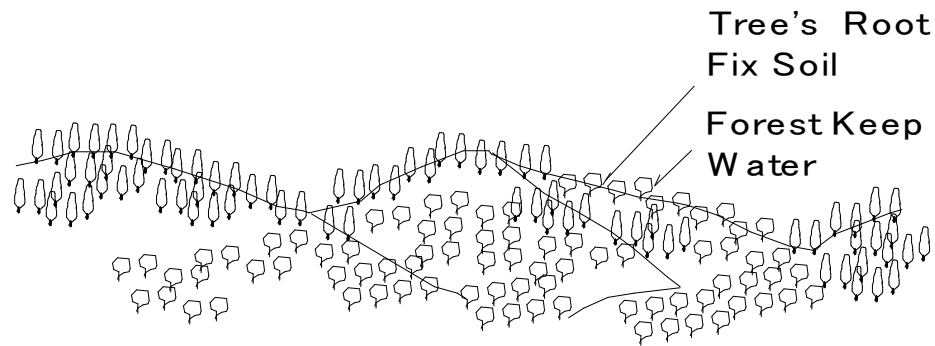
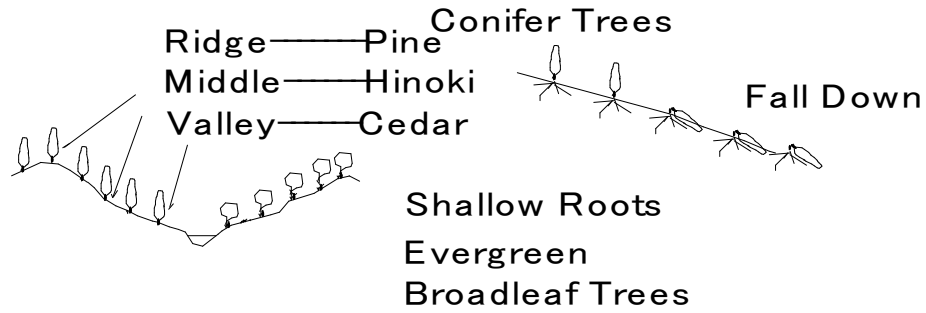
( 2 ) No Trees

Big Wave ( Tsunami )  
Advanced to The Inland

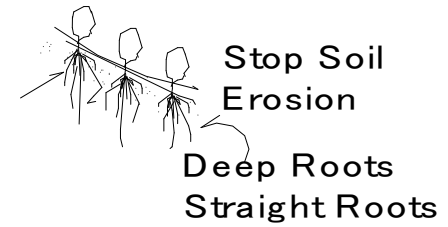




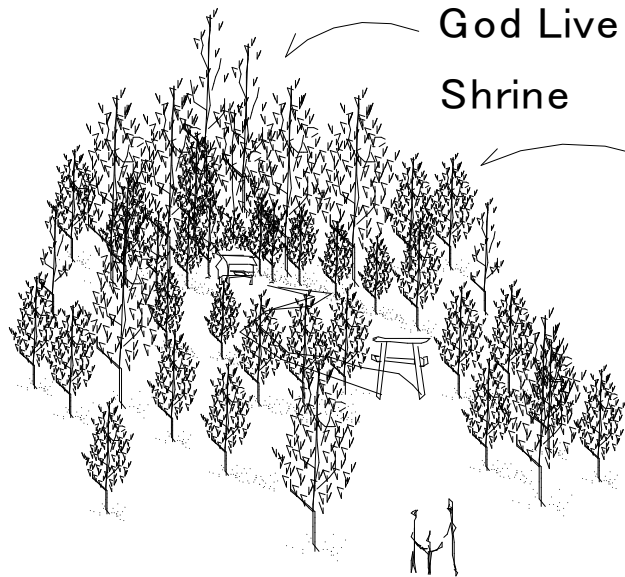
( 91 ) Evergreen Broadleaf Trees and Conifer Trees



Fallen Leaves Trees



( 92 ) The Grove of The Village Shrine ( 3 )  
Native Forest by Native Trees  
( Chinjuno-Mori )



God Live in Forest  
Shrine

Without men's Hand  
Native Trees and Native Grass

Our Ancestor Cutted or Burned Trees  
but  
They Planted Native Trees

(93) What Types of Tree Shall We Plant ?

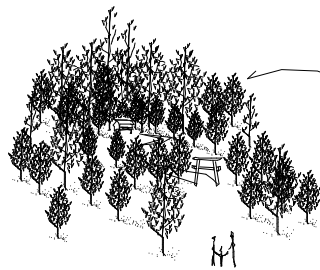
( 93 ) What Types of Tree Shall We Plant ?

( 92 ) The Grove of The Village Shrine ( 3 )  
Native Trees and Native Grass  
( Chinjuno-Mori )

Proper Location and  
Proper Trees

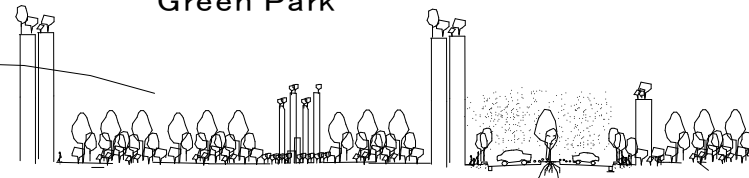
Green Park

Investigation  
Reconnaissance  
Native Trees and  
Native Grass



Without men's Hand  
Native Trees and Native Grass

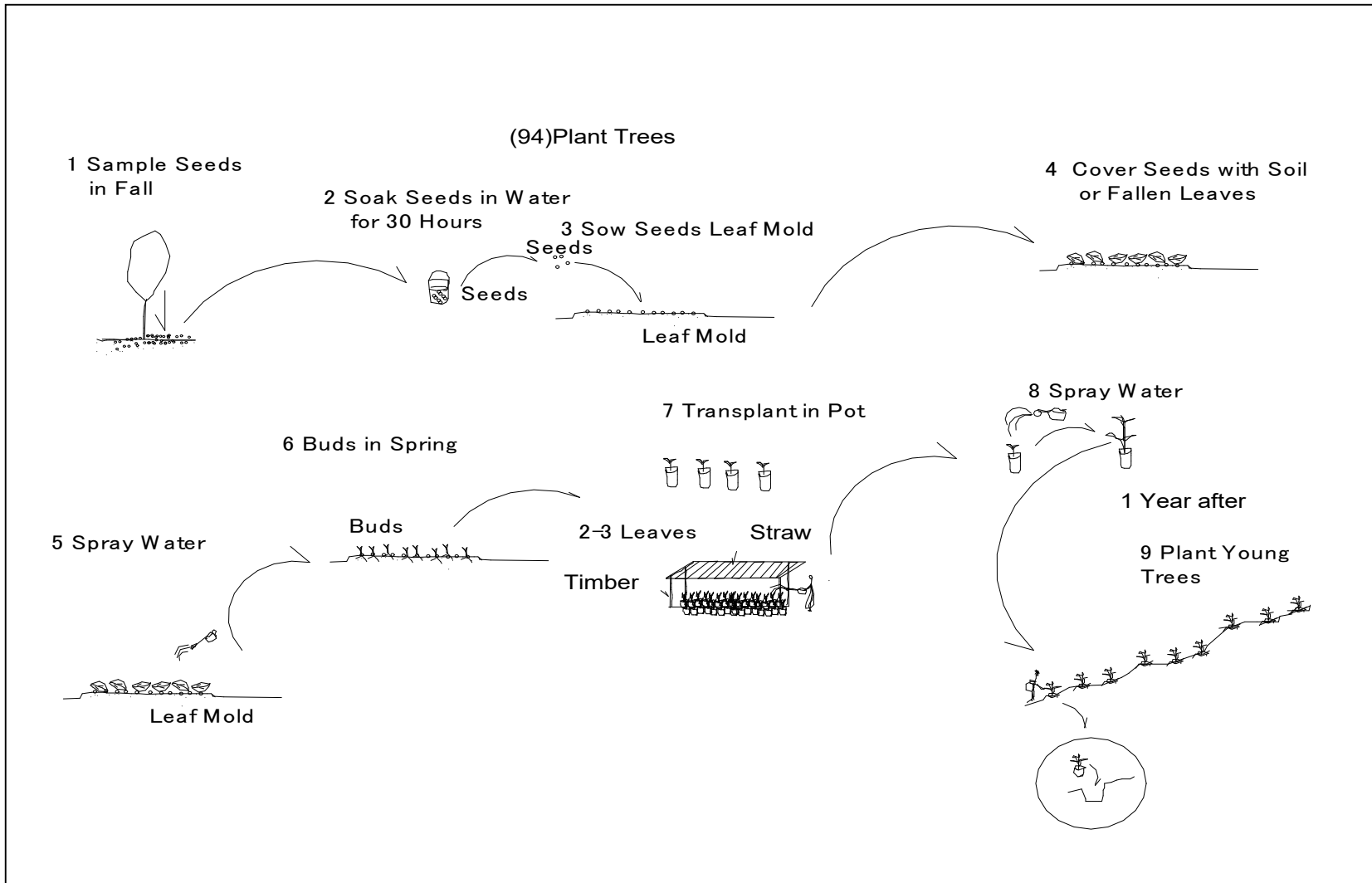
Our Ancestor Cutted or Burned Trees  
but  
They Planted Native Trees



Bird  
Rabbit  
Mouse

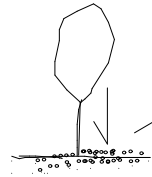
We Like  
Native Trees

(94) Plant Trees



(95)Plant Trees

1 Sample Seeds  
in Fall



2 Soak Seeds in Water  
for 30 Hours



3 Sow Seeds in Pot

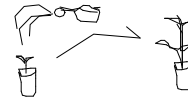
Leaf Mold



4 Spray Water



6 Spray Water



20-30 cm

5 Buds in Spring

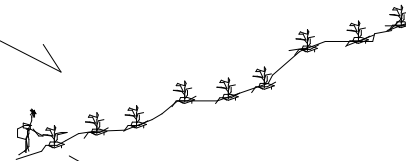
Spray Water  
Not Too Much



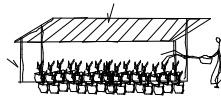
2-3 Leaves

1 Year after

9 Plant Young  
Trees



Timber



Straw

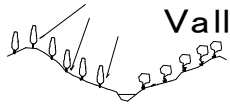


( 96 ) True Forest

Proper Location and Proper Trees

Artificial Forest

Conifer Trees  
Ridge — Pine  
Middle — Hinoki  
Valley — Cedar

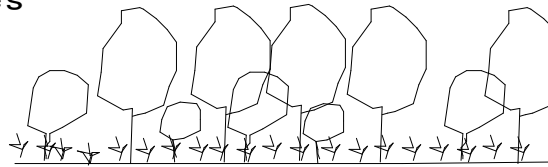


Evergreen  
Broadleaf Trees

25m  
High Trees  
15m  
5m  
Low Trees

Native Forest

Native Trees  
Native Grass



Grass

Bear  
Mouse  
Deer

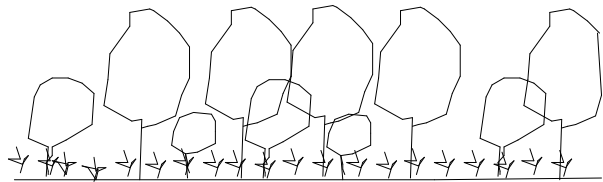


Our Ancestor Stay  
in Native Forest!

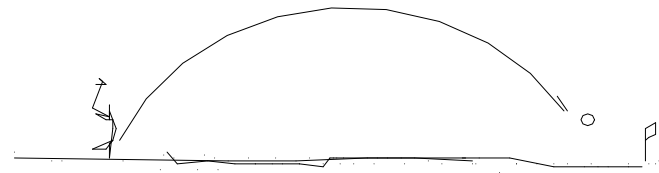
( 97 ) True Forest and Grass ( Lawn )

Green Surface Area( m<sup>2</sup> )

**30:1**

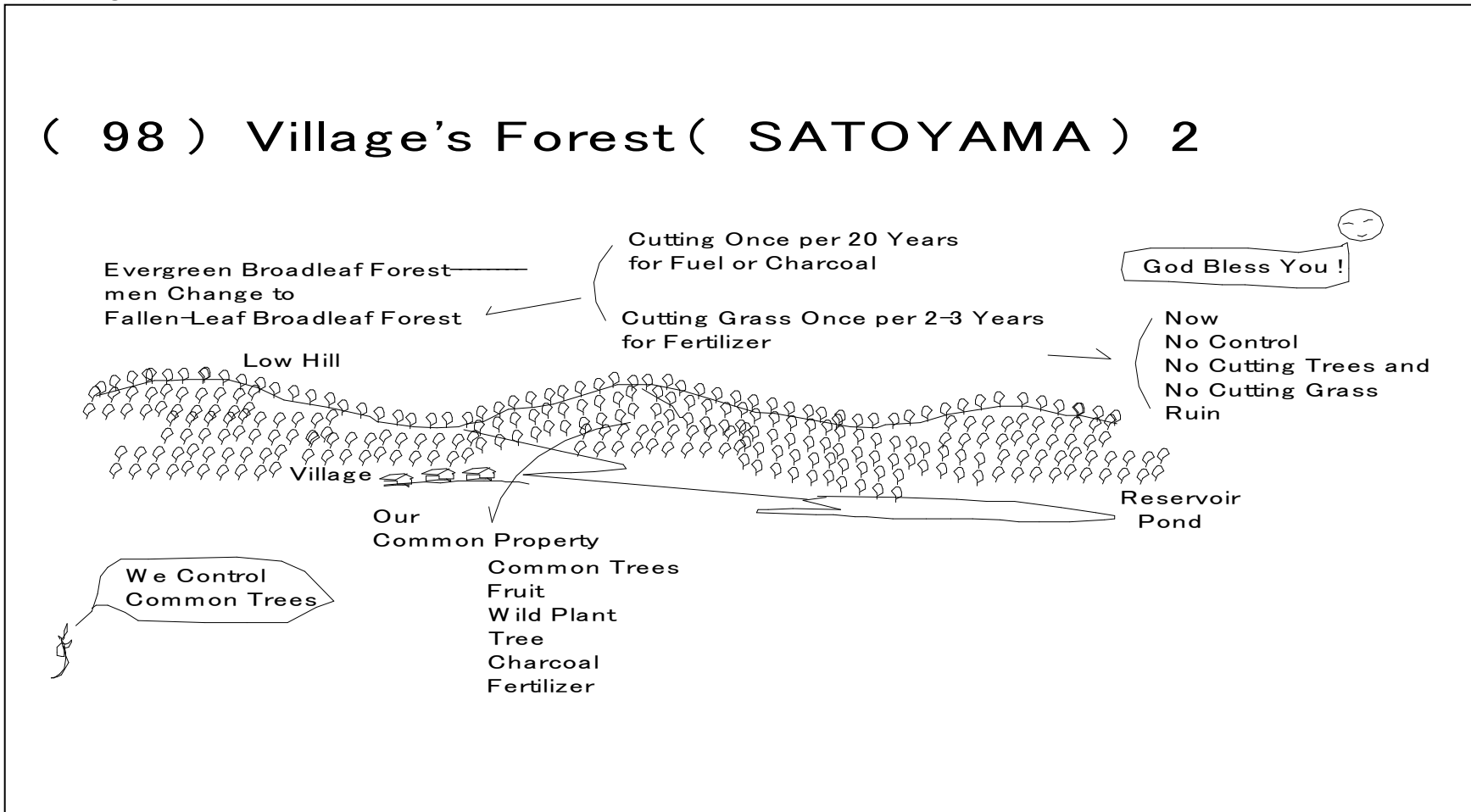


Native Forest  
Native Trees  
Native Grass



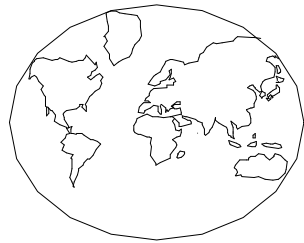
Grass ( Lawn )

# ( 98 ) Village's Forest ( SATOYAMA ) 2





( 99 ) Why Did Ancient Civilization Lose Forest ?



Mesopotamia  
Egypt  
Indus  
Greece  
Rome



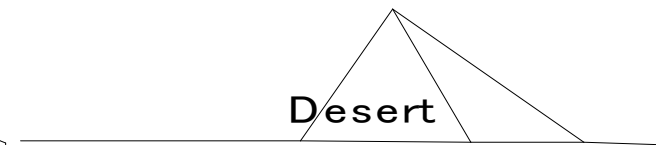
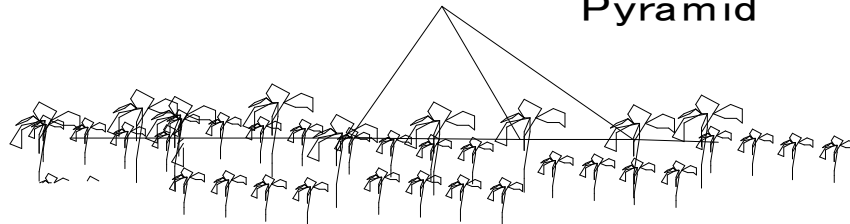
Several Thousands  
Years Ago

Now

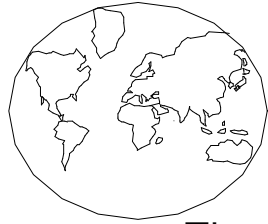
The Earth

Pyramid

Desert

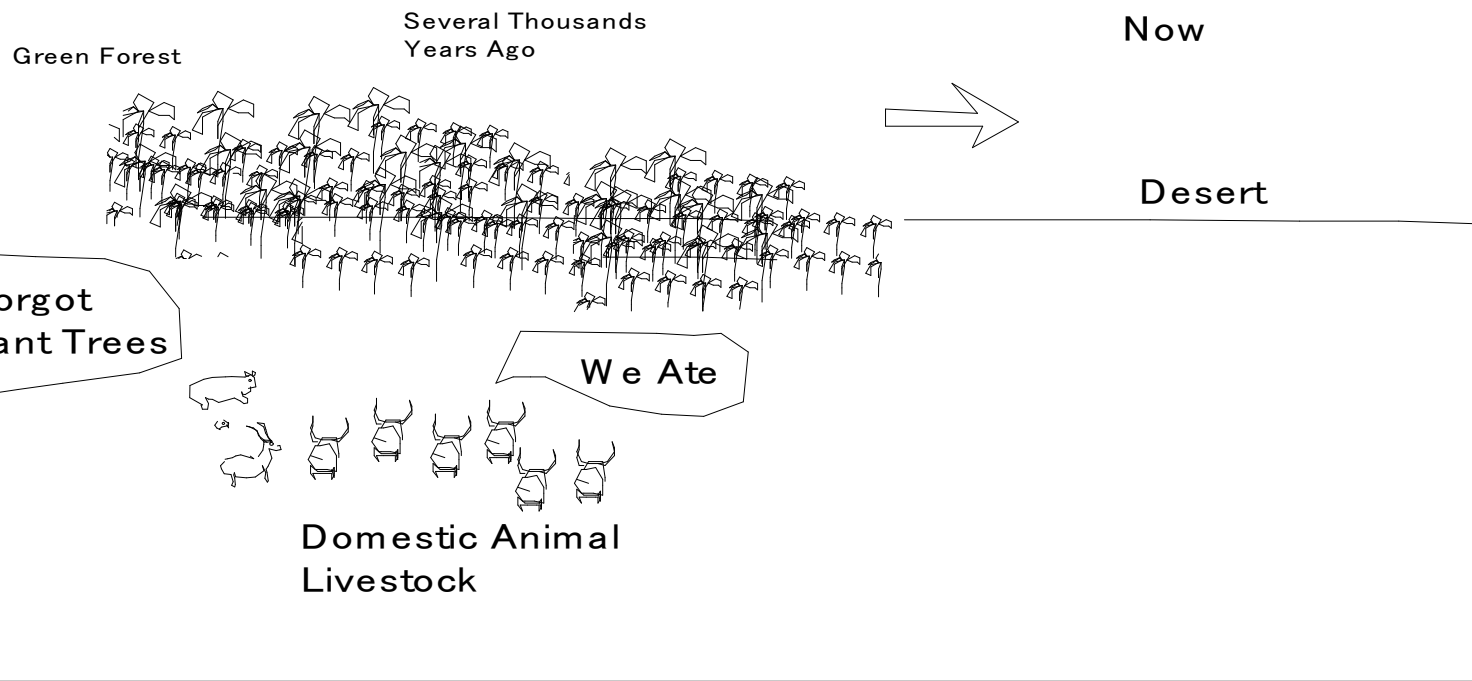


( 100 ) Why Did Ancient Civilization Lose Forest ? ( II )



The Earth

Mesopotamia  
Egypt  
Indus  
Greece  
Rome

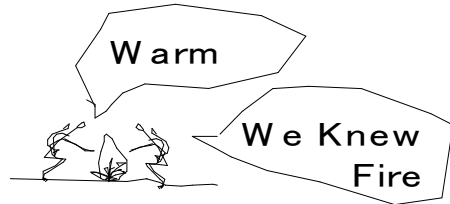


# ( 101 ) Mankind Found Fire and Agriculture



The Earth

About One Million  
Years Ago



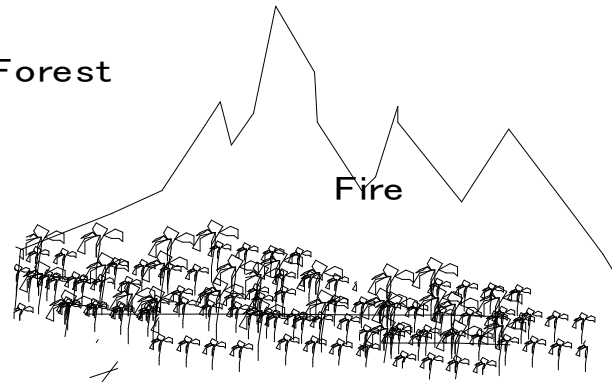
We Afraid  
Mankind



Wild Animal

About  
10,000-9,000  
Years Ago

Natural Forest  
Lost



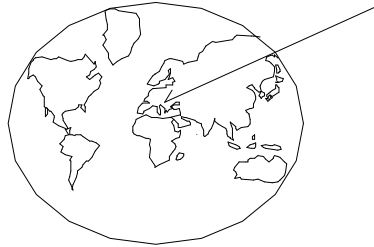
Slash-and-Burn  
Agriculture

We Knew  
Agriculture



( 102 ) Why Did Rome Civilization Ruin ?

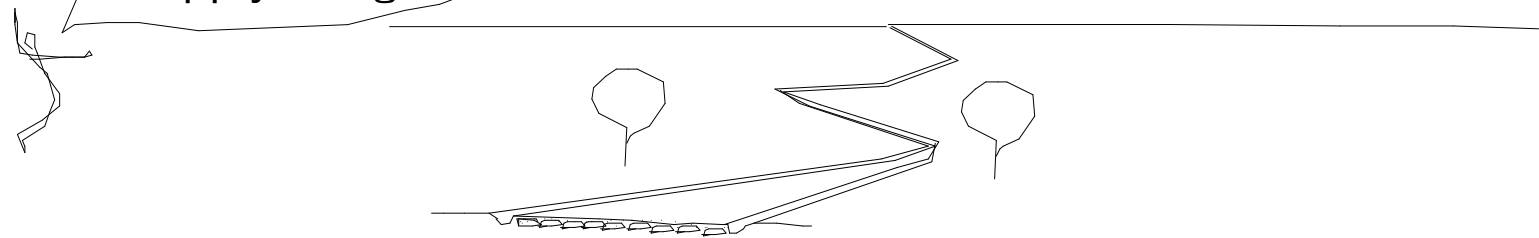
- Mesopotamia
- Egypt
- Indus
- Greece
- Rome



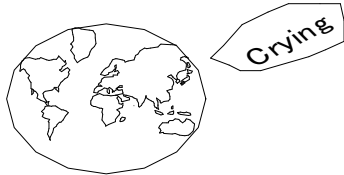
They Forgot to Plant Trees after Cutting Trees

We Built Water Supply Bridge

Roman Built Road but Forget to Plant Trees



# ( 103 ) Rich Country and Poor Country

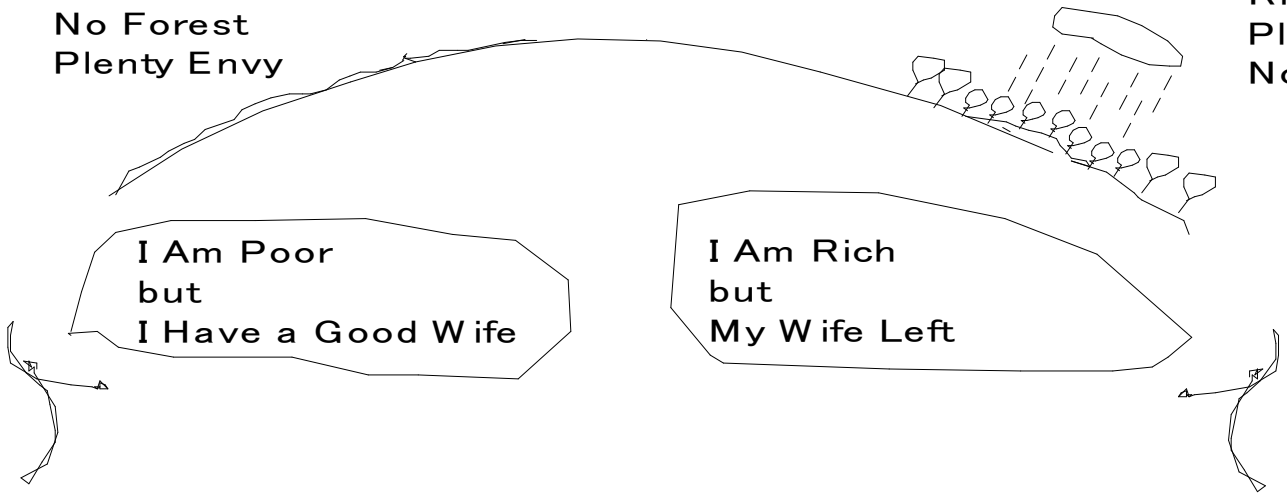


The Earth

God Give Us  
Equality Chance !

Poor Country  
No Forest  
Plenty Envy

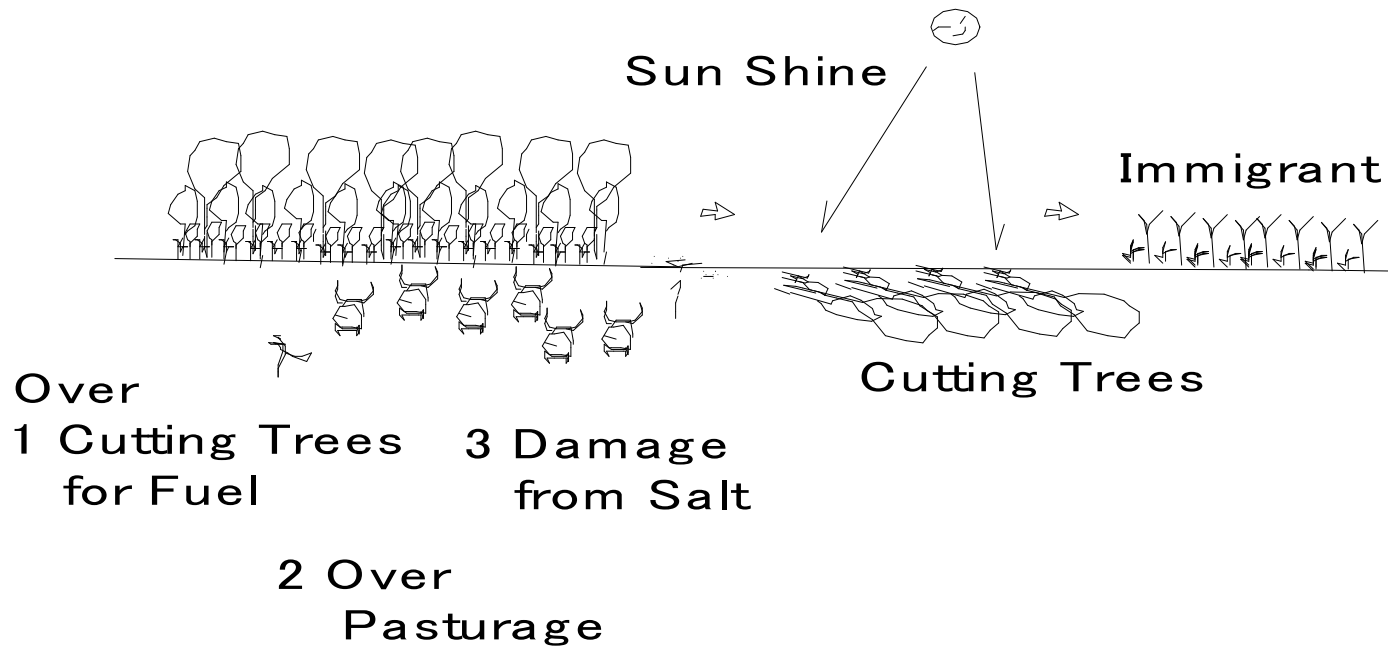
Rich Country  
Plenty Forest  
No Jealousy



I Am Poor  
but  
I Have a Good Wife

I Am Rich  
but  
My Wife Left

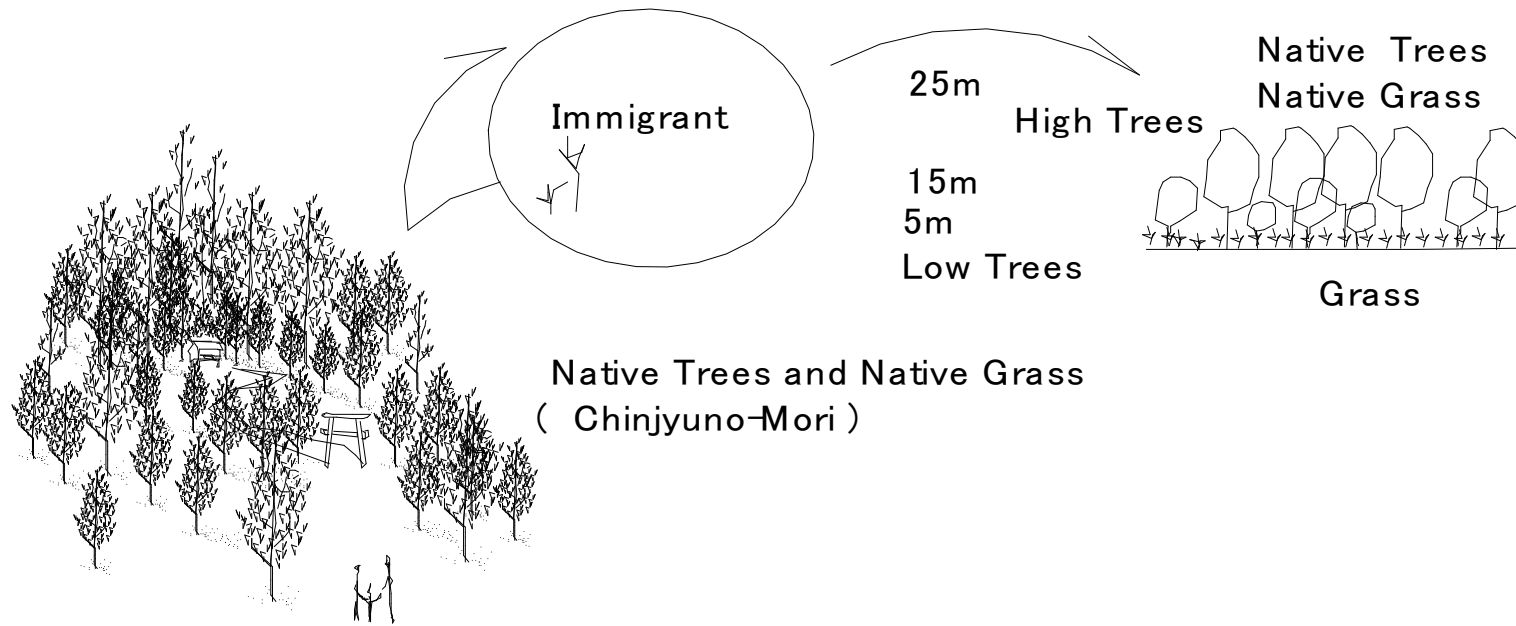
( 104 ) Immigrant Bloom after Cutting Trees



( 105 ) Immigrant Can Not Enter  
The Grove of The Village Shrine  
( Chinjyuno-Mori )

Native Forest  
( Several Hundreds Years )

Immigrant Can Not Enter  
Chinjyuno-Mori



Immigrant

25m

High Trees

15m

5m

Low Trees

Native Trees

Native Grass

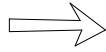
Grass

Native Trees and Native Grass  
( Chinjyuno-Mori )

( 106 ) Naturalized Animal Enter after Cutting Trees

Native Trees and  
Native Grass

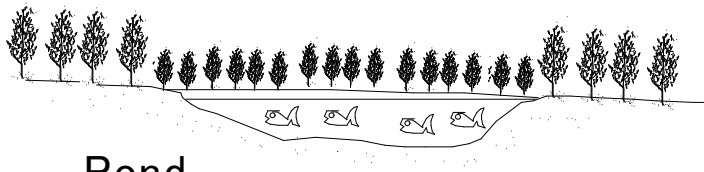
Native Animal  
Native Fish  
Native Frog



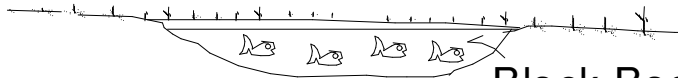
After Cutting  
Native Trees and Native Grass

Naturalized Animal  
Naturalized Fish  
Naturalized Frog

Abnormal Propagation



Pond



Pond

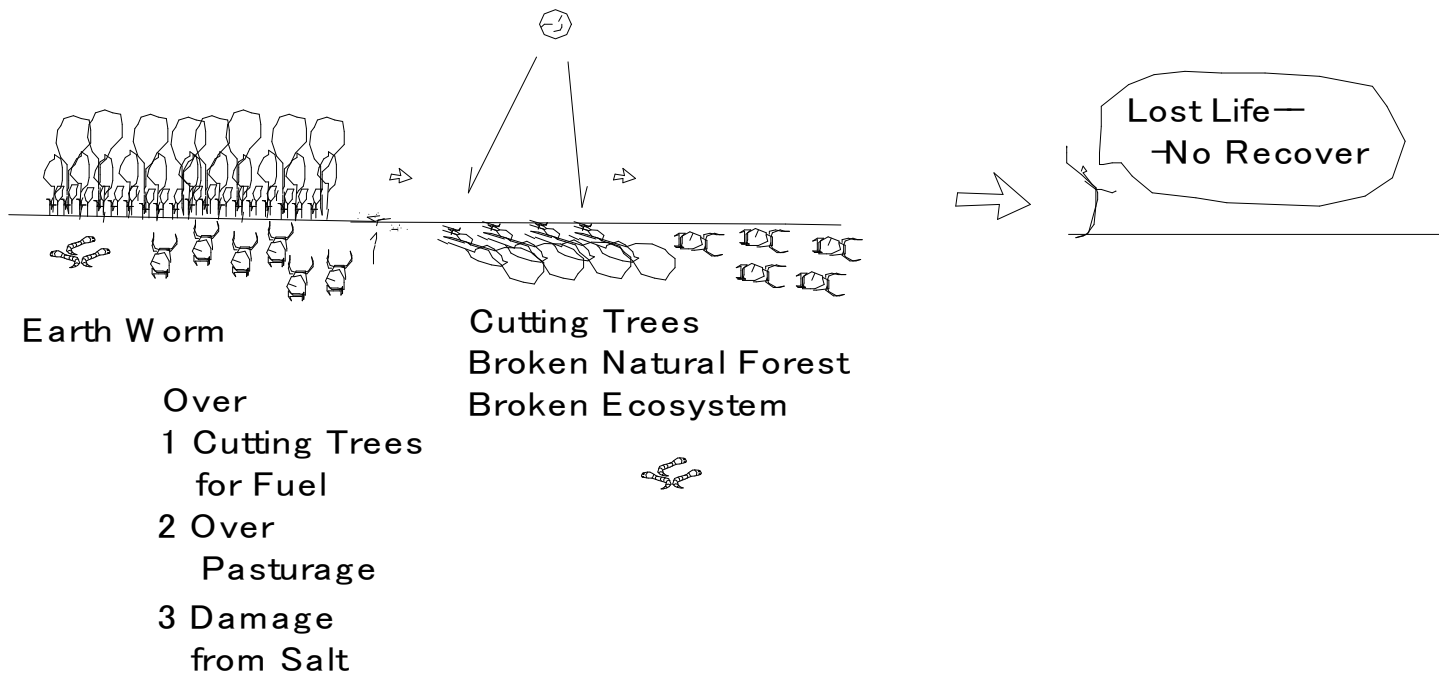
Black Bass

Native Animal  
Disappearance

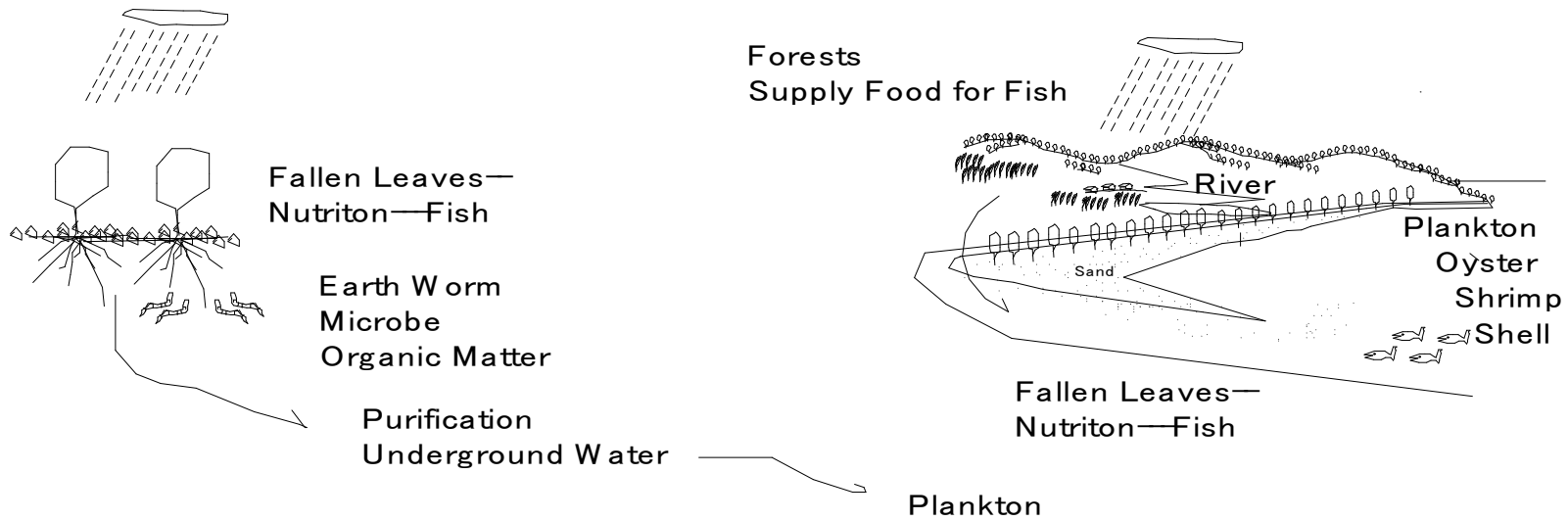


(107) It is Difficult to Recover Broken Natural Forest

( 107 ) It is Difficult to Recover Broken Natural Forest

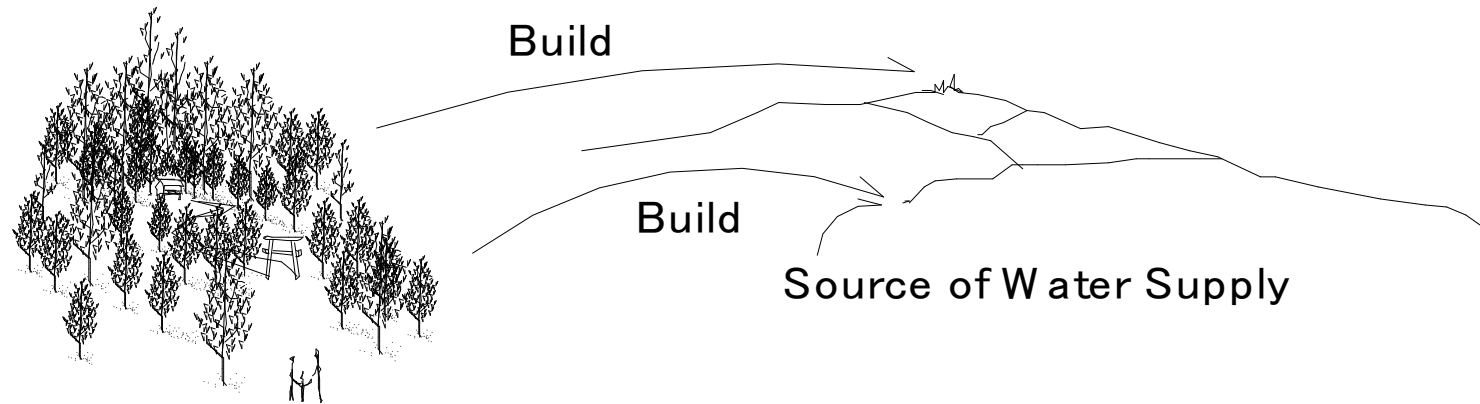


# ( 108 ) Forest Supply Food for Fish



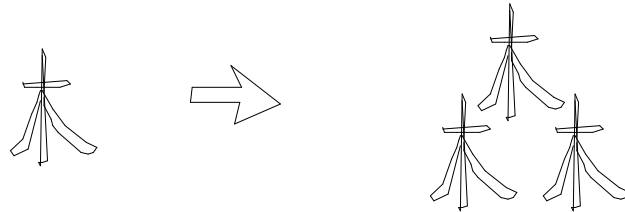
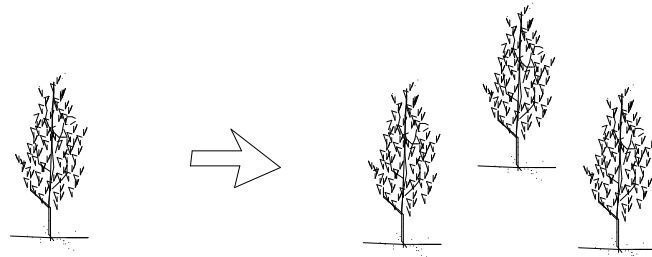
# ( 109 ) Forest Disappearance and Civilization Ruin

We Build Shrine or Temple  
then We Pray Stupid man Never  
Cut Native Trees



Native Trees and Native Grass  
( Chinjuno-Mori )

( 110 ) Tree and Forest



**Tree**

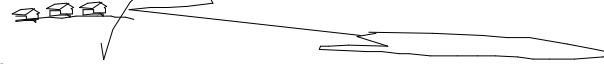
**Forest**

( 111 ) Village's Forest ( SATOYAMA )

Low Hill



Village

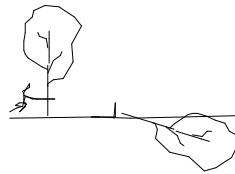


Our  
Common Property

Forest Control

Cut Trees  
Once per 20 Years

We Control  
Common Trees



Cut Grass  
Once per 3 Years



(112) Over Pasturage (Over Grazing ) Lead to Forest Destruction

( 112 ) Over Pasturage ( Over Grazing )  
Lead to Forest Destruction



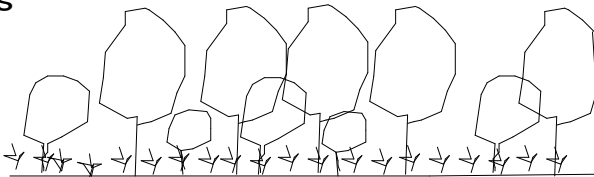
Mankind Did Not Know  
Importance of Forest

Native Forest

Native Trees  
Native Grass

High Trees

Low Trees



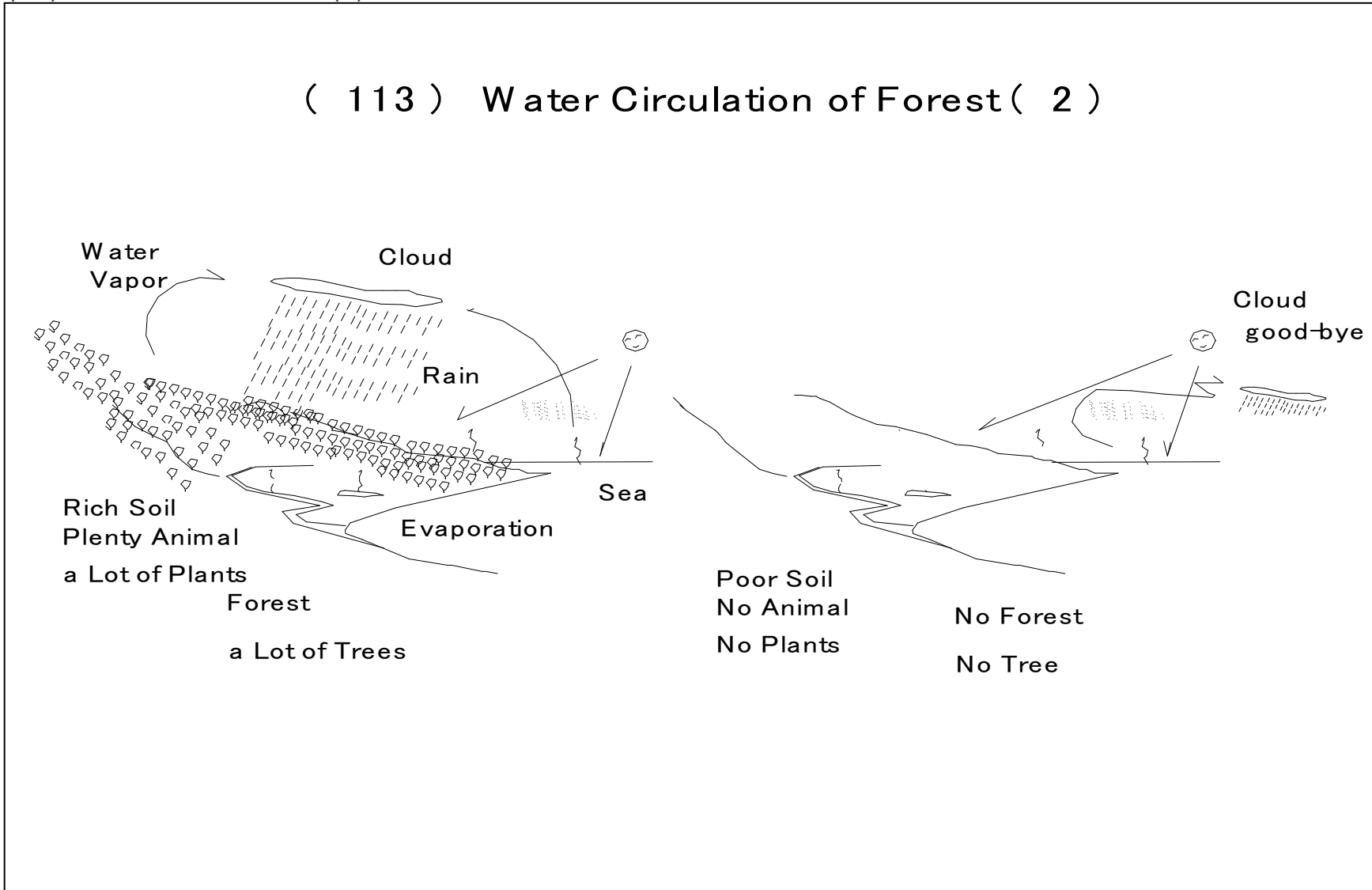
Grass

Sheep  
Goat  
Cattle

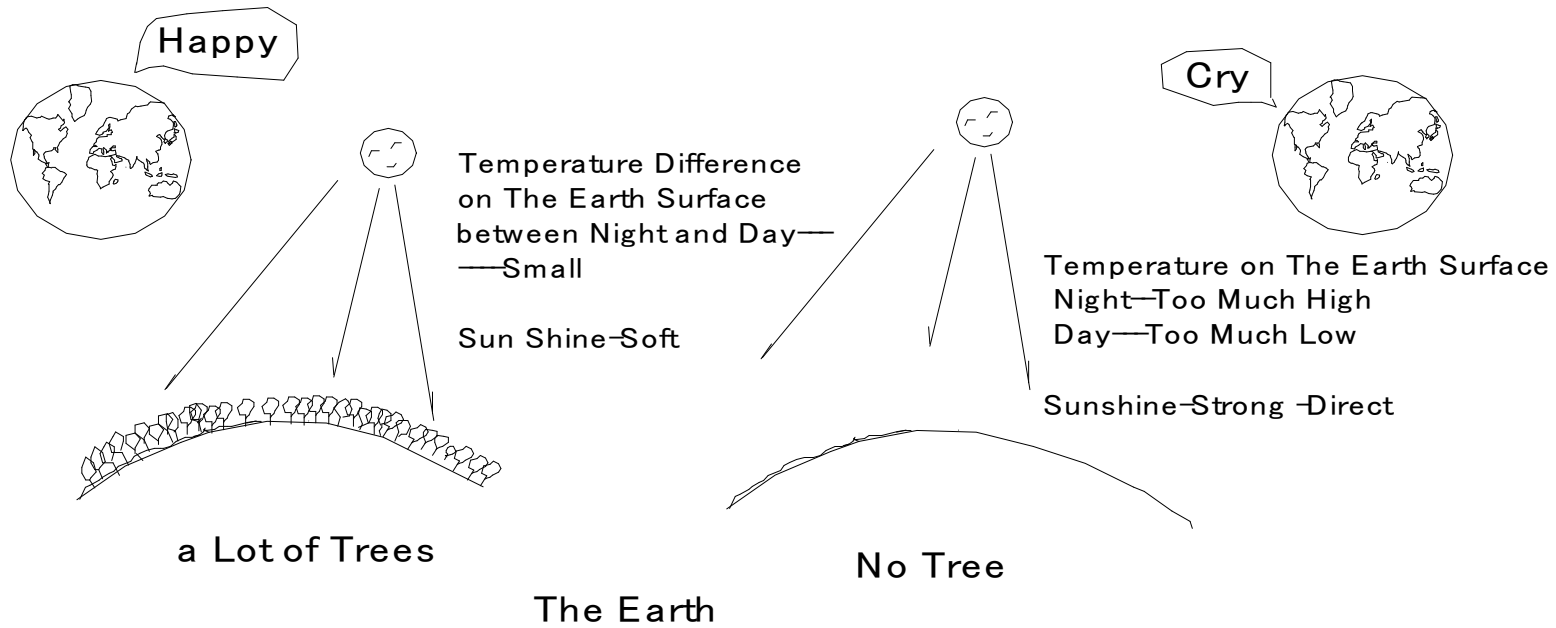
Sorry !  
We Ate All Forest



( 113 ) Water Circulation of Forest ( 2 )

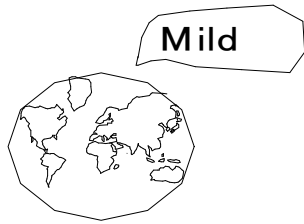


( 114 ) Plants and Life ( 1 )



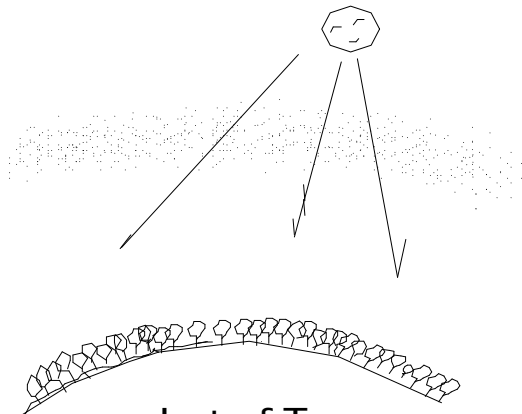


( 115 ) Plants and Life ( 2 )



Temperature Difference  
on The Earth Surface  
between Night and Day—  
—Small

Sun Shine—Soft



a Lot of Trees

Rich Soil  
a Lot of Life

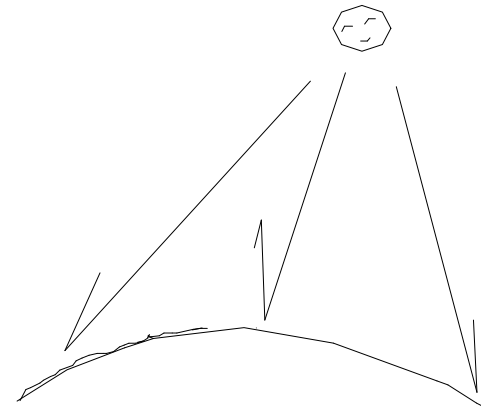
Evaporated  
Moisture  
CO<sub>2</sub>  
  
Absorb  
↓  
Ultraviolet Rays

The Earth



Temperature on  
The Earth Surface  
Night—Too Much High  
Day—Too Much Low

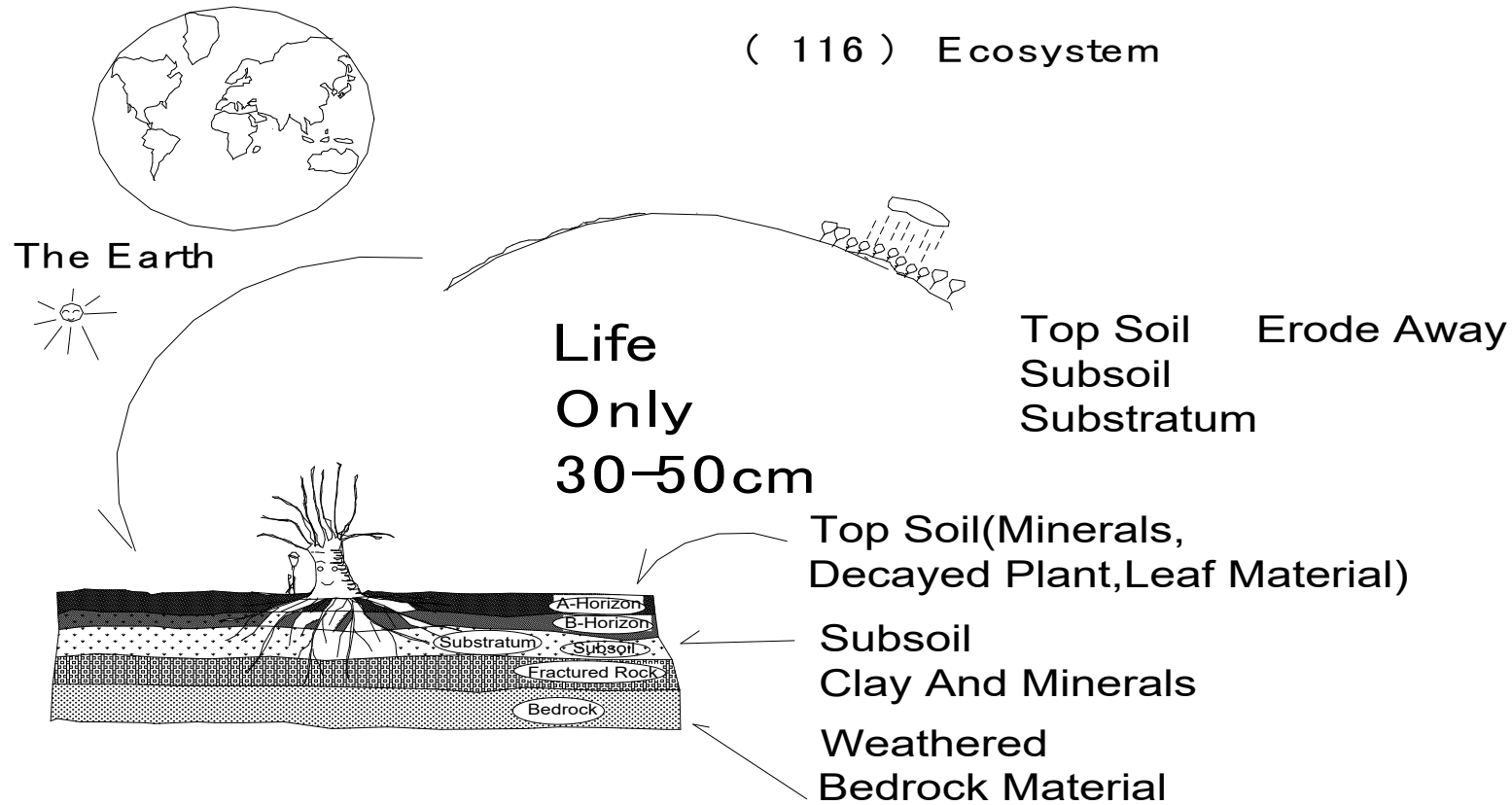
Sun Shine—Strong —Direct



No Tree

Poor Soil  
a Few of Life

( 116 ) Ecosystem



# ( 117 ) Ecosystem ( II )



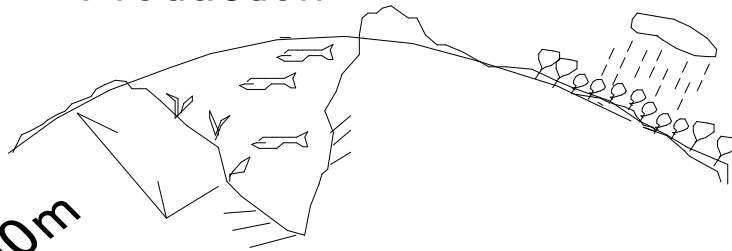
The Earth

Sea



Production

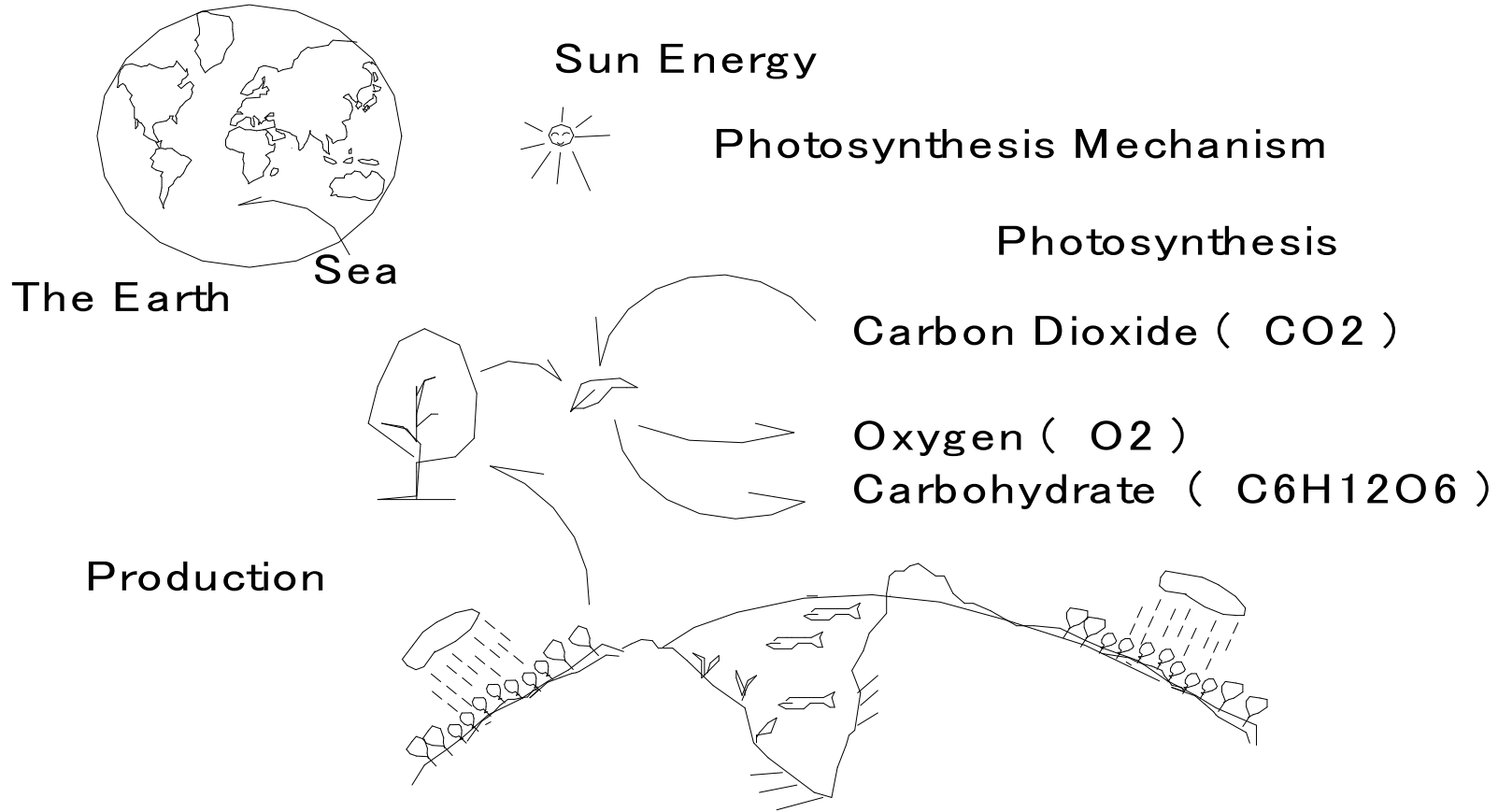
Only  
300-400m



Sea Vegetable  
Marine Plant  
Sea Weed

Photosynthesis

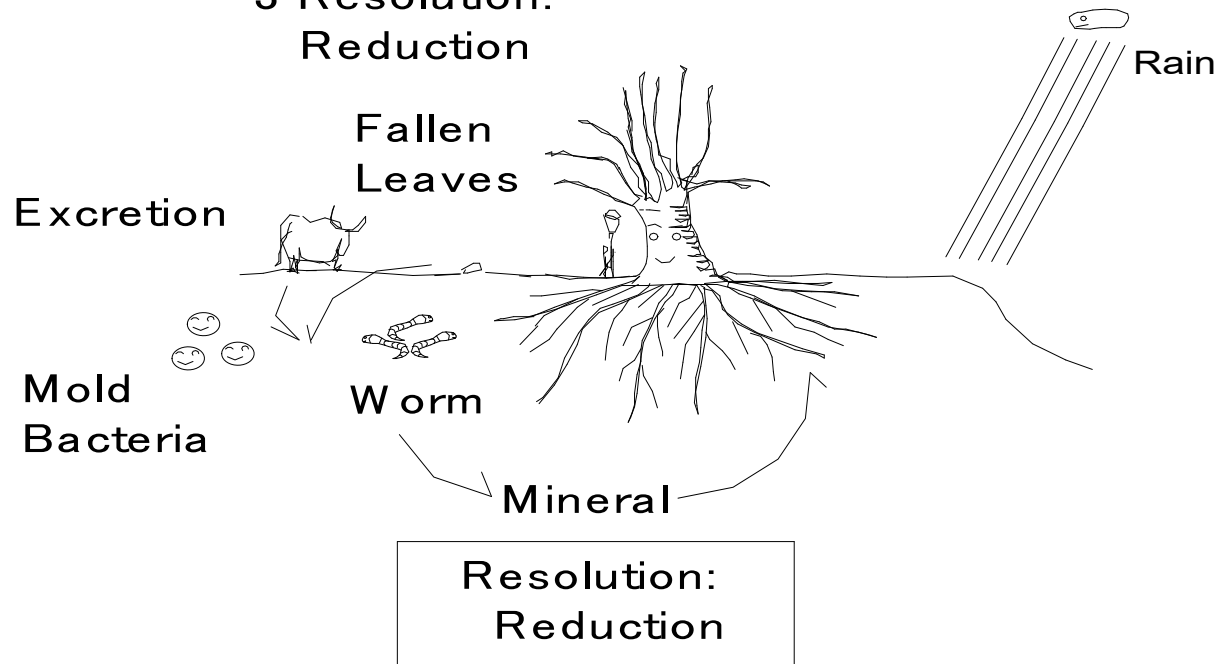
# ( 118 ) Ecosystem ( III )



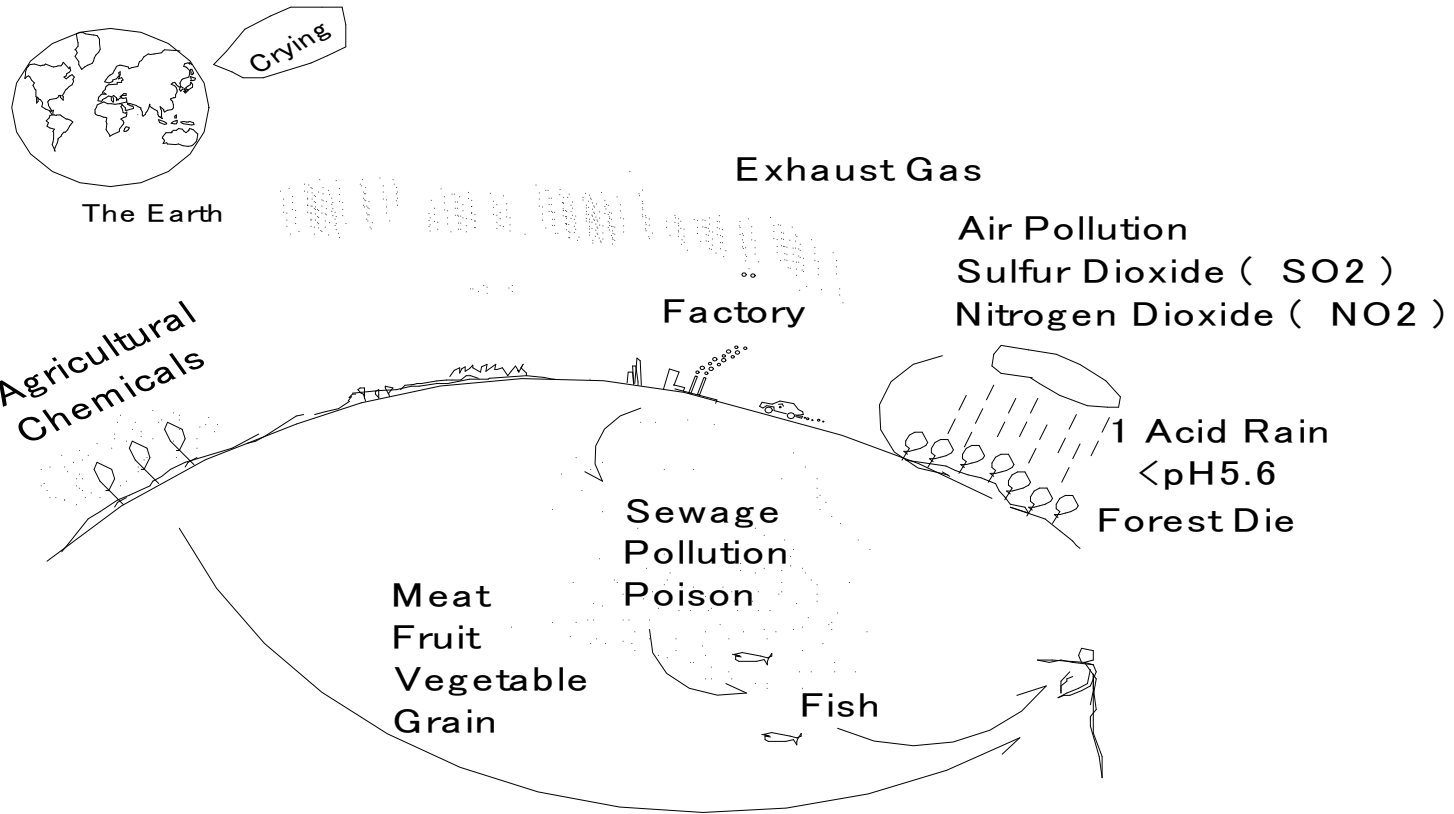
( 119 ) Ecosystem ( IV )

Ecosystem

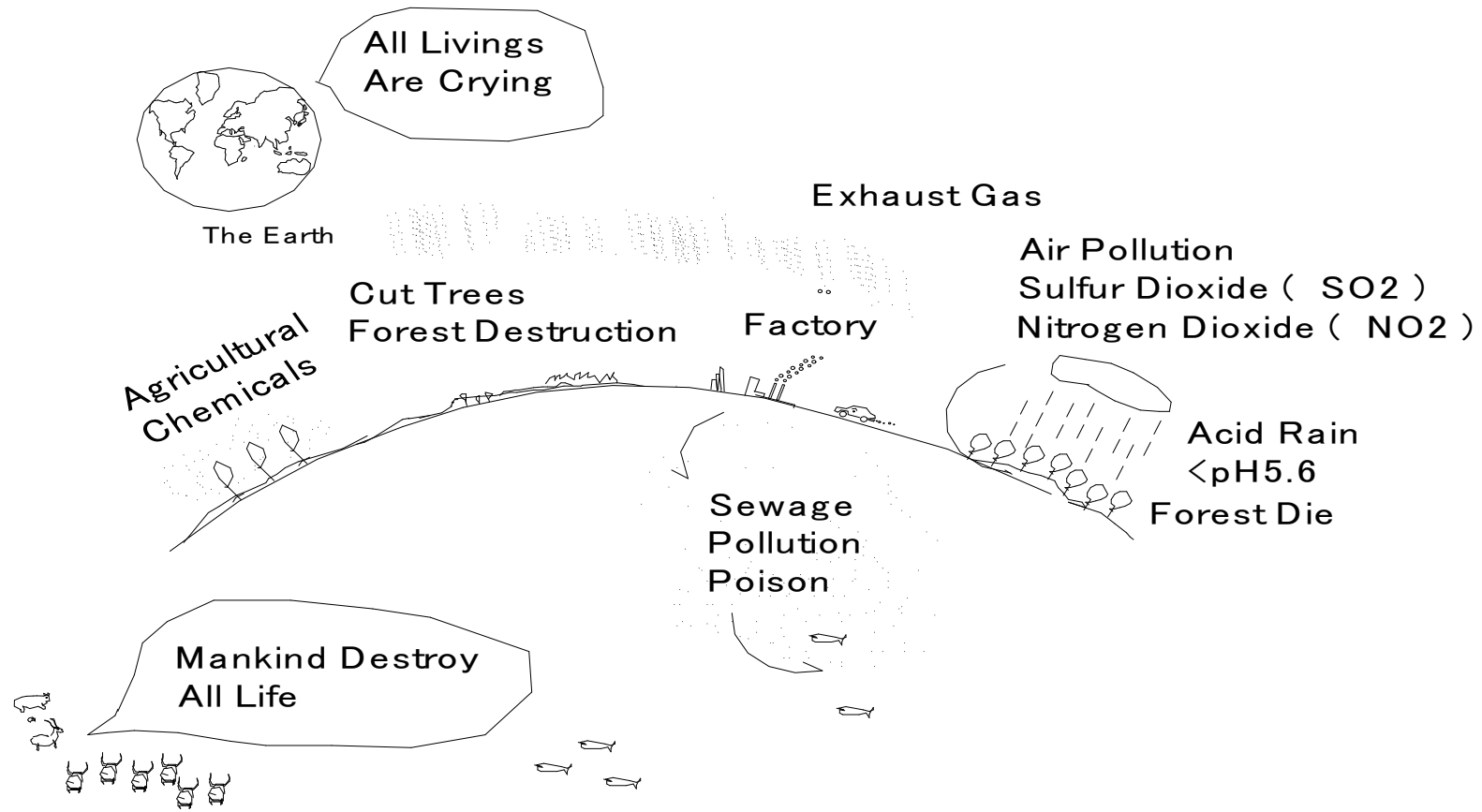
- 1 Production
- 2 Consumption
- 3 Resolution:  
Reduction



( 120 ) Food Chain



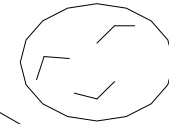
# ( 121 ) Terminator on The Earth



# ( 122 ) Polytheism

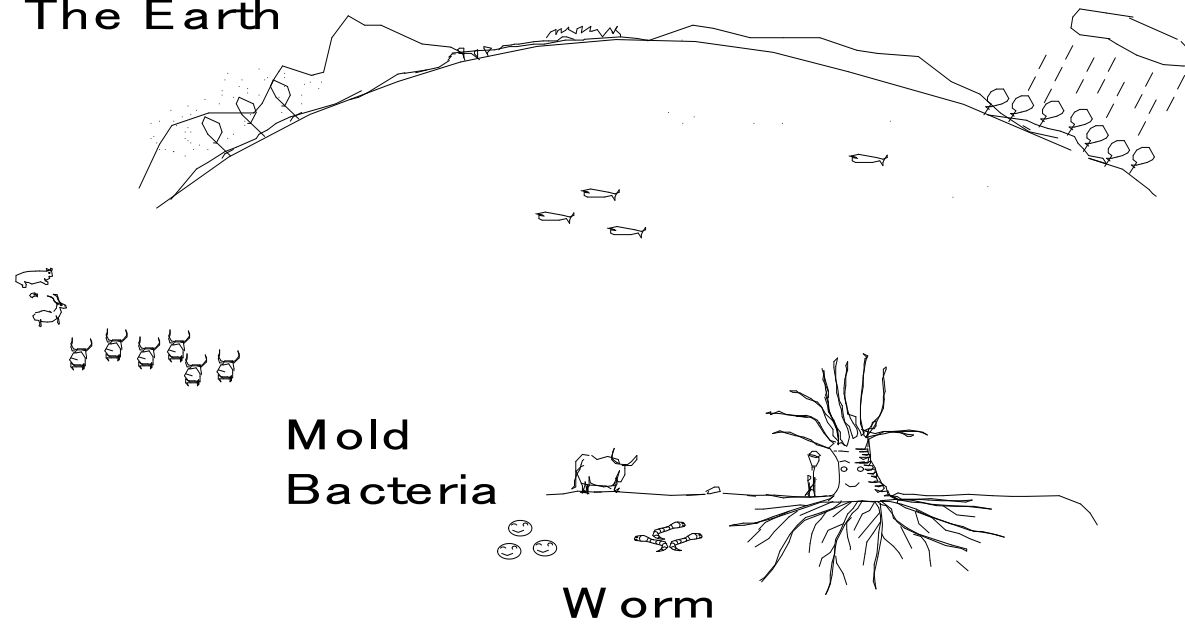


A Lot of  
God



God  
Bless You !

The Earth



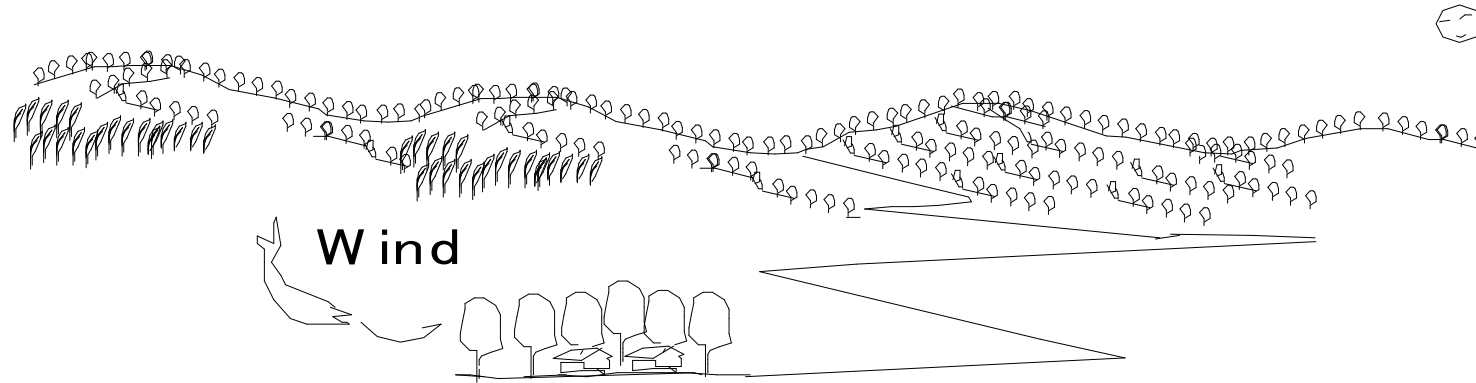
Mold  
Bacteria

Worm

God  
Live in  
Mountain  
Sea  
Forest  
Trees  
River  
and All Life



# ( 123 ) House Forest



House Forest

Cool Down Temperature  
and  
Keep Moisture

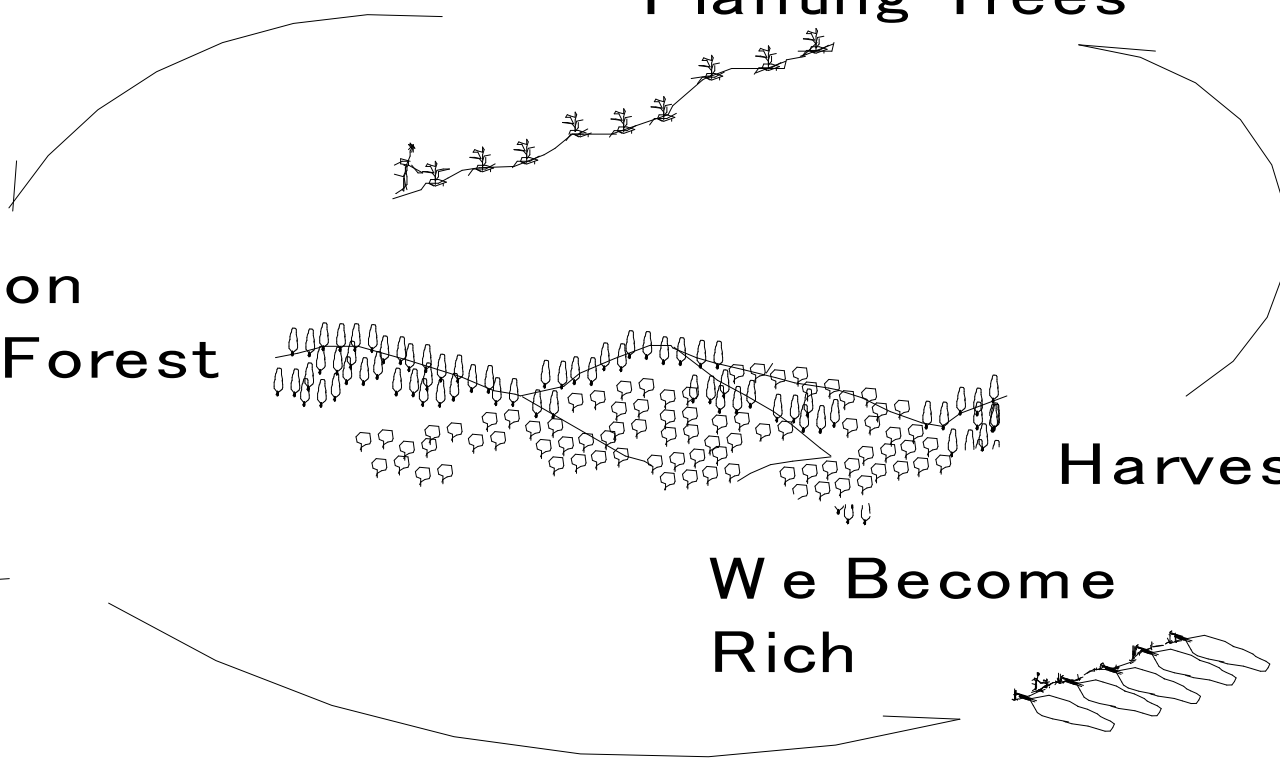
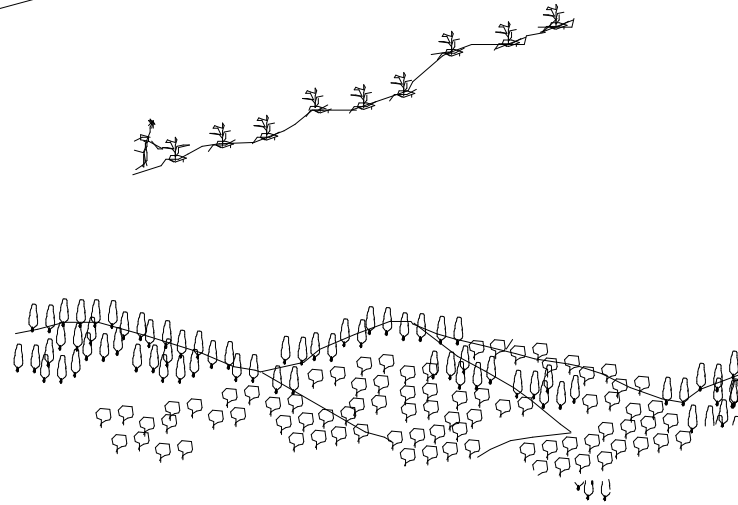
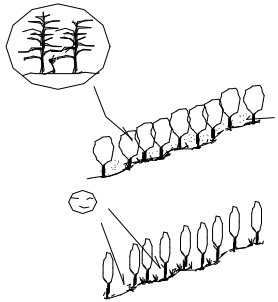
# ( 124 ) Forestry

Afforestation  
Planting Trees

Cultivation  
Control Forest

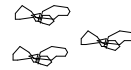
Harvest


We Become  
Rich

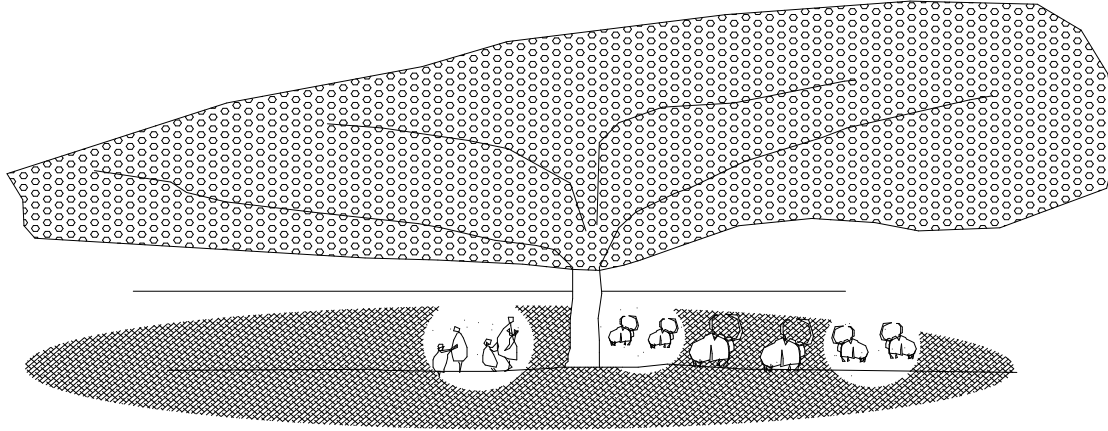


( 125 ) Rule of Forest ( I )

Upper Fruit  
for Birds

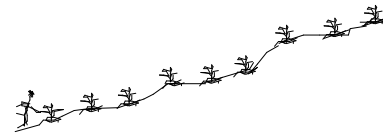
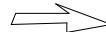
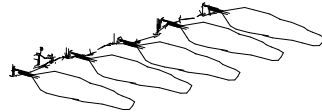
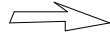


  
God Bless  
You !



Lower Fruit for  
Traveler and Family

# ( 126 ) Rule of Forest ( II )



The Man  
Who Plants  
Trees



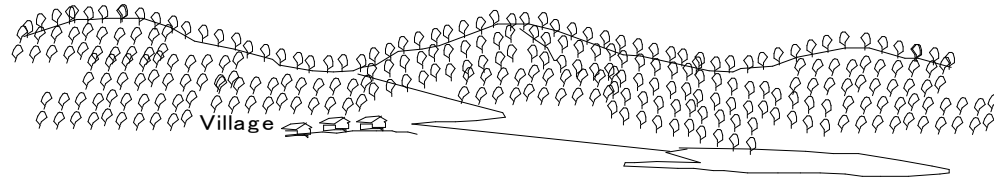
After Cutting Trees  
Plant Young  
Trees

Who is The  
Greatest Man ?

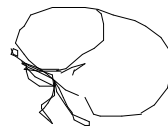


( 127 ) Rule of Forest ( III )

Picking Edible Wild Plants

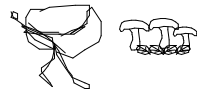


Save Half of  
Edible Wild Plants  
in Forest



All mushrooms

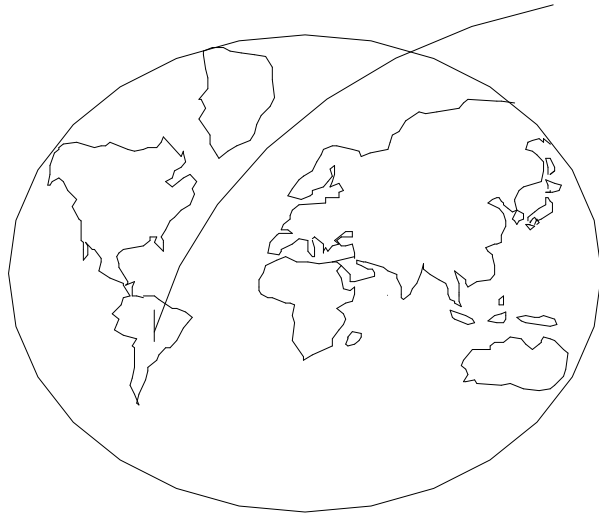
No Good



Half of mushrooms

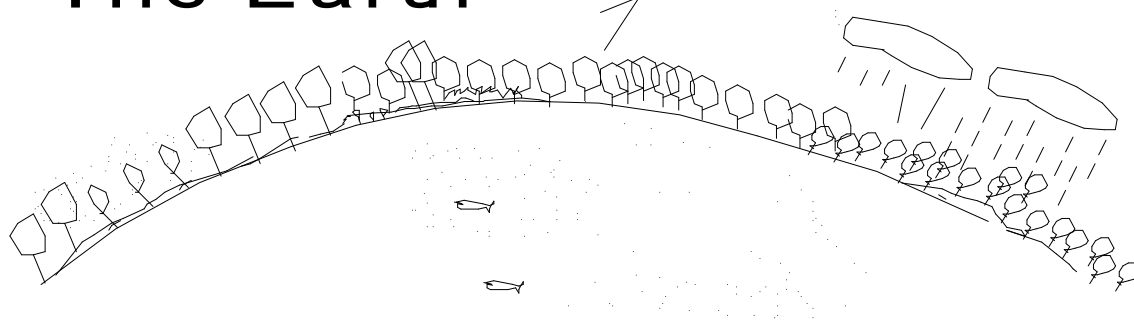
Good

# ( 128 ) Amazon is Lung of The Earth



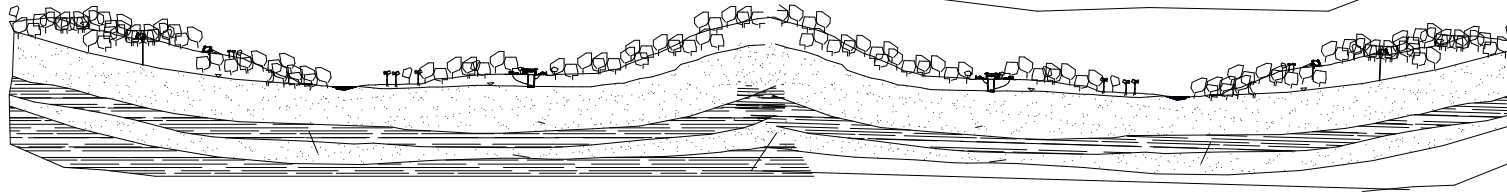
The Earth

$O_2$

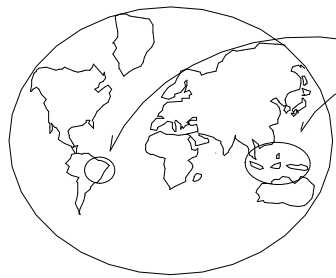


# ( 129 ) Future of Forest

We Make Green  
We Increase Green  
We Protect Green  
We Grow Green  
We Learn from Green  
We Live in Green

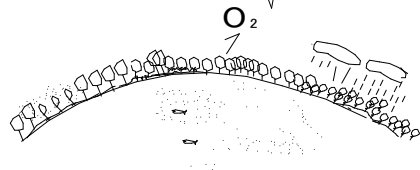


# ( 130 ) Preservation of Tropical Forest

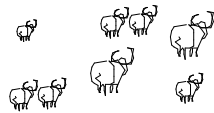


Tropical Forest

The Earth



$O_2$



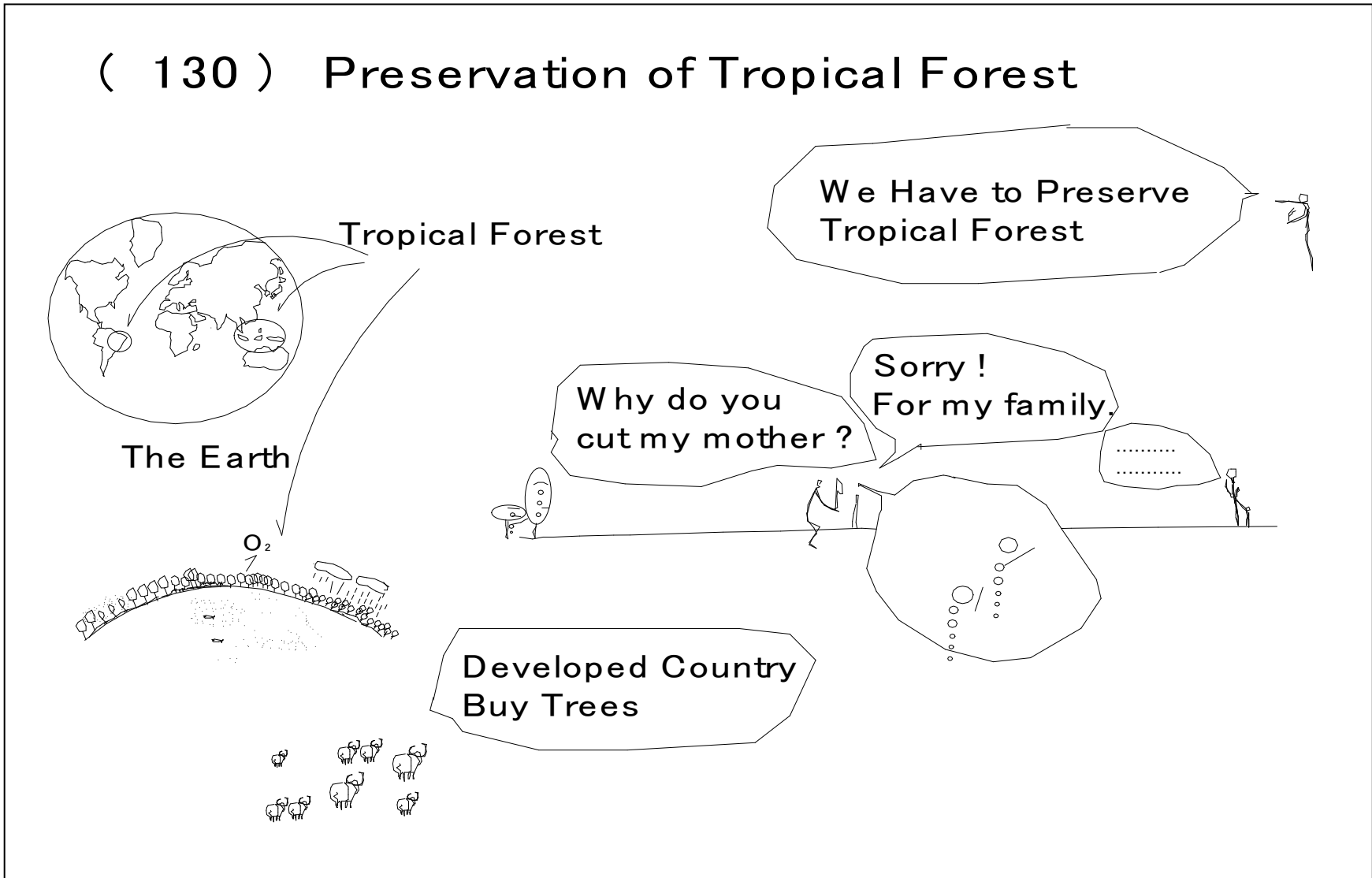
Developed Country  
Buy Trees

Why do you  
cut my mother ?

Sorry !  
For my family,

.....  
.....

We Have to Preserve  
Tropical Forest





( 131 ) Forest Guidance

Me too.



I'm  
Instructor  
of  
Forest

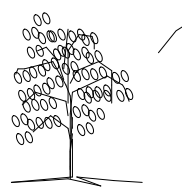
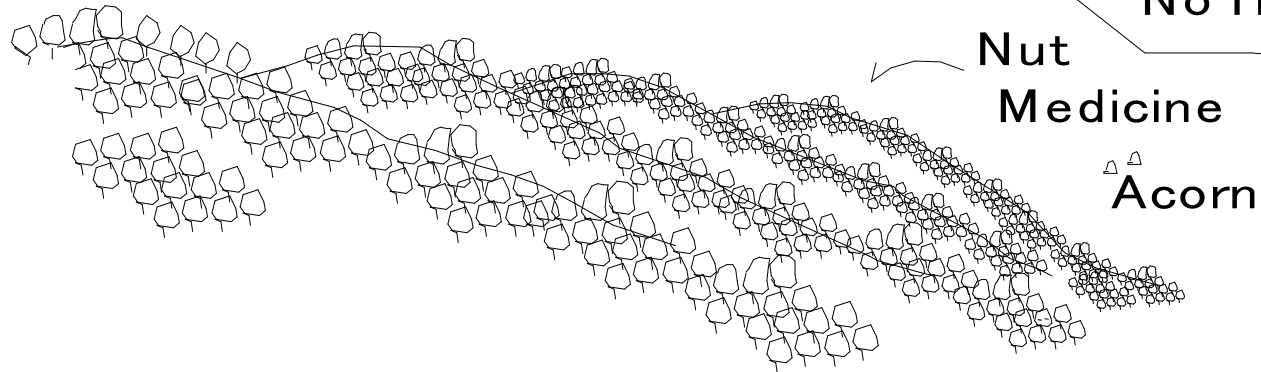


I'm Happy to Instruct  
Forest Ecology  
Plants  
Animal  
Weather  
Trees  
Birds  
Insects

Culture  
Field Instructor of Forest  
Field Game  
Fishing

( 132 ) Nut and Medicine of Forest

People live  
in Forest  
Who Have  
No Hunger



Willow

Leaves of  
Willow

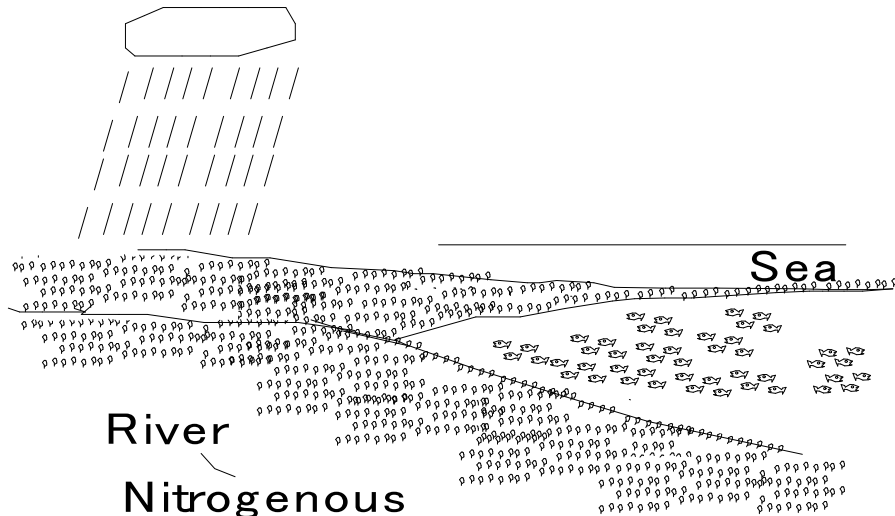
Aspirin  
for a Cold Remedy



Paste  
Headache

American  
Former Inhabitant

( 133 ) Keep Forest Bring up Fish ( II )



River

Nitrogenous  
Phosphorus

Plenty Trees

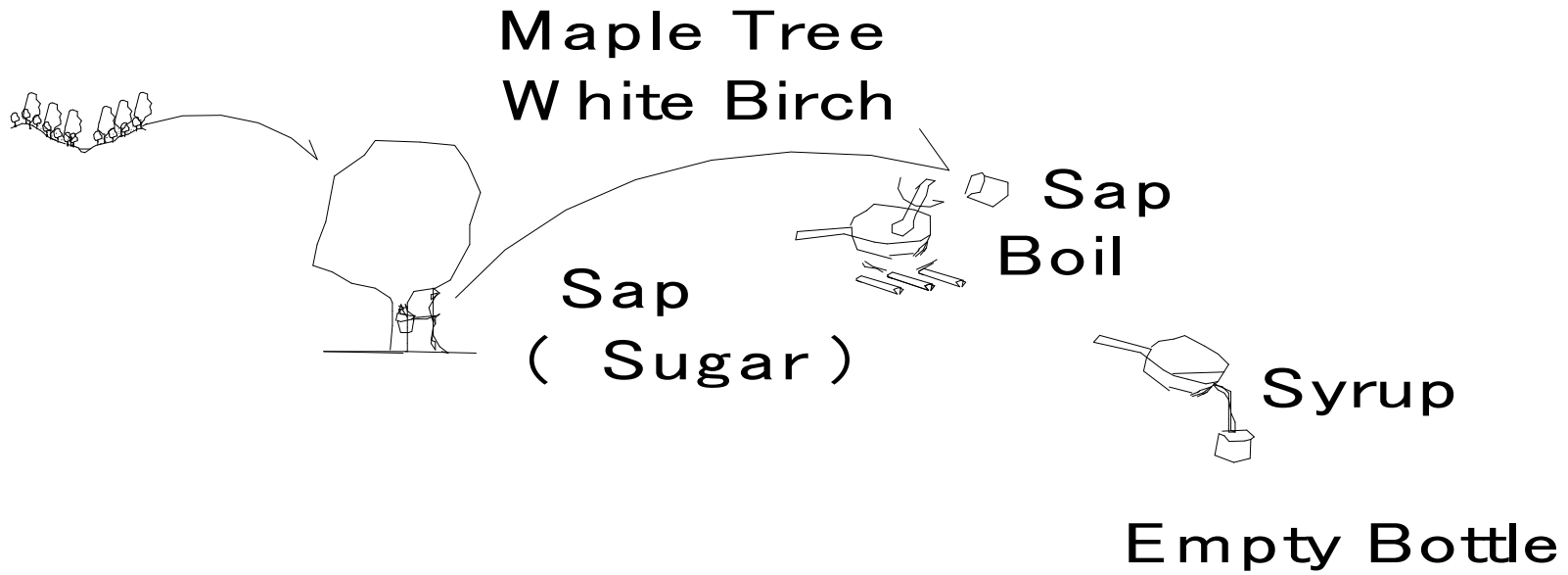
Sea

If You Want Fish  
To Plant Trees

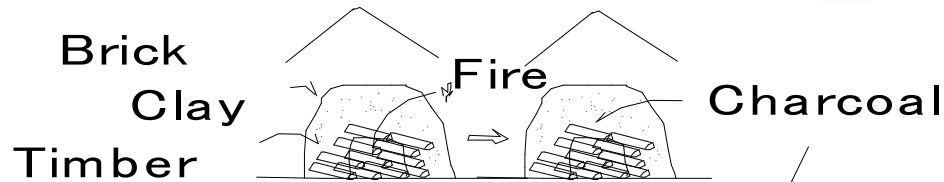
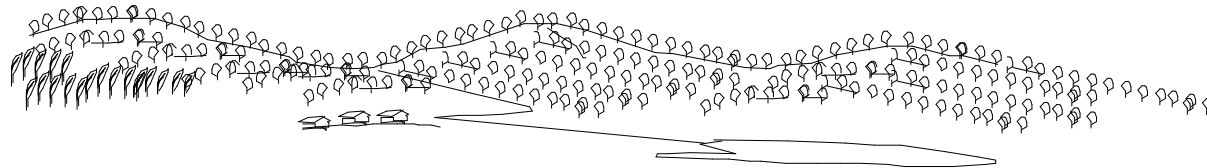


Plankton A Lot of  
Food  
Plenty Fish  
Plenty Seaweed

( 134 ) Sap of Tree ( Syrup )



( 135 ) The Use of Charcoal



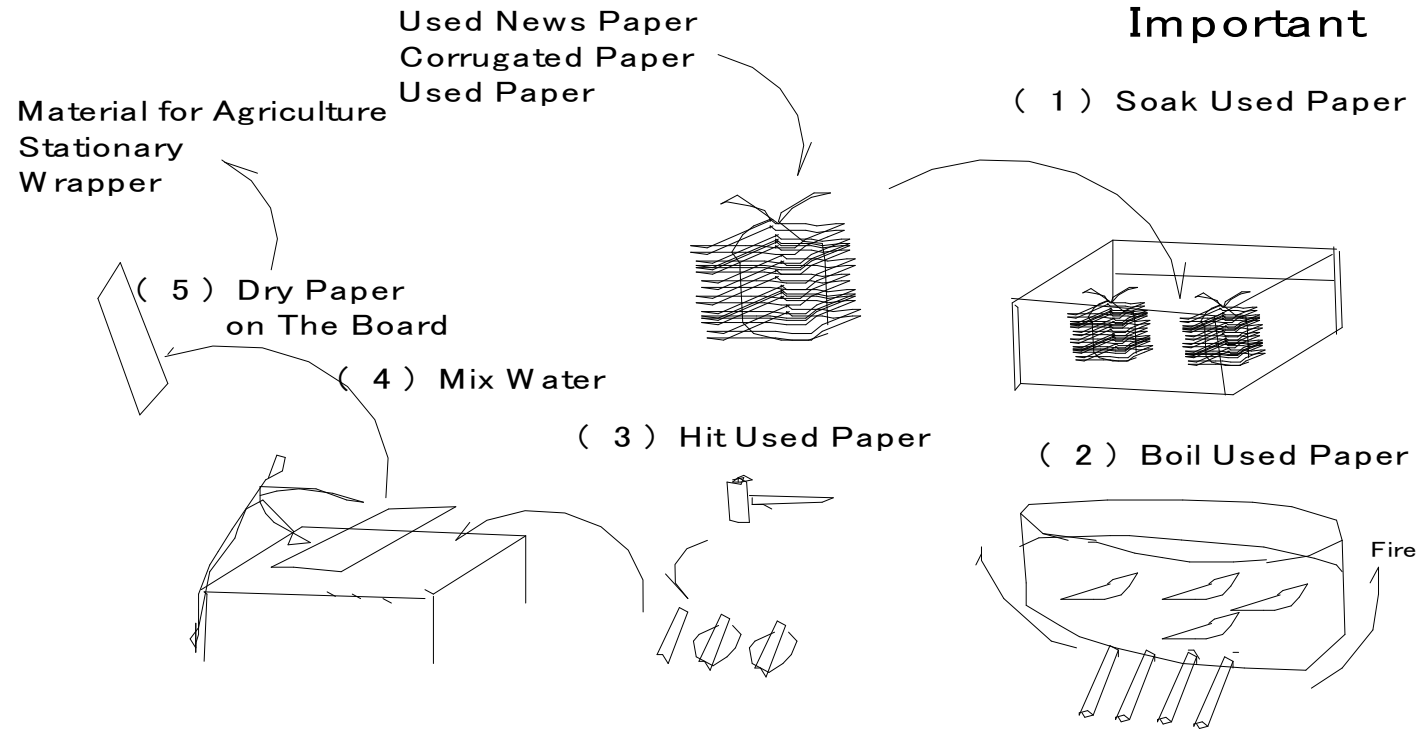
Charcoal  
Deodorant  
Drier  
Protect Mold  
Water Purification

Soil Improvement  
Binding Medicine for  
Domestic Animal  
Cone ( Crayon )

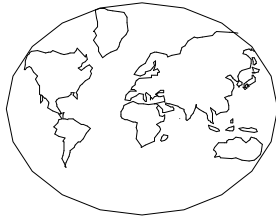
# ( 136 ) Recycling of Paper



## Recycling is Important



# ( 137 ) Firewood for Fuel



The Earth



80 % of Developing Country  
Trees Used for Firewood

( 138 ) Shortage of Firewood



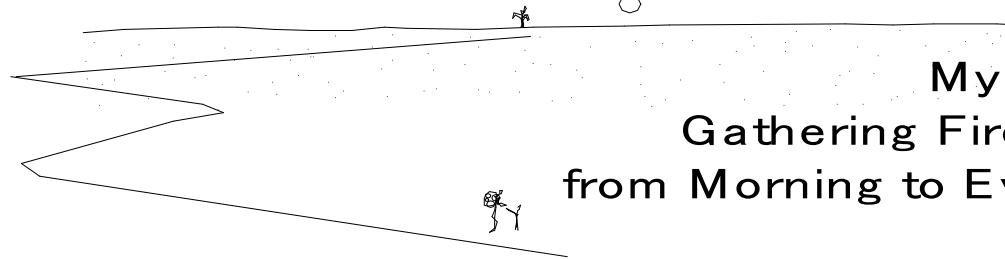
The Earth

Africa

Plant Trees  
after Cutting  
Trees

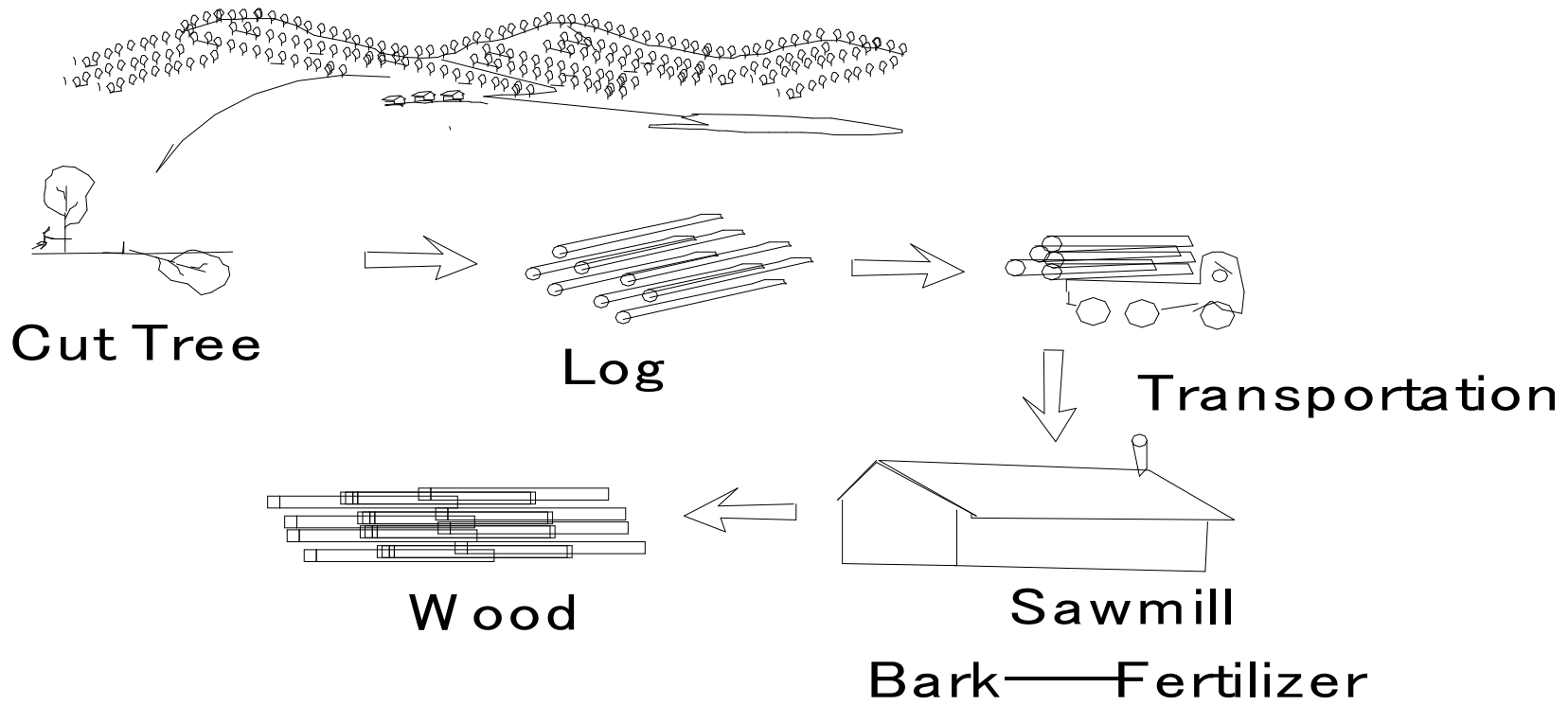
No Night without  
Morning

My Job is  
Gathering Firewood  
from Morning to Evening

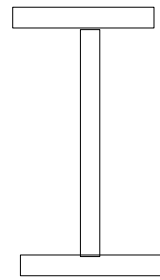




# ( 139 ) Wood ( Timber ) from Trees

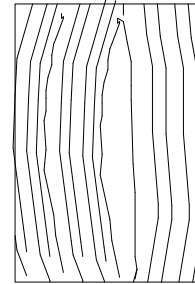


# ( 140 ) Goodness of Wood ( Timber )



Iron

I Feel  
Cold

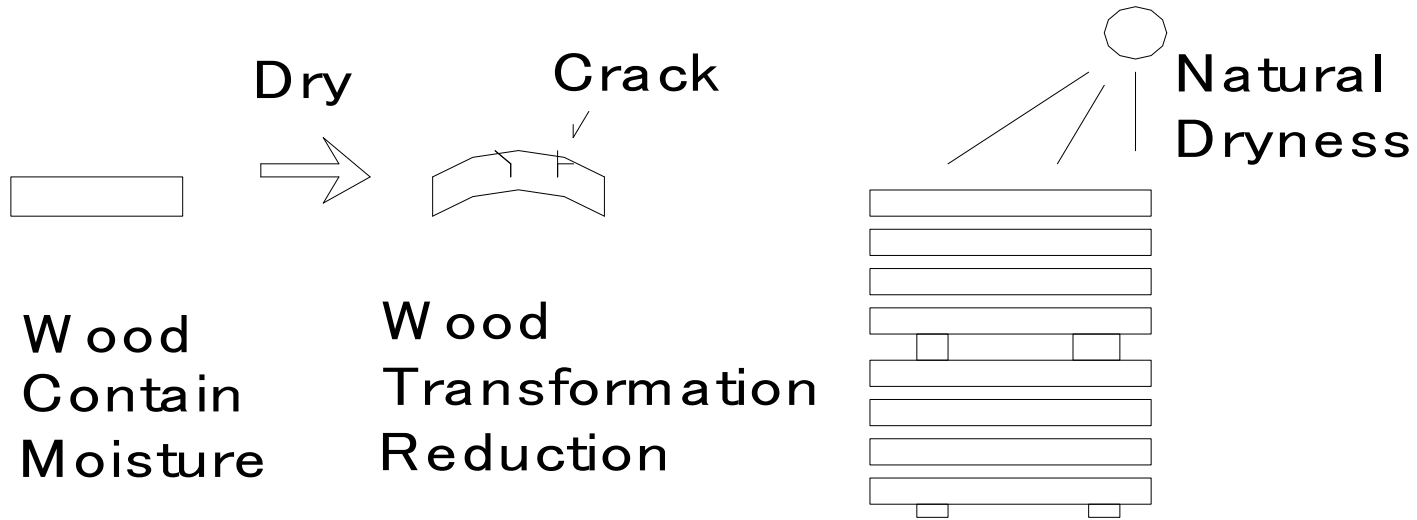


Grain  
of Wood

I Feel  
Warm



# ( 141 ) Dry Wood ( Timber )



Wood  
Contain  
Moisture

Wood  
Transformation  
Reduction

Natural  
Dryness

Wood

Dryness Types

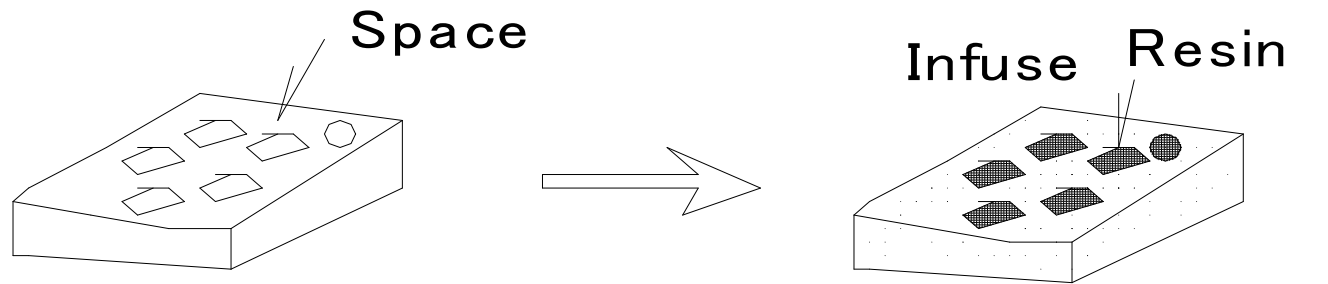
1 Natural Dryness

2 Dehumidifier Dryness

3 Steam Dryness

( 142 ) Super Wood

Wood Plastic Combination ( WPC )



Wood

( WPC )

Hard

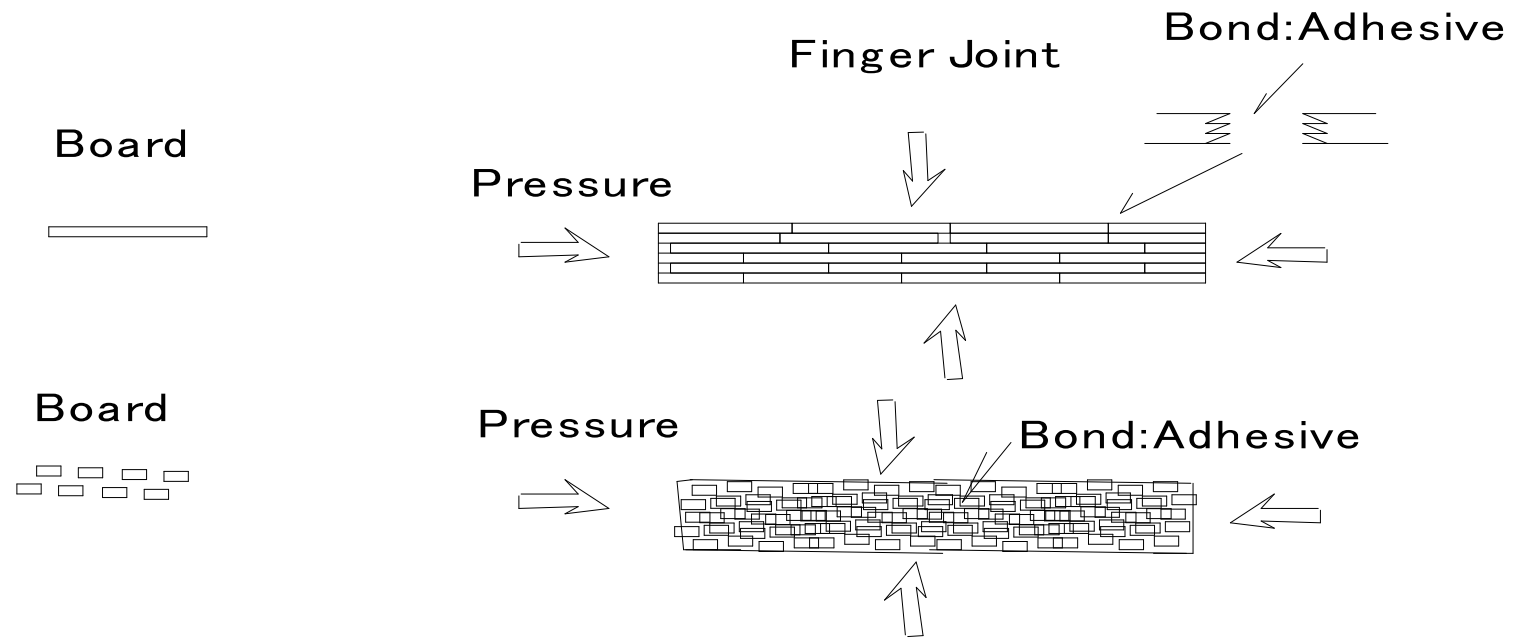
No Transformation

No Decay

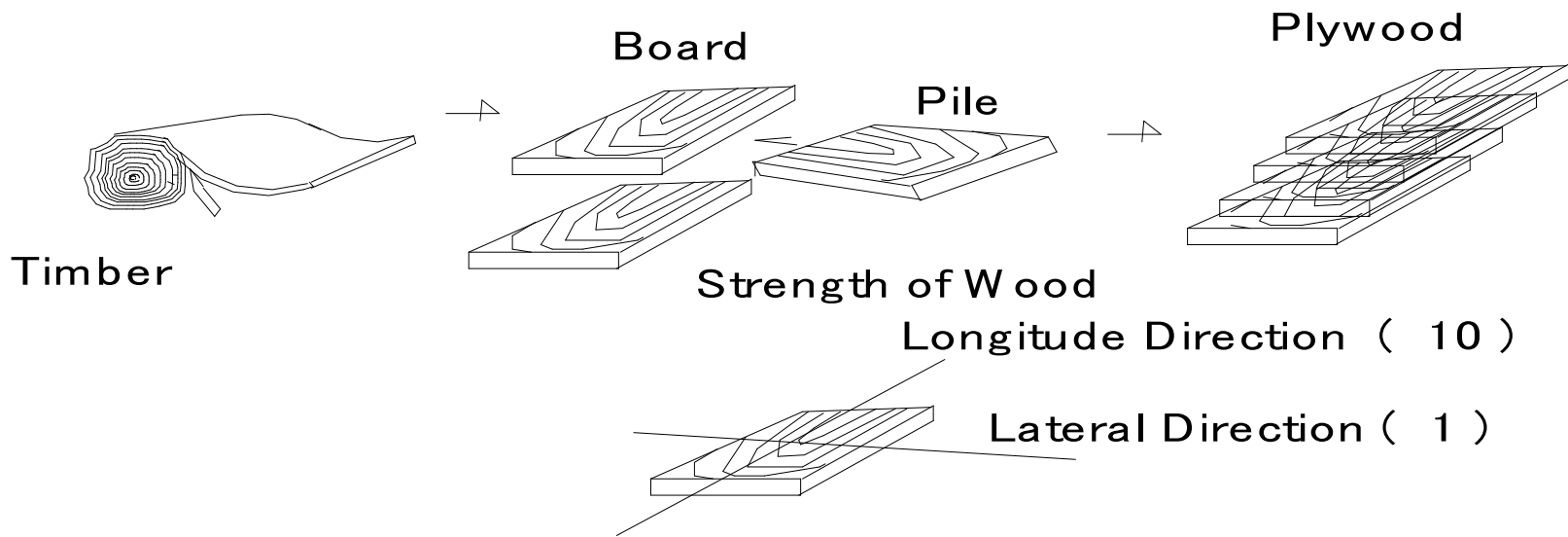
Difficult to Burn

Ceramic Wood

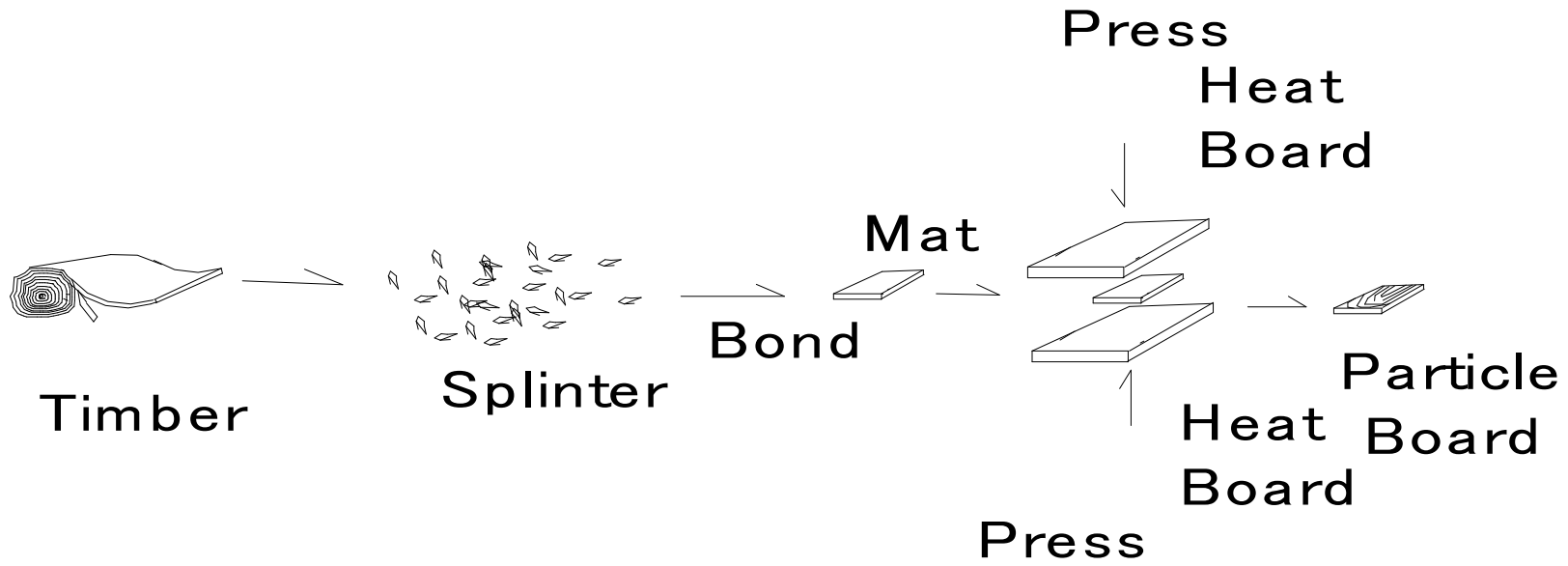
# ( 143 ) Engineering Wood



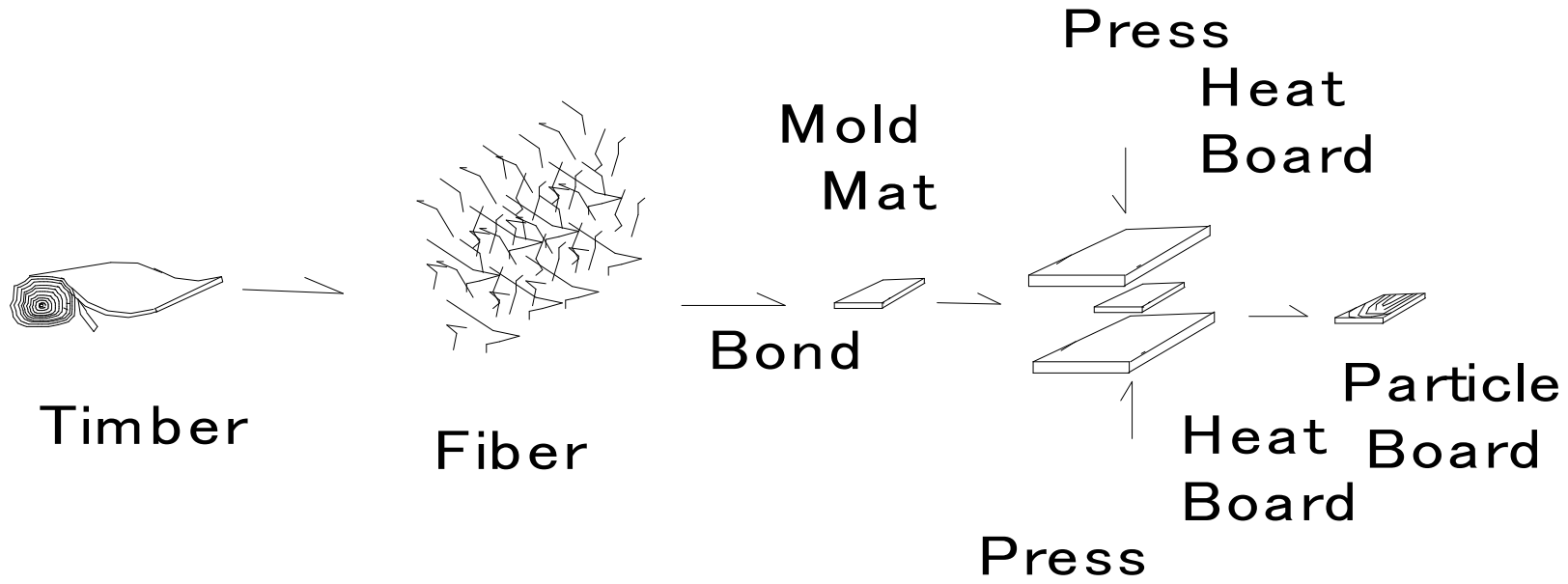
( 144 ) Plywood



# ( 145 ) Particle Board

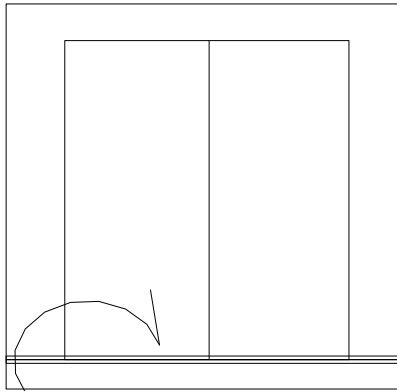


# ( 146 ) Fiber Board





( 147 ) Wooden Floor and Carpet Floor



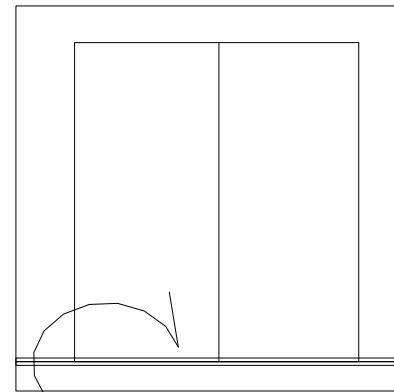
Carpet Floor

Tick

Vermin

Asthma

Allergy



Wooden Floor

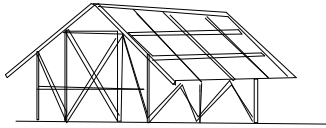
20 % of Tick or Vermin

a Little of Asthma

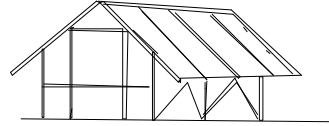
a Little of Allergy

Noise Soundproofing

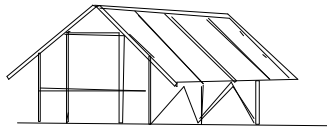
## ( 148 ) W o o d e n H o u s e



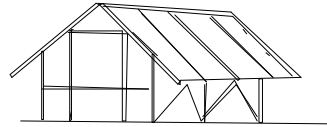
**Axis Frame House**



**Prefab House  
Steel Structure  
Factory Production  
Building in Site**

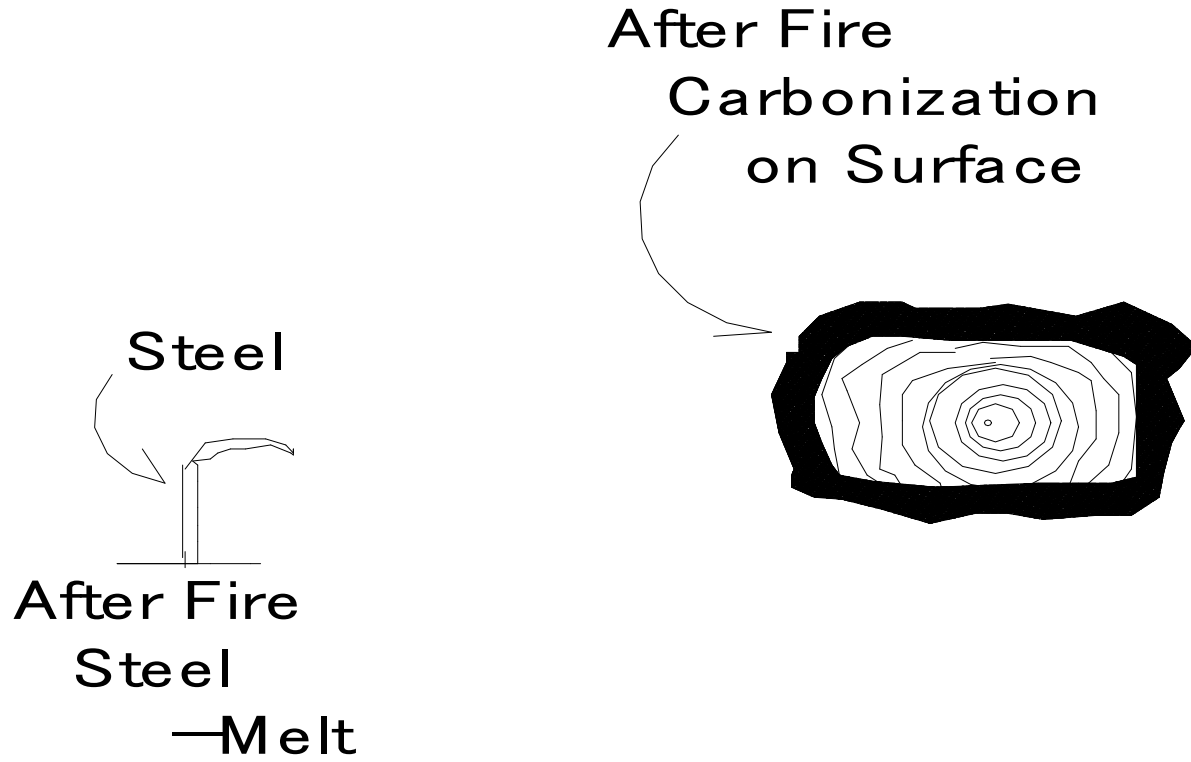


**Wooden Prefab House  
Wood Structure  
Factory Production  
Building in Site  
Frame Material +  
Plywood ( Bond )  
Wooden Panel  
Bond Structure**

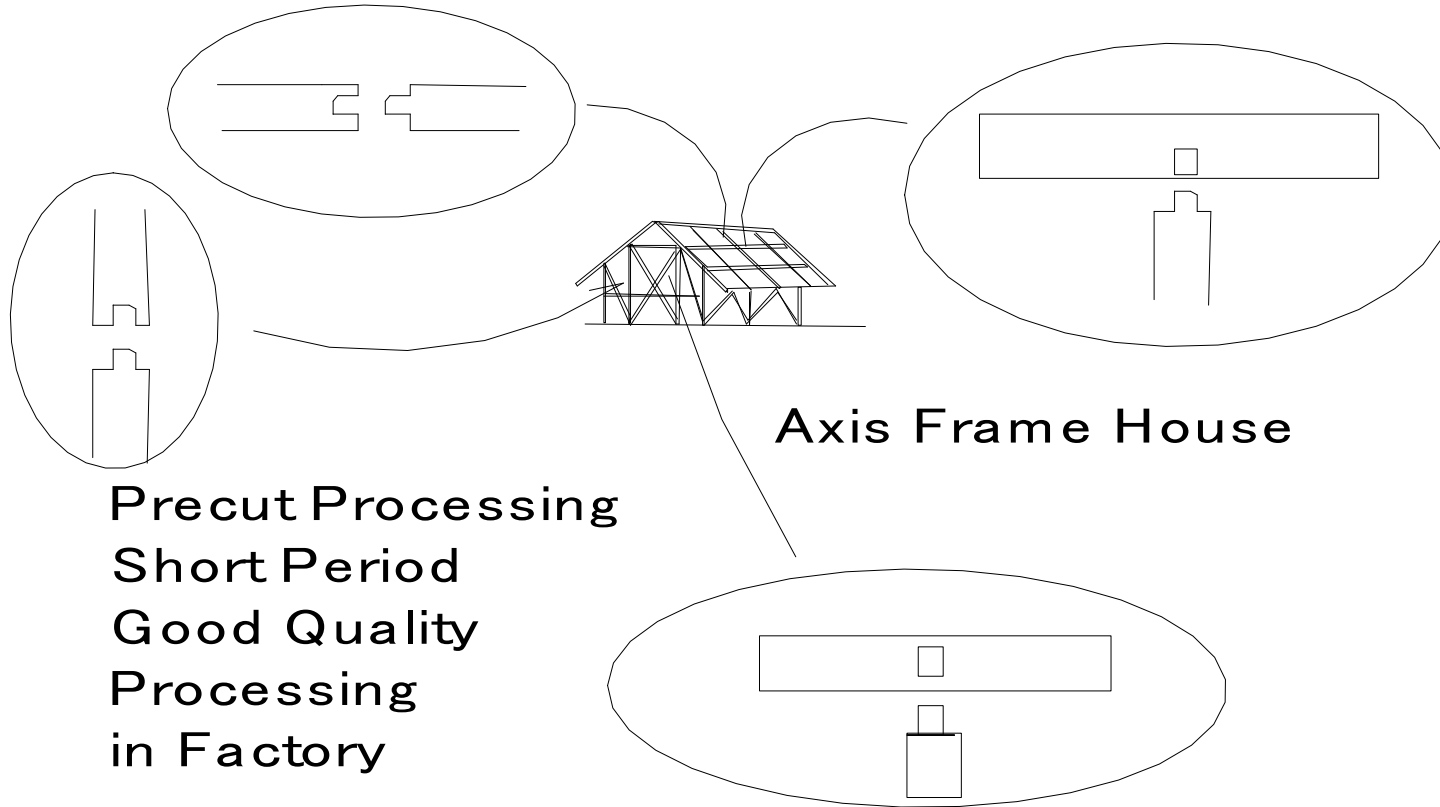


**Frame Wall House  
2 Inch by 4 Inch ( Lumber )  
Two By Four Method  
First Floor—  
Second Floor  
Frame Jointed  
With Nail and Hardware  
Air Proof  
Earthquake Proofing**

# ( 149 ) Wood are Proof Against Fire



# ( 150 ) Precut Processing

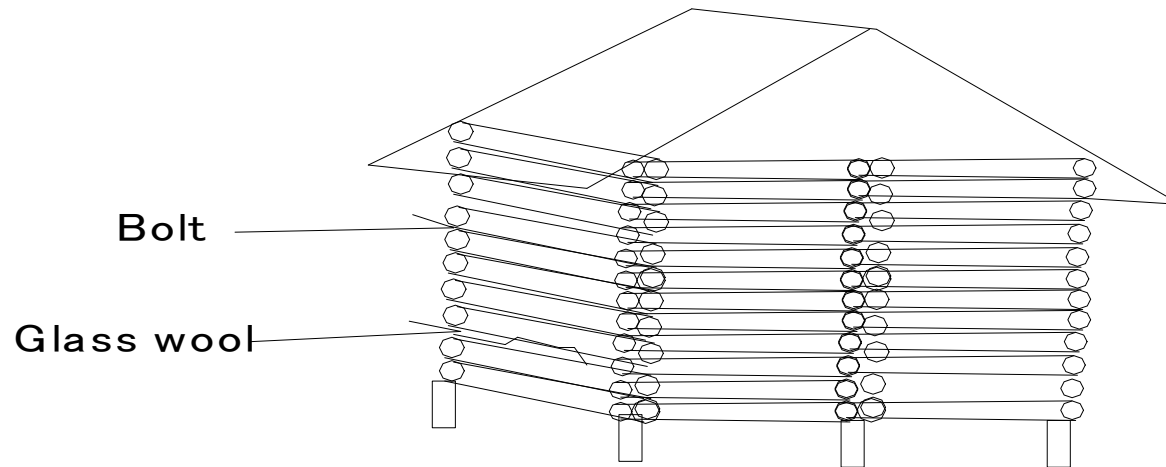


Axis Frame House

Precut Processing  
Short Period  
Good Quality  
Processing  
in Factory

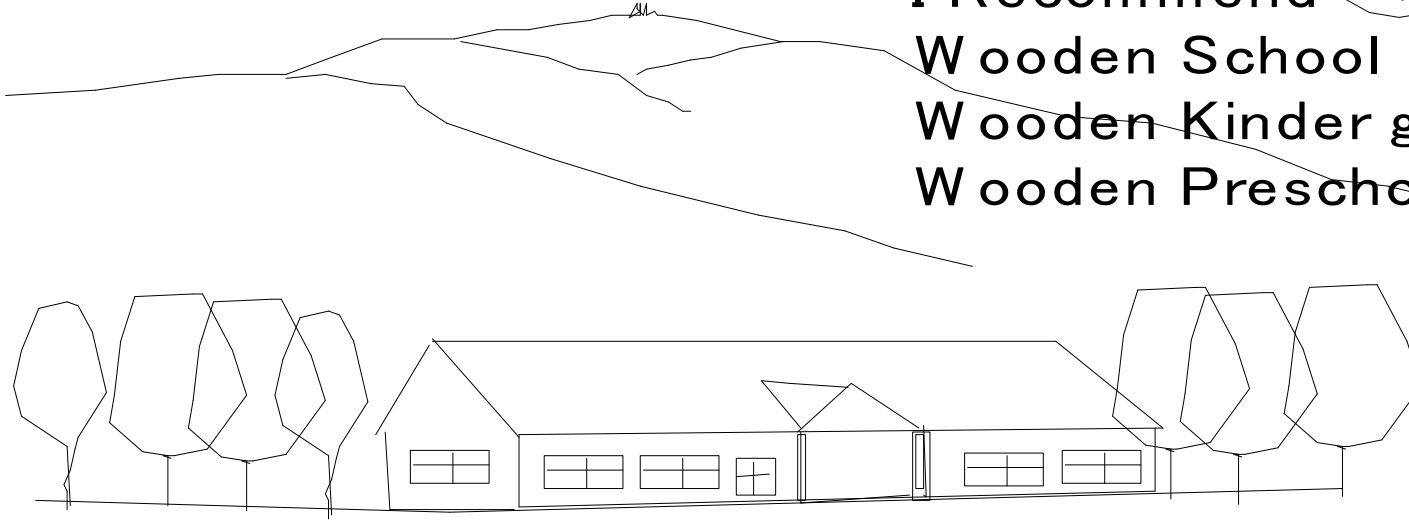
Building In Site


# ( 151 ) Log House



( 152 ) Wooden School

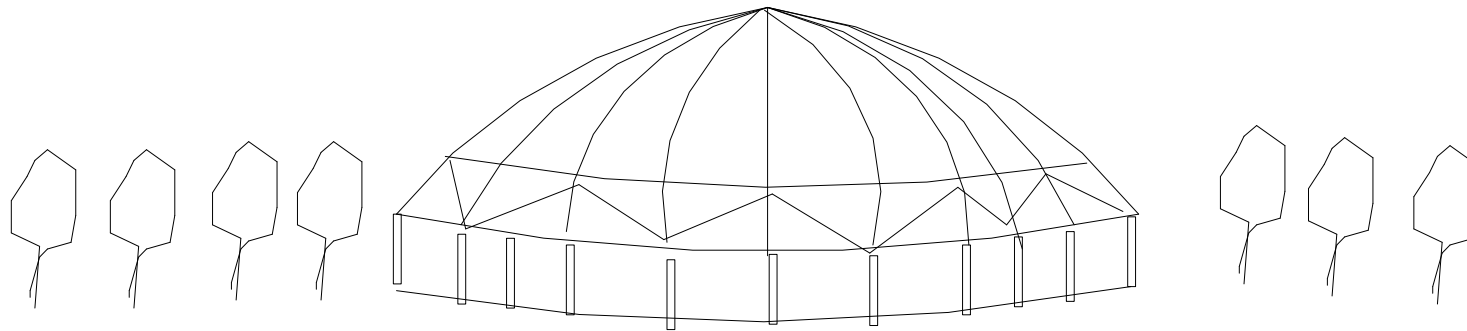
I Recommend   
Wooden School  
Wooden Kinder garden  
Wooden Preschool



  
Wooden School  
Warm  
Constant Moisture  
Soft

Good Health  
a Little of Headache  
a little of Stomachache

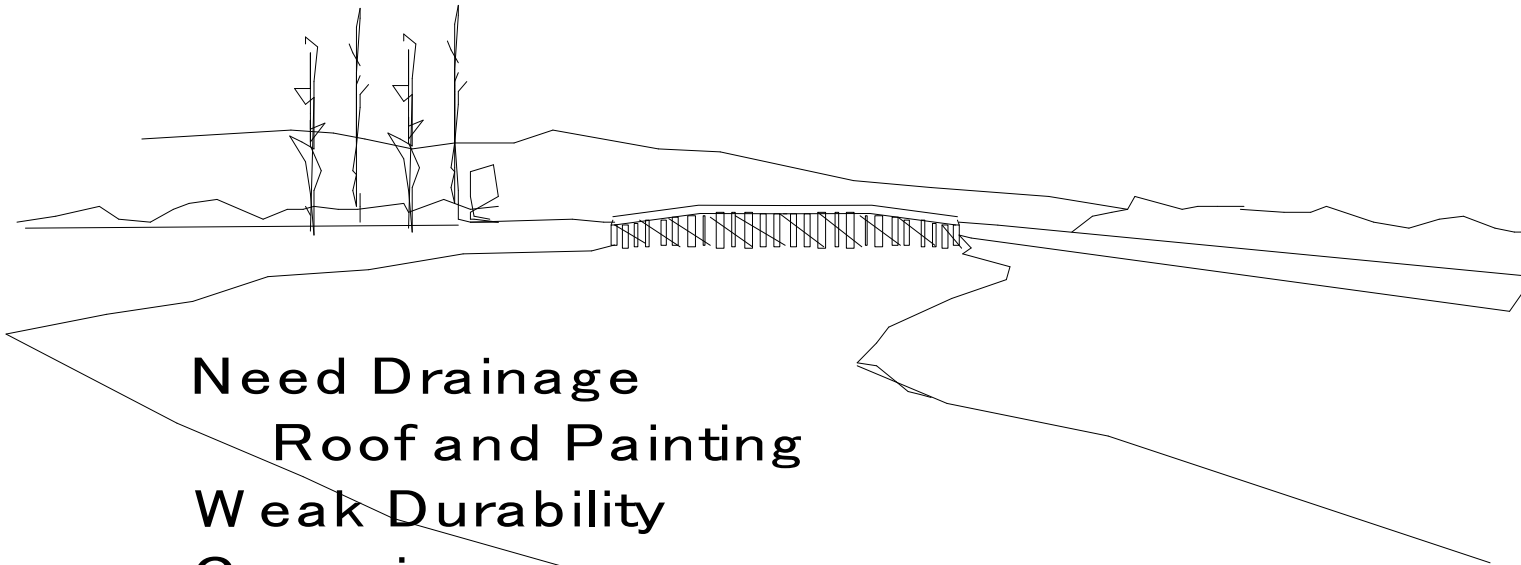
# ( 153 ) Large Scale Wooden Building



Framework—Triangle Shape  
Roof—Dome—Shell Structure  
Wooden Material  
Joint  
Hinji



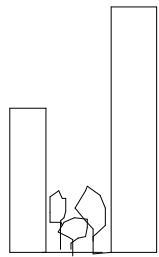
( 154 ) Wooden Bridge



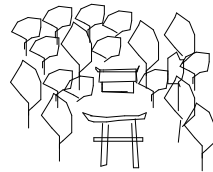
**Need Drainage**  
**Roof and Painting**  
**Weak Durability**  
**Corrosion**  
**Harmony with Nature**



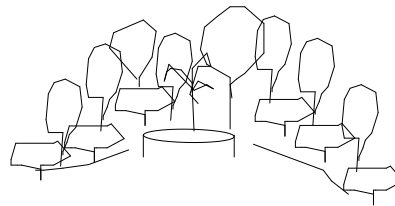
( 155 ) Trees in Life



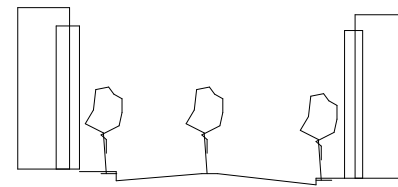
Trees in Building



Trees in Shrine



Trees in Park

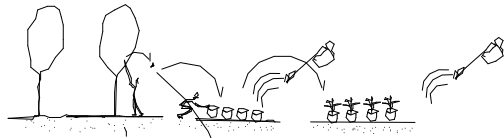


Trees in Street



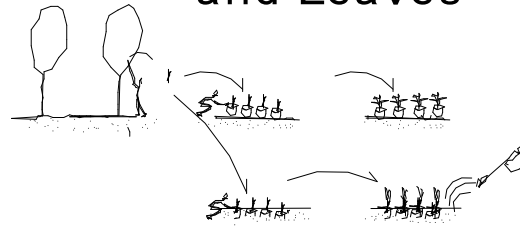
# ( 156 ) Grow Trees

Cutting  
Sampling Branches  
and Leaves

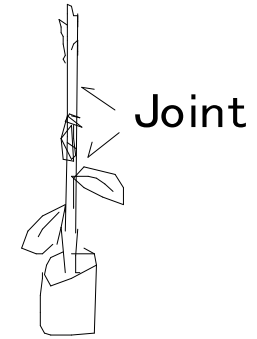


Goods  
Trees

Seeds



2 Plant Branches  
and Leaves



Graft