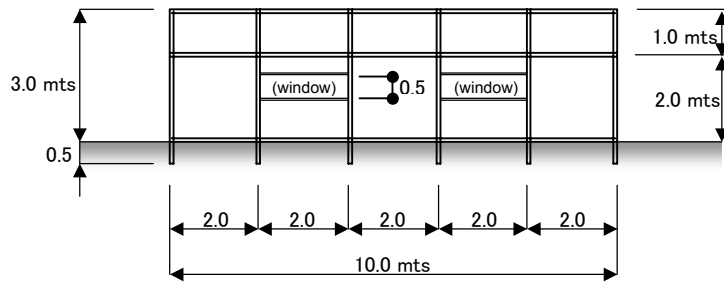
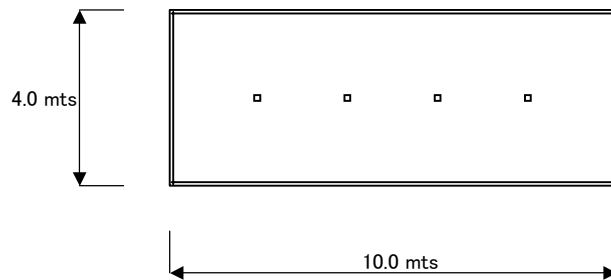


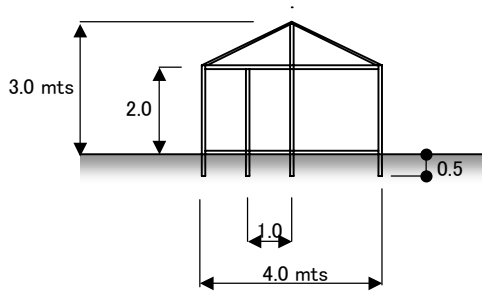
SIDE VIEW



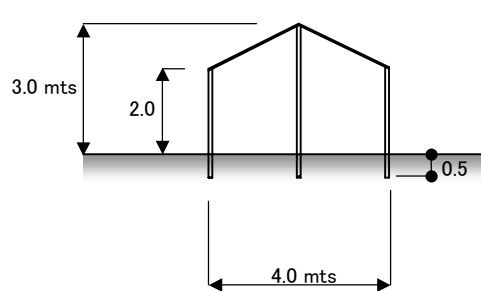
PLAIN FIGURE



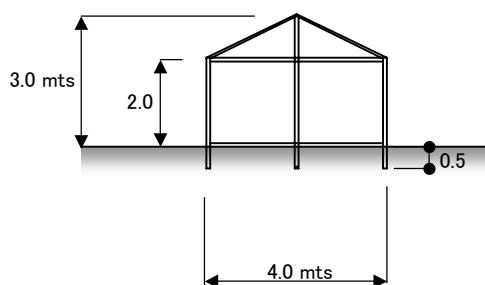
FRONT SIDE



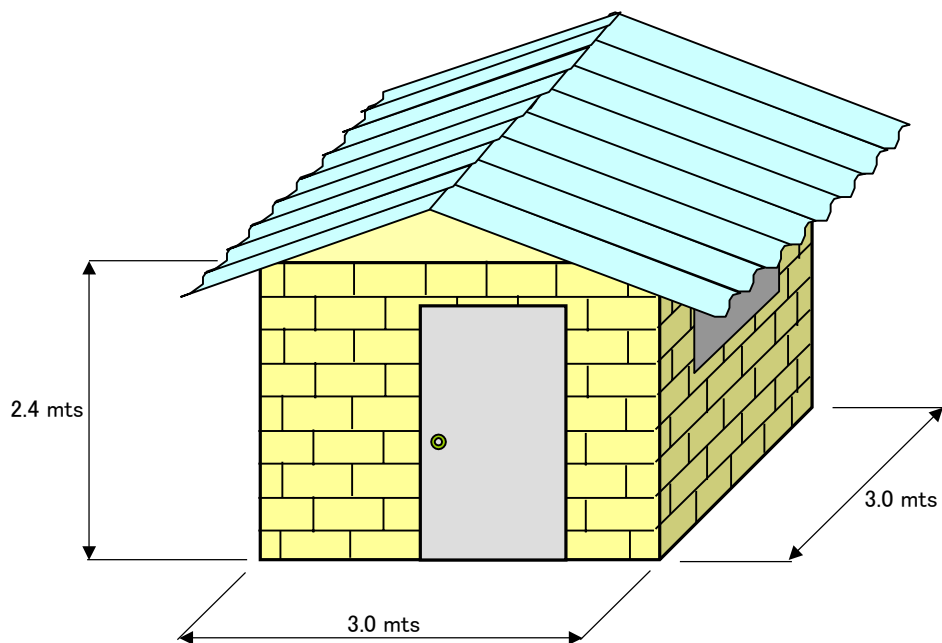
INSIDE



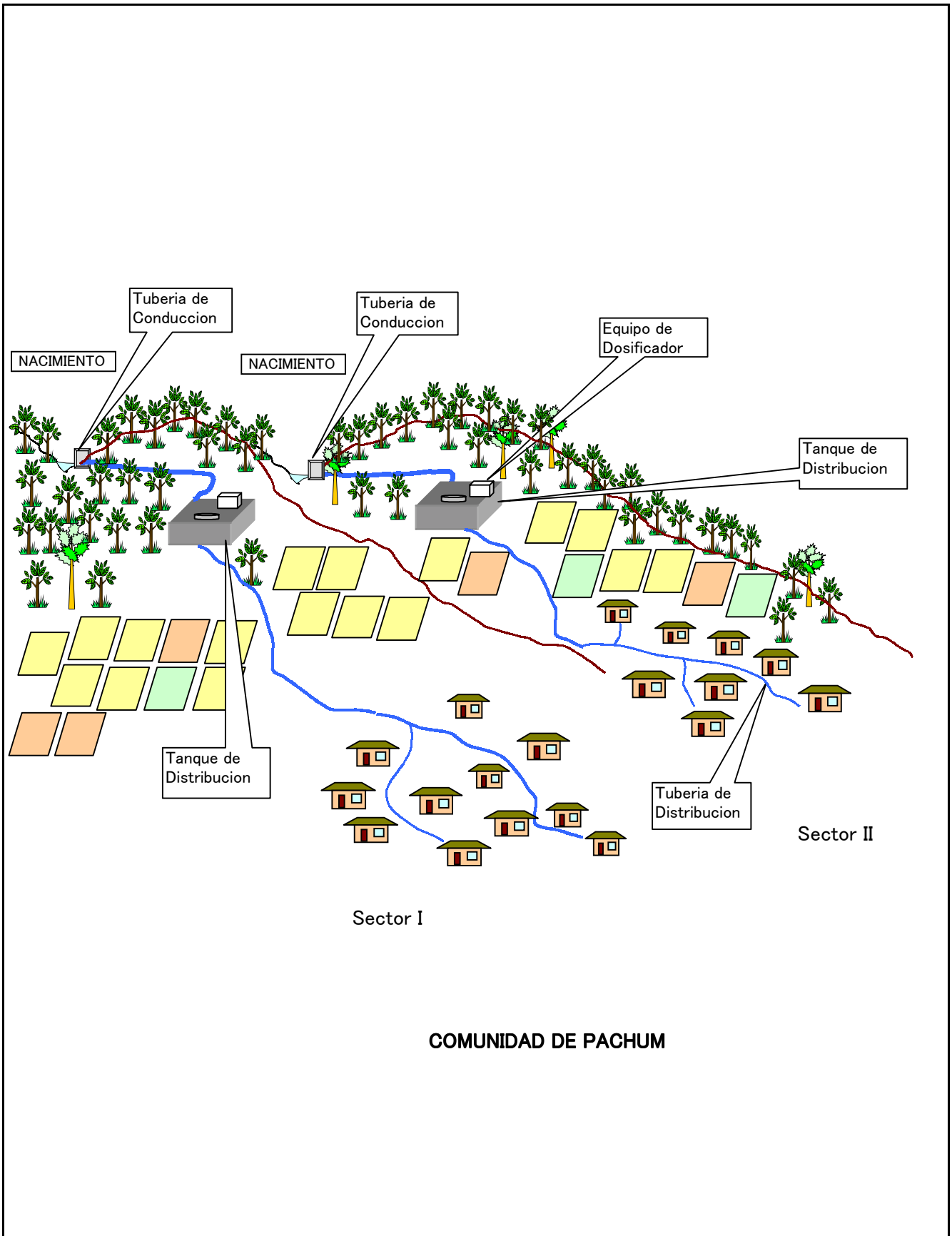
BACK SIDE



Greenhouse for fruit tree
W 4.0m x L 10.0m x H 3.0m



STORAGE for Farming Tools
by concrete block
with 2 windows and 1 entrance
Size : W 3.0m x L 3.0m x H 2.4m



<p>THE MASTER PLAN STUDY ON SUSTAINABLE RURAL DEVELOPMENT FOR THE REDUCTION OF POVERTY IN THE CENTRAL HIGHLAND REGION OF THE REPUBLIC OF GUATEMALA</p>	<p>Figure 8.5.3(1) Drinking Water Quality Improvement Outline of Drinking Water Supply System Pachum, Xesana, Totonicapan</p>
<p>Japan International Cooperation Agency (JICA)</p>	

1) Present condition of an existing Temascal in Pachum area

Improved points of Temascal

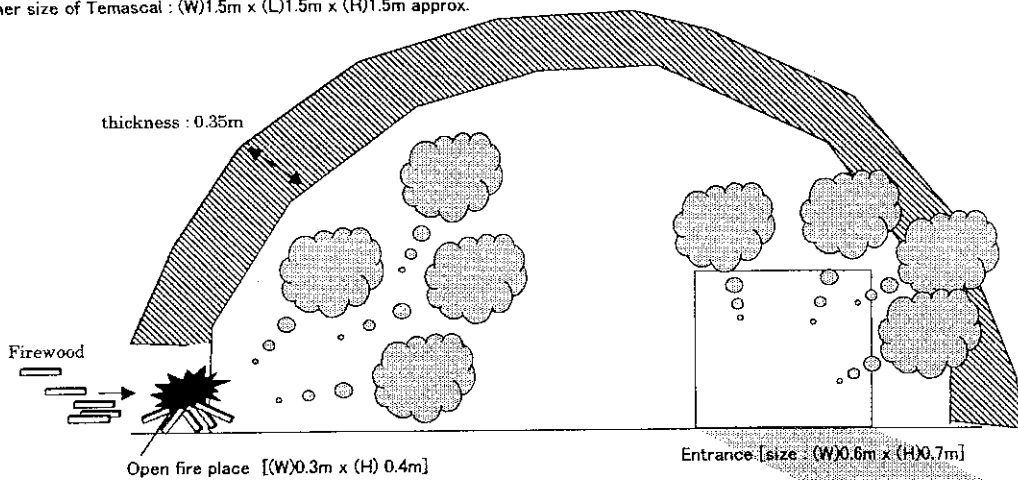
(a) Efficiency for heating a dome
 [Present] Direct heating a dome with open fire.
 [Proposed] Fire should burn in an iron box or small stove.

(b) Chimney
 [Present] No chimney. Smoke fills up a dome during burning firewood. That why people cannot get inside during burning. They can take a bath only after extinguishing the fire. It not allow to take a bath continuously.
 [Proposed] Installation of chimney. It allows person to enter a dome and take a bath during heating a dome simultaneously.

(c) Air ventilation
 [Present] In some type of Temascal fire burns inside the Temascal and an entrance should be opened during heating in order to supply oxygen. Thus the hot air escape through the entrance with smoke to outside. It makes the low heating efficiency.
 [Proposed] The combustion box should face outside of the dome and the entrance should be closed during the burning firewood.

(d) Other trials
 [Chimney for heating] The chimney bends and runs in the room in order to increase efficiency of heating the dome as much as possible.
 [Combination with improved stove] The chimney of improve stove should be connected to the chimney of Temascal, if the location of improved stove allows it. This helps to heat Temascal with smoke from the stove during cooking.

- Made with adobe (sun-dried bricks)
- Inner size of Temascal : (W)1.5m x (L)1.5m x (H)1.5m approx.



2) Proposed Temascal (Type-1)

Use present shape of Temascal and install an combustion box and chimney in it

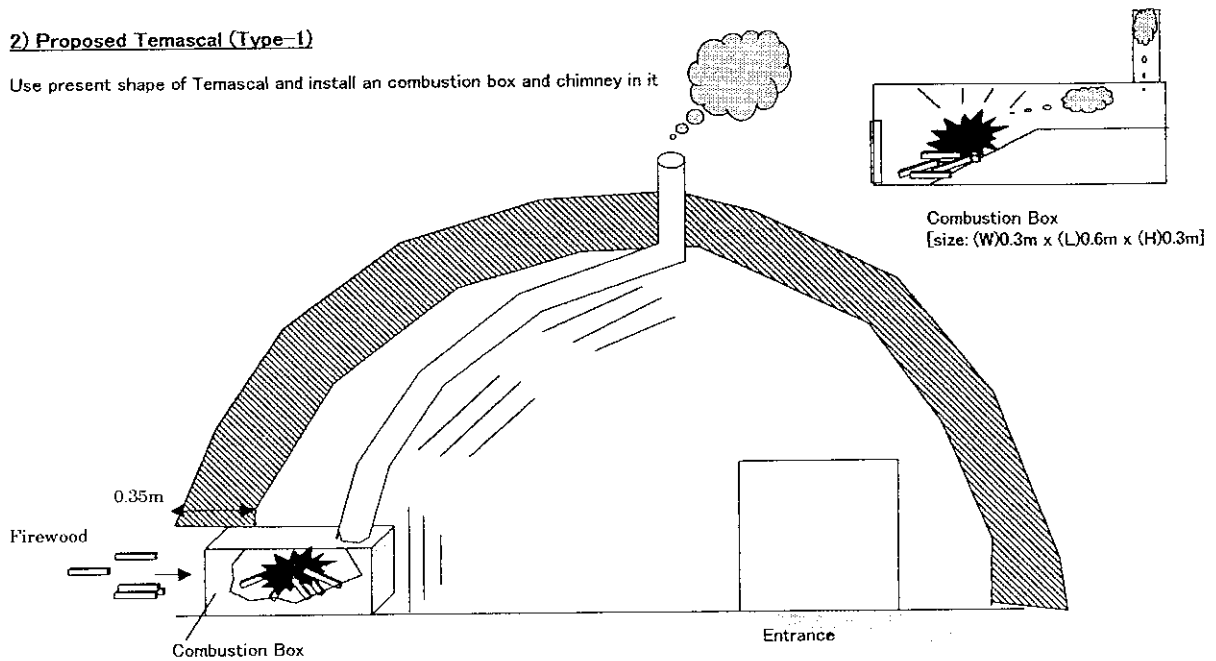
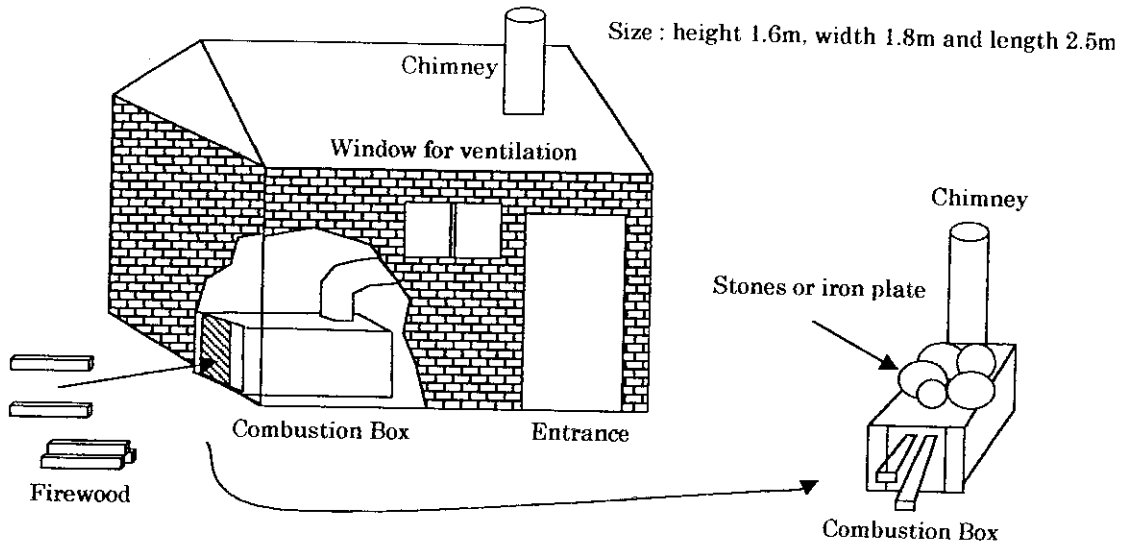


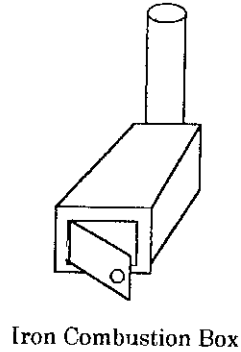
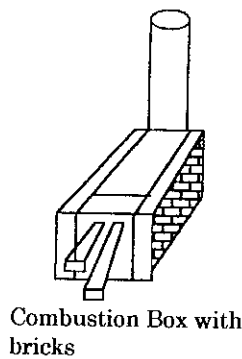
Figure 8.5.4 (1)
Points to be improved in Temascal (1/2)

3) Proposed Temascal (Type-2)

Use concrete block for Temascal and install an combustion box and chimney in it



4) Proposed Temascal (Selection of combustion box)

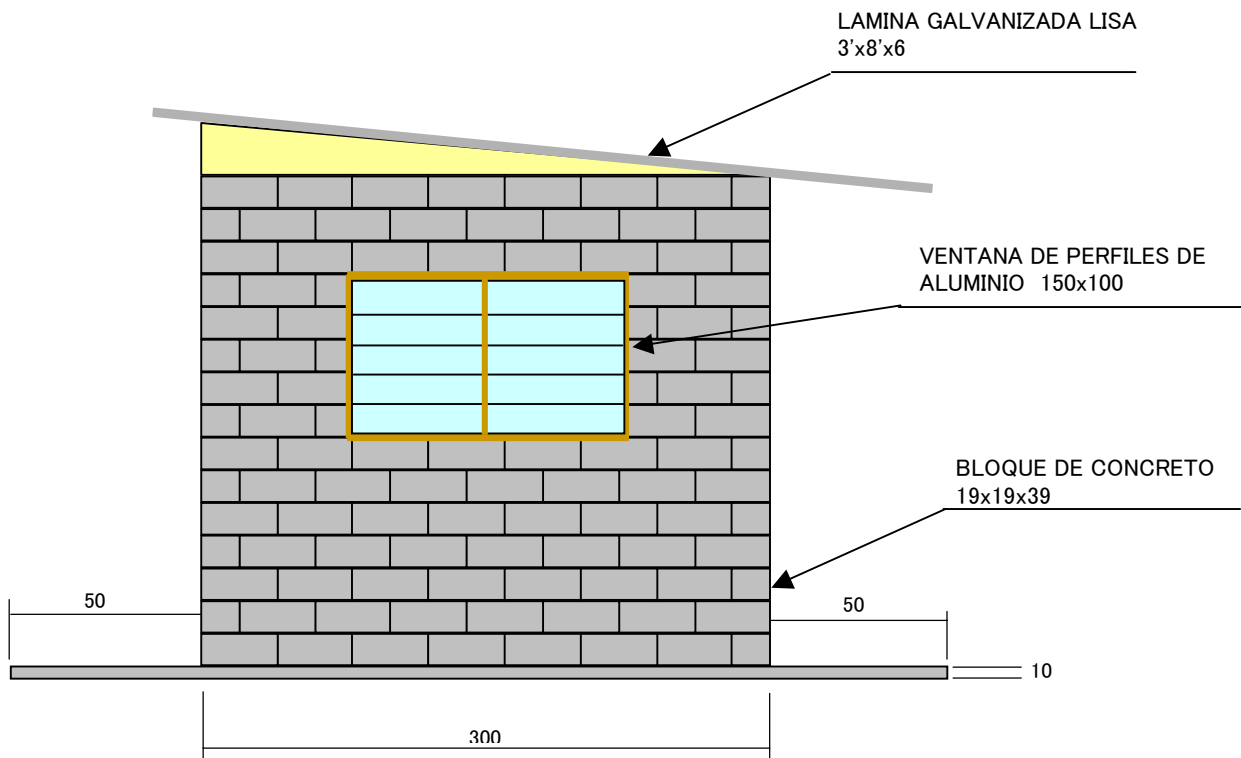
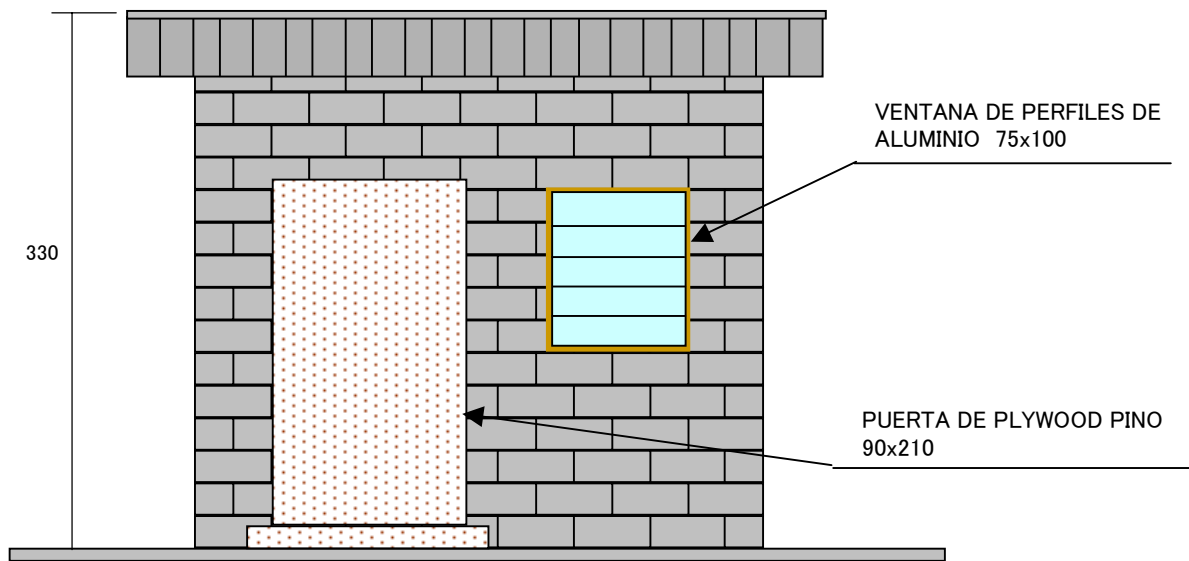


Advantage	<ul style="list-style-type: none"> - Materials can be obtained easily and economically - Easy repairing 	<ul style="list-style-type: none"> - Easy installation - High efficiency of heating
Disadvantage	<ul style="list-style-type: none"> - Construction will take about 2days approx. - Low efficiency of heating 	<ul style="list-style-type: none"> - Purchase of the combustion box is not easy (should be made in city by a special order) - High cost - Repairing is not easy

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Figure 8.5.4 (1)
Points to be improved in Temascal (2/2)



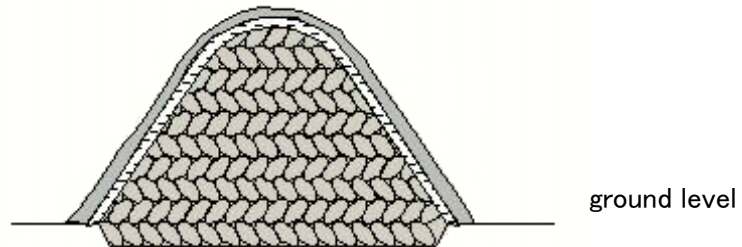
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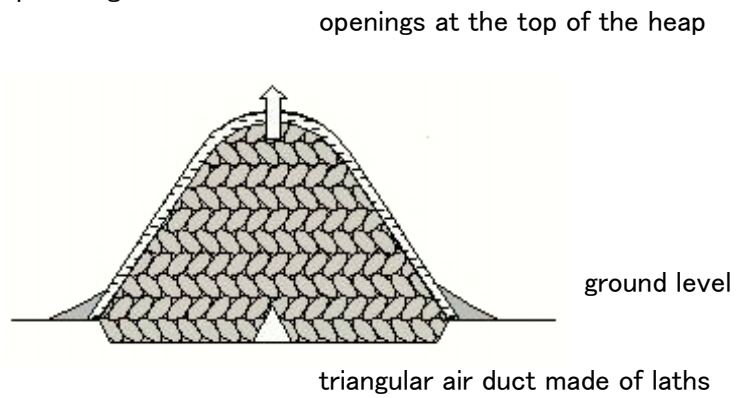
Figure 8.5.5(1)

**Building for Minimal Pharmacy
Unit**

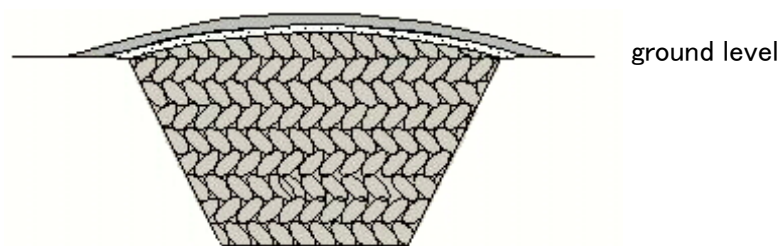
1) Unventilated Clamp Storage

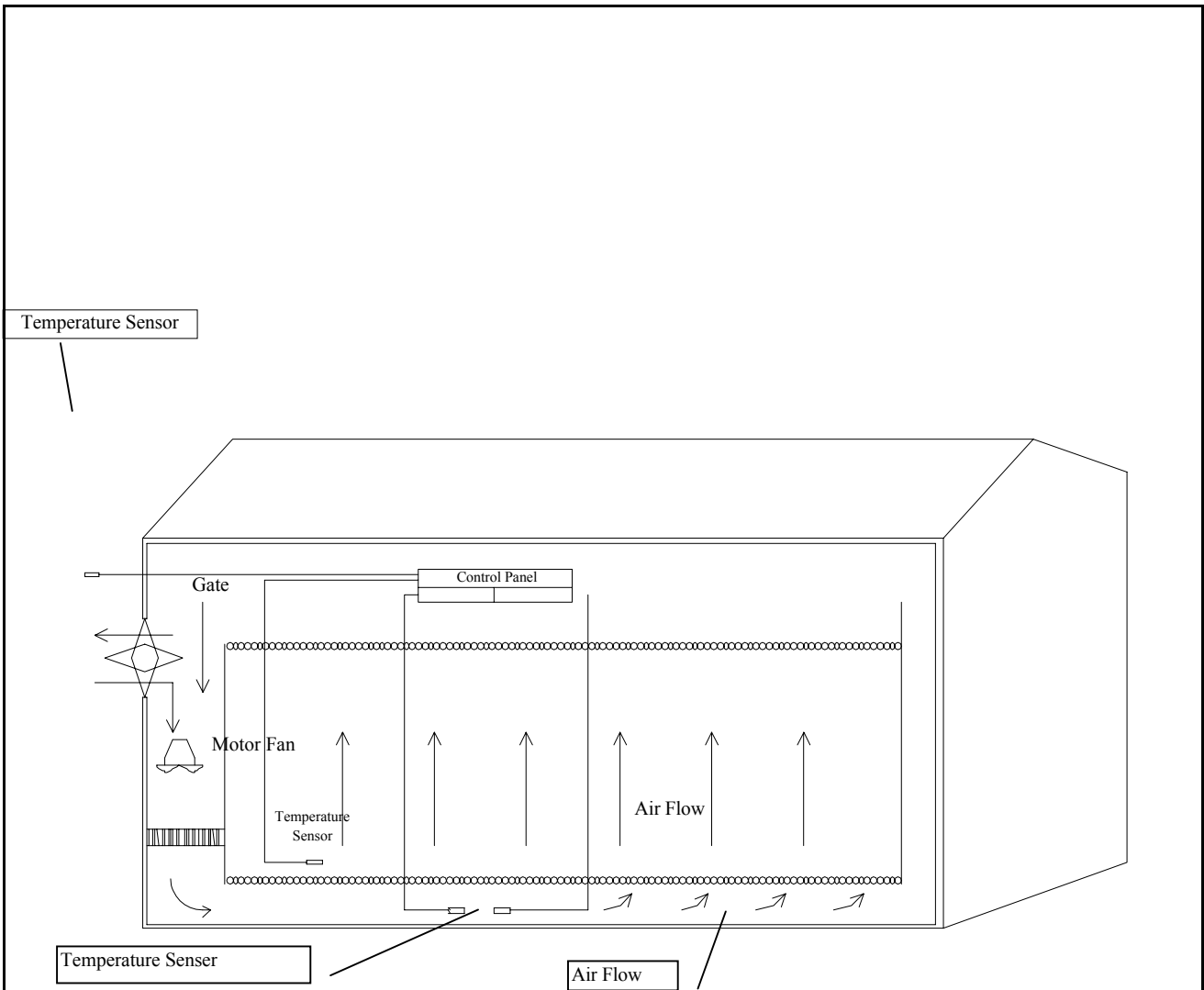


2) Ventilated Clamp Storage



3) Hole Storage in the Ground



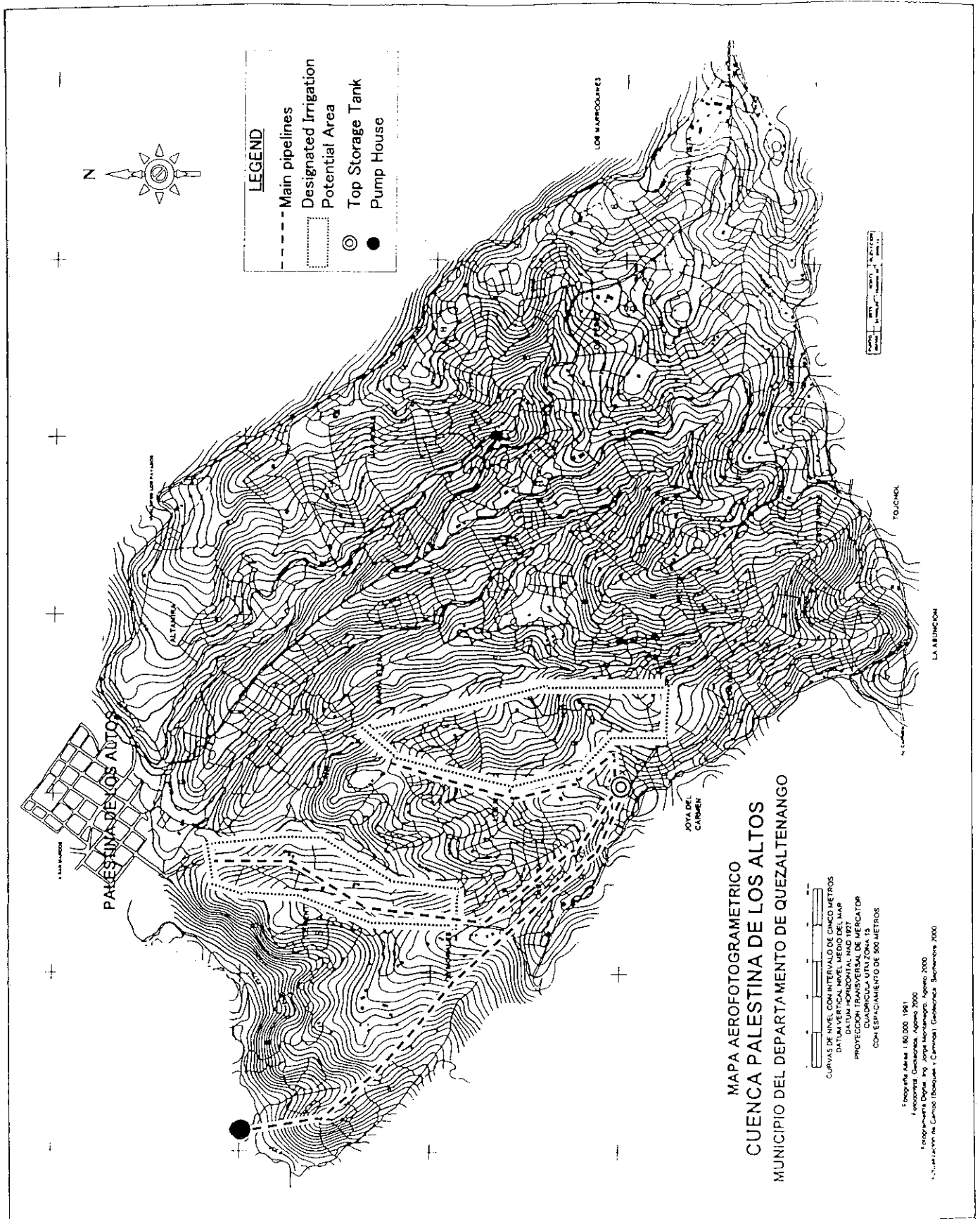


* the bulbs temperature sensors can be observed

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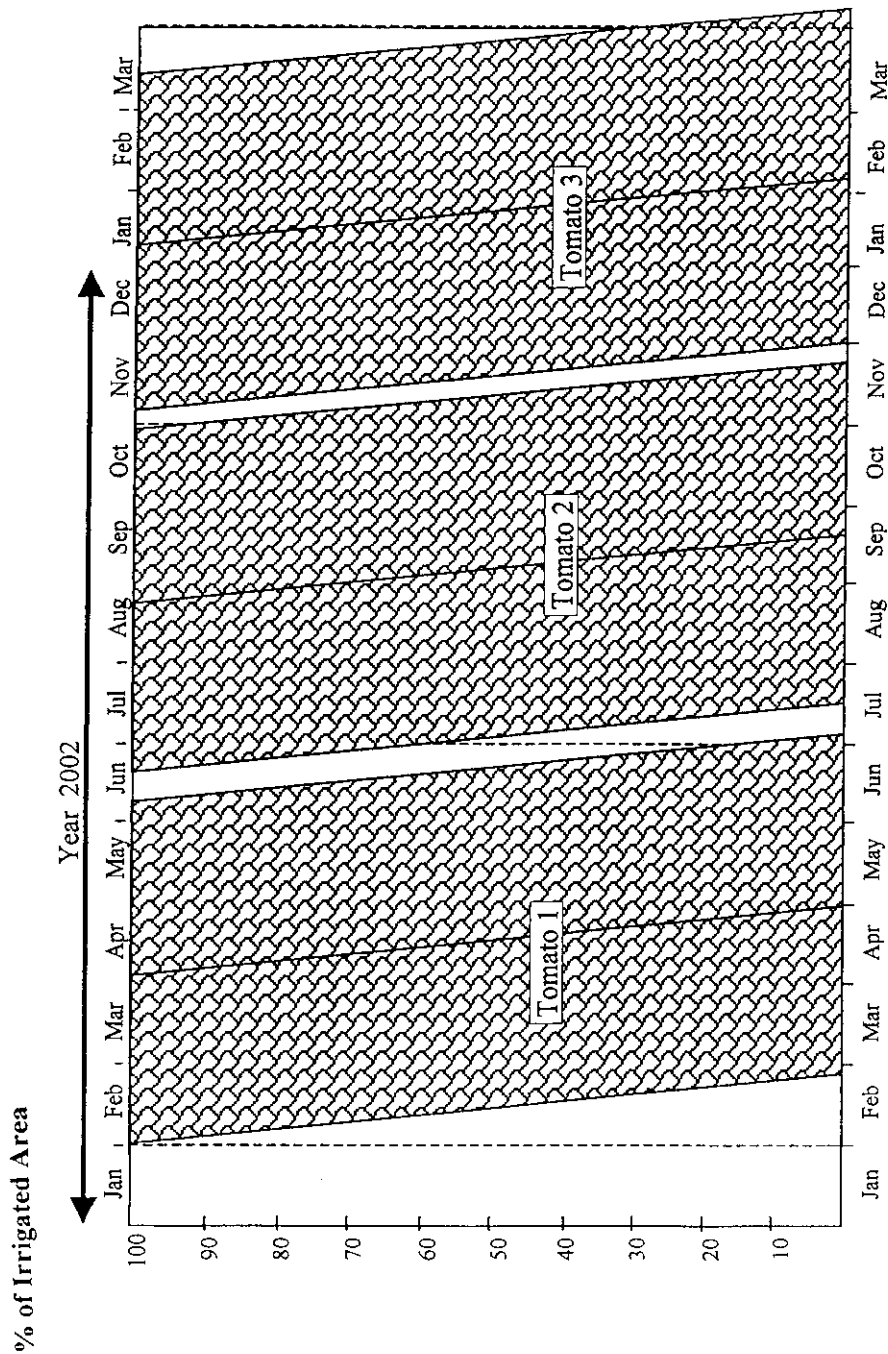
Figure 8.6.2(2)
Conceptual Diagram of Low
Temperatura Warehouse



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Figure 8.6.3 (1)
Proposed Irrigation System in Palestina



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Figure 8.6.3 (2)
Proposed Cropping Pattern for Irrigated Area Under Vinyl House in Palestina de los Altos

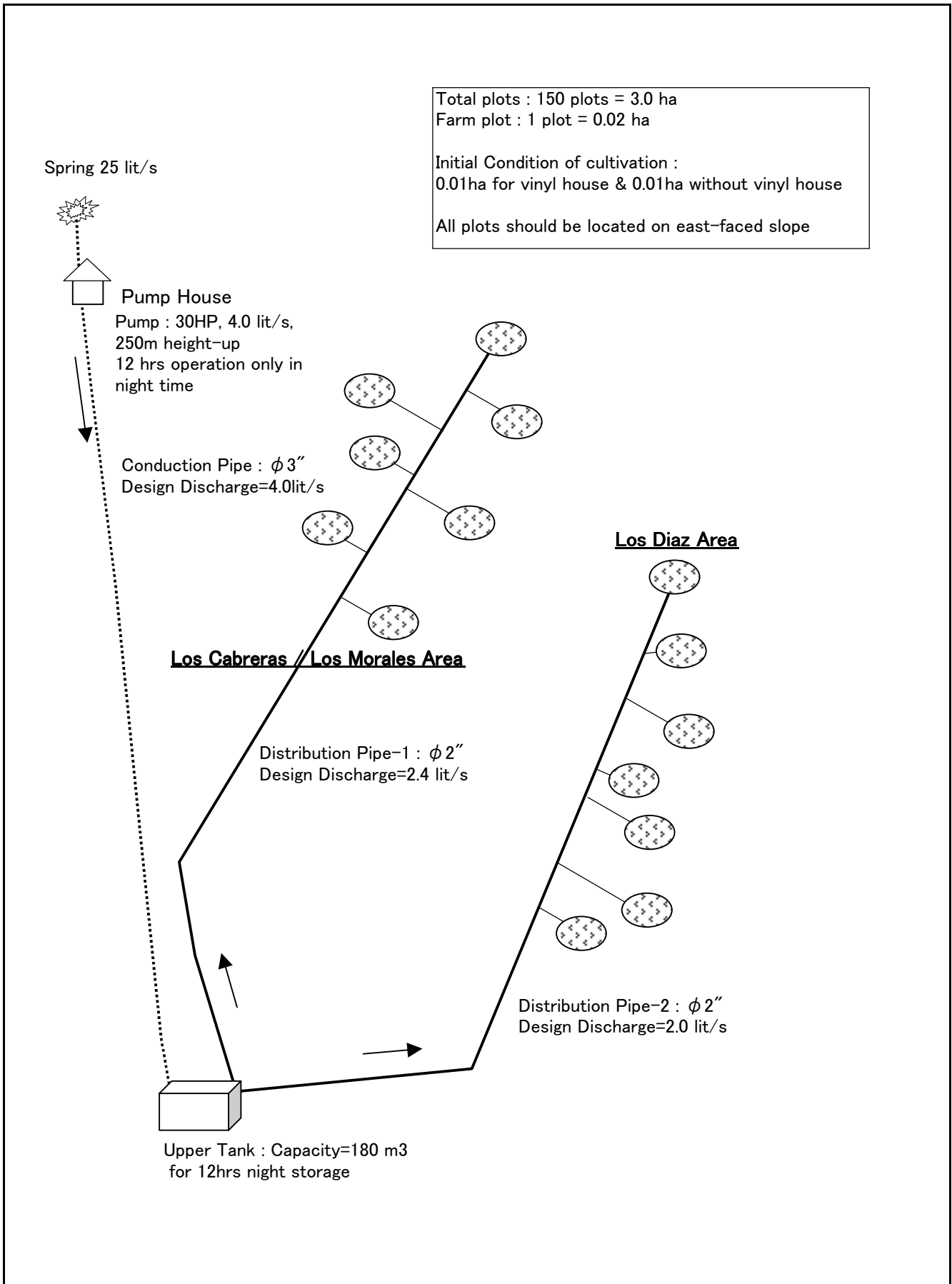
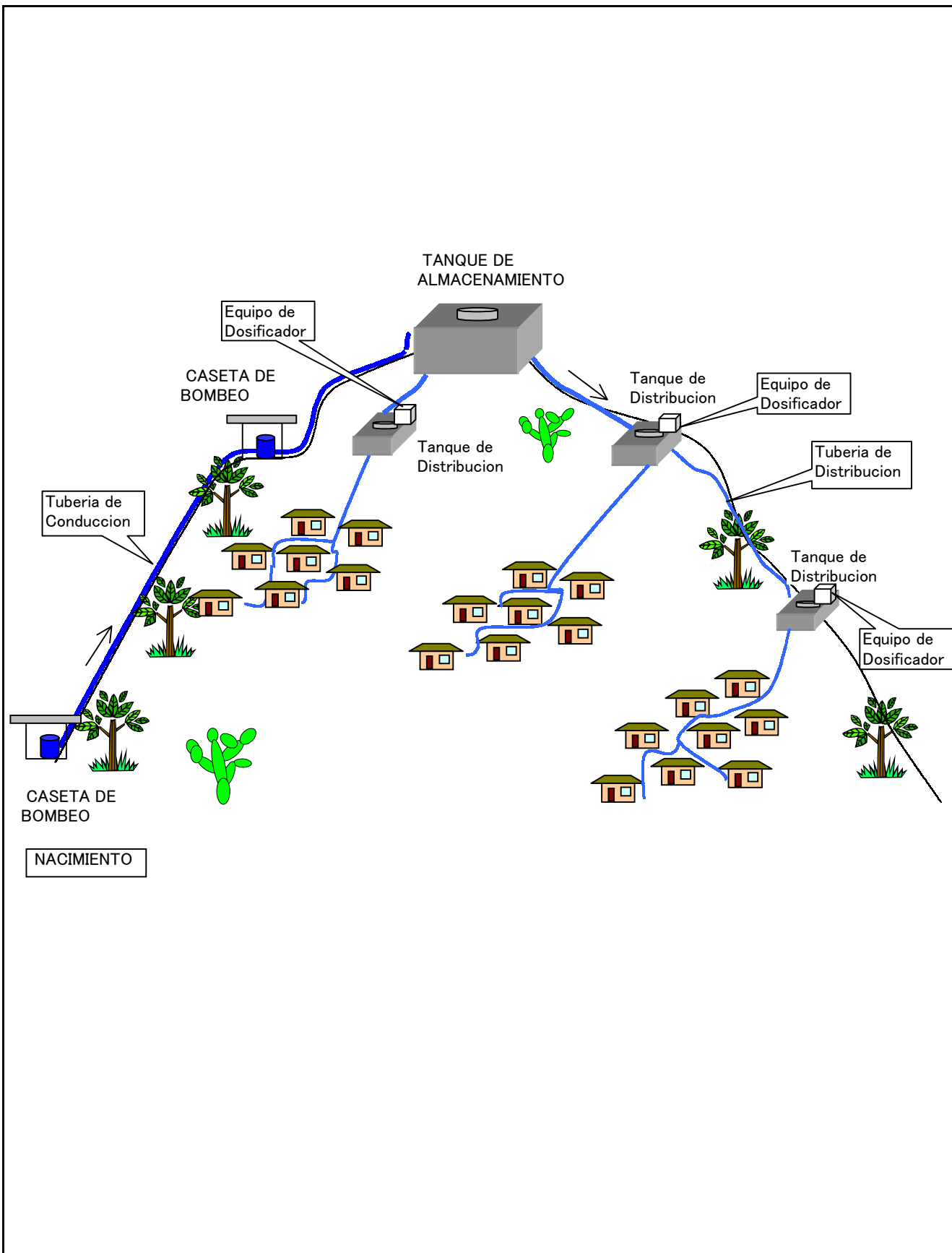


Figure 8.6.3 (3)

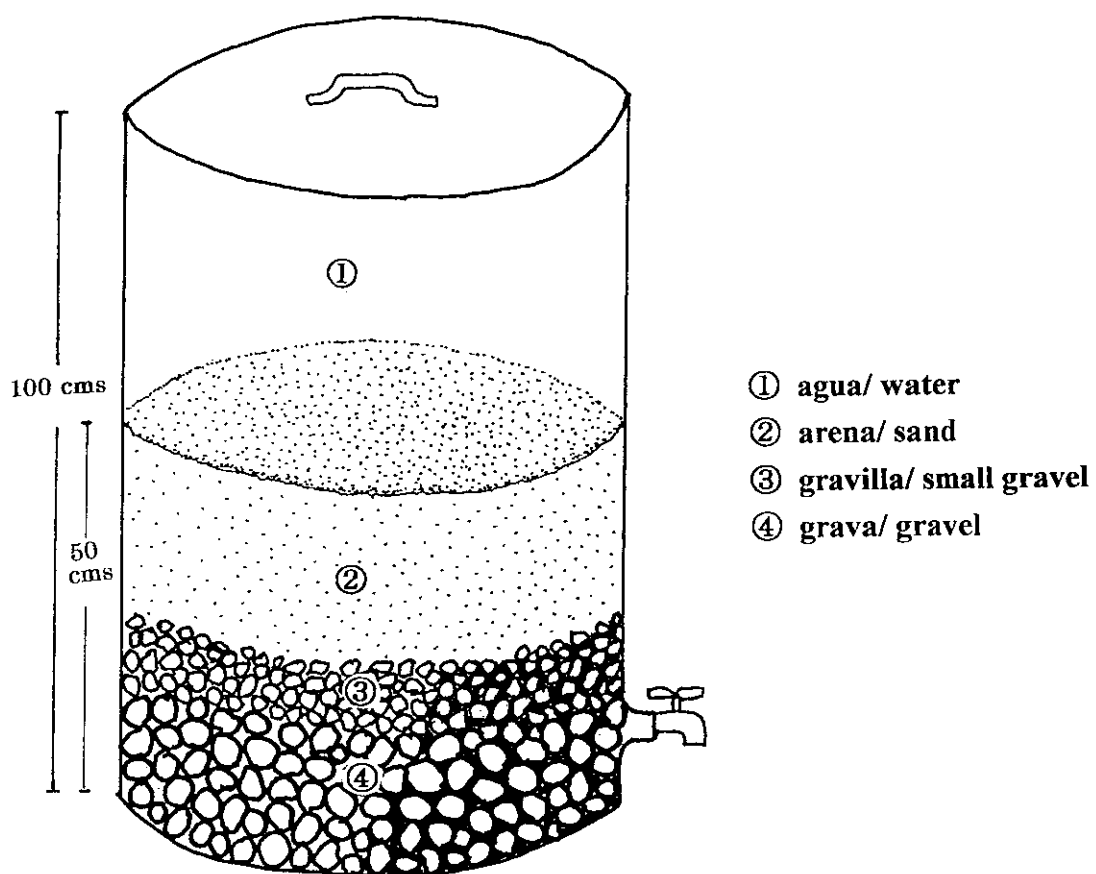
**General Feature of Irrigation System
in Palestina de Los Altos**



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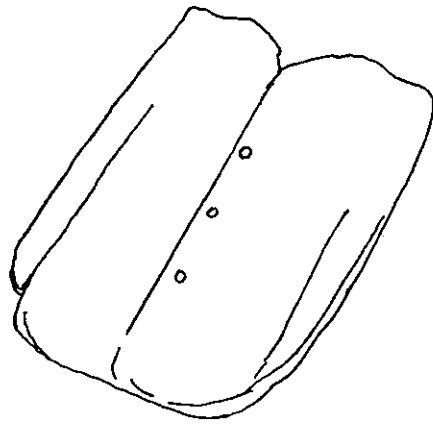
Figure 8.6.4 (1)
Drinking Water Quality Improvement
Outline of Drinking Water Supply System
Palestina de los Altos, Quetzaltenango



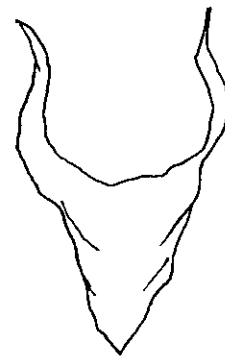
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Figure 8.6.6.(1)
Water Filter

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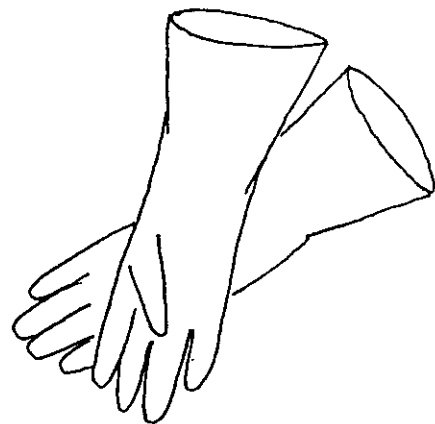
① Waterproof Raincoat/ Delantal Impermeable



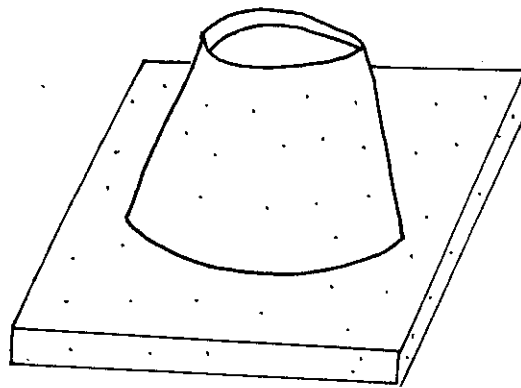
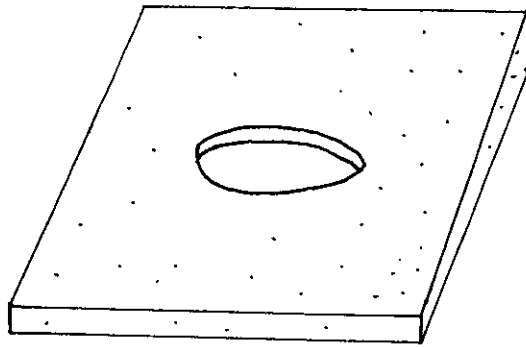
② Mask / Pnuelo humedo



③ Rubber Boots / Botas de hule



④ Rubber Gloves/ Guantes de hule



**Simple Toilet made with cement
Letrina (Cemento)**

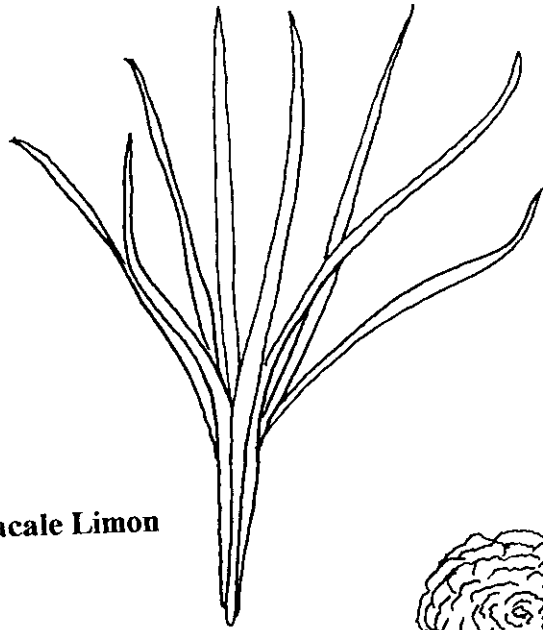
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Figure 8.6.6(3)

Simple Toilets

① Fever Grass/ Zacale Limon
45 cms



③ Basil/ Alboharcac
30 cms



② Marigold/ Flor de Muerto
30 cms

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Figure 8.6.6(4)
Repellent Plants