

REPUBLIC OF ZAMBIA  
MINISTRY OF AGRICULTURE FOOD AND FISHERIES

**FINAL REPORT  
ON  
THE AGRICULTURAL VERIFICATION STUDY**

**MAIN REPORT**

MARCH 1993

JAPAN INTERNATIONAL COOPERATION AGENCY

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MINISTRY OF AGRICULTURE FOOD AND FISHERIES

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## PREFACE

In response to a request from the Government of the Republic of Zambia, the Government of Japan decided to conduct a Agricultural Verification Study at Mongu in the Western Province and entrusted the study to the Japan International Cooperation Agency(JICA).

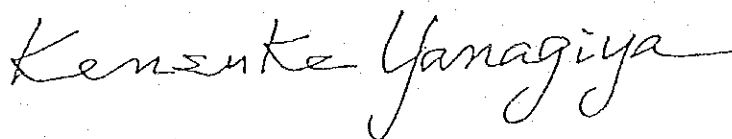
JICA sent to Zambia a study team headed by Dr. Sadakichi FUJII(up to June 1990) and Dr. Yasuo TAKAHASHI(after June 1990), Taiyo Consultants Co., Ltd. 6 times between February 1988 and December 1992.

The team held discussions with the officials concerned of the Government of Zambia, and conducted field surveys at the study area. After the team returned to Japan, further studies were made and the present report was prepared.

I hope that this report will contribute to the promotion of Agriculture in Zambia and to the enhancement of friendly relations between our two countries.

I wish to express my sincere appreciation to the officials concerned of the Government of the Republic of Zambia for their close cooperation extended to the team.

March, 1993



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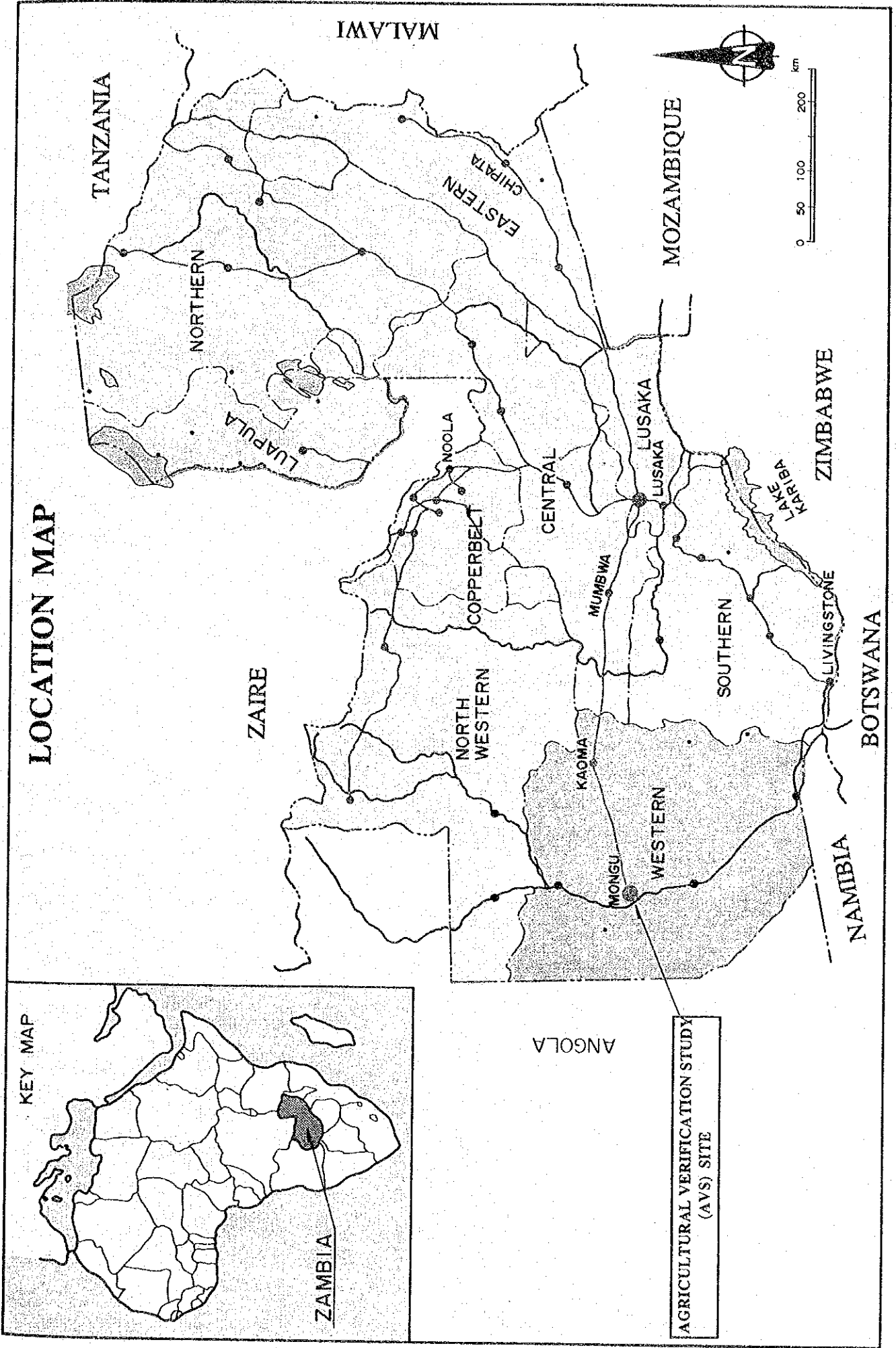
Kensuke YANAGIYA

President

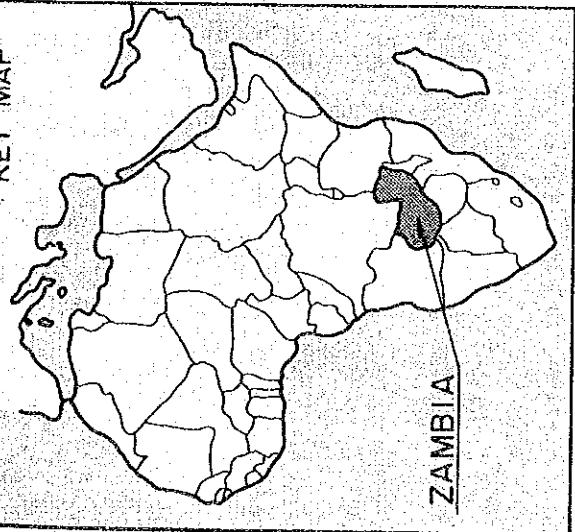
Japan International Cooperation Agency



# LOCATION MAP



KEY MAP



ZAMBIA

ANGOLA

AGRICULTURAL VERIFICATION STUDY  
(AVS) SITE

TANZANIA

NORTHERN

LUAPULA

ZAIRE

COPPERBELT

NORTH WESTERN

CENTRAL

MUMBWA

LUSAKA

MOZAMBIQUE

SOUTHERN

LAKE KARIBA

ZIMBABWE

LIVINGSTONE

BOTSWANA

NAMIBIA

MALAWI

EASTERN

CHIPATA

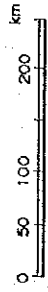
NOOLA

LUSAKA

LUSAKA

KAOMA

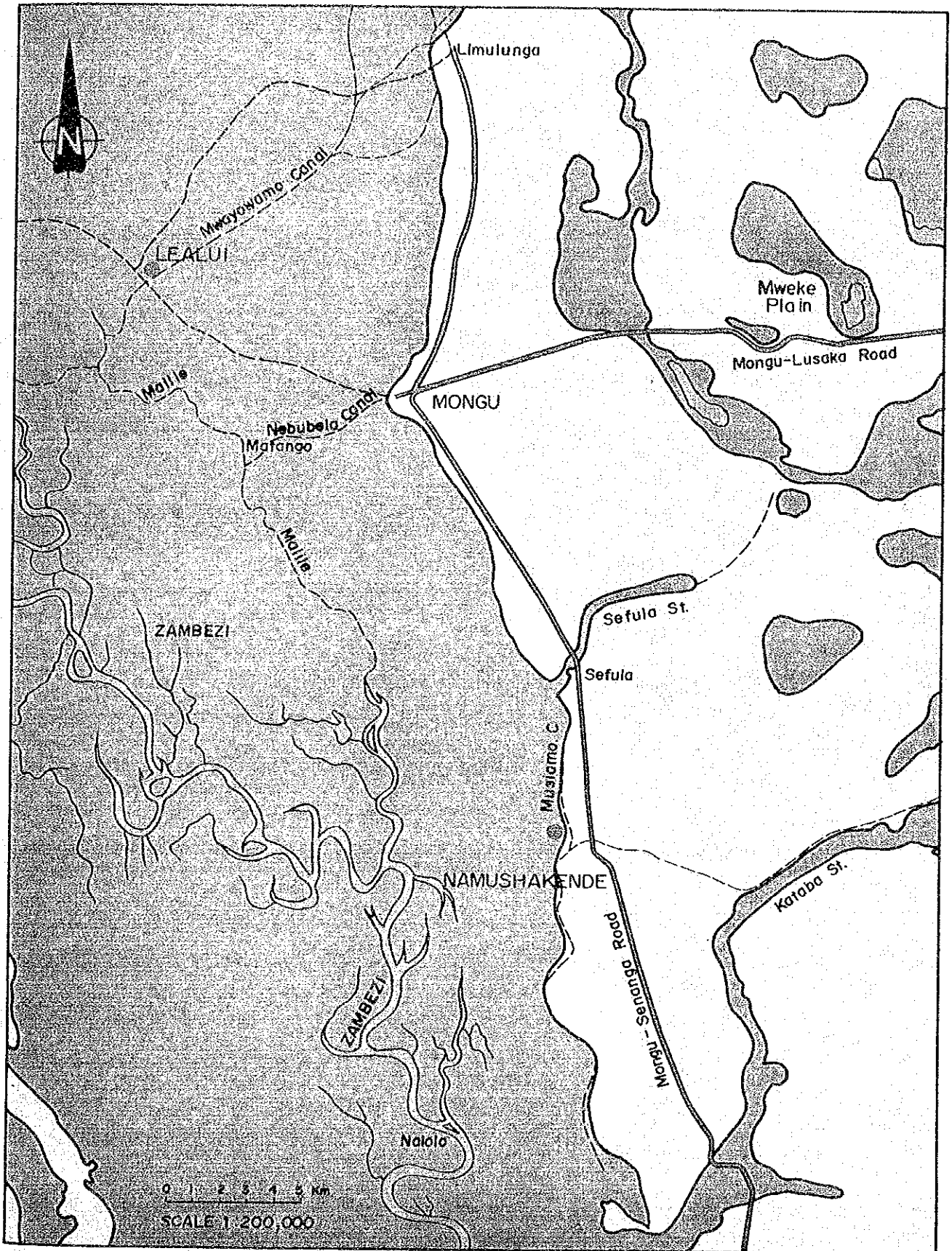
MONGU





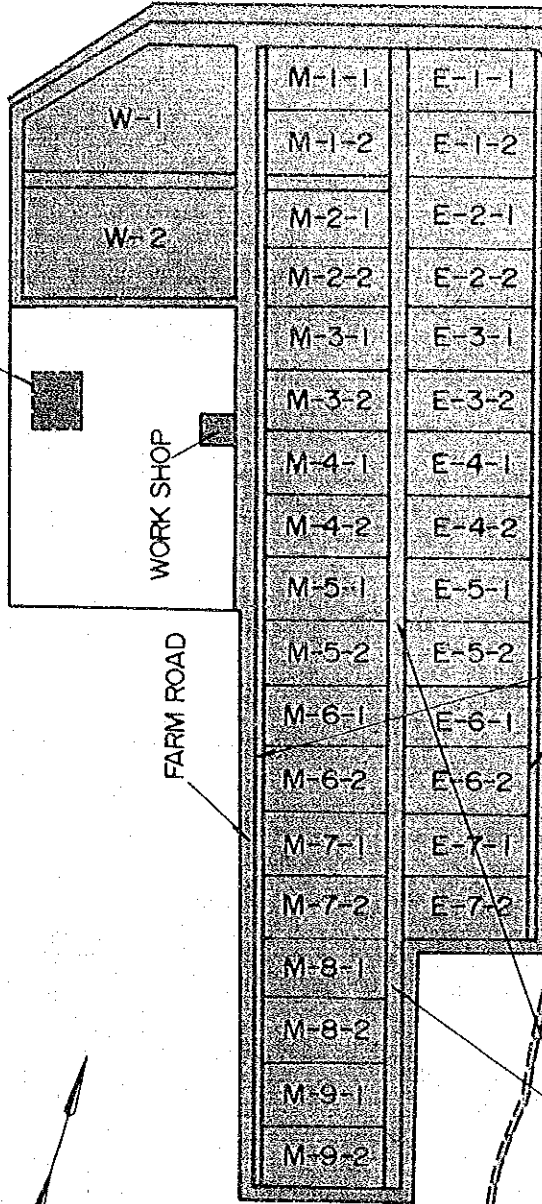


# AVS FARM SITES





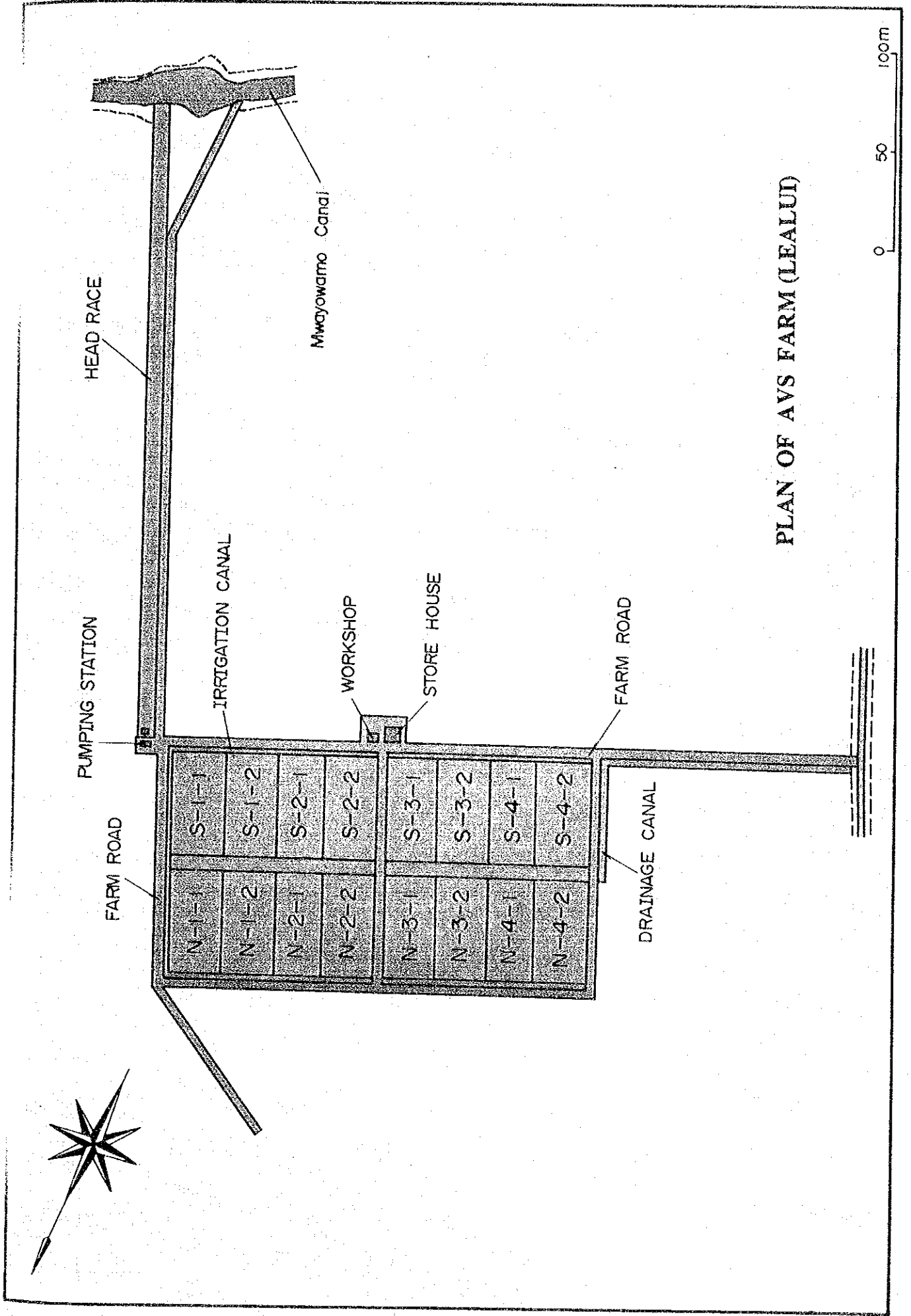
FIELD AGRO-METEOROLOGICAL STATION



100m  
50  
0

PLAN OF AVS FARM (NAMUSHAKENDE)





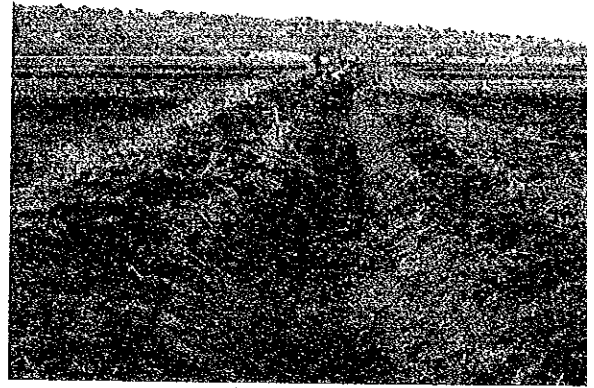
PLAN OF AVS FARM (LEALUD)



# Construction of the Namushakende AVS farm



Construction of an irrigation canal



Construction of a drainage canal



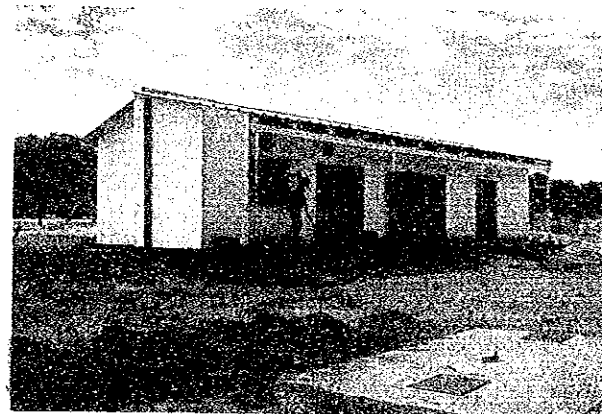
Field agro-meteorological station



Farm levelling work



Farm road and irrigation canal



Store house



Panoramic view of the Namushakende AVS farm

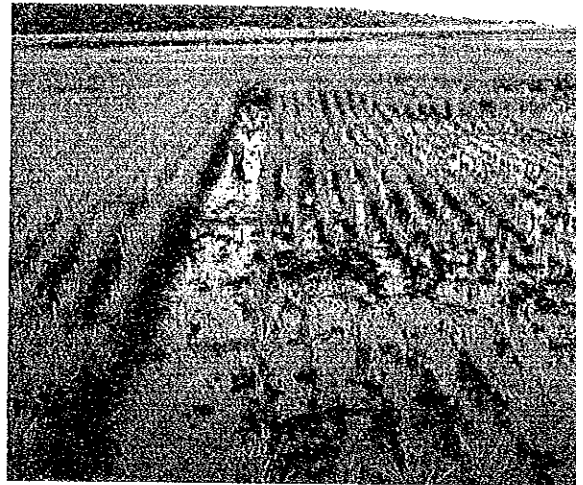




## Crop cultivation in the verification study (I)



Variety and sowing date trial for rice (Namushakende)



Lime application trial for rice (Namushakende, (right : no lime)



Rice straw incorporated plot in the soil improvement trial (Namushakende) (The spaces between crop stands are not seen because of vigorous growth)



Rice straw-free plot in the soil improvement trial (Namushakende) (The spaces between crop stands are easily seen because of poor growth)



Sowing operation (On-farm trial site in Mabumbu village)



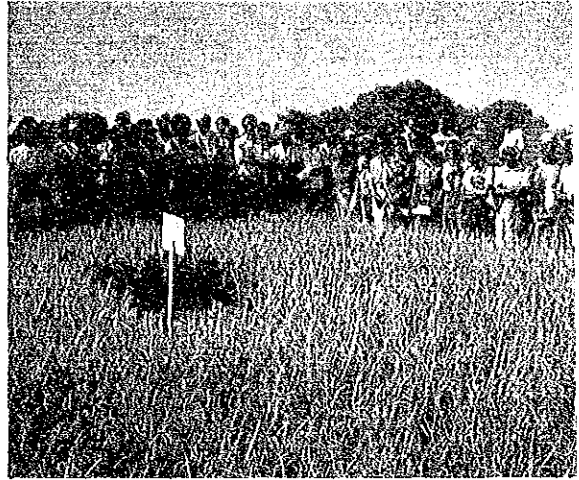
Sowing test using the 3-line drill seeder manufactured by the AVS team



## Crop cultivation in the verification study (II)



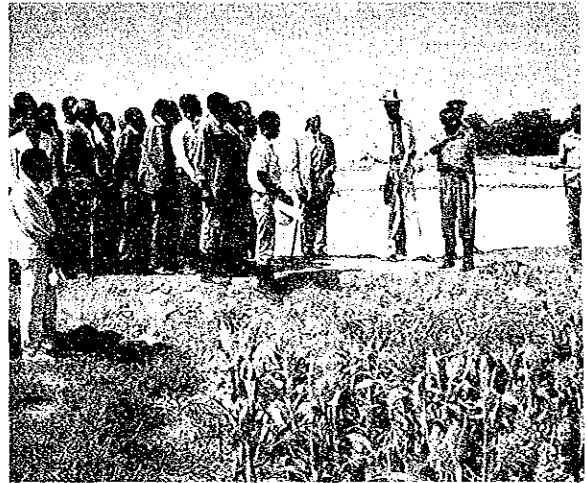
Rice plant of on-farm trial  
(Farm institute of Namushakende)  
left : Angola      right : Xiang Zhou 5



Field day held on 21st April 1992 in  
Mabumbu village



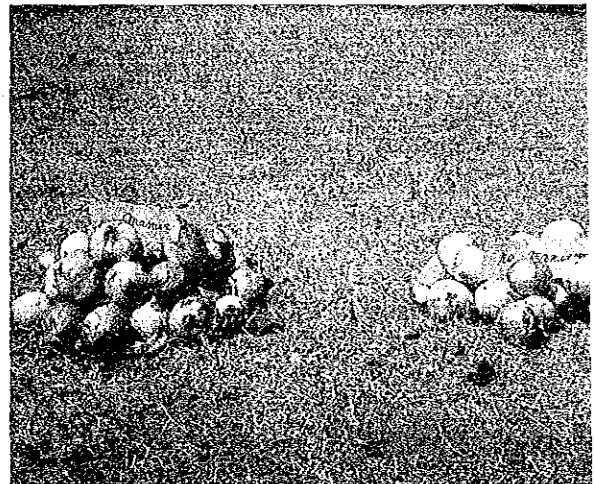
Cattle plowing (Namushakende)



King Litunga visited the verification  
farm (Lealui)



Onion on the field (Namushakende)



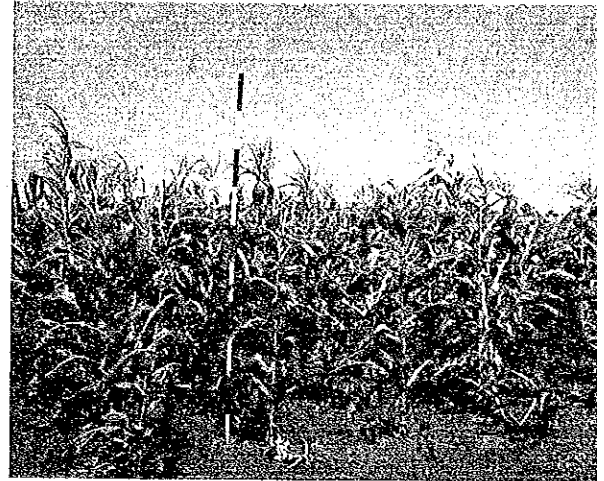
Onion (Namushakende)  
left : Cattle manure applied      right : No manure



## Crop cultivation in the verification study (III)



Wheat on the field (Namushakende)  
left: No manure right: Cattle manure applied  
(earlier maturation)



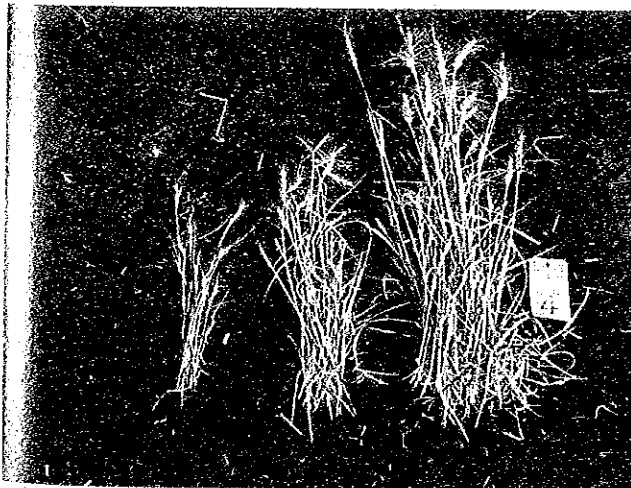
Maize on the field (Namushakende)



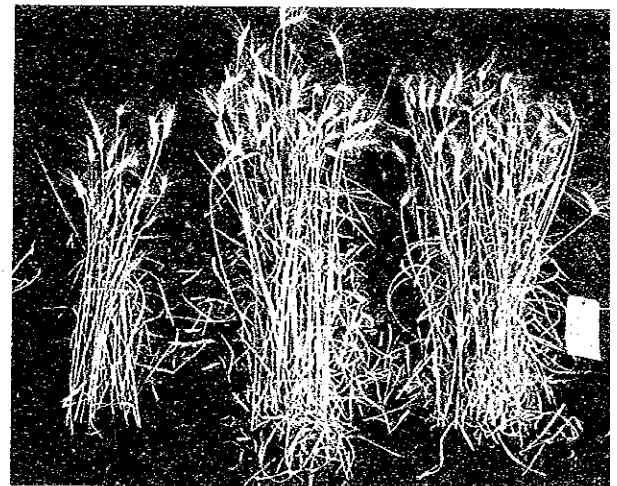
Tomato on the field (Namushakende)



Zn deficiency symptom on maize  
(Namushakende)



Difference of Cu deficiency of wheat between soils  
Namushakende AVS field soil  
(severe deficiency)  
No fertilizer (left) Control (center) Control + Cu (right)



Limulunga soil (not so severe)  
No fertilizer (left) Control (center) Control + Cu (right)



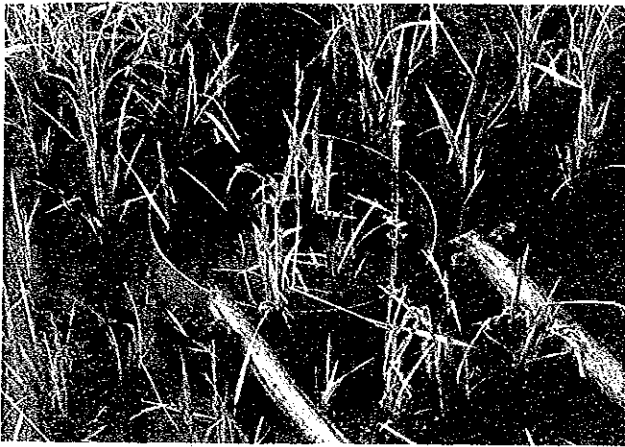
# Irrigation / water management investigation



Soil intake rate investigation (Lealui)



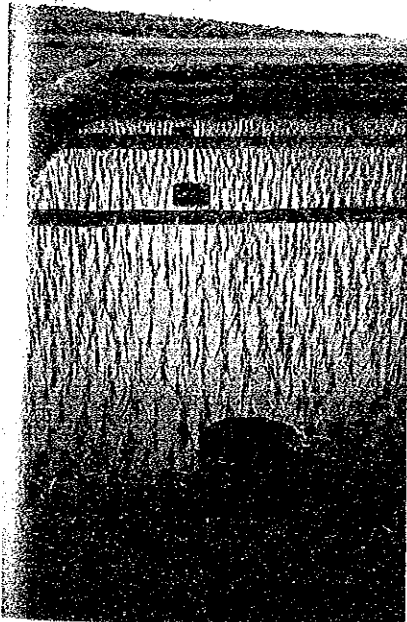
Soil intake rate investigation (Lealui)



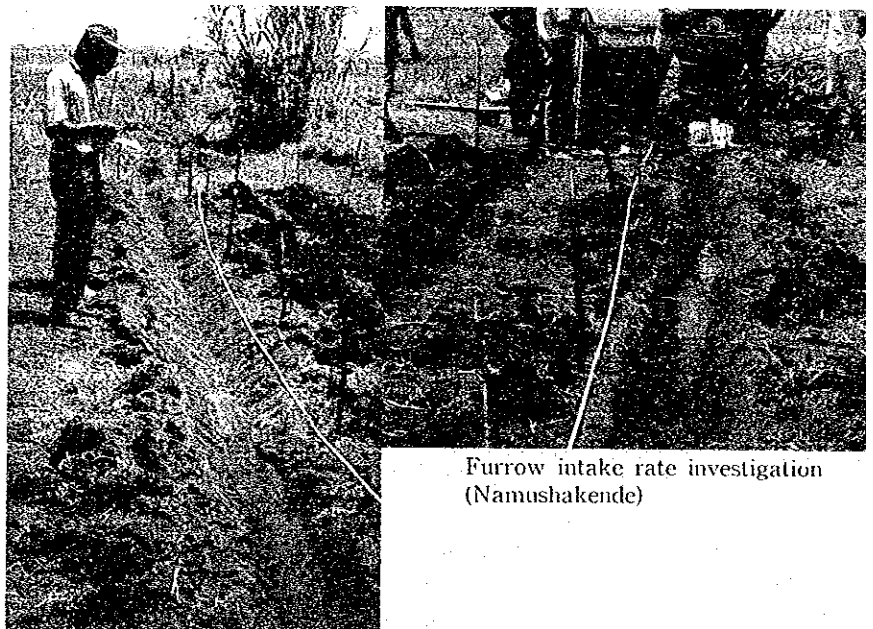
Paddy field water requirement measurement (Namushakende)



Natural stream flow discharge investigation at Sefula



Paddy field irrigation test (Namushakende)



Furrow intake rate investigation (Namushakende)

