

1. 姓名  
2. 性别  
3. 年龄  
4. 籍贯  
5. 民族  
6. 职业  
7. 学历  
8. 婚姻状况  
9. 健康状况  
10. 兴趣爱好  
11. 特长  
12. 自我评价  
13. 家庭情况  
14. 社会关系  
15. 其他

## 附属資料



付属資料-1-1  
MINUTES OF DISCUSSIONS

ON

THE BASIC DESIGN STUDY ON THE PROJECT  
FOR THE ESTABLISHMENT OF FOREST RESEARCH INSTITUTE

IN

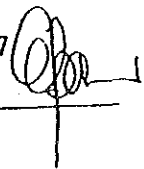
PAPUA NEW GUINEA


In response to the request of the Government of Papua New Guinea, the Government of Japan has decided to conduct a basic design study on the project for the establishment of a Forest Research Institute and entrusted the study to the Japan International Cooperation Agency (JICA). JICA sent to Papua New Guinea the study team headed by Mr Masao Tsujioka, Deputy Head, First Basic Design Study Division, Grant Aid Planning and Survey Department, JICA, from 18th July to 10th August, 1987.

The team had a series of discussions on the Project with the officials concerned of the Government of Papua New Guinea headed by Dr. P. Srivastava, Acting First Assistant Secretary, Research Division of Department of Forests and conducted a field survey in the areas relevant to the Project.

As a result of the study, both parties agreed to recommend to their respective Governments that the major points of understanding reached between them, attached herewith, would be examined towards the realization of the Project.

Port Moresby  
28th July 1987

  
George Paru  
A/Assistant Secretary  
Foreign Aid Mgt. Dn.  
Department of Finance  
& Planning  
Papua New Guinea

  
Mr. Masao Tsujioka  
Team Leader  
Basic Design Study Team  
Japan International Cooperation Agency

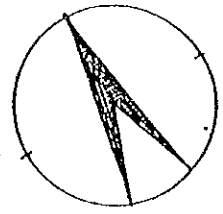
ATTACHMENT

1. The Japanese side explained the inception report of the Basic Design Study and the Papua New Guinea side understood it.
2. Both parties confirmed the objective of the Project with regard to the establishment of Forest Research Institute (FRI), the executing body and the areas of research as mentioned in the articles 1, 3 and 4 of the Minutes of Discussions of the Preliminary Study mission signed on the 6th March, 1987.
3. The site for FRI building is to be in the National Botanical Garden and accommodation in the compound of Timber Industry Training College in Lae as shown in the attached site map (Annex. 1).
4. The organization of FRI would be as shown in Annex II.
5. The Papua New Guinea side has understood Japan's Grant Aid System explained by the Team which includes a principle of use of a Japanese consultant firm recommended by JICA and Japanese contractor selected by the open tendering.
6. The team will convey to the Government of Japan the request of the Government of Papua New Guinea that the Former takes necessary measures to cooperate by providing the facilities and equipment listed in Annex III within the scope of Japanese economic cooperation programme in grant form.
7. The Government of Papua New Guinea will take necessary measures as listed in Annex IV on condition that grant assistance by the Government of Japan is extended for the Project.
8. Both sides agreed that the status, vis-à-vis other relevant bodies both domestic and international, of F.R.I. as central institute in P.N.G. and future course of its activities should be more clearly defined. The matter will be further discussed for inclusion in the final report.

SITE FOR F.R.I.

Annex I-1/2

N



HUON ROAD

Gate

Botany Institute

Pond

Orchid Garden

Papua New Guinea National Botanical Garden

Laboratory House

MEMORIAL AVENUE

For Lae City Hall

CORONATION DRIVE

Graveyard

Botanical Garden

MILFORD HAVEN ROAD

ANGAU Memorial Hospital

MARKHAM ROAD

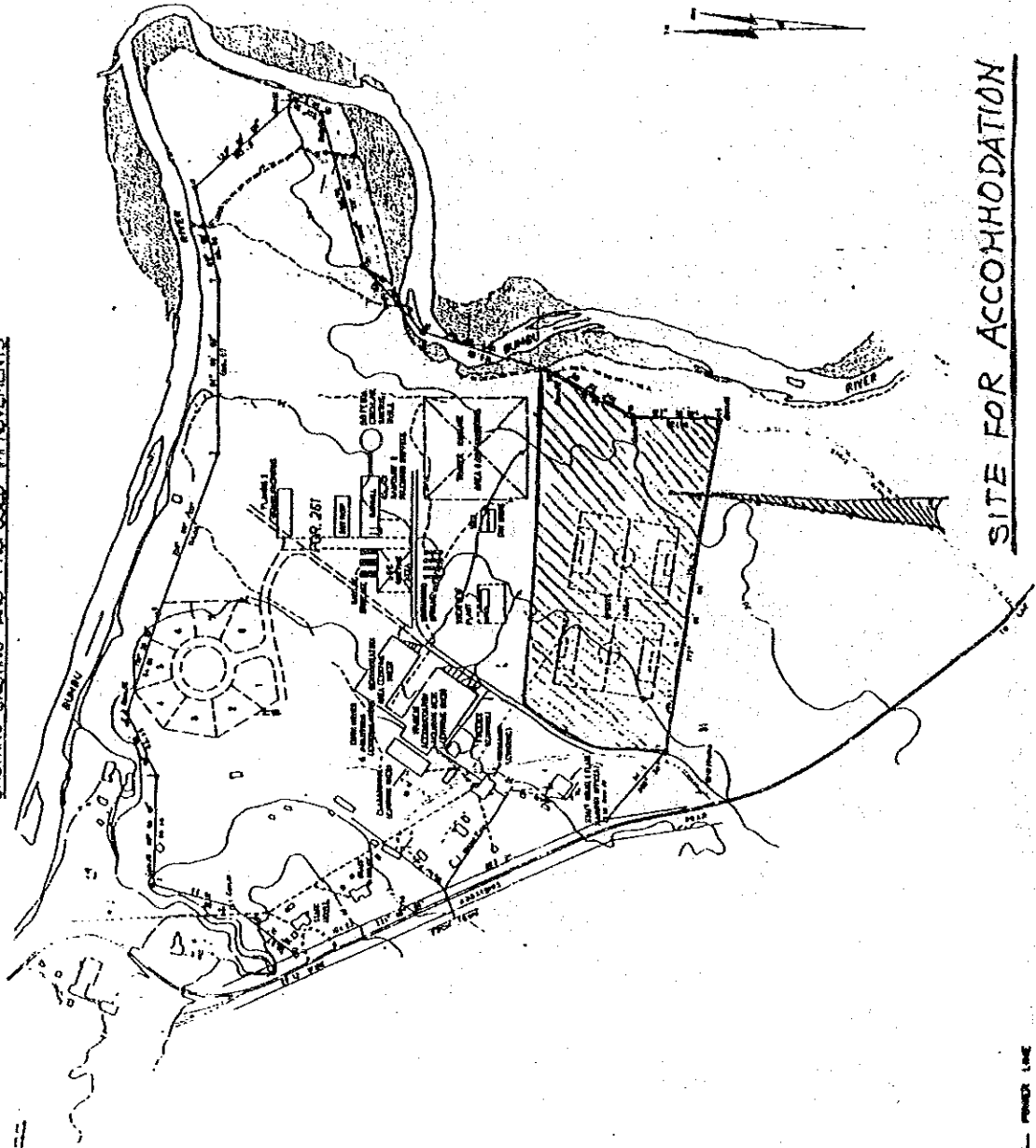
For Lae City Hall

Lae Airport

PAPUA NEW GUINEA NATIONAL BOTANICAL GARDEN

6

FOREST INDUSTRIES TRAINING CENTRE  
LAE  
SHOWING EXISTING AND PROPOSED IMPROVEMENTS



SITE FOR ACCOMMODATION

REGROWTH  
GRASSLAND & GARDEN

POWER LINE  
WATER PIPE  
SURVEY BOUNDARY

Scale 1:5000

PROPERTY OF THE FOREST INDUSTRIES TRAINING CENTRE, LAE  
DRAWN BY: [Name]  
CHECKED BY: [Name]  
DATE: [Date]

FOREST RESEARCH DIVISION

Annex II

SECRETARY

ADMINISTRATION

FAS-RESEARCH

SILVICULTURE

BOTANY

PROTECTION

FOREST PRODUCTS

NATURAL  
FOREST  
SILVICULTURE

TAXONOMY  
&  
SYSTEMATICS

ENTOMOLOGY

WOOD  
PRESERVATION

PLANTATION  
SILVICULTURE

NATIONAL  
HERBARIUM

PATHOLOGY

WOOD STRUCTURE

GENETICS & SEED  
TECHNOLOGY

NATIONAL  
BOTANICAL  
GARDEN

CHEMISTRY

SOILS &  
NUTRITION

WOOD PROCESSING

FOREST  
INFLUENCES

MINOR  
FOREST  
PRODUCTS

WOOD ENGINEERING

②

THE REQUEST MADE BY THE GOVERNMENT OF PAPUA NEW GUINEA

1. Construction of the Forest Research Institute and its attached accommodations with the following facilities shall be carried out in full consultation with the PNG Government.
  - 1.1 The Forest Research Institute
    - (1) Office Space
    - (2) Laboratories
    - (3) Library
    - (4) Stores/Workshop
    - (5) Specimen Rooms
  - 1.2 Accommodations
    - (1) Accommodations for indispensable Staff members (Director, 4 Branch Heads and their immediate assistant officers).
    - (2) Guest Houses for guest researchers including Japanese experts (Plan of acceptance of guest researchers will be given to the study team).
2. Provision of equipment related to the abovementioned facilities such as:
  - (1) Office Equipment
  - (2) Meteorological Equipment
  - (3) Laboratory Equipment
  - (4) Nursery Equipment
  - (5) Field Equipment
  - (6) Training Equipment
  - (7) Vehicles and Transport
  - (8) Maintenance Workshop and Machine Tools

(a)



Following arrangements will be required to be taken by the Government of Papua New Guinea.

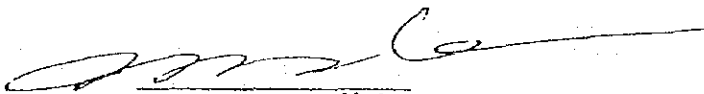
1. To provide necessary data for smooth completion of the study.
2. To carry out site preparation such as clearing, filling, levelling and access road before commencement of construction works.
3. To provide facilities for distribution of electricity, water supply, drainage, telephone lines and other incidental facilities to the Project Site. C
4. To ensure prompt unloading, tax exemption, customs clearance at ports of disembarkation in Papua New Guinea of the products purchased under the grant.
5. To exempt Japanese nationals from custom duties, internal taxes and other fiscal levies which may be imposed in Papua New Guinea with respect to the supply of the products and services under the verified contracts. S
6. To accord Japanese nationals, whose services may be required in connection with the supply of the products and the services under the verified contracts, with such facilities which may be necessary for their entry into Papua New Guinea and stay therein for the performance of their work.
7. To maintain and use properly and effectively the facilities constructed and equipment purchased under the grant.
8. To undertake incidental civil works such as gardening, fencing, gates, guard house and exterior lighting.

MINUTES OF DISCUSSION  
ON  
THE DRAFT FINAL REPORT OF THE BASIC DESIGN STUDY  
OF  
THE ESTABLISHMENT OF FOREST RESEARCH INSTITUTE  
IN  
PAPUA NEW GUINEA

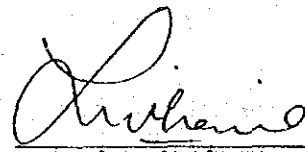
In response to the request of the Government of Papua New Guinea, the Government of Japan conducted a basic design study on the project for the establishment of Forest Research Institute and entrusted the study to the Japan International Cooperation Agency (JICA). JICA sent to Papua New Guinea the study team headed by Mr. Masao Tsujioka, Deputy Head, First Basic Design Study Division, Grant Aid Planning and Survey Department, JICA, from 18th July to 10 August, 1987.

The team had a series of discussions on the Project with the officials of the Government of Papua New Guinea representing the Department of Forests, Works and Finance and Planning. As the result of the surveys and discussions, JICA prepared a Draft Final Report on the study and despatched a mission to explain and discuss the report starting from 28th October to 8th November, 1987.

Both parties had a series of discussions on the Report and have agreed to recommend to their respective Governments that the major points of understanding reached between them, attached herewith, should be examined towards the realization of the Project.




Mr. Masao Tsujioka  
Team Leader  
Basic Design Study Team  
Japan International Cooperation Agency

 6/11/87

Ms. Fiu Williams  
Assistant Secretary  
Foreign Aid Management Division  
Department of Finance and  
Planning  
Papua New Guinea

ATTACHEMENT

1. The Japanese side explained the Draft Final Report to the Papua New Guinea side and Papua New Guinea side principally agreed with the concept of the project but requested to the Japanese side to finalise the report so as to meet Papua New Guinea requirements as in Annex I, II and III; and within the current budgetary provisions for this activity. The Papua New Guinea side also explained to the Japanese side that additional staff accommodation still has to be resolved internally. The rest of the Papua New Guinea's views on the consultancy proposal, building contract, supply of equipment contract and other matters will be communicated to the Japanese side as soon as possible.
2. The Final Report (10 copies in English) on the Project will be submitted to the Government of Papua New Guinea by the beginning of January 1988.
3. The Papua New Guinea side noted the system of Japan's Grant Aid programme and confirmed the arrangements to be taken by the Government of Papua New Guinea for the realization of the Project.
4. The Government of Papua New Guinea will facilitate the necessary inputs to the project at the proper time upon the signing and exchanging of Notes for the Project by both Governments.

 6/11/87



CHANGES IN THE MAIN BUILDINGI. FOREST PRODUCT RESEARCH WING(1) To be completely dropped:

12	-	6.0	x	5.50
27	-	12.0	x	5.50
73	-	6.0	x	7.75
34	-	3.0	x	5.50
36	-	6.0	x	5.50
77	-	12.0	x	7.75

(2) Reduction in Size:

28	-	-2.0	x	5.50
76	-	-6.0	x	7.75
79	-	-6.0	x	7.75
33	-	-2.0	x	5.50

(3) Other Suggestions:

- (i) Rooms 74, 75, 76 become one Lab after reducing the area by 6 x 7.75.
- (ii) Timber testing machine is fixed into Lab 72 while 73 is dropped.
- (iii) Chemical balance room (33) renamed as Electronic Microscope Room.
- (iv) Two fume chambers are erected in Chemistry Lab while 36 is dropped.
- (v) Room 30 is renamed as chemical store.
- (vi) Room 24 is renamed as chemical balance room.
- (vii) Microscopes are placed in Lab 78 while Room 34 is omitted.
- (viii) Room 37 is renamed as Xylarium while 77 is dropped.

II. SILVICULTURE RESEARCH WING(1) To be completely dropped:

25	-	6.0	x	5.50
33	-	3.0	x	5.50
22	-	6.0	x	5.50
55	-	3.0	x	7.75
52	-	15.0	x	7.75

(2) Reduction in Size:

54	-	-3.0	x	7.50
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(3) Other Suggestions:

- (i) Small seed store will be mde in Lab 53 while 22 is dropped.
- (ii) Lab 54 will also have Forest Influence research facilities while 55 is dropped even though its (54) size is reduced by 3.0 x 7.75.
- (iii) Micro-propagation research will be carried out in Tree Physiology Lab (51) while 52 is dropped.
- (iv) Room 10 is converted into a general store.
- (v) Room 11 is renamed as Camping equipment store while room 29 is dropped.
- (vi) Room 48 is dropped.

### III. PROTECTION RESEARCH WING

(1) To be completely dropped:

31	-	3.0	x	5.50
30	-	3.0	x	5.50
29	-	6.0	x	5.50
57	-	6.0	x	7.75

(2) Reduction in Size:

62	-	-3.0	x	7.75
63	-	-3.0	x	7.75

(3) Other Suggestions:

- (i) Room 58, 59, 60, 61 to be converted into one Lab - mushroom Lab with a separate portion (3 x 7.75) for autoclaves.
- (ii) Fungi herbarium (Room 56) should be located in front of National Insect Collection Room (68) with no change in area.
- (iii) Insect incubator Room (66) should be separated from 67.

### IV. GENERAL SUGGESTIONS

(1) The breadth should be:-

7.0 instead of 7.75.  
 2.0 instead of 2.50 (corridor).  
 5.0 instead of 5.50.

- (2) Need only one set of Toilet including shower (near the stairs) on the ground-floor besides toilet 38 and 39.

- (3) No need for separate showers. Should be accommodated in toilet room.
- (4) The end stairs in both the Wings should be dropped.
- (5) Sizes of Room 2, 3, 13 and 14 may be proportionately reduced.
- (6) Number of Scientific Officers room may be reduced in relation to the length of the laboratory wings.

The minimum requirements for officers and Scientists are:

Director	-	1
Asst. Director	-	1
Branch Heads	-	3
Section Heads; and		
Scientific Officers	-	20
Guest Researchers	-	10

(7) ~~The lecture room with a capacity of about 100 seats should tiered.~~

*Revised*

- (8) Doors for male & female toilets (Room 38, 39) should be separated.
- (9) No need for gas pipe in the building. Each Lab. will have its own gas cylinder.
- (10) Upper Verandah to be retained, however the outside doors (on the upper floor) should be dropped for security reasons.
- (11) Meeting room (19) should have entrance door from the Director's room as well as from his Secretary's room besides a door in the corridor.

5.

- (12) Automatic security light to be provided.
- (13) Ancillary facilities to be sited as discussed in Lae.
- (14) Reinforced tinted glass should be used.
- (15) Solar heating systems in Chemistry, seed, Tree physiology and Pathology Labs to be provided.

ACCOMMODATION

- 1. We would prefer separate or duplex (semi-detached) for many reasons (privacy, security, fire, ventilation, etc.).
- 2. All the houses are to be provided solar heating system to conserve energy (Govt. policy).
- 3. ~~Since Lae is high rainfall town, all the houses are to be provided with concrete floor.~~
- 4. Proper ventilation in all the rooms.
- 5. Security light to be provided.
- 6. Each house will have separate bathroom and toilet (Not in the same room).

P. Srivastava



\*

Appendix 2

EQUIPMENT LIST

A : Additional  
R : Replace  
N : New

### Office Equipment

No	Item Descriptions	Rev. Quantity	Quantity	Manual	Operation	A.R.N
1	Copier (big unit)		1 unit	○		N
2	Book Cabinets		25 sets	○		N
3	Filing Cabinets		25 sets	○		N
4	Map Cabinets		5 sets	○		N
5	Wall Clocks		5 units	○		N
6	First Aid Kit		2 sets	○		N
7	Walkie-Talkie Set		2 sets	○		N
8	Word Processor (MICRO COMPUTE)	4	2 units	○	○	N
9	Keyboard Lettering System		1 unit	○		N
10	Planimeter	1	2 units	○		N

11 - safe 2 units *Julian*

### Meteorological Equipment

No	Item Description	Rev. Quantity	Quantity	Manual	Operation	A.R.N
1-1	Meteorologic Observation Box		1 set	○	○	N
1-2	Spare Parts		1 set	○		N
2	Thermometer		1 piece	○		N
3	Thermohygrometer	4	1 piece	○		N
4	Pluviometer		1 piece	○		N
5	Rain Guage		3 pieces	○		N
6	Anemometer		1 piece	○		N
7	Sunshine Recorder (Jordan'type)		3 pieces	○		N
8	Soil Thermometer		3 sets	○		N
9	Evaporimeter		3 pieces	○		N
10	Barometer		3 pieces	○		N
11	Max-Min. Thermometer		1 pieces	○		N
12	Instrument Shelter		1 piece	○		N
13	Anemometer		1 piece	○		N
14	Assman's Psychrometer		2 piece	○		N

### Laboratory Equipment

No	Item Descriptions	Qty	Quantity	Manual	Operation	A.R.N
1	Drying Ovens		5 units	○		A
2	Hot Air Circulation Drying Oven		3 units	○		N
3-1	Incubators	3	5 units	○		A
3-2	Incubators	3	5 units	○		A
4-1	Centrifuge-Table Type Top		1 units	○		N
4-2	Centrifuge-Table Type Top		2 units	○		N
5	Leaf Area Meter		1 unit	○		N
6	Pressure Chamber		1 unit	○		N
7-1	Thermostatic Germinator		2 units	○		N
7-2	Thermostatic Germinator		2 units	○		N
7-3	Thermostatic Germinator		2 units	○		N
8	Freezer		4 units	○		2N+2R
9-1	Refrigerator	4	9 units	○		7N+2R
9-2	Refrigerator	4	8 units	○		N
<del>10-1</del>	<del>Soil X-Ray Apparatus</del>		<del>1 units</del>	○		<del>N</del>
11-1	Microtome Large Sledge, Automatic Sharpener		1 units	○		A
11-2	Microtome Large Sledge, Automatic Sharpener		1 units	○		A
12	Soil Sterilizer		1 units	○		A
13-1	Chemical Balance		4 units	○		A
13-2	Chemical Balance		4 units	○		N
14	Double Beam Spectrophotometer		1 unit	○		N
<del>15-1</del>	<del>Atomic Absorption Emission Spectrophotometer</del>		<del>1 unit</del>	○		<del>N</del>
16-1	PH-Meter		2 unit	○		R
16-2	PH-Meter		3 unit	○		N
<del>17-1</del>	<del>Glass Apparatus</del>		<del>Various</del>			<del>N</del>
18	Air Screen Seed Selector		1 unit	○		N
19-1	Shaking Incubator		1 unit	○		N
19-2	Shaking Incubator		1 unit	○		N
20-1	Autoclave	1	2 units	○		A
20-2	Autoclave	1	2 units	○		N
21-1	Vacuum Pump		1 unit	○		A
21-2	Rotary Vacuum Pump		1 unit	○		A
22-1	Desicator $\phi$ 240 mm		12 unit			N
22-2	Desicator $\phi$ 180 mm		12 unit			N

LABORATORY EQUIPMENT

No	Item Descriptions	Quantity	Manual	Operation	A.R.N
23	Soil Tube Sampler	12 units	○		N
24	Soil Testing Kit	2 sets	○		N
25	Soil Color Chart	3 units	○		N
26-1	Standard Testing Seves	1 set			N
26-2	Standard Testing Seves (mesh)	1 set			N
27-1	Kjeldhal Analyzer System	1 set	○	○	N
27-2	Kjeldhal Analyzer System	1 set	○	○	N
28	Indoor Seeding Cabinets	2 3 units	○		N
29	Muffle Furnance	1 set	○		N
30	Universal Wood Testing Machine	1 unit	○		N
31	Scanning Election Microscope	1 unit	○	○	N
32-1	Ice Making Machine	1 unit	○		N
<del>32-2</del>	<del>Ice Making Machine</del>	<del>2 units</del>	<del>○</del>		<del>N</del>
33	De-ionizer	2 units	○	○	N
34-1	Hot Plates	3 units	○		A
34-2	Hot Plates	3 units	○		A
35-1	Rotary Evaporator	1 unit	○		N
35-2	Rotary Evaporator	1 unit	○		N
36	Electromagnetical Seive Shaker	2 units	○		N
<del>37-1</del>	<del>Pressure Cooker</del>	<del>1 unit</del>	<del>○</del>		<del>N</del>
<del>37-2</del>	<del>Pressure Cooker</del>	<del>1 unit</del>	<del>○</del>		<del>N</del>
<del>37-3</del>	<del>Pressure Cooker</del>	<del>1 unit</del>	<del>○</del>		<del>N</del>
38	Drying Cabinet	1 unit	○		N
<del>39</del>	<del>Hydrometer</del>	<del>1 unit</del>	<del>○</del>		<del>N</del>
<del>40</del>	<del>Oilver Gravity Separator</del>	<del>1 unit</del>	<del>○</del>		<del>N</del>
41	Compactus	2 units			N
42	Gas Chormatagraphy	1 unit	○		N
43	Moisture Meter	2 units	○		N
44	Universal Thermo-Bath	3 6 units	○		N
45	Culture Bath Shaker	3 6 units	○		N
<del>46</del>	<del>Labo Dispenser</del>	<del>1 unit</del>	<del>○</del>		<del>N</del>
47	Multi Dispenser	1 unit	○		N
48	Muni-Sonic Homogenizer	1 unit	○		N
49	Ace Homogenizer	1 unit	○		N
<del>50</del>	<del>Incubator</del>	<del>2 units</del>	<del>○</del>		<del>N</del>

### Laboratory Equipment

No.	Item Descriptions	Quantity	Manual	Operation	A.R.N
51	Zoom Stereo Microscope	3 units	○		N
52	Zoom Stereo Microscope	4 units	○		N
53	High Power Microscope BHTU	3 units	○		N
54	High Power BH-PM-10AD Microscope	1 unit	○		N
55	Automatic Glass Apparatus Cleaner with 8 Test Tube Rack for Micro Prop	1 unit	○	○	N
56	Hot Air Sterilizer for Micro Prop	1 unit	○	○	N
57	Balance for large cubic volume for Forest Influence (Plate:20cm x 20cm)	1 pcs	○		N
58	Stereo Scope for Areal Photograph for Map & Survey	1 unit	○		N
59	Drying Case for Microscopes	13 units			N

### Nursery Equipment

No	Item Description	Quantity	Manual	Operation	A.R.N
1	Fencing Tool Kit	2 units	○		N
2	Pocket Caliper	6 units	○		N
3	Sprayer	6 units	○		A
4	Sprinkler	2 sets	○		A
5	Peristaltic Pump	1 unit	○		A
6	Automatic Misting System	2 units	○		N

**FIELD EQUIPMENT**

No	Item Description	per Quantity	Quantity	Manual	Operation	A.R.N
1	Clinometer		12 units	○		A
2	Compass		12 units	○		A
3	Core diameter 12mm		3 sets	○		
4	Wood Handled Barle Gauge		11 units			
5	Diameter Tapes		12 units	○		A
6	50m Tapes		12 units			A
7	100m Chains Wire Rope w/ Drum		6 units			A
8	Dendrometer		2 units	○		
9	Pentapism Calliper		4 units	○		
10	Chain Saws		6 units	○		A
11	Pocket Magnifier (20X)		12 units	○		A
12	Aluminium Rolls		100 units			A
13	Forest Survey Equipment		10 sets			A
14	Mist Blower Spray Machine		2 units	○		N
15	Cameras (35mm SLR) with Macrozoom Lenses and other Accessories		2 sets	○		A
16	Binoculars		3 units	○		A
17	Tree Climbing Spurs		10 sets			A
18	Tree Height Measuring Rods		4 sets	○		A
19	Haga Altimeters		6 units	○		A
20	Relascope		1 unit	○		N
21	Wedge Prisms		6 sets	○		A
22	Bark Guages		2 sets	○		N
23	Aluminium Callipers		3 sets			N
24	Aluminium T-Squares		3 sets			N
25	Pocket Altimeter (Barometer)		2 units	○		N
26	Sleeping Bags		6 units	○		N
27	Folding Stools		12 units			A
28	Folding Tables		12 units			A
29	Canvas Haver Sacks		6 units			A
30	Staff Compass (Forestry model)		2 units	○		N
31	Tent		12 sets			A

### FIELD EQUIPMENT

No	Item Description	Rev. Quantity	Quantity	Manual	Operation	A.R.N
32	Safety Caps		12 units			A
33	Portable Illuminometer		12 units			N

### Training and Meeting Equipment

No	Item Description	Rev. Quantity	Quantity	Manual	Operation	A.R.N
1	Color TV-Video Set (VCR)		1 set	○	○	N
2	16mm Film Projector		1 unit	○	○	N
3	8mm Camera Projector for Editin		1 unit	○		N
4	Slide Projector		2 units	○		A
5	Slide Viewer		2 units	○		N
6	Overhead Projector		2 units	○		A
7	Tape Recorder		2 units	○		N
8	Screen		2 units			N

### Vehicles and Transport

No	Item Description	Rev. Quantity	Quantity	Manual	Operation	A.R.N
1	Passenger Car Van Type (6 Passengers) <i>Office Support Vehicle</i>		1 unit	○		A
2	Wagon Type Land Cruiser (6 Passengers)		1 unit	○		A
3	Tractor		1 unit	○		A
4	Verge Mower Attachment		2 units	○		A
5	Slasher Attachment		1 unit	○		N
6	Grader Attachment		1 unit	○		N
7	Trailer		1 unit	○		A
8	Tipper Truck (2 Ton),		1 unit	○		N
9	Cherry Picker		1 unit	○		A
10	Self-propelled Lawnmowers	2	1 unit	○		A

## Maintenance Workshop and Machine Tools

No	Item Description	Quantity	Manual	Operation	A.R.N
1	Pliers 10 pcs/set	2 sets			N
2	Chisels 16 pcs/set	2 sets			N
3	Hammers 10 pcs/set	3 units			N
4	Single Speed Light Duty Electronic Light	1 unit			N
5	Tool Box	3 units			N
6	Electric Welder	1 unit	○		N
7	Crocodile Jack	1 unit	○		N
8	Electric Drills	1 unit	○		N
9	Cement Mixer	1 unit	○		N

10. Electric saw

2 units

N

11. Hand saw

2 units

N



### Laboratory Small Wares

No	Item Description	Per. Quantity	Quantity
1	Beakers, Criffin (Refer to 5001) 100ml 200ml 300ml 500ml 1,000ml 2,000ml	   50 60 20	  120pcs 90pcs 90pcs 72pcs 36pcs 8pcs
2	Beakers, Berzelius (Refer to 5002) 100ml 200ml 300ml 500ml	   30	  20pcs 20pcs 40pcs 10pcs
3	Beakers, Phillips (Refer to 5003) 100ml 300ml 500ml		 20pcs 50pcs 10pcs
4	Flasks, Flat Bottom (Refer to 5004) 200ml 300ml 500ml 1,000ml 2,000ml		 10pcs 10pcs 5pcs 3pcs 3pcs
5	Flasks, Round Bottom (Refer to 5004) 200ml 300ml 500ml 1,000ml 2,000ml		 10pcs 10pcs 5pcs 3pcs 3pcs
6	Flasks, Erlenmeyer (Refer to 5005) 100ml 200ml 300ml 500ml 1,000ml	   60  20	 120pcs 60pcs 120pcs 48pcs 30pcs
7	Flasks, Erlenmeyer, with Stopper (Refer to 5006) 50ml 100ml 200ml 300ml 500ml 1,000ml		 30pcs 40pcs 30pcs 48pcs 30pcs 5pcs

### Laboratory Small Wares

No	Item Description	Rev Quantity	Quantity
8	Flasks, Kjeldahl, Short Neck (Refer to 5009) 100ml 200ml 300ml 500ml		10pcs 10pcs 10pcs 5pcs
9	Flasks, Kjeldahl, (Refer to 5008) 100ml 300ml 500ml		10pcs 10pcs 5pcs
10	Flask, Distilling (Refer to 5011) 500ml 1,000ml		5pcs 3pcs
11	Dishes, Culture, Petri (Refer to 5042) ø60m/m 75m/m 90m/m		50pcs 50pcs 100pcs
12	Dishes, Evaporating, Flat Bottom (Refer to 5036) ø 45m/m 60m/m 75m/m 90m/m 100m/m		20pcs 20pcs 20pcs 10pcs 10pcs
13	Dishes, Crystallizing (Refer to 5039) ø75m/m 90m/m 100m/m 120m/m		30pcs 10pcs 10pcs 5pcs
14	Test Tubes (Refer to 5051) ø12 x 75m/m 12 x 120m/m 15 x 150m/m 16.5 x 165m/m 18 x 180m/m	100 100 100	200pcs 200pcs 200pcs 300pcs 100pcs
15	Test Tubes, with Glass Stopper (Refer to 5053) 10ml 20ml 25ml		50pcs 50pcs 50pcs
16	Color Comparison Tubes, Nessler (Refer to TR-105) 50ml 100ml		30pcs 30pcs

No	Item Description	QTY	Quantity
17	Bottles, Reagent, Narrow Mouth, White (Refer to 5072) 60ml 120ml 250ml 500ml 1,000ml 2,000ml 3,000ml 5,000ml 10,000ml	50	50pcs 100pcs 50pcs 30pcs 12pcs 5pcs 3pcs 2pcs 1pcs
18	Bottles, Reagent, Narrow Mouth, White (Refer to 5073) 60ml 120ml 250ml 500ml 1,000ml 2,000ml 3,000ml 5,000ml	50	50pcs 100pcs 50pcs 30pcs 12pcs 5pcs 3pcs 2pcs
19	Bottles, Reagent, Wide Mouth, White (Refer to 5074) 30ml 60ml 120ml 250ml 500ml 1,000ml	30 30 50	50pcs 50pcs 100pcs 50pcs 30pcs 12pcs
20	Bottles, Reagent, Wide Mouth, Amber (Refer to 5075) 30ml 60ml 120ml 250ml 500ml 1,000ml	30 30 30	50pcs 50pcs 50pcs 50pcs 30pc 12pcss
21	Bottles, Syrup (Refer to 5080) 250ml 500ml		5pcs 3pcs
22	Bottles, Either (Refer to 5079) 250ml 500ml		5pcs 3pcs
23	Bottles, Dropping, with Rubber Bulb, White (Refer to 5089) 30ml 60ml 120ml 250ml		10pcs 20pcs 20pcs 10pcs

### Laboratory Small Wares

No	Item Description	Rev.	Quantity
24	Bottles, Dropping, with Rubber Bulb, Amber (Refer to 5089) 30ml 60ml 120ml 250ml	Rev. Q. 3/11/14	10pcs 20pcs 20pcs 10pcs
25	Bottles, Dropping White (Refer to 5087) 30ml 60ml 120ml		10pcs 10pcs 20pcs
26	Bottles, Dropping Amber (Refer to 5087) 30ml 60ml 120ml		10pcs 10pcs 10pcs
27	Bottles, Aspirator, for Rubber Stopcock, White (Refer to 5077) 3,000ml 5,000ml 10,000ml		5pcs 5pcs 3pcs
28	Bottles, Aspirator, for Rubber Stopcock, Amber (Refer to 5077) 3,000ml 5,000ml 10,000ml		5pcs 5pcs 3pcs
29	Flask, Filtering (Refer to 5506) 300ml 500ml 1,000ml 2,000ml		10pcs 10pcs 10pcs 3pcs
30	Desiccators (Refer to 5851) ø15cm 18cm 21cm 24cm 30cm		3pcs 3pcs 2pcs 2pcs 1pcs
31	Desiccators, with Tubulation in Lib (Refer to 5853) ø21cm 24cm 30cm		2pcs 2pcs 1pcs
32	Bell Jars, Filtering (Refer to 5502) ø12 x 18cm 15 x 21cm 18 x 24cm		2pcs 2pcs 1pcs
33	Troughs, Pneumatic (Refer to 5103) ø18cm 24cm 30cm		5pcs 5pcs 3pcs

### Laboratory Small Wares

No	Item Description	Per Quantity	Quantity
34	Gas Generators, Kipp (Refer to 6402) 500ml <del>750ml</del> <del>1,000ml</del>		2pcs <del>3pc</del> <del>1pc</del>
35	Condensers, Liebig, Sealed (Refer to 5190) L.24cm 30cm 36cm		5pcs 5pcs 2pcs
36	Condensers, Allihn (Refer to 5192) L.24cm 30cm 36cm		5pcs 5pcs 2pcs
37	Condensers, Dimroth (Refer to 5194) L.24cm 30cm 36cm		5pcs 5pcs 2pcs
38	Funnels, Ribbed on Inside and Outside (Refer to 5111) ø60cm 75cm 90cm 110cm		10pcs 10pcs 10pcs 10pcs
39	Shakers (Refer to 5707) ø60cm 75cm 90cm 105cm 120cm		20pcs 30pcs 20pcs 10pcs 10pcs
40	Glass Filters Crucible Type, 1G (Refer to 5511) Filter No. 1 2 3 4		10pcs 10pcs 10pcs 10pcs
41	Glass Filters Funnel Type, 3G (Refer to 5512) Filter No 1 2 3 4		10pcs 10pcs 10pcs 10pcs
42	Glass Filters Funnel Type, 11G (Refer to 5512) Filter No 1 2 3 4		10pcs 10pcs 10pcs 10pcs

## Laboratory Small Wares

No	Item Description	Rev. Qu. H.M.	Quantity
43	Funnels, Separatory (Refer to 5124) 100ml 200ml 300ml 500ml 1,000ml		10pcs 10pcs 10pcs 5pcs 2pcs
44	Funnels, Separatory, Squibb, Pear-Shaped (Refer to 5125) 100ml 200ml 300ml 500ml 1,000ml		10pcs 10pcs 10pcs 5pcs 2pcs
45	Funnels, Separatory, Squibb, Pear-Shaped (Refer to 5126) 50ml 100ml 200ml 300ml		5pcs 5pcs 5pcs 5pcs
46	Stopcocks, Straight (Refer to 5152) $\phi$ 6m/m 7.5m/m 9m/m 10m/m		10pcs 10pcs 10pcs 5pcs
47	Stopcocks, Three Way (Refer to 5153) $\phi$ 6m/m 7.5m/m 9m/m		5pcs 5pcs 5pcs
48	Tubes, Y Shape (Refer to 5182) $\phi$ 6m/m 7.5m/m 9m/m		20pcs 20pcs 20pcs
49	Tube, T Shape (Refer to 5181) $\phi$ 6m/m 7.5m/m 9m/m		20pcs 20pcs 20pcs
50	Bottles, Weighing (Refer to 5148) $\phi$ 20x20m/m 30x30m/m 40x40m/m 50x50m/m		20pcs 30pcs 30pcs 10pcs
51	Bottles, Specific Gravity, Gay-Lussac, for Liquid (Refer to 5139) 10ml 25ml 50ml 100ml		5pcs 10pcs 5pcs 3pcs

## Laboratory Small Wares

No	Item Description	Per Quantity	Quantity
52	Bottles, Specific Gravity, with Thermometer (Refer to 5140) 25ml 50ml		5pcs 5pcs
53	Drying Tubes, Straight, One Bulb (Refer to 5183) ø12ml 15ml 18ml		10pcs 5pcs 5pcs
54	Drying Jars, Glass Stoppered (Refer to 5137) L. 24cm 30cm 36cm		5pcs 5pcs 3pcs
55	Bottles, Gas Washing Drechsel (Refer to 5129) 250ml 500ml		5pcs 2pcs
56	Bottles, Gas Washing Walter (Refer to 5128) 250ml 500ml		5pcs 2pcs
57	Bottles, Gas Washing Ichihose (Refer to 5130) 250ml 500ml	2pcs	5pcs
58	Bottles, Gas Washing Muencke (Refer to 5131) 250ml 500ml		5pcs 2pcs
59	Volumetric Flasks, White (Refer to 1101) 50ml 100ml 200ml 250ml 500ml 1,000ml		10pcs 30pcs 20pcs 20pcs 10pcs 5pcs
60	Volumetric Flasks, Amber (Refer to 1102) 50ml 100ml 200ml 250ml 500ml 1,000ml		5pcs 10pcs 10pcs 10pcs 5pcs 2pcs

## Laboratory Small Wares

No	Item Description	Per. Quantity	Quantity
61	Measuring Cylinders (Refer to 1171) 10ml 25ml 50ml 100ml 250ml 500ml 1,000ml 2,000ml	10 5	5pcs 10pcs 10pcs 30pcs 10pcs 5pcs 3pcs 2pcs
62	Measuring Cylinders, with Stopper (Refer to 1172) 50ml 100ml 250ml 500ml		10pcs 10pcs 5pcs 5pcs
63	Graduates, Cylindrical (Refer to 1177) 50ml 100ml 500ml 1,000ml		5pcs 5pcs 3pcs 2pcs
64	Graduate, Conical (Refer to 1179) 10ml 20ml 50ml 100ml 200ml		5pcs 5pcs 5pcs 5pcs 5pcs
65	Burets, with Stopcock, White (Refer to 1118) 10ml 25ml 50ml	5 5	10pcs 10pcs 5pcs
66	Burets, with Stopcock, Amber (Refer to 1119) 10ml 25ml 50ml	5 5	10pcs 10pcs 5pcs
67	Burets, with Stopcock, Schellback (Refer to 1120) 10ml 25ml 50ml	5 5	10pcs 10pcs 5pcs
68	Micro Burets, White (Refer to 1144) 2ml 5ml 10ml		2pcs 3pcs 1pcs
69	Micro Burets, Amber (Refer to 1145) 2ml 5ml 10ml		2pcs 3pcs 1pcs



## Laboratory Small Wares

No	Item Description	Rev. Quant	Quantity
70	Automatic Burets, White (Refer to 1135) 25ml 50ml		2pcs 3pcs
71	Automatic Burets, Amber (Refer to 1136) 25ml 50ml		2pcs 2pcs
72	Measuring Pipets (Refer to 1147) 0.5ml 1ml 2ml 3ml 5ml 10ml 20ml 25ml		10pcs 30pcs 30pcs 10pcs 20pcs 20pcs 10pcs 5pcs
73	Volumetric Pipets (Refer to 1155) 0.5ml 1ml 2ml 3ml 5ml 10ml 15ml 20ml 25ml 40ml 50ml 100ml		10pcs 20pcs 20pcs 20pcs 20pcs 20pcs 10pcs 10pcs 10pcs 5pcs 5pcs 3pcs
74	Pipets with rubber (Refer to 1161) 1ml 2ml 3ml 5ml 10ml		10pcs 20pcs 10pcs 10pcs 10pcs
75	Glass Rod (Refer to 5199) 4m/m 6m/m 8m/m 9m/m		10pcs 10pcs 10pcs 10pcs
76	Glass Tubing (Refer to 5189) ø 6m/m 8m/m 10m/m		50pcs 50pcs 30pcs

## Laboratory Small Wares

No	Item Description	Rev. Quantity	Quantity
77	Rubber Tubing Black (Refer to 5402) No. 4 5 6 7 8 9 10		50m 50m 50m 30m 20m 20m 10m
78	Rubber Tubing, Red (Refer to 5403) Gas $\phi$ 9 x 13m/m Burner 8 x 12m/m Aspirator 6 x 12m/m Channe 115 x 21m/m		30m 30m 10m 30m
79	Rubber Tubing, Vacuum (Refer to 5405) $\phi$ 6 x 15m/m 7.5 x 8m/m 9 x 21m/m		10m 10m 5m
80	Vinyl Tubing (Refer to 5411) $\phi$ 6 x 8m/m 8 x 10m/m 10 x 12m/m		30m 30m 30m
81	Silicone Tubing (Refer to 20-08) $\phi$ 4 x 6m/m 6 x 8m/m 8 x 10m/m		30m 30m 30m
82	Polyethylene Tubing (Refer to 20-11) $\phi$ 4 x 6m/m 6 x 8m/m 8 x 10m/m 12 x 15m/m 15 x 18m/m		20pcs 20pcs 20pcs 10pcs 10pcs

## Laboratory Small Wares

No	Item Description	Per. Qty	Quantity
83	Rubber Stoppers (Refer to 5401) No. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20		50pcs 50pcs 50pcs 50pcs 50pcs 50pcs 50pcs 30pcs 30pcs 30pcs 30pcs 30pcs 30pcs 20pcs 20pcs 20pcs 10pcs 10pcs 10pcs 10pcs 10pcs
84	Rubber Stoppers (Refer to 6948) No. 1 2 3 4 5 6 7 8 9 10		50pcs 50pcs 50pcs 30pcs 30pcs 30pcs 20pcs 20pcs 20pcs 20pcs
85	Polyethylene Bottles, Narrow Mouth (Refer to 5413) 100ml 250ml 500ml 1,000ml		120pcs 60pcs 48pcs 20pcs
86	Polyethylene Bottles, Narrow Mouth (Refer to 5414) 100ml 250ml 500ml 1,000ml		150pcs 120pcs 60pcs 30pcs
87	Polyethylene Beakers (Refer to 5418) 100ml 300ml 500ml 1,000ml		30pcs 20pcs 20pcs 10pcs

## Laboratory Small Wares

No	Item Description	Rev Quantity	Quantity
88	Polyethylene Bottles, Aspirator (Refer to 5416) 5,000ml 10,000ml 20,000ml		5pcs 3pcs 2pcs
89	Polyethylene Bottles, Washing (Refer to 5417) 250ml 500ml 1,000ml		12pcs 12pcs 12pcs
90	Watch Glasses (Refer to 5045) ø60m/m 75m/m 90m/m 110m/m 120m/m		50pcs 50pcs 50pcs 30pcs 30pcs
91	Aspirators (Shibaki's) (Refer to 6645)		5pcs
92	Crucibles, Porcelain, with Cover, B-type (Refer to 5354) 10ml 30ml 50ml 100ml	20 10 10	50pcs 30pcs 20pcs 10pcs
93	Mortars, with Peste, Porcelain (Refer to 5391) 90ml 120ml 150ml		5pcs 5pcs 3pcs
94	Funnels, Bucher Type, Porcelain (Refer to 5383) ø 90m/m 110m/m		10pcs 10pcs
95	Dishes, Evaporating, Round Bottom Porcelain (Refer to 5351) ø 60m/m 90m/m 110m/m 150m/m		10pcs 10pcs 10pcs 5pcs
96	Safty Pipeter (Refer to 12-01)		5pcs
97	Hydrometer Set, Normal, 19 pieces set (Refer to 1305) 0.700-1.850		1pcs
98	Hydrometer, for Liquid Heavier than Water (Refer to 1331) 1.000-2.000		3pcs
99	Hydrometer, for Liquid Lighter than Water (Refer to 1332) 1.000-0.700		3pcs
100	Thermometers Set, Normal (Refer to 1404)-50-360 C		

## Laboratory Small Wares

No	Item Description	pen Quantity	Quantity
101	Thermometers, Engrave Stem, Alcohol (Refer to 1407) 0-100 C -30-50 C -20-100 C		30pcs 10pcs 10pcs
102	Thermometers, Engrave Stem, Hydragyrum(Refer to 1408) 0-150 C 0-200 C 0-300 C 0-360 C		10pcs 10pcs 10pcs 10pcs
103	Thermometers, Maximum and Minimum, Six, U-Type (Refer to 1433) -20-+50 C		2pcs
104	"Toyama-Type" Toyama-Type 2 (Refer to No.1020) -10-+50 C		2pcs
105	Burners, Alcohol Lamps (Refer to 6001) 90ml		5pcs
106	Brushes (Refer to 6947) a. Test Tube b. Buret c. Flask L. M. S. d. Pipet e. Beaker	5 5 5 5 5 5 5	24pcs 12pcs 12pcs 24pcs 24pcs 24pcs 12pcs
108	Qualitative Filter Papers No.1 (Refer to 5541) ø 9cm ø 11cm Qualitative Filter Papers No.2 (Refer to 5541) ø 9cm ø 11cm		5pcs 10pcs 5pcs 10pcs
109	Qualitative Filter Papers No.5A (Refer to 5542) ø 9cm ø 11cm Qualitative Filter Papers No.5B (Refer to 5542) ø 9cm ø 11cm Qualitative Filter Papers No.5C (Refer to 5542) ø 9cm ø 11cm		5pcs 10pcs 5pcs 10pcs 5pcs 10pcs
110	Spatulas Stainless (Refer to 6983) L. 150m/m 180m/m 210m/m		10pcs 10pcs 10pcs

## Laboratory Small Wares

No	Item Description	Per Quantity	Quantity
111	Spoons Stainless (Refer to 6980) L. 150m/m 165m/m 180m/m		10pcs 10pcs 10pcs
112	Forceps Stainless (Refer to 6976) L. 120m/m 150m/m 180m/m	5 5 5	10pcs 10pcs 10pcs
113	Cork Borers 12 pieces Set (Refer to 6952) $\phi$ 5-22m/m		3pcs
114	Glass Tubing Cutter (Refer to FLG-20)	10	20pcs
115	Pinch Cocks (Refer to 6956) S. M. L.		20pcs 20pcs 20pcs
116	Pinch Cocks (Refer to 6957) S. M. L.		30pcs 30pcs 30pcs
117	Burners, Gas (Refer to 6019) L.P Gas		5pcs
118	Tripods (Refer to 6941) $\phi$ 120m/m		5pcs
119	Asbestos Wire Gauze (Refer to 6963) 150x150m/m		30pcs
120	Tongs, Crucible (Refer to 6904) L-210m/m		6pcs
121	Clamp, Test Tube, Wooden (Refer to 6909)		10pcs
122	Hose Band, Hand fastened (Refer to 6-475-01) $\phi$ 20-32m/m 14-25m/m 10-19m/m		5pcs 10pcs 10pcs
123	Clamps, Flask (Refer to 6935) S $\phi$ 15-35m/m M 25-45m/m N 40-70m/m		10pcs 10pcs 10pcs
124	Clamp (Refer to FLC-380) Condenser		5pcs
125	Bossheads (Refer to FLC-390) L. $\phi$ 15m/m		10pcs
126	Bossheads (Refer to FLC-391) L. $\phi$ 13m/m		15pcs
127	Bossheads (Refer to FLC-392) L. $\phi$ 9m/m		10pcs
128	Rings (Refer to FLR-6922) L. $\phi$ 90m/m M. 75m/m S. 60m/m		10pcs 10pcs 10pcs

## Laboratory Small Wares

No	Item Description	Real Quantity	Quantity
129	Support, Square Base with rod (Refer to 246) Base 130x210m/m Support rod 13x750m/m		10pcs
130	Support, Buret 2-place (Refer to 6928)		3pcs
131	Supports, Funnel 2-place (Refer to 6920) Wooden		3pcs
<del>132</del>	<del>Supports, Test Tube 12-place (Refer to 6916) Wooden</del>		<del>5pcs</del>
133	Support, Separating Funnel 10-place (Refer to BR-12) Plastic		2pcs
134	Color Comparison Tubes, Nessler 10-place (Refer to TR-105) 50ml 100ml		1pcs 1pcs
135	Burner, Blast L.P Gas (Refer to 6034) Glass Work		2pcs
136	Burner, Gas. L.P Gas (Refer to 6029) Handy Type		1pcs
137	Bellows, Foot Power (Refer to 6659) $\phi$ 180m/m		2pcs
138	Glass-Blowers' Tools (Refer to 5800-01)		1pcs

ADDITIONS TO LABORATORY EQUIPMENTS

60.	Portable Generator	- 2 Units
61.	Shigometer	- 2 Units
62.	Bio-photo Chamber	- 2 Units
63.	Wind Tunnel Unit	- 1 Unit
64.	Pyrodin Tester	- 2 Units
65.	Complete Dark Room Facilities	
66.	Card index metal cabinets (13x8x50cm) double drawers	- 10 Units
67.	Card index metal cabinets (15x8x50cm) double drawers	- 10 Units
68.	Maggylamp (magnifying lamp -12cm) biconvex lens 400 diopetri focal length 24cm with flexible arms	- 2 Units
69.	Digital micrometer with statistics and computer interface	- 2 Units
70.	Laminar Flow Bench	- 2 Units
71.	Experimental Kiln Dryer	- 1 Unit
72.	Experimental Pressure Treatment Plant	- 1 Unit
73.	Digital Thermometers	- 2 Units
74.	Micro-computer	- 4 Units



付属資料-2

調査団の構成

(1) 基本設計調査団員

氏名	業務分担	所属
辻岡 政男	団 長	国際協力事業団 無償資金協力計画調査部 基本設計調査第一課課長代理
柿沢 英司	建築計画	創 造 社 取締役 国際部長
大内 宏友	建築設計	創 造 社
山井良三郎	林業・林産業研究	創 造 社 (日本住宅・木材技術センター) 常務理事
福 原 肇	設備設計	創 造 社
吉本 衛	機械計画	創 造 社 (日本林業技術協会 主任研究員、土壌研究室長)
馬場 保也	積 算	創 造 社

(2) ドラフト説明団員

氏名	業務分担	所属
辻岡 政男	団 長	国際協力事業団 無償資金協力計画調査部 基本設計調査第一課課長代理
柿沢 英司	建築計画	創 造 社 取締役 国際部長
山井良三郎	林業・林産業研究	創 造 社 (日本住宅・木材技術センター) 常務理事

付属資料-3-1

基本設計調査面談者リスト

(パプア・ニューギニア国側)

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Mr. A. Tagamasau	森林省次官
Mr. J. Mantu	森林省次官補
Dr. P. Srivastava	森林省特別顧問
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Dr. H. Robert	森林管理研究所主任技術士
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Mr. D. Gole	公共事業省主任建築士
Mr. D. Smith	公共事業省建築士
Mr. G. Paru	大蔵企画省海外援助担当
Dr. M. Siriga	T. I. T. C校長
Mr. W. Mawapom	ラエ建設事務所技術専門官

(日本側)

在パプア・ニューギニア国日本大使館

野村 忠策	特命全権大使
梶 惟成	参事官
高沢 修	一等書記官
渡辺 晃久	三等書記官 (本件担当官)

在パプア・ニューギニア国JICA事務所

中野 勝安	所長
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付属資料-3-2

基本設計調査ドラフト説明面談者リスト

(バブア・ニューギニア国側)

氏名	所属・役職
Mr. A. Tagamasau	森林省次官
Dr. P. Daur	森林省部長 (プロロ)
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Dr. M. Komtagaron	森林省特別顧問
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Mr. J. Croft	植物園付属研究所主任
Mr. K. McClelland	公共事業省主任建築士
Mr. D. Smith	公共事業省建築士
Ms. F. Williams	大蔵企画省海外援助担当
Mr. M. Oppa	同上

(日本側)

在バブア・ニューギニア国日本大使館

野村 忠策	特命全権大使
槐 惟成	参事官
高島 広明	三等書記官
渡辺 晃久	三等書記官

在バブア・ニューギニア国JICA事務所

中野 勝安	所長
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付属資料-4-1

バブアニューギニア国、国立森林研究所設立  
基本設計調査 日程表

日付		
(土) 7月18日	20:00 JL771 成田発	
(日) 19日	6:15 シドニー着 シドニー市内調査	
(月) 20日	8:15 PX004シドニー発 (ブリスバン経由) 13:25 ポート・モレスビー着 →ホテルチェックイン 15:00 大使館表敬訪問	
(火) 21日	9:00 関係省庁合同会議 (大蔵省ビル) 13:00 森林省との会議	
(水) 22日	9:30 ソゲリ高校及講師宿舍視察 12:35 ポート・モレスビー (PX104) 発 13:15 ラエ着 14:30 関係機関等合同会議 (TITC)	
(木) 23日	8:30 ホテル着 (プロロへ) 11:00 プロロ着……Forestry College Forest Research Station } 視察	
(金) 24日	8:30 Forestry College 視察 10:30 プロロ発 (ラエへ) 13:30 サイト視察、関係機関との会議 (ボタニカル・ガーデン)	
(土) 25日	11:40 ラエ発 (プロロへ) PX274 12:15 マダン着 14:00 Forest Research Station 視察	10:00 JIM・CROFT 氏と打合わせ (ボタニー) 13:30 サイト調査 ～
(日) 26日	10:55 PX279 マダン発 (ポートモレスビーへ) 12:30 ポートモレスビー着 ホテルにて団内打合わせ	ホテルにて資料整理 及び、団内打合わせ
(月) 27日	9:00 森林省打合わせ 13:00 大使館打合わせ	9:00 サイト建設可能地簡易実測 ～ サイト・インフラストラクチャー調査 15:00 調査結果分析 ～
(火) 28日	9:00 関係省庁合同会議 ミニッツ署名 16:00 大使館報告	9:00 市内 (ラエ) 建設事情調査 ～

日付		
(水) 7月29日	9:00 公共事業省打合わせ 12:35 PX104 ポートモレスビー発 (ラエへ) 13:20 ラエ着 15:30 辻岡団長帰国	9:00 ラエ市内建設事情調査 ～ 15:00 団内打合わせ
(木) 30日	9:00 ホテルにて団内打合わせ 10:00 公共事業省打合わせ 13:30 公共事業省打合わせ	
(金) 31日	9:00 ラエ市内建設事情調査 ～	9:00 要請内容、打合わせ内容分析・計画 ～
(土) 8月1日	9:00 ラエ市内建設事情調査 ～	9:00 施設計画 ～
(日) 2日	ホテルにて団内打合わせ、資料整理	
(月) 3日	9:00 ラエ市内建設事情調査 ～	
(火) 4日	8:30 PX243ラエ発 (ポートモレスビーへ) 9:15 ポートモレスビー着 14:00 森林省打合わせ	
(水) 5日	9:00 ポートモレスビー建設事情調査 ～ 16:00	
(木) 6日	9:00 森林省打合わせ ～ 16:00 ～団内打合わせ	9:00 ポートモレスビー建設事情調査 ～
(金) 7日	9:00 公共事業省打合わせ 15:00 大使館、JICA事務所報告及帰国挨拶	
(土) 8日	資料整理及団内打合わせ	
(日) 9日	資料整理 16:25 ポートモレスビー発 (QF096) 20:00 シドニー着	
(月) 10日	9:30 シドニー発 (JL772) 18:30 成田着	

付属資料-4-2

基本設計調査ドラフト説明日程表

日 付			
(水) 10月28日	13:00 18:45	(JL719)	成田発 シンガポール着
(木) 29日	23:50	(PX093)	シンガポール発
(金) 30日	8:30 9:30 10:30 14:00		ポートモレスビー着 日本国大使館 訪問 JICA事務所 訪問 森林省 会議 〔森林省、公共事業省、大蔵省 大使館、JICA、出席〕
(土) 31日	10:45 11:30 14:00	(PX164)	ポートモレスビー発 ラエ着 植物園 サイト測量 Mr. Jim Croftにレポート説明
(日) 11月1日	10:00		植物園 サイト Mr. Jim Croftに 測量結果報告及び屋外施設位置打合せ
(月) 2日	9:30 16:20 17:30	(PX789)	植物園訪問 ラエ発 ポートモレスビー着
(火) 3日	9:00 13:00		森林省にて会議 大蔵省にて会議
(水) 4日	9:00 13:00		公共事業省にて会議 団主催昼食会 森林省にて会議
(木) 5日	9:00 13:00		ローカルコンサル訪問 団長-大蔵省訪問 大蔵省にて会議
(金) 6日	9:00 18:30		大蔵省に於てミニッツサイン 大使館へ報告 JICA事務所へ報告 団長帰国 公共事業省にて会議
(土) 7日	9:00 15:20 19:40 23:00	(PX092) (JL710)	ローカルコンサル訪問 資料の収集 ポートモレスビー発 シンガポール着 シンガポール発
(日) 8日	6:15		成田着

付屬資料 - 5 - 1

Expenditure on GDP

(Kina mn; current prices)

	1981	1982	1983	1984	1985
Private consumption	1,104.2	1,117.7	1,245.0	1,363.2	1,426.5
Public consumption	454.4	468.1	471.3	505.1	548.0
Gross fixed investment	450.7	576.7	632.4	533.7	481.7
Stock building	7.4	-14.2	-6.2	71.5	33.8
Exports of goods & services	642.9	644.3	766.1	894.5	1,005.5
Imports of goods & services	-987.6	-1,058.2	-1,129.6	-1,201.3	-1,222.8
Statistical discrepancy	9.2	14.5	-5.4	4.4	19.2
Gross domestic product	1,681.2	1,749.1	1,973.7	2,171.1	2,291.9

Source: National Statistical Office.

Expenditure on GDP

(Kina mn; constant 1981 prices)

	1981	1982	1983	1984	1985
Private consumption	1,104.2	1,075.3	1,119.0	1,160.6	1,178.4
Public consumption	454.4	422.6	414.1	407.1	410.0
Gross fixed investment	450.7	531.6	547.2	433.4	364.3
Stock building	7.4	-12.8	-5.3	54.4	20.7
Exports of goods & services	642.9	632.5	643.5	642.6	743.9
Imports of goods & services	-987.6	-976.0	-969.7	-949.4	-903.4
Statistical discrepancy	9.2	14.0	-4.8	3.6	15.3
Gross domestic product	1,681.2	1,687.2	1,744.0	1,752.3	1,829.2

Source: National Statistical Office.

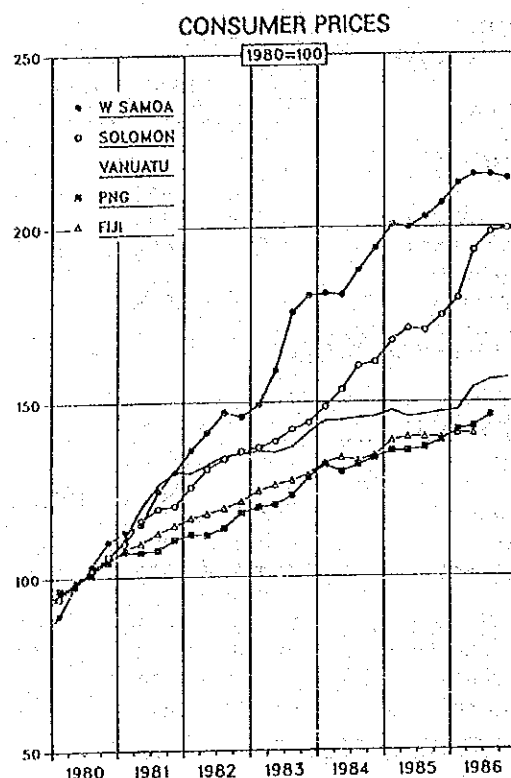
Growth Rates

(%)

	1981	1982	1983	1984	1985
Real private consumption	...	-2.6	4.1	3.7	1.5
Real public consumption	...	-7.0	-2.0	-1.7	0.7
Real fixed investment	...	17.9	2.9	-20.8	-15.9
Real gross domestic product	...	0.4	3.4	0.5	4.4

Source: EIU calculations based on National Statistical Office, Statistical Bulletin.

付属資料 - 5 - 2



付属資料 - 5 - 3

Consumer Price Index (CPI)  
(1977=100; weighted urban average index)

	Year ended Dec 31				
	1982	1983	1984	1985	1986
Food	143.9	150.2	161.0	167.2	171.4
Drinks, tobacco & betelnut	141.5	171.2	187.2	185.5	189.5
Clothing & footwear	129.1	133.0	142.0	150.9	156.5
Rents, public charges, fuel & power	163.2	167.1	165.9	168.4	167.4
Household equipment	134.3	140.9	151.5	160.3	167.2
Transport & communications	152.8	164.0	179.0	194.6	237.8
All groups	143.0	154.3	165.8	171.9	181.3
% increase on previous year	5.5	7.9	7.5	3.7	5.5

Source: National Statistical Office.



付属資料 - 5 - 4

Main Commodities Traded - Exports and Re-exports  
(Kina mn fob)

	1981	1982	1983	1984	1985	Jan-Sep 1986
Total exports <sup>a</sup>	565.9	570.4	687.4	822.0	926.2	765.2
of which:						
cocoa	34.1	31.8	41.4	67.0	62.5	45.2
coffee	74.2	77.8	94.7	110.7	117.5	173.2
tea	7.1	6.7	10.4	17.1	11.5	5.5
copra oil	12.5	12.1	20.0	39.4	23.7	7.2
copra	19.3	12.9	24.0	49.1	33.4	8.0
palm oil	14.2	21.7	23.7	75.7	61.6	21.5
forest products	43.9	61.7	54.7	81.7	67.3	51.9
tuna fish	20.0	1.4	0.3	0.6	5.1	-
cray fish & prawns	6.8	6.4	8.8	9.4	7.0	4.9
rubber	3.4	1.4	2.2	2.4	3.9	2.1
gold	158.9	171.8	200.9	183.3	318.8	297.8
silver	7.0	7.5	11.2	9.1	7.0	5.2
copper	134.6	122.8	161.0	135.5	164.2	122.4

<sup>a</sup> Including re-exports.

Source: Quarterly Economic Bulletin, Bank of Papua New Guinea.

付属資料 - 5 - 5

Total Net Overseas Development Aid Receipts  
(\$ mn)

	1981	1982	1983	1984	1985
DAC countries total	304.0	276.3	274.4	294.9	240.6
of which:					
Australia	285.3	263.5	264.2	275.2	226.9
West Germany	7.4	4.8	2.1	8.9	3.4
Japan	2.4	3.7	3.5	6.2	4.0
New Zealand	3.0	2.0	1.6	2.1	2.9
USA	-	-	1.0	1.0	1.0
Multilateral total	31.7	34.4	58.7	27.1	18.6
of which:					
Asian Development Bank	16.0	4.2	8.7	4.2	4.4
EC	0.9	18.0	30.1	4.3	4.2
IDA	9.8	8.9	16.6	13.5	3.5
UNDP	2.1	1.7	1.6	1.3	1.3
Total	335.7	310.7	332.8	321.8	258.9

Source: OECD Geographical Distribution of Financial Flows to Development Countries.

付属資料-5-6

主要現有実験用機器の現状と将来計画

No.	品名	性能	故障	将来計画
1	乾燥機(小型)	普通	少	移転後継続使用
2	培養器	"	"	"
3	冷凍器	低	"	2台とも更新
4	冷蔵庫	"	多	"
5	生物顕微鏡	普通	少	継続使用
6	ミクロトーム	"	"	"
7	土壤滅菌器	"	"	"
8	化学天秤	低	"	4台更新
9	焰光分光光度計	"	多	原子吸光・焰光分光光度計に変更
10	PHメーター	"	"	2台更新
11	蒸溜水製造装置	普通	少	移転後継続使用
12	高圧蒸気滅菌器	"	"	"
13	真空ポンプ	"	"	"
14	定温湯浴	"	"	"
15	クリーンベンチ	"	多	2台更新
16	ホットプレート	"	少	移転後継続使用
17	双眼顕微鏡	"	"	"
18	解剖実体顕微鏡	"	"	"

付属資料-5-7

スタッフの官舎取得の現状

地位	人数	官舎有	Lae に 官舎有	地位に 見合う	地位に 見合い	Lae に 自宅有	不足数
所長	1	1	0	-	-	0	1
部長	4	2	0	-	-	1	4
研究室長	18	18	6	3	3	0	12
研究員	23	15	6	6	0	1	17
一般職	17	10	5	5	0	1	12
全体計	63	46	17	14	3	3	46
研究者計	46	36	12	9	3	2	34

付屬資料-5-8

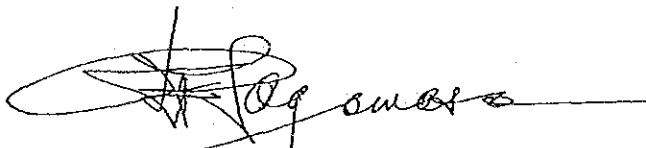
STRATEGY FOR THE HOUSING

FOR F.R.I. STAFF

Housing is an acute problem in the country. Because of the shortage of funds, it has not been possible to build the houses for all the government staff.

As a result, there is shortage of government accommodation throughout the country but specially in big towns, such as, Port Moresby, Lae, Madang, etc.

I have been advised by the Department of Finance and Planning that a few houses can be built every year starting from 1989 onwards as capital works under normal budgetary process for the remaining staff of F.R.I.



A L TAGAMASAU  
A/Secretary for Forests

27th July 1987

付属資料-5-9  
 外来研究者受入スケジュール

No.	国名	研究期間																		
		19 89年		19 90年		19 91年		1992年												
		6月	12月	6月	12月	6月	12月	12月	12月	5月										
1	オーストラリア																			
2	ニュージーランド																			
3	韓国																			
4	カナダ																			
5	イギリス																			
6	マレーシア																			
7	オーストラリア ニュージーランド																			
8	ソロモン群島		(a)																	
9	フィジー		(c)																	
10	UNDP/FAO																			
11	パプアニューギニア																			
	対象人員		0人	6人	7人	7人	7人	7人	7人	6人	7人	6人	4人							

付属資料-5-10

日本人専門家派遣計画

長期専門家	3 (1)	4 (1)	3 (1)	3 (1)	3 (1)
短期専門家	4 (1)	9 (1)	9 (1)	6 (1)	7 (1)

上記(1)はコーディネーター1名を示す

長・短期の専門家についての年次別派遣計画は以下の通りである。

		1年次	2	3	4	5
天然林	長短	1 1	1 1	1 1	1 1	1 1
人工林	長短		1 1	1 1	1 1	1 1
種子	長短	1	1 1	1 1	1	1
育苗	短	1	2	2	1	1
電算	短	1	1			
心材	短	1		1		1
天敵・微生物	短		1	1	1	1
土壌	長短	1	1 2	2	1 1	1 1
計	長短	3人 4人	4人 9人	3人 9人	3人 6人	3人 7人

付属資料 - 5 - 11

a. 研究内容・指導内容

招 聘 国	人 数	研究・指導内容	期 間
オーストラリア	1	組織培養による増殖技術	12ヶ月
ニュージーランド	1	腐朽菌害の研究	12ヶ月
韓 国	1	シイタケの乾燥及び包装技術	12ヶ月
カ ナ ダ	1	昆虫の成育環境試験	12ヶ月
イ ギ リ ス	1	マイマイガのウィルスの防除技術	3ヶ月
マレーシア	1～2	天然林施業技術	3～6ヶ月
オーストラリア ニュージーランド	1～2	土壌・植物栄養の研究	6～12ヶ月
ソロモン群島	1 2	天然材施業技術 木材同定及び保存の研究	3～6ヶ月 6ヶ月
フィジー	1 1	木材保護の研究 木材保存の研究	3～6ヶ月 6ヶ月
UNDP/FAO	3	天然林施業技術	1年～3年
バヌアツ	1 1	木材同定及び保存の研究 木材同定	6ヶ月 6ヶ月

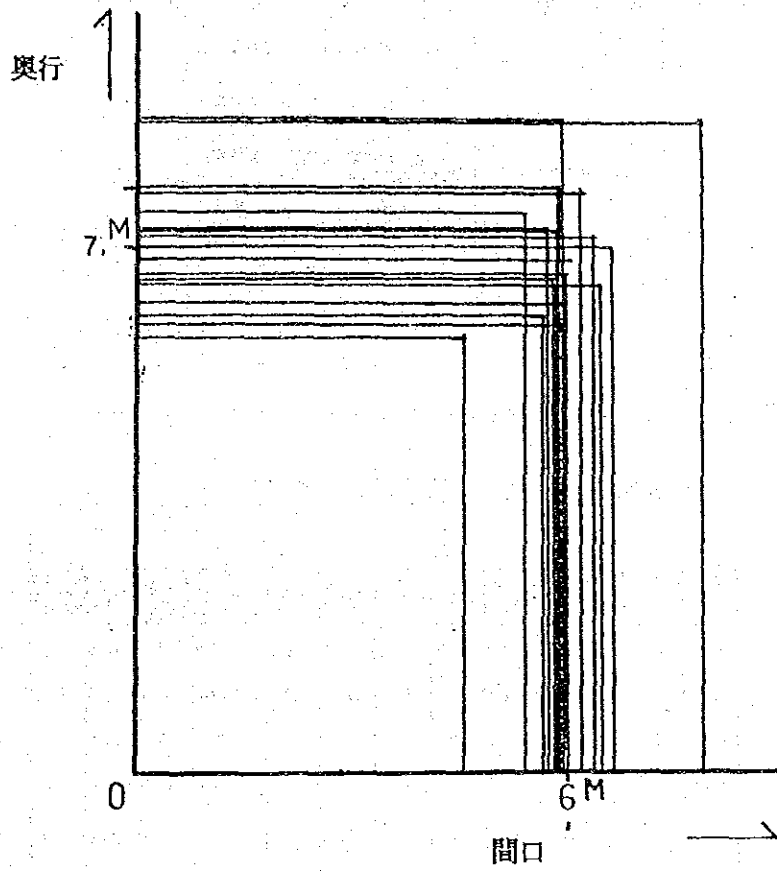
実験室配置のパターン

	設備配置				居室との関係				採用国	実例	
	Box	島型	半島型	筆記机	独立	隣接	内包	張出し			サンディング
大部屋	○ ○	○ ○ ○ ○	○ ○ ○ ○		○	○				西ドイツ 西ドイツ 日本(専売中研) 各国教育実習	①②③ ④ ⑤
2-3単位		○ ○ ○ ○	○ ○		○ ○	○		○	○	西ドイツ, スイス 西ドイツ, 日本 日本, ソ連 西ドイツ, 日本 日本(化技研) アメリカ	⑦⑩ ⑥ ⑧⑨ ⑤ ⑪ ⑬⑭
1単位		● ● ● ● ●	● ● ● ●		● ●	●			○ ○	西ドイツ, スイス, 日本, アメリカ, ソ連 アメリカ, 東ドイツ スイス, アメリカ アメリカ 日本(化技研) アメリカ, 日本 アメリカ, 日本	⑦⑧⑨⑩⑪⑫⑬⑭⑮ ⑥ ①② ③④⑤⑦ ⑬⑭ ⑤ ①②⑦



付属資料-5-13

標準実験室の大きさ



標準実験室の内のり寸法

※ 図より、内のり寸法を記入

(パイプスペース、居室を除く)

付属資料-5-14

研究所空間の分類

1次	標準実験室	実験台、オービス、ドラフトなどを設備、空調の準備なし
	特殊実験室	特別な能力をもたされた結晶・粉末、クロマト、ギルダール分析、天秤、標準化、洗淨
	特別室	政府に預託を調結した特殊室・恒溫恒湿室、特別な細かい調節をした空調
	大スパン実験室	大動物、ガラス部屋、化学工学、パイロットプラント
2次	研究室 office	管理室、博士の居室、図書館、会議室、教室
	倉庫	科学的仕事のなされることのない倉庫
	オービス空間	ボイラー室、プラント室、大きなダクト、変電室、機械室
	Staff Accomodation	共済室、休憩室、料理室、更衣室、W.C.、売店
	交通	廊下、階段、エレベーター、出入りに用いる空間
	その他	ガレージ、道具小屋

付属資料-5-15

イギリスの研究所の様式 (1次空間と2次空間)

研究所名	延坪 m <sup>2</sup>	分野	1次				2次					total		
			標準 実験室	特殊 実験室	特別 室	大ス パン 実験 室	居 会 議 室	倉 庫	機 械 室 パイ プ シャ フト	休 憩 室 更衣 室	交 通	その他 (ガレ ージ)	1次	2次
Datchet Radio Research Station	5,049	物 理 学	19.7	2.3	—	7.9	26.1	9.5	8.2	9.0	14.2	3.1	29.9	70.1
Stevenage Water Pollution Research Station	4,420	物 理 学 生 化 学 学	17.2	7.1	1.0	11.2	12.7	12.5	13.8	6.7	13.8	4.0	36.5	63.5
Weybridge Therapeutic Substances Laboratory	2,767	生 物 学	11.5	17.7	6.8	—	1.7	5.2	26.0	6.2	24.9	—	36.0	64.0
Hurley Grasslands Research Station	3,795	化 学 学 生 物 学	20.9	5.3	—	15.9	12.6	5.9	7.8	10.8	20.8	—	42.1	57.9
Wellesbourne National Vegetable Research Station	3,140	植 物 学 昆 虫 学	30.5	12.3	4.0	—	15.3	6.7	3.5	7.1	20.6	—	46.8	53.2
Conventry Acetate & Synth. Fibers Building	7,772	物 理 学 生 化 学 学	23.5	14.2	2.6	0.2	13.1	8.5	12.6	6.2	19.1	—	40.5	59.5
Derby British Railways Laboratory	1,358	冶 金 学 工 学 学	26.6	5.0	1.3	18.8	18.8	4.9	2.7	2.7	19.2	—	51.7	48.3
Enfield Colour Television Laboratory	2,639	エレクトロニクス学	37.1	0.4	4.6	5.0	11.9	6.5	7.4	7.1	20.0	—	47.1	52.9
Farnham Forest Research Station	2,139	昆 虫 学 生 理 学	14.3	11.7	10.1	—	17.9	10.2	10.0	3.8	22.0	—	36.1	63.9
Welwyn Research Build. Plastics Division	3,274	物 理 学 物 理 学	27.8	8.6	5.6	—	17.7	5.7	5.2	3.6	25.8	—	42.0	58.0
Levington Fisons Research Station	3,607	化 学 学 生 物 学	16.9	11.7	2.6	—	19.0	7.5	15.3	4.1	22.9	—	31.2	68.8
Welwyn T.S.&D. Building I.C.I.	7,381	化 学 学 工 学 学	12.1	—	—	34.8	20.0	6.6	3.7	3.8	19.0	—	46.9	53.1
(平均)			21.5	8.0	3.0	7.5	15.5	7.5	10.5	6.0	20.0	0.5	40.5	59.5

採用値

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1. QUARTERY ECONOMIC BULLETIN B PNG PM
2. Quarterly Economic Bulletin BOPNG
  - (1) Table 9.4 exchange rates
  - (2) Table 10.1 indicators of economic activity

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Facts & Figures 1986
2. List of FPRC. staff
3. Forest Products Research Centre PNG OOF
4. Kiln drying schedules of PNG timber species PNG FPRC DF
5. Timber industry training college
6. PNG forestry college hand book Forkol
7. Welcome to the national library of  
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8. Papua New Guinea  
Bell Trade & Business Directory 1986

## 建築法規

1. THE INTERNATIONAL SYSTEM OF UNITS (SI) AND ITS APPLICATION NSC PNG
2. TECHNICAL DRAWING Part 101 -- GENERAL PRINCIPLES SAA
3. TECHNICAL DRAWING Part 501 -- STRUCTURAL ENGINEERING DRAWING SAA
4. TECHNICAL DRAWING Part 601 -- STRUCTURAL ENGINEERING DRAWING Structural Engineering Drawing SAA
5. TECHNICAL DRAWING Part 401 -- ENGINEERING SURVEY AND ENGINEERING SURVEY DRAWING SAA
6. TECHNICAL DRAWING Part 401 -- ENGINEERING SURVEY AND ENGINEERING SURVEY DESIGN DRAWING Sewerage and Water Supply SAA
7. GENERAL STRUCTURAL DESIGN AND DESIGN LOADINGS FOR BUILDINGS NSCPNG  
Part 1 -- General Design Requirements  
Part 2 -- Dead and Live Loads
8. GENERAL STRUCTURAL DESIGN AND DESIGN LOADINGS FOR BUILDINGS NSCPNG  
Part 3 -- WIND LOADS
9. GENERAL STRUCTURAL DESIGN AND DESIGN LOADINGS FOR BUILDINGS NSCPNG  
Part 4 -- Earthquake Loadings

- |     |   |        |
|-----|---|--------|
| 10. | DESIGN MANUAL<br>to assist in application of the code of<br>practice for general structural design and<br>design loadings for buildings | NSCPNG |
| 11. | REINFORCED CONCRETE STRUCTURES  | NSCPNG |
| 12. | STEEL STRUCTURES  | NSCPNG |
| 13. | REINFORCED MASONARY STRUCTURES  | NSCPNG |
| 14. | APPROVAL AND TEST SPECIFICATION --<br>DEFINITIONS AND GENERAL REQUIREMENTS<br>FOR ELECTRICAL MATERIALS AND<br>EQUIPMENT                 | SA     |
| 15. | SAA WIRING RULES  | SAA    |
| 16. | RULINGS TO THE SAA WIRING RULES   | SAA    |
| 17. | Notes on Changes in the SAA Wiring Rules<br>-- 9th Edition (As 3000-1986)<br>as compared with the 8th Edition<br>(As 3000-1981)         | SAA    |
| 18. | Papua New Guinea Building Permits --<br>Details of proposed new building  |        |
| 19. | Papua New Guinea building act 1971<br>application for approval  |        |

## 地質

1. GEOLOGICAL SURVEY OF PAPUA NEW GUINEA
  - (1) LAE CITY AREA, LOADING FOR STRUCTURAL DESIGN
  - (2) SETSMICITY OF THE NEW GUINEA REGION
  - (3) METEOROLOGICAL INFORMATION SERVICES SECTION YEARLY EXTREMES OF MAXIMUM WIND GUST
2. Site investigation report for the Forest Research Institute, Botanical Gardens Lae
3. Seismic zones for building construction in Papua New Guinea

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1. Lae common rule
2. Rules for the Interpretation of the Traffic 1981
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#### 略語

1. NSCPNG National Standards Council of Papua New Guinea
2. SAA Standards Association of Australia
3. SAA Published by the standards association of Australia Standards House, 80 Arthour St, North Sydney, N.S.W.
4. BPNG PM Bank of Papua New Guinea Port Moresby
5. PNG OOF Papua New Guinea: Office of Forests
6. PNG FPRC DF Papua New Guinea Forest Products Research Centre, Department of Forests
7. BO PNG Bank of Papua New Guinea







JICA