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INTRODUCTION

Japan consists of a crescent-shaped chain of islands lying between latitudes 24 degrees and 46 degrees north and longitudes 122 degrees and 146 degrees east. The chain constitutes of four main islands, namely, Kyushu, Honshu and Hokkaido. From the southern extreme of Kyushu to the most northern end of Hokkaido, the length is more than 2000 Km with 100Km to 400Km in width. And about 80 per cent of her land is mountainous, which are generally steep and are engraved by deep beautiful valleys. The representative high mountains are Mt. Aso(1592m) in Kyushu, Mt. Fuji(3776m) in Honshu, Mt. Tsurugi(1955m) in Shikoku, and Mt. Daisetsu(2290m) in Hokkaido.

The total land area in Japan is 36.8 million ha, of which 68 per cent i.e. 25.1 million ha are covered with forests. The total stand volume of forests is 1917 million cubic meters i.e. average stock $76\text{m}^3/\text{ha}$. For state forests, the total area is 8 million ha, and its stand volume is 877 million cubic meters with an average stock of $110\text{m}^3/\text{ha}$, while the private forests cover 17 million ha, 1041 million cubic meters, $61\text{m}^3/\text{ha}$ respectively. The area of primary forests is 14.8 million ha and its stand volume is 1328 cubic meters, and the average stock is $90\text{m}^3/\text{ha}$. For last five years, the total afforestation area was about 1.8 million ha. According to statistic, timber demand for 1969 was about 96 million cubic meters, of which 47 million cubic meters was supplied domestically, while the rest 48 million cubic meters had been supplemented by imported timber. Although, the data show that the volume of domestic timber supply is equal to that of imported timber but the latter is expected to continue to increase in the years to come.

Therefore, presently Japan is on the verge of decision making point for her forest policy.

BRIEF DESCRIPTION OF UNIVERSITY FORESTS

GENERAL

There are all together 25 universities in Japan which have the department of Forestry. Most of these universities have their own forests. Table I enlists the 23 state universities which have their own forests. The table also shows that Tokyo University has the highest average stock, $175\text{m}^3/\text{ha}$ and Hokkaido University has the largest area of its forest. It is believed that there are only a few universities in the world with such large forests as Hokkaido University. At present four universities viz. Tokyo, Hokkaido, Kyushu and Kyoto University offer studies in forestry leading to the doctorate degree. Table I also indicates that the average stock, $131\text{m}^3/\text{ha}$, for all university forests is higher than both of the average stock for state forests, and general average stock which are $110\text{m}^3/\text{ha}$ and $76\text{m}^3/\text{ha}$, respectively.

AIMS AND ACTIVITIES OF UNIVERSITY FORESTS

The objective of university forests is to advance knowledge in the science of forestry, which can be utilized by both students and researchers either in field laboratories for instruction or study of forestry. A summary of the main research projects is outlined in Table II. Some of the projects have been completed while others are currently in progress. Further, the programmes of field practice for students are shown by Table III.

ADMINISTRATION OF THE UNIVERSITY FORESTS

The university forests are under the jurisdiction of the Ministry of Education. But the responsibility for the day-to-day management of university forests affairs lies on the University Forest Office(U.F.O.), which is attached to the Faculty of Agriculture. It is ordained that the income of each university forests, from its forests' products,

should not be less than the expenditure for its maintenance. In case the income does not meet the expenditure, then the Ministry of Education deducts the university forest's budget by 20 per cent.

For this as well as some other reasons, the research personnel at the U.F.O. are sometimes forced to do the needful for covering the deficit, if any. However, this appears as one of the obstacles in the growth of research in forestry. Table IV presents the number of staff and facilities for each of university forests.

FURTHER OUTLOOK FOR UNIVERSITY FORESTS

Although university forests in Japan have been established for a long time, many problems are yet to be solved. For instance,

(A) PROPER AREA OF UNIVERSITY FORESTS

Table I presents a great difference in forest area between universities ranging from 65 ha to 68 thousand ha. If an university forest is exceedingly large in area, it usually tends to be commercial forest business, and therefore deviates from the real endeavour of a university forest. On the other hand, if the university forest is too small, it will not comply with the requirements for education and researchers. Therefore, some measures should be taken to regulate the size of university forests.

(B) OBJECTIVES FOR FOREST RESEARCH INSTITUTION AND UNIVERSITY FORESTS

It seems that the present Forest Research Institutions have gone astray and do not conduct the researching tasks. Furthermore, presently the university forests are under obligation to make profit in order to cover the budget. Consequently, experiments for the following research categories, required to be conducted, are still not performed:

- a. Improvement of forest trees
- b. Sustained yield system
- c. Silvicultural experimental designs
- d. Forest livestock protection
- e. Soil and water conservation
- f. Others

(C) INTERNATIONAL COOPERATION FOR STUDIES IN FORESTRY

International exchange of scientific information, personal and flora etc. between the experimental forest organizations and similar institution in different countries should be promoted if the study in forestry has to be made up to date and brought to international standard.

Table I Total area and stand volume

No	Name	Forest area(ha)	* 1	1000m ³ Total stand volume	m ³ /ha Ave vol	m ³ Incr	m ³ Stand-ard Yield	* 2	Total Plantation area(ha)
1	Hokkaido	68376	6	8312	121	95016	60245	94	2787
2	Tokyo	31593	7	5539	175	114692	98680	153	3798
3	Kyushu	7108	4	687	97	14560	11541	84	1626
4	Kyoto	6587	8	1077	164	16124	15283	120	803
5	Kagoshima	3305	2	234	71	8594	7443	54	1645
6	Tokyo Edu	1858	3						187
7	Tohoku	1705		84	50	2646	2484	20	117
8	Iwate	1284	2	205	160	3785	3495	16	404
9	Tokyo Ag T.	767	4	92	120	2923	3104	18	351
10	Yamagata	704	1	43	60	1412	477	2	142
11	Gifu	556	1	97	174	2164	1528	6	152
12	Shimane	551	3	8	14	283		20	89
13	Miyazaki	519	1	62	120	1724	1455	6	320
14	Utsunomiya	516	2	76	147	2254	3957	22	218
15	Shinshu	507	6	51	100	1084	465	2	225
16	Nigata	464	1	54	117	4348	925	3	11
17	Mie	437	1	72	165	375	778	4	166
18	Tottori	436	5	25	57	499	280	13	159
19	Ehime	372	1	39	105	1953	1171	6	128
20	Stizuoka	352	3	5	15	259	135	1	124
21	Nagoya	322	1					13	188
22	Khochi	126	1	7	52	1003	400	3	64
23	Okayama	65	1	4	67	163	73	0.5	5
Total		128510	64	16773	131	275861	213919	660.5	13709

* 1: number of districts, * 2: yearly planted area(ha)

Table II Main research projects

Natural regeneration
Soil erosion control
Mechanical system experiment of forest road construction
Timber sawmill
Management of forest estates
Alternative strip cutting method
Thinning of *Cryptomeria* and *Chamaecyparis*
Forest mensuration of standing timber volume
Fertilizer
Stem increment study
Study for regeneration of broad leaved-trees
Snow damage
Long rotation
Developing tree hybrids
Stand management
Improvement of forest trees
Silvicultural studies in high and cold places
Exotic species
Observation of water streams
Insect damage of Pine
Ecology
Weeds killer
Study of rabbit habitations
Larix study
Betula study
Genetics of *Cryptomeria*
etc.

Table III Programms of student training period

Forest mensuration
Forest management plan
Silviculture
Dendrology
Forest survey
Forest engineering
Forest administration
etc.

(about one week each)

Table IV Number of staff and main facilities

No	Name of Uni.	Academic staff	Non- academic staff	Total	Jeep car	Truck	Trac-tor	skider	Bull- dozer
1	Hokkaido	25	130	155	24	28	8	3	1
2	Tokyo	39	273	312	23	11	1	2	6
3	Kyushu	17	50	67	7	2	1	4	2
4	Kyoto	15	105	120	5	4	3	7	3
5	Kagoshima	4	41	45	1	2		4	2
6	Tokyo Edu	6	10	16	1			3	1
7	Tohoku	1	27	28	4	1		1	2
8	Iwate	5	33	38	4	3	2	4	
9	Tokyo A.T.	4	25	29	1			1	1
10	Yamagata	2	6	8	2			1	2
11	Gifu	2	10	12	1			1	1
12	Shimane	5	5	10	1	2			1
13	Miyazaki	3	8	11	1	2	1	4	2
14	Utsunomiya	3	34	37	5			1	1
15	Shinshu	4	11	15	1			2	1
16	Nigata	2	8	10	1			1	1
17	Mie	3	8	11	1			2	1
18	Tottori	2	9	11		3		2	1
19	Ehime	4	8	12	1			2	1
20	Shizuoka	3	6	9	1			1	
21	Nagoya	2	4	6	1			1	
22	Khochi	2	9	11	2	1		2	
23	Okayama	3	4	7	1				
Total		156	824	980	89	59	17	49	30