"TIMBER PRODUCTION AND ITS ECONOMIC BENEFITS IN JAPAN"

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Pattern of food, clothing and housing is adopted by any society under the prevailing circumstances and environments and Japanese Society is no exception to it.

Japanese ancestors gained farming skill and relevant livestock for labour and cultivation purpose, however their animal protein is based on marine products, as it is surrounded by sea.

With abundance of natural forests and several workable species, Japanese emphasized on wood housing construction. Such dwelling arrangements dates back to 1200 years ago. Since then art and architecture in shrines, temples, luxurious large residence of feudal lords (Daimyo), common houses, huts, furniture, ships, vehicles, toys etc. reflects the wooden based construction of Japanese dwelling, therefore wood is considered essential and necessary for the life of Japanese people. However, the start of Meiji Era (1860 & onwards), westernized every aspect of Japanese Society including wood, as national isolation policy of Japan was withdrawn from Japanese civilization.

To gain the requirement of wood achieved to satisfy the demand of timber, a programme of "Green campaign" was launched, since 1950. A country-wide effort was made to emphasis upon the organization of National Land Afforestation Promotion Association to renovate the country with green festival look. In order to rehabilitate greenery not only in villages, but in towns and cities also, a movement called "Green Feather" was started to festivate the country with a greenish look. Already cut-over areas and devastated forest land were planted with trees. In order to check the calamities and stabilize the national life,

beautifying the municipalities, purifying the town air etc., programmes of cultivating the headwater reservoir forest and timber production forest were implemented, vigorously. Practice like school forest, mental, mind, heart and soul greenery and plantation for timber use were widely propagated, which resulted in tree plantation also meant for timber conversion, on mass level in Japan. A campaign of greenery and greenish look with wooden houses, was launched, which enabled the country to gain high achievement in the field of forestry and timberology. System of green week (Starting from 1st March in Southern block, from 1st April in Central block and from 1st May in Northern block), by dividing the whole country into different blocks and dating of time schedules to plant the trees, was started and practised. In addition to this a green feather campaign from March to May was also initiated, under the sponsorship of Afforestation Promotion Association on prefectural level. Such movement gained the active co-operation of junior and senior school pupils and other volunteers. This generated efforts like school forest, river head forest and planting on school sites.

Besides, the National land Afforestation Promotion Association holds national trees festivals, attended, witnessed and participated by the emperor and empress in a ceremonial way. Prize distribution contests are also held and green week posters are printed and distributed, throughout the country. A bird week is also arranged every year on 10th of May to promote the understanding of and fondness for birds. In this week posters are distributed, bird nests are built and feed trees are planted. This creates a sense of moral obligation for the preservation and protection of wild life and divine creatures.

The present picture of Japanese construction may be seen as RCC constructed houses and buildings with iron and steel made furnitures, but most of the houses are still decorated with tatami (Strawmat) and wooden columns' Boards are replaced by plywood and laminated wood with printed grains on the surface.

From this, one may understand that association and affection of Japanese about wood is still in momentum, for, wood has lower heat conductivity, gentle fluctuation, adjustment of humidity due to its hygroscopic nature, area economy for construction and diversifying decoration with tatami and hormonization of climate.

TIMBER INDUSTRY

With the stimulation in the quantum of construction in Japan, the demand for shaped wood has been increasing. The areas of cold weather still need more installed wood to keep the houses warm and resistant to cold. With the rise in living standard the demand for construction of housing has also been increasing. In 1985, the housing construction crossed the limits of 30 million houses. Prefabricated requirement of houses asserts the quality of Japanese enterprises. In order to meet the rising demand, timber industry has also been developed in Japan.

1. Saw Mill Industry

The Saw-mill production industry gained 40 million^{m3}, valued at $3 million, in 1968 and there are more than 25000 Saw-mills in Japan. This has also increased the log consumption as each mill required 2160^{m3} and every mill producs[1] 500-1000^{m3}.

The most popular Saw-mill machine is known as table handsaw with carriage and automatization facilities. Saw-mill wastes are used for wood-chips, pulp and paper, and lumber production, is more than 1000^{m3} used for construction, civil engineering, set box boards, furniture, fittings, railway sleepers, ship building, vehicles and others.

2. Plywood Industry

Plywood Industry plays an important role in the timber industry of Japan. It depends on tropical hardwood. There are more than 300 mills of ordinary plywood in Japan

and produces more than[2] 1190^{m3}. It is commonly used for concrete firm work, flooring board, exterior panels and construction sector. It is useful for water proof and climatic resistance because of thicker board. Its specialised quality of printed plywood and vinyl chloride are of greater and fanciful use. Its automatized hotpress and continuous dryers, have widely attracted the interest of users.

3. Chipboard Industry

It is produced mostly from the waste of plywood mills. There are more than 20 mills in Japan, with the production of 17230000^{m2}. From the total production of 41.4% is used for furniture, 24.3% for construction, 20.7% for electrical appliance, and remaining 13.7% for sewing machine table[3] top, shipbuilding and fittings.

4. Firewood Industry

There are more than 23 hardboard, softboard and semi hardboard mills with production of 92331000^{m2}, in Japan. It is used in construction, furniture, cars, fittings and cratings etc.

5. Laminated Wood Industry

There are more than 104 mills in Japan, producing laminated wood used for furniture, shipbuilding, civil engineering. Most of these mills are on small scale, valued at 60 and more thousands dollars and employ about 50 workers. Its prime production is known as dressed laminated wood. It is used for alcove, curved arch for decoration and structural purpose. Its production has been increased[4] by 5 times against 45000^{m3} in 1968.

6. Pulp and Paper Industry

Japan may be ranked on fourth number after U.S.A, Canada and Sweden in pulp and paper production. In 1967, Japan produced 6220000 tons of pulp i.e. 13% more

than the production of 1966. Import of exotic chips increased to 3270000^{m3} in 1968 i.e. 12 times more than in 1965. More over the pulp wood is shifting from softwoods to hardwoods[5].

TIMBER DEMAND AND SUPPLY

In Japan the demand for timber wood is on upward trend and with the growth of economic development the use of timber is increasing by leaps and bounds as Japanese have always a great love of trees and woods, since ancient times. Japanese have aesthetic appreciation of timber, for it has varying unique textures which provide a feeling of softness, suppleness, lightness open airness and clarity. In the year 1968, demand for sawnwood was 58.98 million^{m3}, 20.23 million^{m3} for pulp and 8.91 million^{m3} for plywood, reflecting 25% for saw timber, 41% for pulp and 72% of plywood, slashing the demand for mine props and poles.[6]

In the same year, Japan had to meet its demand of timber by importing 42.84 million^{m3} as an addition to domestic supply of 48.96 million^{m3}. Presently the demand of Japan for timber has crossed the limits of 111930 thousand^{m3} against 105382 thousand^{m3} in 1985. The domestic production can hardly supply 22915 thousand^{m3} and 89105 thousand^{m3} is met through imports from abroad, reflecting 20.5 ratio of self-sufficiency.[7]

TIMBER TRADE

Japan meets its requirements by importing timber from U.S, Russia, New-Zealand and other countries. Its imports may be termed as second in quality after oils. Its demand of Sawn wood is met through imports from foreign countries, consisted of highest share of lauan and Apibong. Imports from Philippines, Malaysia (Sabah and Sarawak), and Indonesia meet the requirements of Lauan Logs. U.S. and Canada supply 80% of logs and 20% of sawn wood, whereas Russia and New-Zealand supply 17.5% and 40%

of softwood log. New-Zealand also produces alumdant conifers man-made forest resources which are used to manufacture woodchips, softwood chips, hard wood chips, gum chips, mangrove chips and are also exported to Japan. Eucalyptus tree chips of U.S.A, plywood veneer and improved wood are also imported by Japan.

Against imports, Japan's exports include plywood, niche Board cover, hardly totaling to 0.9% of the total export value.

TIMBER DEVELOPMENT

Uptill now, the internal timber production is unable to cope with the demand and requirements of the country. Steps to change the low yielding and utility area of hardwood and fuel consumption into timber producing wood, have been taken. In near future higher utilization of land has also to be adopted, with the result to enlarge agriculture and forestry production. Rural living conditions are improved and given a dynamic look. Economic and social condition of the rural living and forest working population has been diversified, improved, enhanced, developed and bettered to attract them for hardwork and stimulating forestry and producing timber for the requirement of the masses.

Forestry has been developed, link roads and forest roads are constructed. Mechanization for group operation has been adopted. Pilot projects have been further improved. So far more than 900 towns have been flourished with such development, covering an area of 22000 hectares and 2200 k.m. of roads have been constructed. More than 15 millions^{m3} of wood are harvested and 150000 hectares are planted with trees annually. To support the producing belt, more than 1000 k.m. of forest and link road have been constructed.

To get Japan forest development acknowledged with the changing development and technological achievements,

many Japanese enterprises have advanced their co-operation in forest development with foreign countries. Japanese co-operation agreements on mutual and reciprocal basis in this regard, have been concluded in Kalimantan, Indonesia, Cambodia, Malaysia, British Soloman Islands and others to exploit lauan woods and wood chips for pulping. Such aid and help may further promote co-operation with foreign countries in this field.

CONCLUSION

While concluding it may be noted that Japan is trying at her level best to enhance the timber production to meet the domestic requirements from the internal production sources. Efforts are on the way to mould the timber production patterns according to the divergent needs and tastes of the society. Even mountain area are brought under forestry developing project to further stimulate timber productions. Pilot forestry has also been developed. It may be termed as a novel achievement and Japan is pioneer of green campaign on this count. Treeless areas are planted under the schemes of man made forests. It is just like a green treasure home of agriculture and forestry on wilderness. Pilot forest help in the recovery of marine resources and supply of the desired timber quality. Its plantation varies between the temperatures of 80^{C} to -200^{C}. The base soil of pilot forest in new tertiary and quaternary on which the eruption of alluvium is thickly covered. Exotic species, existing species, broad leave species and their mixed planting have been developed to cater to the needs of timber production.

Moreover silviculture has also been attended to properly. Japan is naturally provided with congenial vegetation, desired topographical bases, suitable climate, attractive geographical position, required pattern of construction, traditional habit of using timber, availability of diligent and tenacious labour and inherent forestry practices, which are conducive for the development of unique silviculture. On the ancestral provided suitable

bases, best species for desired timber production have been developed. It may enable Japan to satisfy the timber needs of the demanded quantity and quality from internal sources, in near future.

In addition to this, timber yards have also been developed. It includes the booming ground, vehicles, fork loaders, fork lift, wheel crane, electric winches for piling and assortment, guy derricks, truck cranes and hydraulic loading machines etc. Such timber mechanization has improved the efficiency of supply and skill to meet the market requirement well in time.

To boost up timber production, more than 28 public and private organizations, associations, societies, stations, research councils, institutes, co-operatives, federations, corporations and commissions have been established. They actively promote forestry and timber production in Japan. Different universities have managed and organized full-fledged faculties and departments to teach forestry and related subjects, with the purpose to stimulate timber production and its rapid achievement.

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