

# THE FAO FORESTRY ORGANISATION, THE PACIFIC SCIENCE CONGRESS, AND THE ASIA-FAR EAST REGION. <sup>1</sup>

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As representative, first, of the Food and Agriculture Organization of the United Nations and its Director-General, and, second, of that Organization's Division of Forestry and Forest Products, it seems opportune for me to sketch the nature and broad aims of the Division and of the Organization of which it is an integral part.

It goes without saying that my presence is proof that the Congress believes there is a field of mutual interest between itself and my Division and Organization, and that we of the Food and Agriculture Organization concur in that view.

There are now many international organizations. All have as their ultimate purpose the maintenance, I should even say the establishment, of peace in the world. Some provide machinery so that political disagreements between nations may be candidly examined in open forum, and so that a consensus of world opinion may be reached and made known as a moral force pressing for peaceful solution of even severe and deep-rooted difficulties. But there are other approaches to peace, the ways pursued by the group of "specialized agencies" affiliated with UN.

FAO aims to stimulate, guide, and aid nations to help themselves to obtain freedom from want for their peoples. In all societies the provision of food, clothing and shelter is a minimum definition of human wants. Of these, food is of the utmost importance. But my Division is part of FAO precisely for the reason that want—or basic human needs—includes the elements I have mentioned.

The existence of an association of nations, pledged to this common end, is in itself sufficient proof that unsatisfied human wants are both great and widespread. Indeed, mere mention of this well-known fact is all that is needed to obtain its acceptance by an informed audience.

Having said this, it is equally unnecessary to elaborate the general point that progress toward the goal of freedom from want involves the obtaining of knowledge through the orderly processes of science, and applying it to a multitude of specific problems, which as each is solved, marks a step ahead.

It is on this question of ways and means by which progress may be attained or speeded up that I wish to speak, and chiefly as it applies to the regional situation in Asia and the Far East.

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First of all, it seems necessary to recognize and accept that there exists three basic ideas which must be given practical effect before more detailed programs are likely to be fully effective.

The first of these is the interrelation and interdependence of many, if not all, of the now manifold subdivision of the pure and applied sciences which bear on the over-all goal and problems of freedom from want. In our time we have seen a progressive fragmentation of what were a generation or so ago broad and widely inclusive disciplines, such as biology, chemistry, soil science, etc. In our own sphere of work, we have societies and associations of foresters, administrators, range managers, forest recreation specialists, forest products researchers, wood anatomy researchers, wood chemistry specialists and many others.

Each of these groups may seem to exist in an air-tight and self-contained compartment. Some deal principally with pure, some with applied science. The point I want to emphasize is that any appearance of self-sufficiency is in the largest sense unreal. For each such professional body is part of a larger unity. Indeed, one is tempted to speak of the essential unity of all science. The need for bringing together the followers of the multitude of separately organized professional groups is clearly very great.

The second fundamental idea is that the translation of the results obtained by science into practical application must not be left to chance. Scientists usually have means of publishing their findings, so that these may be readily available to other technical workers in particular fields. But clearly this is not enough, if science is to make its greatest contribution to the advance of human welfare. It is necessary as well that competent people shall determine the practical implications of new findings, and that their conclusions shall in turn be made readily available to those responsible for the economic and social welfare policy, plans and programs in each country.

The third idea is that by the nature of the world and of man, the great regions of the earth have different problems, different types of solutions, different aids and deterrents which affect the application of the results of science.

In our own field, the aim of FAO is to aid governments to co-ordinate their efforts so that the production of the world's forests may satisfy the needs in forest products of the world populations; but the problems confronting each region vary greatly. For European or North American foresters the problem is one of better management and greater protection of their forests. For Latin American foresters, it is the development of unexploited forests, and that is also the problem of the tropical and equatorial regions of Africa. In the Far East, the most pressing question is that of reforestation, both for the conservation of the soil and for the supply of necessities, such as fuelwood.

Study and discussion of the characteristics of each region separately is therefore an indispensable step in relating the problems of individual nations to those of the whole world.

Clearly, the very existence of this Congress and its continuance over many years, is proof that you have pioneered in recognizing the need for regional organization and in increasing effective regional machinery. So too, I understand that you can readily agree to my other two underlying ideas, since they are implicit in your organization.

With such an organization I can then feel wholly at home, and in an environment where we may concentrate on regional problems, plans, programs and measures.

For FAO, which is concerned with the productive soils and waters of the earth, is built around practical acceptance of these three basic considerations.

In the first place, in its total organization it brings together the applied sciences dealing with forestry, agriculture, fisheries, nutrition and rural welfare. Competent people in all of these far-reaching fields and their subdivisions, coming from many nations, make up a technical staff in which consultation on various aspects of single problems is common and indeed routine.

In my own Division, our activities and own staff deal with both the growing of forests and the utilization of their products. It seems to me that these are two aspects of one entity and neither can be neglected without detriment to the other or to the whole.

The Forestry and Forest Products Division, moreover, is jointly concerned with the Agriculture Division in the great and widespread problems of soil conservation, of the relations of forests to water supply, and to the indirect protection of croplands. It is unnecessary for me to remind you that this approach to problems which are neither exclusively forestry nor agriculture nor water management, is by no means universal in governmental organization.

In the second place, as an international organization, it is the duty of FAO to draw the attention of responsible people to the possibilities afforded by developments in science and techniques for improving production and thus increasing supplies available for human needs. Much of the published material of my own Division, and of FAO as a whole, is devoted to this end.

Third, then, my Division has, I think, taken the lead in preparing for and organizing regional work. Before speaking of our plans in Asia and the Far East, let me first outline the established general plan of action which we are following in our forestry work in each region. It falls into three distinct and successive stages :

- (a) Preliminary investigation of problems ;

- (b) Setting up the machinery for regional work, starting with a Regional Conference that states the problems and outlines the mean of attacking them, and leading to the establishment of a Regional Working Group for forestry and forest products ;
- (c) The regional work itself carried out by the countries' technicians with the assistance of the officers of the Division seconded to that region.

In Europe, we are at stage (c), in Latin America at stage (b), in Asia at stage (a), and by 1949 we hope to start work in Africa.

It has been necessary to establish priorities, priorities which moreover were recommended at previous FAO conferences, but I hope that we can rapidly eliminate the time lag and bring all regions up to the same stage of regional work.

I turn then to the working program of the Forestry and Forest Products Division for Asia and the Far East. In our initial analysis of how best to proceed there appeared to be every reason for following the same orderly procedure as had been successful in Europe and Latin America.

Accordingly one of our staff officers made a five-months' exploration trip to this region.

You will find a comprehensive report of his findings and conclusions in the last issue of *Unasylva*, the technical journal published by the Forestry and Forest Products Division, and it is unnecessary to go over them more.

But it is worth enumerating the main points of the agenda which the Division will propose for the Conference on Forestry and Timber, which is now set to convene in Mysore, India, on March 28, 1949.

An analysis of the information at our disposal showed that there were several needs of particular urgency in this region.

One of the most urgent problems is to provide fuelwood for multitudes of people in China, India and elsewhere. Lack of fuel is desperate and the burning of animal dung is a common practice, thereby depriving the soil of the natural fertilizer which is necessary to sustain its fertility. This in turn leads to lack of nutrition value in its products, less energy for cultivators and so a further decline in output. Lack of fuelwood thus is part of a vicious circle which goes far beyond the bounds of forestry itself. It merits, I am sure you will agree, the emphasis given it on the suggested agenda. The Division's view is that the fuelwood problem can be solved if attacked sufficiently vigorously, and its solution will be a step toward the Organization's goal of freedom from want.

Another need for the region as a whole is expanded production of lumber and industrial wood, particularly from forests not yet opened up. The needs within the region are very great and other areas of

the world can be expected to absorb any possible surpluses not required in the region. Here again, the results can be manifold. Among the more obvious are, increased employment, better living standards, perhaps improved trade balances through exports.

It will be, of course, the task of government representatives at the Conference to indicate the solutions to the problems which FAO only submit to their attention, but since the aims of the Conference are essentially practical, it may be mentioned that there are several connected problems to be solved to achieve increased production. Among these are better systems of grading lumber, increase and improvement of logging and milling machinery, and programs of feeder road construction. Another is to increase the number of technicians in the region.

Perhaps one of the principal results of the Conference's examination of the immediate needs of the region will be to induce governments to give more attention to the importance of forest resources.

The second group of subjects which the Conference may consider belong more to long-term policies—what must be done to get the best use and utilities from forests? I might say much about the various steps which we believe are essential in this region, but I will confine myself to listing the more important.

First, in many countries forest policy and forest law need review and clearer formulation. This done, forest services need to be expanded to carry out the tasks assigned by policy and legislation. Suitable administrative methods must be put into effect, research needs to be broadened and expanded, and additional educational facilities set up. All of these steps can, we are convinced, be made easier by study, consultation and action on the regional level.

Another group of long-range problems concern the various large-scale conservation programs which are clearly required. In this region, as in others, land is commonly used in destructive ways. Unregulated shifting agriculture eats into forest on sloping lands. The cleared land is used for a few years for crops, then abandoned and the process repeated elsewhere, thus increasing the vast areas of deteriorated land, valueless for either forest, range or farm.

Better control of grazing, of range burning, and of fires generally are widespread problems which must be solved before land deterioration in this region can be halted, and proper soil use instituted.

Coupled with programs to prevent further soil deterioration are those for improving or restoring the production capacity of land. To protect the croplands on which the hundreds of millions of people of this region depend for life, it is necessary to protect watersheds, control erosion and take measures to prevent floods. To accomplish these ends, a very great deal of forest planting is required. This whole problem of permanent land use is one in which forests and forestry occupy a key position, as you know. It is one in which only regional research and experience can show the precise constructive practices which must replace destructive methods.

The third and last group of problems which will be placed before the Conference are those of the development of forest and wood-using industries. These problems start with forest inventories to be made by modern air-ground survey methods. At the same time, a vast deal of work is needed to determine requirements for forest products, to analyze markets and so to plan production and distribution that both surpluses and deficits may be minimized.

One other word about the Forestry and Forest Products Conference. You will agree, I think, that the validity of its findings, will be the greater if they are the recommendations of technical experts. Although it is the responsibility of governments to put the results into practice, FAO has continuously stressed that delegations should be largely composed of technicians. I cannot do more than emphasize this again.

It would be premature to suppose that the Conference will recommend the setting up of machinery similar to that organized in Europe and Latin America after similar Conferences. However, it will have to ensure a way of implementing its recommendations, and will undoubtedly consider the utility of the working devices established in other regions.

May I, in conclusion, be permitted to suggest the possible effective working relations between the Pacific Science Congress, FAO, and particularly its Forestry and Forest Products Division, and governments. If we agreed that pure and applied science have an essential role to play in facing up to the urgent problem of freedom from want; that the strongest rope of applied knowledge will be braided as each strand of this or that technical discipline enters into it; that water-tight compartments of scientific knowledge must be broken down; that the examination and application of suitable measures can best be done on a regional level rather than by a purely national or even global approach; then the fundamentals of our co-operation may be summed up as follows:

First, all governments of this region must devote more attention to the conservation and development of those natural resources which can provide the basic needs of their peoples.

Second, in those parts of the region with a vast and rapidly increasing population, and with a dwindling stock of its basic wealth—land, the aim is twofold—to increase greatly the total effort of science and to apply the knowledge gained by trained technicians, supported by governments and institutions.

Third, in those countries with a developing regional consciousness, far more active, frank and frequent co-operation is needed in the study of problems and the search for solutions—by scientists, governments and international organizations alike.

Finally, in this region, the work to be accomplished is so vast, and the task is so imperative, that the only proper course is for every regional organization and government to assume its competent part in a combined effort.

The essential aim of the regional machinery which the Forestry and Forest Products Division hopes to set up will be to stimulate and aid governments to carry out the programs needed, by keeping them informed of the ways and means of applying the results of scientific research, under the leadership of competent professional people. We shall be very happy if our working group serves as a rallying point for all those who are interested in the problem of forestry and soil of this vast region. The stage seems set for such a catalytic agent.

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## **ACCLIMATISATION versus DOMESTICATION OF FOREST SPECIES**

### **THE PROBLEM OF SOUTH PACIFIC FORESTRY \***

By C. M. SMITH

#### **I. Acclimatisation.**

Acclimatisation in its broadest sense is undoubtedly a natural process which has been of great, if not indeed of prime importance in determining the distribution of plants on the surface of the earth. Hooker in the 19th Century and a school of botanists who followed him considered that a great deal of evidence supported a theory of a large natural southward "drift of vegetation" from northern latitudes to southern (1) an hypothesis which postulates a precursor in Nature of what has been during the past century and a half much accelerated by man's settlement activities in the Southern Hemisphere. The study of such long-term natural acclimatisation is not, however, the task of the forester; nor is it intended to include it in the scope of this paper. It bears to deliberate acclimatisation by cultivation an even more remote temporal relationship than natural soil erosion bears to the accelerated soil erosion through human intensive use of land, which has of recent years come to be such a well recognised phenomenon.

The formal organisation of acclimatisation of both plants and animals as an accepted and nationally fostered and regulated activity dates from the middle of the nineteenth century. In 1854, an Acclimatisation Society of an international nature was formed in Paris; to be followed by another in London in 1860. The declared primary

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