

THE SYMPOSIUM ON THE THREE GUIANAS ON THE 15th, 16th AND 17th JUNE 1954 ¹⁾

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A symposium on a number of agricultural and forestry problems in British Guiana, French Guiana and Surinam, was held on the 15th, 16th and 17th June 1954 under the auspices of the *Royal Tropical Institute, Amsterdam*. This symposium was organized on a non-official basis and was attended by a number of leading experts from the United Kingdom, France and the Netherlands (see Appendix I). The fullest co-operation was afforded by the Governments of these countries.

The main purpose of the Symposium was to ascertain the extent to which closer co-operation could be organized between the experts and the scientific institutions in Europe, whose activities are concentrated on problems connected with the three Guianas. Bearing this in mind, therefore, the discussions could only be of an informative character. One of the positive results, however, was that those taking part unanimously agreed on the necessity of continued contact and effective co-operation, which, it was deemed desirable, should be established on a more lasting basis.

In order to be able to form a correct impression of the true value of the desirability of international co-operation along these lines, it is important that the considerations leading to the convening of the symposium are examined in a little more detail. In order to facilitate this, it is necessary to recapitulate a number of details relating to the geographical location and the historic development of these three territories, lying on the Northern Coast of South America.

Lying next to each other from East to West we have French Guiana, Surinam and British Guiana, which maintain intimate ties with France, the Netherlands and Gr. Britain respectively, and wedged in between, as it were, the two large South American Republics of Brazil and Venezuela. Situated at a latitude of between 4° and 8° North and subject as they are to the monsoons, the Guianas fall within the rainy tropical areas having an annual rainfall of 2.000–2.300 mm, two prolonged rainy periods and great evenness in temperature and relative humidity throughout the whole of the year.

¹⁾ Received for publication August 26, 1954.

Topographically, the greater part of the land surface, which has not yet been opened up, is covered with virgin forest and mountainous country stretching to the watershed of the Amazon. There is a low-lying coastal plain bordering the Atlantic Ocean, which, although it does not extend far inland in French Guiana, varies in depth between 10–50 km in Surinam and British Guiana. Practically the entire population is concentrated in this coastal plain. Agriculture is carried out here in a milieu in which there is a surfeit of water necessitating numerous expensive measures to deal with it (polder construction).

Originally inhabited only by Indians, shortly after the voyages of discovery the Guiana coasts soon attracted the interest of European commercial fleets, and within a short time Dutch English and French trading posts were established there. The suitability of the coastal region for the opening of plantations subsequently led to the growth of large agricultural estates, in which the cultivation of sugar predominated. Due to their intimate knowledge of farming under polder conditions, the Dutch especially played a prominent role in this respect.

As the Amerindians showed little inclination to work on the plantations, workers were imported from elsewhere and the slave trade, which was at its height in the 17th and 18th centuries, solved this problem, at least temporarily. Large numbers of negroes of African origin were set to work on the plantations, which enabled the latter to flourish extensively. The abolition of slavery in British Guiana in 1834 and in Surinam in 1863, created new difficulties, and an attempt was made to offset them by importing contract labourers from India. When the recruitment of Hindus was rendered more difficult by the Government of India, a start was made with the immigration of Javanese for the benefit of the plantations in Surinam.

This led to a tremendously varied population in the Guianas, as is shown in the table below :

| | Br. Guiana | Surinam | Fr. Guiana |
|--------------------|------------|---------|----------------------|
| Europeans | 14.000 | 6.000 | |
| Hindus | 203.000 | 70.000 | |
| Africans | 162.000 | — | |
| Creoles | — | 86.000 | 23.000 ¹⁾ |
| Mixed | 48.000 | — | |
| Javanese | — | 40.000 | |
| Bush Negroes | — | 22.000 | |
| Chinese | 5.000 | 3.000 | |
| Amerindians | 18.000 | 4.000 | ± 30.000 |
| | 450.000 | 231.000 | ± 53.000 |

¹⁾ not further specified.

These figures show clearly that the autochthonous Amerindian population has been ousted for the greater part by the other population groups; they are now only to be found in the interior.

Due to the difficulties experienced in obtaining adequate labour and the opening of the Suez Canal in 1869 (leading to the opening up of cheaper

production areas in the tropics), the plantations in the Guianas fell into disuse. In 1785 there were 452 plantations in Surinam which fell to 263 (54.000 ha) in 1883, 80 (12.000 ha) in 1910, and only 35 (8.200 ha) in 1950. In French Guiana, the total area devoted to plantations is still only 500 ha²); even though the importance of the plantations deteriorated in British Guiana as well, this form of undertaking managed to hold its own better than anywhere else, there being 25 sugar estates, covering a total of 24.400 ha.

Coinciding with this deterioration in the plantation sector, the population began to concentrate in the larger towns, while native agriculture was concentrated mainly on food crops. The improvement in hygienic conditions during the last few decades, resulting in a sharp increase in the size of the population, has created, especially in British Guiana and Surinam, a heavy density of population in rural areas, as a result of which the welfare problem, especially in the agrarian sector, came noticeably to the fore, occasioning in turn numerous problems, all of which now urgently require settlement. In this respect the reclamation of land in the marshy coastal plain, together with the co-related problems of polder construction and land settlement are of special importance. Even so, the numerous measures to improve existing agriculture, and the exploitation of the extensive forestry reserves, etc., have as a result been placed in the focal point of interest. A number of multi-year welfare plans have been approved, both in British Guiana and Surinam, in an attempt to counteract the threatening impoverishment.

As far as the thinly populated, if not de-populated, French Guiana is concerned, these problems are different in so far as the development of the country, regarded as indispensable, does not have to be carried out in an attempt to meet the needs of the local population, but that immigration is necessary from the heavily populated Caribbean Islands. Considered in the light of the development of the territory's resources, however, this is nothing but another aspect of the same problems.

Bearing these factors in mind, one cannot help feeling amazed that steps to arrive at some form of mutual co-operation, in order to attempt the settlement of these problems, were not taken earlier. The Caribbean Commission, established in 1946, was the first to take the initiative in this direction. In addition, growing contact between the governmental institutions in the three Guianas has been apparent during the last few years, and special mention must be made in this connection of the growing co-operation in the mining and meteorological fields, coupled with an increasing interest in mutual agricultural research.

It was fully in accordance with this trend in developments, therefore, that the idea gained ground of closer co-operation between those institutions in Europe, which occupy themselves with scientific research on behalf of the Guianas.

The organizations in the Netherlands, technically well-equipped as she is, which devote considerable attention to finding a solution to many of the problems confronting Surinam, include the Netherlands Bureau of the Surinam

2) The reason for the low population figure and the low state of development in French Guiana must be attributed, in part, to the smaller area of available agricultural land, several attempts at colonization which came to naught, and the choice of this territory by France as a site for a notorious penal settlement.



PARTICIPANTS IN THE SYMPOSIUM ON THE THREE GUIANAS.

Planning Office, the Foundation for the Development of Mechanized Agriculture in Surinam, the Photogrammetric Training Centre in Delft, the Royal Tropical Institute, the University of Utrecht (botanical and anatomic research on Surinam wood species), the Universities of Wageningen and Delft, the Forest Products Institute of the Council for Applied Scientific Research, the Foundation for Scientific Research in Surinam and the Netherlands Antilles, the Foundation for the Promotion of Sciences in Surinam and the Netherlands Antilles, and several others. Parallel institutions in England include the research staff of the Colonial Office, the Colonial Products' Laboratory, the Forest Products' Research Institute and the Commonwealth Agricultural Bureaux, and in France, the Organisation Scientifique d'Outre Mer, the Institut Géographique National and the Centre Technique Forestier Tropical. It should be pointed out that this list is far from being an exhaustive one.

This demonstrates conclusively that there must be considerable possibilities for co-operation between the institutions in Europe, engaged on research on behalf of the Guianas.

The Symposium, which was convened to consider the afore-mentioned problems, was divided into an agricultural and a forestry section in view of the wide ramifications of the subject matter, the two sections being presided over

extremely efficiently by Prof. Dr. R. A. J. VAN LIER, Director of the Surinam Planning Office, and Mr. J. W. GONGGRIJP, a former forester in Surinam, respectively. During the discussions, the vast experience of nearly everyone taking part, in other tropical areas as well, was very marked, which enabled a broad view to be taken of all the various problems. The results of the discussions in each of the sections were summarized in a number of recommendations, which were finally approved unanimously at the joint closing sitting. These recommendations are included in Appendix II.

It would take us too far to discuss these recommendations in detail, especially as some of them are of a purely technical character, so that we shall confine ourselves to quoting them without more ado. Reading through them, it will be obvious that it was impossible to cover the whole field of agriculture and forestry and their attendant development problems, within the three short days of discussions. The desirability of continuing the discussions on the subject matter in question was strongly stressed, therefore, for which purpose it was proposed to make use of the services of the Royal Tropical Institute, Amsterdam, which, it was suggested, could serve as a clearinghouse for the exchange in an appropriate world language of reports and literature dealing with the problems now under study.

The proceedings of the Symposium, including eleven preliminary reports, the minutes of the discussions in the two sections, together with the recommendations, will be published shortly in English and French.

APPENDIX I

PARTICIPANTS IN THE SYMPOSIUM ON THE THREE GUIANAS

AGRICULTURAL SECTION :

- United Kingdom* : Sir GEOFFREY EVANS, C.I.E., M.A., Ex-Chairman of the West-Indian Settlement Commission.
 GERALD LACY, C.I.E., Advisor to the Secretary of State on Drainage and Irrigation.
- France* : P. L. BOURRILLON, Chef du Service des Affaires d'Outre Mer au Ministère des Finances et des Affaires Economiques.
 Ir. M. ROSSIN, Directeur de l'Agriculture, de l'Elevage et des Forêts, Ministère de la France d'Outre Mer.
- The Netherlands* : Prof. Dr. R. A. J. VAN LIER, Professor of Sociology at the University of Leyden and Director of the Surinam Planning Office.
 Prof. Ir. J. A. VAN BEUKERING, Professor of Tropical Rural Economy at the Agricultural University, Wageningen.
 Prof. Ir. W. F. EIJSVOOGEL, Professor of Road Construction and Hydraulic Engineering at the Agricultural University, Wageningen.
 A. LUYTJES, Director of the Tropical Products' Department, Royal Tropical Institute, Amsterdam.

FORESTRY SECTION :

- United Kingdom* : W. A. ROBERTSON, C.M.G., F.R.G.S., Director of the Forest Products' Research Institute at Princess Risborough.
- France* : P. BÉNA, Conservateur des Eaux et Forêts Guyana française.
- The Netherlands* : Prof. Dr. Ir. J. F. KOOLS, Professor of Forest Exploitation at the Agricultural University, Wageningen.
 J. W. GONGGRIJP, Ex-forester of the Surinam Forestry Service.
 A. T. J. BIANCHI, wood expert on the staff of the Royal Tropical Institute, Amsterdam.

- Associates :** W. A. GORDON, Head of the Forestry Service in British Guiana.
 A. F. MACKENZIE, Director of Agriculture in British Guiana.
 M. SÉITÉ, Delegate of the French Ministry of Finance and Economic Affairs.
 PRG. DR. Ir. C. COOLHAAS, Professor of Tropical Agricultural Plant Breeding at the Agricultural University, Wageningen.
 Dr. E. J. À CAMPO, Director-General of the Foundation for the Development of Mechanized Agriculture in Surinam.
- Secretaries :** Dr. Ir. L. J. VROON, Surinam Planning Office.
 Ir. J. H. DE HAAN, Ex-Administrator of the "Lelydorp" Plan, and a former member of the Rural Development Commission, Surinam.

APPENDIX II

RECOMMENDATIONS OF THE AGRICULTURAL SECTION

- I. As a consequence of the growing population of the Guianas and the neighbouring Caribbean islands, land development on a large scale for agriculture will be necessary.
- II. It is essential in connection with this problem of land utilization that a detailed study be made of :
 - a. the drainage and irrigation of those parts of the coastal belt where special difficulties are likely to be encountered ;
 - b. the agricultural possibilities of the pegasse-soils ;
 - c. the agricultural potentialities of the interior.
- III. Besides the cultivation of new land, it will be necessary, in order to insure a balanced agricultural development, to carry out simultaneously technical and social-economic examinations of the actual land-utilization.
- IV. It is proposed to make a joint study in the Guianas of the technical and economic possibilities of the medium-sized farm in the coastal area as well as in the higher regions. This study will require close co-operation with the local research stations.
- V. The expansion of agricultural activities will have to be accompanied by a corresponding extension of agricultural education.
 The attention of Governments concerned should be drawn to the serious shortage of agricultural staff at the level of Agricultural Instructors. Every effort should be made to recruit from local sources, and train junior staff necessary for the essential expansion of extension work amongst the cultivators.
- VI. In view of the large scale projects for the expansion of the irrigated areas now envisaged and the growing demand for irrigation water which must result from such expansion, it is accepted in principal that the ownership and general control of water must vest in Government.
- VII. In order to promote the much desired autonomous activities, groups of cultivators should be encouraged to distribute the water allocated to them in joint consultation and when possible to maintain their own drainage channels.
 The size of these groups and the degree of autonomy will depend on their educational level and social structure.
- VIII. When immigration from the Caribbean islands is attempted every endeavour should be made to organize it in groups and families.
 Efforts will have to be made to settle the immigrants in an area which differs as little as possible from their original milieu.
- IX. In connection with foregoing recommendations problems arise which require a systematic and detailed research. For this purpose close co-operation between the experts of the Guianas by means of a systematic exchange of data and periodical visits will be indispensable.
- X. In order to further present co-operation it is important that the exchange of views now initiated at this symposium, be pursued regularly.
 The extent to which the scientific organizations in Europe can assist in the studies for the development of the Guianas should be examined.

- XI. It is recommended to investigate to what extent the Royal Tropical Institute can act as a clearing house in translating and making available documentation, data and results of studies in connection with the development problems of the Guianas.

RECOMMENDATIONS OF THE FORESTRY SECTION

I. *General considerations*

As forest crops are characterized by the long periods involved in the production very often surpassing the life of a man, it is important that any forest policy should be based on an enduring outlook both as to space and time.

In the Guianas too much reckless destruction of forest has been carried out, bringing to nought the work of several generations. These mistakes require long periods and heavy expenditure for their repair.

Consequently it is recommended to the three Governments :

1. urgently to proceed with the classification of the lands according to a plan drawn up with regard to the uses to which they are naturally adapted and to economic and social needs ;
2. to introduce forest legislation to ensure the implementation of the plan.

To attain these objectives there are grounds for proposing the creation of an organization in each territory charged with the duty of drawing up the scheme of utilization of the land. In this organization the forest service should be strongly represented.

This organization should carry out the delimitation of the land according to its natural suitability for such purposes as agriculture, forest, mines, etc.

As regards the land reserved for forestry it should be clearly defined and placed directly and completely under the forest service in each territory.

II. *Regeneration*

The forests of the Guianas generally lack a satisfactory composition. Consequently forest regeneration, both natural and artificial, ought to be considered as an essential task of the Forest Services.

For this reason the ecological study of their indigenous species is urgently necessary to allow the economic potential of natural forests to be increased.

The introduction of exotic species should also be contemplated, in particular that of conifers to complete the range of utilization.

These experiments in artificial regeneration entail a long delay in obtaining results and therefore should be put in hand as soon as possible.

III. *Forest exploitation*

In contrast to Western Europe, U.S.A. and Canada, there exists little basic information concerning cost and time statistics for the various phases of tropical forest exploitation.

Owing to this lack of information it is not only impossible to make comparisons between countries, but also to make precalculations of costs and to check the efficiency of the measures taken and costs spent afterwards.

Numerous failures of tropical forest-exploitations often attributed to lack of timber, inefficiency of labour and climatic conditions might in reality be attributed to defective planning.

It is therefore recommended :

1. to gather, as far as possible existing basic data about logging including transport ;
2. to perform, as in Europe and U.S.A. basic time and job-studies, to make it possible to forecast time- and money expenditure as far as possible.

IV. *Survey and Mapping*

The importance is urged of accurate survey and mapping of the forests, both in the interests of Forest Management and Utilization. The use made of contoured aerial survey maps by the Forestry Service in Surinam is noted with satisfaction.

V. *Research*

With regard to the importance of a more detailed discussion about the intensification and co-ordination of forestry and wood research for the three Guianas, this subject is proposed as an item for the program of a future symposium.

Meanwhile it is suggested that the territories make ample use of the facilities offered by existing institutes in the field of wood research.

Among the research objects which must be carried out in the territories itself, there are some which by necessity are of long duration, such as increment-studies in the natural forests, durability tests a.s.o. The Forestry Departments are urged to start such researches as soon as possible.

It is of the greatest importance to establish forest reserves in which trees belonging to various species are numbered, with the purpose to collect complete herbarium material and to make accurate descriptions of the trees.

The material collected from these trees should be distributed on a large scale to the institutes concerned especially in the study of the flora of the Guianas. It should be strongly emphasized that these reserves and the numbered trees in them must be maintained in good condition.

Also the wide distribution of wood samples adequately covered by herbarium material of the same trees in order to insure the correct botanical identity of the wood specimens is highly desirable.

VI. *Education*

It is recommended that the Governments of the three Guianas should investigate the possibilities of combining towards the provision of facilities for the technical training of sub-professional forest staff.

It is also recommended that the public should be educated by propaganda towards a better knowledge and understanding of the economic importance of forests.

VII. *Conversion*

Technical progress achieved both in the mechanical and the chemical fields brings new problems before the industrialists. In succession to cleavage sawing has sufficed for long times to convert timber.

Nowadays the industrialist has the choice between sawing, peeling, slicing, the production of fibreboard, pulp, distillation products etc.

To allow him to choose the method which will make it possible for him to utilize to the best effect in each particular case the timber which comes into his mill, it is important that he realizes the advantages and drawbacks of each method of conversion.

Consequently it is recommended to the Governments concerned to intensify the efforts in the sphere of technical research. In order to make these efforts as fruitful as possible, the research organizations are urged to exchange the results they obtain.

