

OF 3186
Political Refugees
July-Dec 1939

July 25, 1939

Respectfully referred to the State
Department for acknowledgment.

STEPHEN EARLY
Secretary to the President

Lewis J. Ruskin, Esq.,
400 West Erie Street,
Chicago,
Illinois.

STATE: Letter dated 7/21 to the President. If he can be of assistance in connection with work of Evian Committee scheduled to confer in Washington glad to help being able to contribute time and travel expense; has just returned from Europe where assisted Holland group on refugee matters.

ia

3186
P?

18/16 + 17

THE WHITE HOUSE
WASHINGTON

3186

July 28, 1939.

MEMORANDUM FOR
GENERAL WATSON

The Refugee Committee
meeting with Myron Taylor, etc.,
will take place on October ^{x Esen} _{x PP7 423}
sixteenth and seventeenth.
Will you make a note of it in
my engagement book and keep it
in mind?

F. D. R.

THE WHITE HOUSE
WASHINGTON

10/17

September 19, 1939

MEMORANDUM FOR THE PRESIDENT:

Mr. Summerlin, Chief of Protocol,
asked me to show you his memorandum on the
approaching meeting of the Officers of the
Intergovernmental Committee. *on Political Refugees*
would the
afternoon of October seventeenth be satis-
factory to you to greet the officers of
the committee at the "hite House?

E. M. W.

THE WHITE HOUSE
WASHINGTON

17

Sept. 23, 1939.

PA:

To have Cordell talk to McDonald
first, and let me know whether it is necessary
for me to see him.

F.D.R.

Jone - will hear
later results
GWW

DEPARTMENT OF STATE
WASHINGTON

Sept. 21, 1939

My dear Mr. President:

Mr. James G. McDonald, Chairman of your Advisory Committee on Political Refugees, has requested the Department of State to arrange an appointment with you. I understand that the Committee has held several meetings in order to formulate its views with regard to the meeting on refugees scheduled to be held at the White House on October 17 and has instructed its Chairman to report its conclusions to you. I should be very grateful if General Watson would inform me when it is convenient for you to receive Mr. McDonald.

Faithfully yours,

The President,
The White House.

Handwritten signature

x20

ADDRESS OFFICIAL COMMUNICATIONS TO
THE SECRETARY OF STATE
WASHINGTON, D. C.



DEPARTMENT OF STATE
WASHINGTON

July 29, 1939

3186

My dear Mr. President:

I am enclosing herewith a suggested agenda for the meeting which you will have on October 16th and 17th with the members of the Executive Committee of the Intergovernmental Committee on Refugees. The agenda submitted comprises suggestions made by Myron Taylor and in the last paragraph contains, as you will see, provisions for the study of the long range program which you have always had in mind, as well as of the immediate problem presented by the Spanish refugees.

Please let me know whether this tentative agenda meets with your approval or whether you wish amendments incorporated in it. As soon as the final draft is approved by you, I suggest that copies be transmitted without delay to the members of the Executive Committee who will attend the meeting in Washington in order that they may be fully prepared to take up

The President,
The White House.

St. Germain's Refugees / 1939

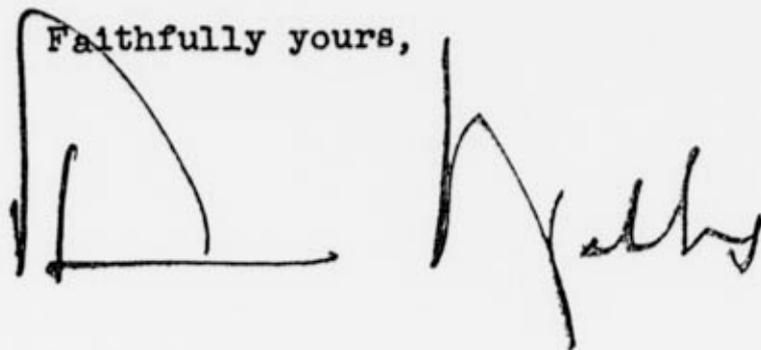
ORIGINAL RETIRED FOR PRESERVATION

-2-

these questions for discussion when they reach Washington.

Believe me

Faithfully yours,

A handwritten signature in black ink, appearing to read "A. A. Berry". The signature is written in a cursive style with a large initial "A" and a long horizontal stroke.

Enc.

TENTATIVE AGENDA FOR WASHINGTON MEETING OF OFFICERS
OF THE INTERGOVERNMENTAL COMMITTEE

(1) Report on the present position of the refugee problem and a review of the work of the Intergovernmental Committee.

(2) Present status of plans for settlement, including present indications as to the practicable extent of settlement in areas so far investigated.

(3) The question of whether or not the possibilities for individual immigration and either group or mass settlements so far developed are adequate to meet the problem.

(4) Possibilities of large-scale settlement in areas already considered or in other areas.

(5) The problem of financing immigration and settlement, including the possibilities of Governmental participation.

12/11 20/10/25 → (6) Consideration of an increase in the scope of the Intergovernmental Committee so as to enable it more adequately to deal with problems of emigration for political or economic reasons, the solution of which would make a real contribution to international friendship and world peace. Such problems might result either from (a) an emergency situation, such as that involving Spanish refugees, or from (b) a basic situation, such as that confronting certain population groups, for which a

-2-

solution could only be brought about gradually and over a long period of years.

ORIGINAL RETIRED FOR PRESERVATION

3186

THE WHITE HOUSE
WASHINGTON

August 1, 1939.

MEMORANDUM FOR

THE UNDERSECRETARY OF STATE

x20

Will you speak to me
about this?

F. D. R.

Letter from Hon. Sumner Welles, 7/29/39
to the President, with enclosed suggested
agenda for the meeting which the President
will have on October 16th and 17th with the
members of the Executive Committee of the
Intergovernmental Committee on Refugees.
Copy of Mr. Welles' letter retained for our
files.

July 29, 1939

My dear Mr. President:

I am enclosing herewith a suggested agenda for the meeting which you will have on October 16th and 17th with the members of the Executive Committee of the Intergovernmental Committee on Refugees. The agenda submitted comprises suggestions made by Myron Taylor and in the last paragraph contains, as you will see, provisions for the study of the long range program which you have always had in mind, as well as of the immediate problem presented by the Spanish refugees.

xpp7423

x422-A
x422-b

Please let me know whether this tentative agenda meets with your approval or whether you wish amendments incorporated in it. As soon as the final draft is approved by you, I suggest that copies be transmitted without delay to the members of the Executive Committee who will attend the meeting in Washington in order that they may be fully prepared to take up

The President,

The White House.

-2-

these questions for discussion when they reach Washington.

Believe me

Faithfully yours,

Sumner Welles

Enc.

August 4, 1939

3186

Respectfully referred to the
Secretary of State for consideration
and acknowledgment to Congressman
Cannon.

EDWIN M. WATSON
Secretary to the President

es

Letter 8/4/39 from

Congressman Pat Cannon,
House of Representatives,
Washington, D. C.

Re desire of Sol S. Goldstrom of Miami Beach to be a delegate to the Intergovernmental Committee on Refugees to meet in Washington this fall. Says Mr. Goldstrom has been actively engaged in civic and welfare work in Florida and in his opinion would contribute much to a conference of this kind.

A covering letter from Cong. Cannon says he wrote this letter at the "request and insistence of the interested party thereto".

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August 5, 1939

My dear Mr. McKeough:

I have received your letter of July 27th suggesting that I invite a representative from the Middle West to attend a meeting at the White House on the international refugee movement. I am happy to receive this indication of your interest in the problems involved, but the only plans made to date call for a meeting in October of the Executive Committee of the Intergovernmental Committee, and the members of this Committee are the official representatives on the Intergovernmental Committee of the Governments of Argentina, Brazil, France, Great Britain, the Netherlands and the United States. For this reason there would be no opportunity of inviting any citizen of the United States to attend this meeting, other than the official representative of the United States on the Executive Committee.

Very sincerely yours,

The Honorable
 Raymond B. McKeough,
 House of Representatives,
 Washington, D. C.

Gen.
 x 1172813

August 5 1939

My dear Mr. President:

In response to your request, I submit herewith for your approval a draft reply to the letter from Representative McKeough on the refugee meeting to be held at The White House.

Faithfully yours,

Sumner Welles

Enclosures:

Letter to Mr. McKeough.
Letter from Mr. McKeough.

The President,

The White House.

RAYMOND S. McKEOUGH
2d DIST. ILLINOIS

Congress of the United States
House of Representatives
Washington, D. C.

THE WHITE HOUSE
JUL 31 9 00 AM '39
RECEIVED

July 27, 1939

Honorable Franklin D. Roosevelt
The White House
Washington, D. C.

My dear Mr. President:

With reference to the conference on the international refugee movement, which is scheduled to be held at the White House, my attention has been called to the fact that no representatives from the middle west have been invited to attend this conference.

I have received a communication from interested parties, suggesting that I call this fact to your attention, and I add the hope you will arrange to have some representative people from that section of the country, interested in this humane question, invited to attend this conference which, the press indicates, is to be held at your call.

Yours very truly,

Raymond S. McKeough

THE WHITE HOUSE
WASHINGTON

August 1, 1939.

MEMORANDUM FOR

THE UNDERSECRETARY OF STATE

X 20

FOR PREPARATION OF REPLY
FOR MY SIGNATURE.

F. D. R.

Letter from Cong. Raymond S. McKeough,
7/27/39 to the President. Urges President
to invite representatives from the middle
west to attend conference on the international
refugee movement, which is scheduled to be
held at the White House.

3186

August 17, 1939

Respectfully referred to the Department
of State.

STEPHEN EARLY
Secretary to the President

avb

K

476-e
Letter from Allan C. Robertson, 942 Woodycrest Ave., New York, N. Y., 8/15/39
to the President. RE: Asking President's favorable consideration of enclosed
outline of plan for settlement of Jewish Refugees in British Guiana and making a
homeland for Jews. Writer and several of his friends desire to offer their serv-
ices to help build up a Jewish national home.

August 28, 1939

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Respectfully referred to the officials
of the State Department.

EDWIN M. WATSON
Secretary to the President

avb

Letter from Howard Mandel, Box 59, Oakwood Heights, Staten Island, N. Y., 8/26/39
to the President. RE: Encloses clipping concerning 2 German-Jewish refugees who
are to leave the U.S. on Sept. 1st. Writer asks if something could be done for
them so that they may be permitted to remain in the U.S.

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THE WHITE HOUSE
WASHINGTON

August 29, 1939.

MEMORANDUM FOR

THE UNDERSECRETARY OF STATE *x20*

Will you personally tell
me what I can say to Mrs. *xpp72*
Roosevelt unofficially?

F. D. R.

Ltr. to Mrs. Roosevelt 8/23/39

Jay Allen, *x*
21 Washington Square North,
New York City

x422-8
x422-A
x203-A

Encloses article from Chicago Daily News
re: Spanish refugees in France are being *x*
sent back to Spain - heartlessly - forcibly-
and with no guarantees. Encloses article
from the Manchester Guardian dealing with
this subject. Feels that the French prestige
in this country cannot stand much more of this
sort of thing. Note: "FDR - WHAT DOES
WEDDELL REPORT? E.R."

x467

FOR THE PRESIDENT:

"FDR - What does Weddell report? E.R."

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DEPARTMENT OF STATE

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DEPARTMENT OF STATE
WASHINGTON
1939 SEP 16 PM 12 34

DIVISION OF
COMMUNICATIONS
AND RECORDS

September 15, 1939

My dear Mr. President:

SEP 18 1939

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I enclose a memorandum of the meeting of the President's Advisory Committee on Political Refugees, which took place in Mr. Taylor's office at New York yesterday. It shows that at this time agreement is lacking among the groups directly interested as regards the future of the work in behalf of refugees.

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There was agreement on one point, and that is that Monsieur van Zeeland, who has been chosen as President of the Refugee Coordinating Corporation (the corporation set up as a result of Mr. Taylor's activities), should be invited to sit in at the meeting which you have invited to the White House on October 17. If you agree that an invitation should be extended to Monsieur van Zeeland, who will probably have more of the active direction of

SEP 21 1939

FILED

The President,

The White House.

FP

-2-

of refugee activities in coming months than any other single person, I shall see that this invitation is sent.

Faithfully yours,

A handwritten signature in cursive script, reading "Cordell Hull". The signature is written in dark ink and features a large, sweeping initial "C" that loops back over the rest of the name.

Enclosure:

Memorandum

MEMORANDUM

Eu
Mr. Moffat

I attended the meeting of the President's Advisory Committee on Political Refugees in Mr. Taylor's office at New York on Thursday, September 14, 1939. There was the usual general discussion but three viewpoints seemed to emerge, as follows:

(1) The "professionals" such as Mr. James G. McDonald and Mr. George Warren, the Secretary, wish to continue to develop the settlement projects such as British Guiana and the Dominican Republic and produced considerable evidence to justify the continuation.

(2) The moderate Jewish leaders such as Mr. Baerwald and Mr. Lewis Straus felt that in view of the outbreak of war settlement projects should be held in abeyance. Mr. Straus contended for this group that one of three things would happen: (a) Germany would win the war; (b) there would be a draw; (c) the Allies would win the war. He said that in the event of the realization of (a) or (b) the refugee problem would assume such enormous proportions that a fresh approach would have to be made. In the event of (c) there would be no refugee problem and in fact the majority of Jews now located in other countries would wish to return to Germany. He said that this was no time in
which

-2-

which to make or continue with settlement plans. He approved of the White House meeting as marking the continuity of the work and demonstrating to the Germans and also to the refugees that it had not been abandoned. He did not believe, however, that it should attempt to formulate programs and particularly should not go into the matter of settlement.

(3) The Zionists constituted the third group and their spokesman was Rabbi Wise. The Rabbi made a long speech to the effect that many thousands of Jews interested in Palestine would be resentful if the President did not take this opportunity to raise the Palestine issue with the member of the British Government, Lord Winterton, who was most notoriously anti-Jewish, pro-Arab and anti-Zionist. He said that the President had indicated more than once that he was sympathetic with the work in Palestine and if he passed up this opportunity to speak directly on the subject to a member of the British Government there might be the most unhappy repercussions. Rabbi Wise differed radically with Mr. Straus and said that the Jews would not wish to return to Germany even in the event of a defeat of that Power. The majority of them would wish to go to Palestine and the others would for the time being remain where they have established themselves. Rabbi Wise

remarked

-3-

remarked that it was futile to talk about settlement projects such as Guiana and the Dominican Republic when Palestine, under the arrangement with the British, could absorb 75,000 people in five years in a developed country, at very little cost.

There was no agreement between the three groups, and they have decided to set up a subcommittee which will try to iron out the differences.

Everyone agreed, however, that if settlement projects were to continue there would have to be some degree of governmental financing. In other words the challenge of the British proposals at the July meeting of the Intergovernmental Committee would have to be met. It was felt that a recommendation to this effect should be made to the President and the Department of State and that the Government should begin immediately to study ways and means of making contribution in this sense.

There was, moreover, agreement regarding the present extent of the problem. It was believed that a great many of the refugees in refuge countries would be absorbed into war activities but this would leave their dependents without visible means of support. As far as the private organizations could ascertain there had been no let up on
the

-4-

the demands for admission to the United States since the outbreak of hostilities and in addition the pressure was already making itself felt from Poland.

There was some discussion of the machinery of the Committee. It was believed that the permanent office could not be maintained in any Western European country during the period of conflict. The consensus was that it should be established in Washington pending its return to London. There was a division of opinion regarding the advisability of asking Lord Winterton to remain as Chairman. Some felt that it was wiser to keep him on as a figurehead, thereby obviating the necessity of choosing a successor. Others felt that this was a propitious moment to get rid of him and to find a successor who would show greater enthusiasm for the work.

All agreed that Monsieur van Zeeland would make the most effective contribution to the work in the months immediately ahead and that he should be invited to sit in at the White House meeting.

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September 25, 1939

Respectfully referred to the
officials of the State Department
for reply. x20

EDWIN M. WATSON
Secretary to the President

hm

Letter from Mrs. Royal G. Whiting, Associate Director,
The International Relations Committee of the Council
for Social Action, 228 Boston Post Rd., Weston, Mass.,
9/22/39, ask that President urgently consider the need
of having the Inter-governmental Refugee Conference,
to be held in Washington on October 16 and 17, consider
the problem of Spanish refugees.

x422-A
x422-6

filed 9/23/39

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THE WHITE HOUSE
WASHINGTON

September 26, 1939.

MEMORANDUM FOR THE PRESIDENT:

I attach herewith a memorandum from James G. McDonald, Chairman of your Advisory Committee on Political Refugees, stating the Committee's reasons why your meeting on October 16-17 should be postponed or cancelled.

E.M.W.

State Dept copy of Mc Donald's Memorandum
Published in

Foreign Relations of the United States
Vol. II

1939 General, The British Commonwealth,
and Europe

pages 147-148.

THE PRESIDENT'S ADVISORY COMMITTEE

ON POLITICAL REFUGEES x

Memorandum to the President recommending that the Conference of Officers of the Intergovernmental Committee on October 16-17 be postponed or cancelled.

While heartily welcoming the White House conference when the invitation was extended in July, the President's Advisory Committee now unanimously urges consideration of postponement or cancellation for the following reasons:

1. The problem of refugees from Germany has been radically changed by the war. It is too soon to appraise the changes competently and therefore to plan soundly.

2. The numbers of German refugees have been appreciably reduced because (a) emigration from Germany is now limited to old people and children, (b) foreign exchange must be supplied for transportation, (c) all transit countries have hermetically sealed their borders, (d) the full implementation of the Wohlthat Memorandum is impracticable, and (e) England and perhaps France no longer desire the re-emigration of refugees because employment is now becoming available for them.

3. Though the refugee problem as a whole has been greatly increased, the Intergovernmental Committee because of its terms of reference, the prevailing attitudes of

its

-2-

its member Governments other than the United States, and the failure thus far to achieve comprehensive solutions in the lesser problem is not disposed to undertake the larger problem.

4. The Intergovernmental Committee has concerned itself primarily with large-scale settlement for which it is now clear that public funds will be required. The possibility of securing such funds has been reduced by the war and the consequent withdrawal by the British Government of its suggestion of last July. Meantime the relief needs of war refugees have increased so enormously that the private organizations foresee the exhaustion of their funds in the near future. Unless therefore governmental monies are made available, large scale settlement will be impossible.

5. In view of the prospect that the discussion of neutrality may continue through mid-October it may not prove strategic to give a handle for criticism by holding at the White House an international conference in which two belligerent countries will participate on a subject which vitally concerns a third belligerent.

6. The issue of neutrality may also be confused by the injection of the problem of German refugees who

are

-3-

are considered by the public to be predominantly Jewish. Anti-Semitic spokesmen may capitalize this opportunity to accuse Jewish circles of a desire to involve the Government at a time of national emergency. Others in no sense anti-Semitic may consider that the problem of German refugees is receiving undue emphasis now that it is but one aspect of the total refugee problem.

7. Britain and France, preoccupied by the war, will naturally attempt to place all responsibility for action including the provision of funds on the United States Government.

8. Under all these circumstances the success of the conference will depend even more than ordinarily on the ability of the United States to make concrete proposals for comprehensive solutions and substantial contributions in public funds. To date no convincing proposals have been developed and there is no assurance of the requisite public funds.

The President's Advisory Committee on Political Refugees urges consideration of the foregoing in proposing the postponement or cancellation of the conference. Should, however, the final decision be to hold the conference, the President's Advisory Committee on Political

Refugees

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Refugees pledges its full cooperation.

James G. McDonald,
Chairman.

September 26, 1939.

LAW OFFICES
GEORGE L. SCHEIN

JOSEPH M. COHEN
ISAAC M. LEVINSON
STANLEY J. MAYER

X

3186

90 BROAD STREET, NEW YORK
CABLE ADDRESS "GEOSCHEIN"

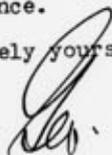
October 3, 1939

Henry Kannee, Esq.
The White House
Washington, D. C.

Dear Henry:

I should appreciate it if you would ascertain the present status of the subject matter of the petition I recently filed on behalf of the refugees in the Alien Property matter, and advise me at your earliest convenience.

Sincerely yours,



GLS:MR



mpb

ADDRESS REPLY TO
"THE ATTORNEY GENERAL"
AND REFER TO
INITIALS AND NUMBER

DEPARTMENT OF JUSTICE
WASHINGTON, D. C.

FMS:FJMcN

October 10, 1939

Mr. Henry M. Kannee
The White House
Washington, D. C.

Dear Mr. Kannee:

In accordance with your conversation with Mr. McManara of the Alien Property Bureau, enclosed please find copy of letter to George L. Schein, Esq., dated October 3, 1939, with reference to his petition to the President for the relief of persons who have been declared by decrees promulgated in Germany to be no longer citizens of the German Reich, such relief to be granted by a removal of the restrictions imposed by the Harrison Act, Public Resolution No. 53 of the 73rd Congress.

Respectfully,

For the Attorney General

Francis M. Shea
Francis M. Shea X 1
Assistant Attorney General

Enclosure No. 378250

mf

FMS:FJMcH

October 3, 1939

George L. Schein, Esq.
90 Broad Street
New York City

Sir:

Your letter of August 11, 1939, addressed to the President, with a petition attached thereto presenting a proposal for the release of property held in the Alien Property Bureau, formerly owned by persons who have been declared to be no longer citizens of the German Reich, has been referred to the Attorney General for consideration.

Appropriate action will be taken with regard thereto and you will be advised thereof.

Respectfully

For the Attorney General

Francis M. Shea
Assistant Attorney General

3186

THE WHITE HOUSE
WASHINGTON

September 28, 1939.

MEMORANDUM FOR

THE SECRETARY OF STATE *x20*

Will you speak to me
about this at your convenience?

F. D. R.

x2708

Note from Ben V. Cohen, National Power Policy Committee, Interior Building, Washington, D. C., 9/25/39 to Miss LeHand, with attached memorandum he has addressed to the President, 9/25/39, in re The Refugee Conference. Suggests that President send word to Mr. McDonald, advising that the President would like him to sit in on the Refugee Conference as Chairman of the Advisory Committee and that the President is anxious to go on with the Conference, if for no other reason than to maintain a sense of continuity in the work of the Inter-government Committee and to dispel the idea that its work should be disrupted because of the war. Mr. James S. McDonald, is Chairman of the President's Advisory Committee.

on Political Refugees. (over) ✓ x

Also suggests that President ask the State Department for their recommendations on the various proposals which might come before the Conference. That would enable Mr. Pell, of the State Dept., to assure Mr. McDonald and others of the President's continued interest in the Conference.

THE WHITE HOUSE
WASHINGTON

3186

September 27, 1939.

MEMORANDUM FOR

THE SECRETARY OF STATE *x20*

FOR THE NECESSARY ACTION

F. D. R.

Memorandum to the President recommending
that the Conference of Officers of the
Inter-governmental Committee on October 16-17
x be postponed or cancelled, sent to the
President by James G. McDonald, *x* Chairman,
The President's Advisory Committee on
Political Refugees.

x

THE WHITE HOUSE
WASHINGTON

September 26, 1939.

MEMORANDUM FOR THE PRESIDENT:

I attach herewith a memorandum from James G. McDonald, Chairman of your Advisory Committee on Political Refugees, stating the Committee's reasons why your meeting on October 16-17 should be postponed or cancelled.

E.M.W.

E.M.W.

GENERAL WATSON

TO NOTE

*Hold - until State
Rep. reports
EMM.*

THE WHITE HOUSE
WASHINGTON

8/18/24/39

October 5, 1939.

MEMORANDUM FOR

MR. SUMMERLIN *x20*

Will you take this up with the Secretary and Mr. Welles and let Myron Taylor know?

*x pp 7423
x aden*

In view of the war we are giving up practically all formal entertaining at the White House this winter and I hesitate, therefore, to give to this Mission either a luncheon or a dinner.

I suggest, therefore, something like this:

The first session could be held in the White House (East Room) on Monday, October 16th, at 3 P.M., and that the preliminary work be gone through with and that I attend at 4 P.M. and make my little speech, the session then adjourning to the Green Room for afternoon tea. That would end my work.

x50-F

If you think it is vital for me to have them to a meal, I could speak to the session in the White House at 12.30 P.M. on Monday and adjourn to the dining room for lunch.

F. D. R.

MYRON C. TAYLOR
71 BROADWAY
NEW YORK

October 2 1939

Miss Marguerite LeHand,
The White House,
Washington, D.C.

Dear Miss LeHand:

Will you be good enough to put this letter before the President? If the program outlined is adopted, I believe it is the minimum that we can do in the case of the visitors, to give them the right impression of their attendance at the White House in response to the President's invitation.

I might add that at all of the meetings of the Intergovernmental Committee in London or Paris, the British or French Governments have given a luncheon or dinner to the

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attending delegates, at which some of the highest officials in the Governments have been present, and which made most excellent impressions. I personally reciprocated by giving luncheons and dinners to the delegates and other governmental officials in the several places of meeting. But we are naturally very anxious that the reports from the American visit go back to London, Paris, and elsewhere in an equally enthusiastic tone.

With best regards, believe me,

Sincerely yours,

Hyatt Taylor

71 BROADWAY
NEW YORK

3186

October 2 1939

Dear Mr. President:

With respect to the meeting of the officers of the Inter-
governmental Committee for Political Refugees on October 16th
and 17th, the invitation which you asked me to convey in Lon-
 don was for a conference with you at the White House--those
 dates being given and widely publicized, at the instance of
 the British. Earl Winterton is the possessor of an old
 title, and for term of service ranks next to Lloyd George as
 the longest in the House of Commons. He is and has been in
 a social and political sense closely associated with the
 Royal Family and the leaders of the Conservative party, and
 in general with the aristocracy of Great Britain. He has
 traveled widely, and served in the last war in His Majesty's
 army.

Sir Herbert Emerson, who accompanies Earl Winterton, is a
 former army officer, for many years has been commissioner of
 a great district in the Punjab, and among other things was
 active and successful in reclamation and migration projects
 on a large scale in that province.

Paul Van Zeeland is already known to you personally.

The other attending officers or vice chairmen (other than
 myself) are the special representative of Brazil, Mr. Helio
 Lobo, and resident Ambassadors in Washington of France, the

- 2 -

Argentine, and Holland.

May I be permitted to suggest that in view of the above facts and the necessity for proceeding in a way that will be most helpful to the cause and complimentary to the visitors, the opening proceeding on Monday, October 16th, take place at the White House, at which, to comply with definite anticipations on the part of the visitors, I think it most important that you should preside, and be accompanied of course by the Secretary of State, Mr. Sumner Welles, and such others of the Department of State as the Secretary might consider helpful or desirable?

It was indicated to me by Lord Winterton that the British Ambassador would give a luncheon or a dinner for those attending, and my judgment would be that such luncheon or dinner would best be held on Monday, October 16th.

A further suggestion would be that the second session of the meeting be held at the Department of State on Tuesday, and I earnestly hope that you will be able to receive the group at dinner on Tuesday evening, October 17th, so that, in concluding the conference, the visitors from abroad will receive your blessing at the end of their deliberations and leave Washington at midnight at the high spot of their visit!

When I left London it was arranged that Lord Winterton and Sir Herbert Emerson would be the guests of Mrs. Taylor and myself in New York for a few days before the Washington

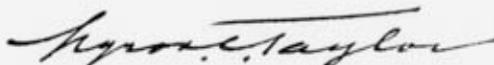
- 3 -

conference. As this would be a purely social visit, avoiding all publicity if possible, it was our thought that they might at that time be introduced to some of the leaders of the private organizations here, and we have planned to have some other entertainment of a purely social character which will make them better acquainted with New York and some of our friends.

I hope you will understand my purpose in these suggestions as being primarily to make as favorable an impression as possible upon the visitors and to trespass to the minimum upon your time. The invitation which you instructed me to extend built high hopes in the minds of those who are, under greatly changed conditions, nevertheless coming to America. I do hope that you will find it possible to adopt the principal suggestions in the program outlined.

With kind personal regards, believe me,

Sincerely yours,

A handwritten signature in cursive script, appearing to read "Agnes Taylor".

To The President,
Washington, D. C.

October 9, 1939

3186

Respectfully referred to the Secretary
of State.

STEPHEN EARLY
Secretary to the President

Henry Smith Leiper, Esq.,
Union for the Protection
of Human Needs,
12 West 76th Street,
New York, N. Y.

ia

STATE: Letter dated 10/5 to the President. Submits memorandum relating to refugees in Western Europe to whom right of residence has been denied, and booklet outlining problems of statute protecting refugees as conceived in program.

3186

THE WHITE HOUSE
WASHINGTON

10-10-39

MEMORANDUM FOR MRS. HELM:

For your information, I wish to advise that on October 17th, at one P. M., the President will give a stag luncheon at the White House, for the Inner Governmental Committee. Protocol is now preparing a list of guests.

EDWIN M. WATSON.

x50-~~4~~
x20

Inter-Governmental Committee for Political Refugees
‡

SUGGESTED LIST OF GUESTS FOR A TEA TO BE GIVEN AT THE
WHITE HOUSE ON FRIDAY, OCTOBER 27, 1939. FOR THE INTER-
GOVERNMENTAL COMMITTEE ON POLITICAL REFUGEES

- The Honorable
Cordell Hull
Secretary of State of the United States
- The Right Honorable
The Earl Winterton
Paymaster General in the United Kingdom Government
Chairman of the Inter-Governmental Committee
on Political Refugees
- Mr. Giles Alington
Adviser to Lord Winterton
- Mr. Christopher Bramwell
British Embassy
Adviser to Lord Winterton
- His Excellency
Señor Don Felipe A. Espil
The Ambassador of Argentina
- His Excellency
Carlos Martins
The Ambassador of Brazil
- His Excellency
Count de Saint-Quentin
The Ambassador of the French Republic
- Mr. Jacques Dumaine
French Embassy
Adviser to the Ambassador of the French Republic
- The Honorable
Dr. A. Loudon
The Minister of the Netherlands
- Mr. A.F.H. van Troostenburg de Bruyn
Netherland Legation
Adviser to the Minister of the Netherlands
- The Honorable
Myron C. Taylor
Vice Chairman, Inter-Governmental Committee
Representing the United States of America
- Mr. Robert Pell
Adviser to Mr. Taylor
- The Honorable
James G. McDonald
Chairman, President's Advisory Committee
on Political Refugees
- Mr. George L. Warren
Executive Secretary
President's Advisory Committee on Political Refugees

- 2 -

Mr. Stephen Morris
Acting Secretary
Inter-Governmental Committee
on Political Refugees

* Sir Herbert Emerson
Director, Inter-Governmental Committee
on Political Refugees

* The Honorable
Paul Van Zeeland, of Belgium
Chairman of the Coordinating Foundation
Inter-Governmental Committee on
Political Refugees

* The Honorable
Sumner Welles
The Under Secretary of State

Mr. Pierrepont Moffat
Chief of the Division of European Affairs
Department of State

10/15/39
EKB

707 Anneslie Road,
Baltimore, Maryland,
October 12, 1939.

H. E. the President of the United States,
Franklin D. Roosevelt,
White House,
Washington, D. C.

3186

Sir:-

I enclose herewith a reprint of a paper published
in the GEOGRAPHICAL REVIEW on the work of the Anglo-
American commission which was sent to British Guiana
by the President's Advisory Committee on Political
Refugees.

I trust that it will prove of interest and, perhaps,
assistance.

Very sincerely,

Desmond Holdridge

Desmond Holdridge

X

Enc.

PRESIDENT'S ADVISORY COMMITTEE
ON POLITICAL REFUGEES *

3186

122 EAST TWENTY-SECOND STREET, NEW YORK

Hamilton Fish Armstrong
Paul Baerwald
Joseph P. Chamberlain
Basil Harris
Louis Kenedy
The Most Rev. Joseph F. Rummel
James M. Speers
Rabbi Stephen S. Wise
James G. McDonald, *Chairman*
Dr. Samuel McCrea Cavert, *Secretary*

file

THE WHITE HOUSE
OCT 17 9 37 AM '39
RECEIVED

George L. Warren
Executive Secretary

GRAMERCY 5-1093

The President,
Washington, D. C.

My dear Mr. President:

It is a pleasure to transmit to you the attached report of the Mindanao Exploration Commission which opportunely has just been completed for presentation to the officers of the Intergovernmental Committee meeting in Washington on your invitation this week. * *on Political Refugees*

In making this inquiry in the Philippines your Committee had the invaluable assistance of the Refugee Economic Corporation, Mr. Charles J. Liebman, President. Dr. Isaiah Bowman * planned the inquiry and selected the following members of the Commission:

- Mr. O. D. Hargis, *Chairman
- Dr. Stanton Youngberg, Executive Secretary *
- Dr. Robert L. Pendleton *
- Dr. Howard F. Smith *
- Capt. Hugh J. Casey *

The Mindanao Exploration Commission has in our judgment presented a report that is outstanding in content and completeness. We believe that it provides a model for such undertakings in the future. The report is but the initial step in the process of developing the Organization which will undertake actual settlement. Related steps are now being taken and we are confident that in a very few months now refugees will be settled in this agricultural area which presents attractive possibilities for maintenance farming in the present and cash crops in the future.

In submitting this report for your attention may I take the opportunity to express for my colleagues and myself our real appreciation of the leadership and guidance which you have so generously given to this humanitarian effort.

Faithfully yours,

James G. McDonald
James G. McDonald *
Chairman

*400 Philippines

3186

REPORT OF THE MINDANAO
EXPLORATION COMMISSION

Prepared by

- MR. O. D. HARGIS, *Chairman*
- DR. STANTON YOUNGBERG, *Executive Secretary*
- DR. ROBERT L. PENDLETON, *Member*
- DR. HOWARD F. SMITH, *Member*
- CAPT. HUGH J. CASEY, *Member*

Under the auspices of the President's
Advisory Committee on Political Refugees

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REFUGEE ECONOMIC CORPORATION
570 LEXINGTON AVENUE
NEW YORK

Telephone: PLAZA 3-2651

Cable: REFRECOM NEW YORK

October 2, 1939.

MR. JAMES G. McDONALD, *Chairman*,
President's Advisory Committee on Political Refugees,
122 East 22nd Street,
New York City.

DEAR MR. McDONALD:

We are transmitting herewith the report of the Commission sent to the Philippine Islands to investigate possibilities of refugee settlement.

The members of the Commission were:

MR. O. D. HARGIS, *Chairman*: For 25 years in charge of agricultural work for the Goodyear Rubber Company; experience in Panama Canal Zone, Sumatra, Java, and the Philippines; started the Goodyear Rubber plantation in Mindanao.

DR. STANTON YOUNGBERG, *Executive Secretary*: College of Veterinary Science, Ohio State University; went to Philippines as veterinarian in 1907; director Philippine Bureau of Agriculture, 1923-1932; staff of Governor General as advisor on agriculture and animal husbandry, 1933.

DR. ROBERT L. PENDELETON: College of Agriculture, University of California; professor of Soil Technology, University of the Philippines, 1923-1935; technical advisor to the Government of Siam in their Department of Agriculture and Fisheries, 1935 to date.

DR. HOWARD F. SMITH: Health and sanitation expert; Chief Quarantine Officer at Manila.

CAPT. HUGH J. CASEY: Hydro-electric expert of the U. S. Engineers Corps; engaged during past year in hydro-electric survey for General MacArthur and the Philippine Government.

Thanks are due to all the members of the Commission for their valuable and exhaustive report. The Commission was in the field seven weeks and made intensive studies of the possibilities for refugee settlement on the Island of Mindanao—the second largest and southernmost of the principal islands of the group.

We are all in debt to Dr. Isaiah Bowman, President of The Johns Hopkins University, and to the Walter Hines Page School of International Relations, who had carefully selected the Commission and had given them their instructions.

The Commission was most cordially received by the American authorities in the Philippine Islands and by the officials of the Philippine Commonwealth, and every aid was given to them by both.

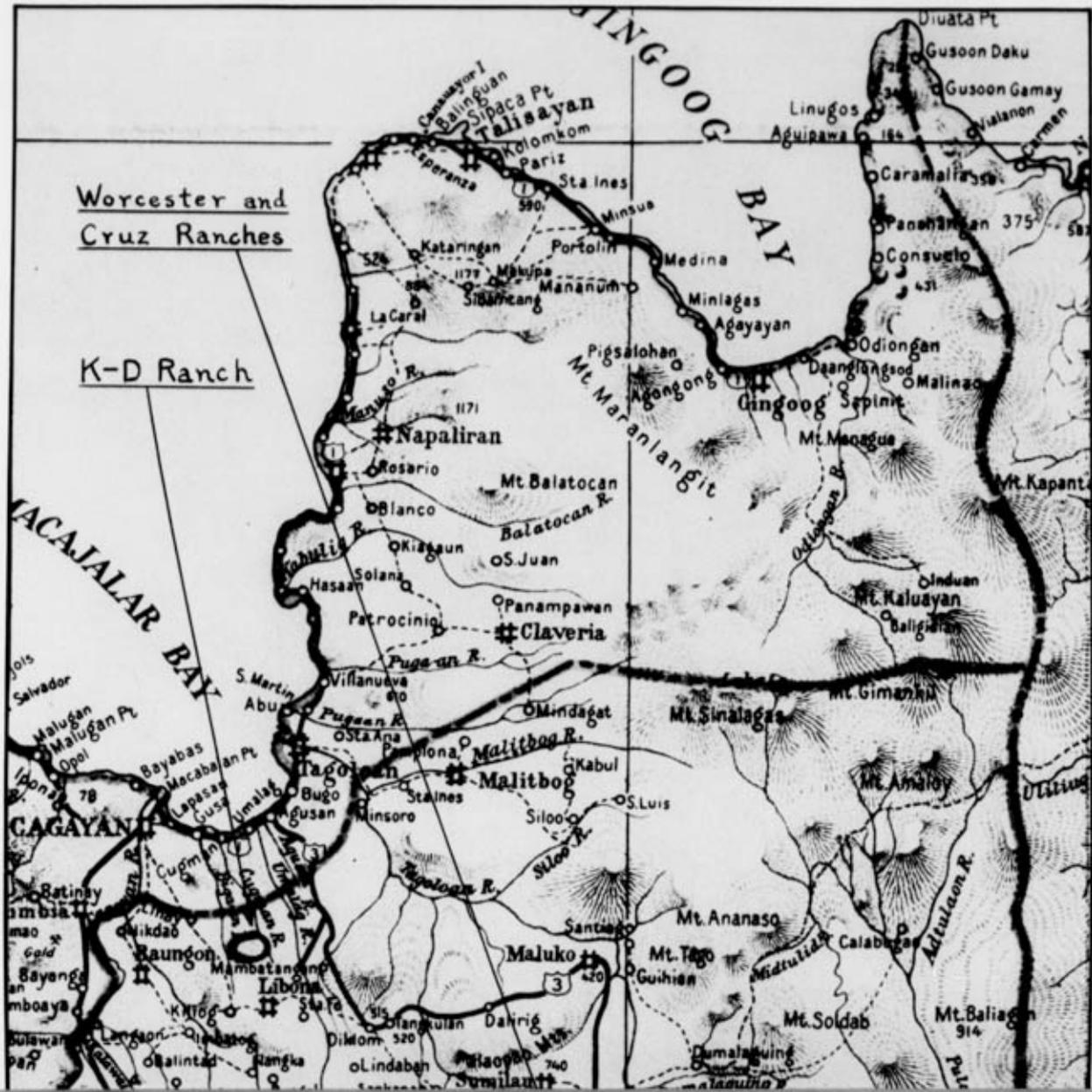
The members of the Commission interviewed personally emphasized the entire feasibility of the project. They have no hesitancy in stating that the regions selected are fit for habitation by white, westernized peoples.

The Philippine Commonwealth has agreed to admit 10,000 refugees for settlement in the regions selected, and there is attached to the report of the Commission an appendix giving the approximate cost of the final settlement of 10,000 people and also an estimate of the probable cost of the first settlement of 600 to 800 refugees on estates generously stocked with good cattle. These estates are under offer to the Refugee Economic Corporation, and negotiations for their acquisition are under way.

Sincerely yours,

CHARLES J. LIEBMAN,
President.

ers results in the loss
 deterioration in qual-
 packing and refriger-
 properties now under
 of on the Manila mar-





Worcester and Cruz Ranches

K-D Ranch

CAGAYAN DE ORO

BUKIDNON

MALABALAN

INGOOG BAY

MACAJALAR BAY

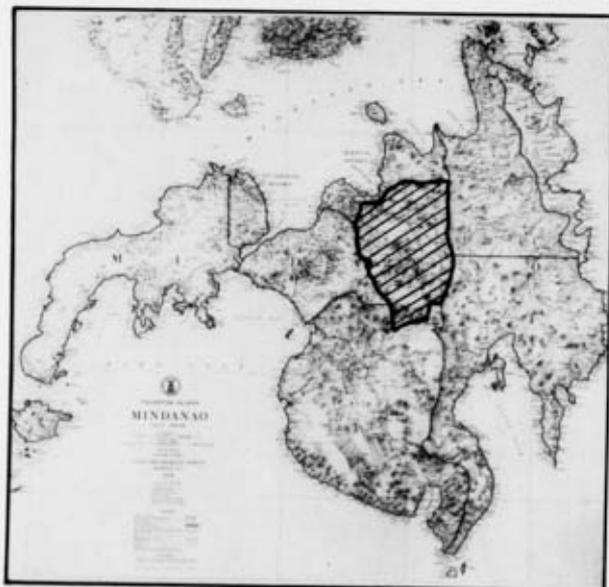
CAGAYAN

TALISAYAN

BUKIDNON

MALABALAN

MALABALAN



BUKIDNON PROVINCE

Location of properties
under present consideration
for settlement indicated.

MINDANAO, PHILIPPINE ISLANDS, A POSSIBLE REGION FOR THE LOCATION OF
AGRICULTURAL COLONIES FOR POLITICAL REFUGEES:

A RECONNAISSANCE SURVEY BY THE MINDANAO EXPLORATION COMMISSION

O. D. HARGIS, *Chairman*, DR. STANTON YOUNGBERG, *Executive Secretary*,
DR. ROBERT L. PENDLETON, COLONEL HOWARD F. SMITH, U. S. Quarantine
Service, and CAPTAIN HUGH CASEY, Engineers Corps, U. S. Army, members.¹

INTRODUCTION

The Island of Mindanao, popularly and quite erroneously thought of as still having vast empty expanses of arable land, waiting for the plow and crying for settlers, is naturally considered to be an unusually promising region for colonization projects. While it is true that the density of population in many portions of Mindanao is very much lower than that of such islands as Cebu and Bohol, hardly a hundred miles to the north, just across the Mindanao Sea, yet it is a fact that already in the more favorably located portions of Mindanao there is a very considerable population per square mile. The former difficulty of penetrating into the interior of Mindanao, combined with the "Christian"² Filipino's fear of the fearless Mohammedan Moros who inhabit some of the best portions of this Island; and in addition, more recently the control and use of large blocks of some of the best arable lands for grazing purposes, have been obstacles to the colonization of Mindanao, and are probably the reasons why it has relatively so few people as contrasted with the very large numbers per square mile on the other islands not far away. On Mindanao, highway development was long very backward, but during the last few years rapid progress has been made, and now highways are being rapidly extended. The "Christians" are gradually losing their fear of the Moros, for each month there are about a thousand immigrants entering Mindanao through the two ports of Davao and Cotabato alone. By squatters and others, land is being claimed in advance of construction along the route of every highway, and it will not be long before all the desirable public land in blocks of appreciable size will have been occupied, legally or otherwise, or in other ways brought under private control. This Commission has been repeatedly astonished to find so many people farming in regions reputed to be unoccupied or to have only a very few people. In addition, only a few months ago the Commonwealth Government reserved for its new agricultural settlement projects enormous tracts of some of the better lowlands which are as yet practically unoccupied. We are thus some years too late to find available the best lands suited to purposes of European settlement.

¹ Qualifications of the members of the Mindanao Exploration Commission: Very fortunately every member of our Commission had already had more or less first hand acquaintance with the Island of Mindanao, having done field work there. We were each thus at least somewhat familiar with many of the problems and conditions which affect this Island and the possible and probable agricultural uses of the land. This acquaintance, combined with the individually extensive tropical experience of most of the members, greatly facilitated our orientation and preparation for the particular problem before us. And to supplement our personal views, observations, and experiences relative to white settlement in the tropics, we found Grenfell Price's recent book "White Settlers in the Tropics" of great value.

² By "Christian" Filipino is meant the lowlander, who is usually a nominal Roman Catholic, as contrasted with the pagan hill tribes (Masobos, Bagobos, Igorots, etc.) and the Mohammedans, etc.

**THE KNOWN AND/OR ASSUMED PREMISES USED BY THIS COMMISSION AS
A BASIS FOR OUR STUDIES**

In considering all possible phases of the questions as to the location of any colony or series or group of colonies for white settlers, and as to the possible related agricultural and other activities of the members of such colonies, we state below the three groups of premises which we have from the first kept before us:

- 1—The agricultural conditions of the various regions of Mindanao, and the environmental conditions needed by white settlers for success. Upon these depend the possibility and feasibility of successful agricultural colonization in a tropical country.
- 2—Economic considerations, to enable the colonies to meet their financial obligations.
- 3—The conditions laid down by the Commonwealth Government of the Philippines for political refugee colonization in extending the invitation to President Roosevelt's committee.

During the course of our study of the conditions existing in Mindanao we have kept continually in mind these premises or assumptions. Considered as a whole, and in their various aspects, these premises may be stated as follows:

1—The agricultural conditions of the regions, and the environmental conditions needed by white settlers for success:

A—Climate:

- (1)—Altitude of various possible sites: Upon altitude depends temperature, and to an important degree this affects the health of white settlers, the possibility of their doing effective physical labor without mental or physical deterioration of themselves or of their descendants. In the Philippines, incidence of malaria is also closely connected with elevation above sea level, as well as with the nature of the breeding places of mosquitoes.
- (2)—Rainfall: Must be of sufficient amount and properly distributed to ensure the growing of suitable cash crops, as well as crops for domestic use and livestock feeding, etc. As a matter of fact, this is not a problem in Mindanao, as most of the island has an excessive rainfall. At low elevations a high rainfall induces a high relative humidity, which increases physical discomfort and, consequently, has a deteriorating effect on the white man.

B—Topography: For general agricultural operations the land selected must not be too steep or broken to permit agricultural and related activities and an organized country life. Some rougher and more broken areas, considered below, might in the future be utilized for the growing of tree crops such as citrus, coffee, and for growing vegetables and berries for the markets.

C—Communication and Transport: Topographically, the land selected should be of such a character that roads or other means of communication, both for internal purposes, and as a means of economical transportation of products to outside markets, can be constructed without excessive expense.

D—Present Use of the Land: The numbers and kinds of people at present living in the regions considered are very important, as to

- (1)—Uses they are making of the land;
- (2)—Title right or nature of other claims to the land; and
- (3)—Whether their presence or activities would permit satisfactory development of refugee colonies. Consideration in the field of these points alone quickly eliminated from further consideration some of the land claimed by the Moros (Mohammedan Filipinos) in Lanao Province.

An additional limiting factor was the new Commonwealth land settlement program which eliminated from consideration enormous blocks of as yet practically unoccupied land (though located at lower elevations and far from present communications, and thus for climatic and communications reasons also eliminated) which only a few months ago were set aside by Executive Order for the use of the "National Land Settlement Administration". This is a Commonwealth Government corporation of five persons, headed by General Paulino Santos, formerly Chief of Staff, Philippine Army. The areas reserved are as follows:

Koronadal Valley, Cotabato Province.....	97,000 hectares
Compostela-Monkayo region, Davao Province....	73,238 hectares

Total..... 170,238 hectares (420,487 acres)

These are believed to be the largest continuous bodies of level to fairly level agricultural land in the Island.

Our previous knowledge of various parts of Mindanao, and information gained at first hand and through inquiry in many quarters, official and private, rapidly eliminated a large proportion of the remainder of the Island, and indicated that certain areas might possibly be of use and of value for white colonization purposes. The areas we have studied in some detail are located in the following Provinces: Bukidnon, Cotabato and Lanao.

2—Economic considerations, that the colonies may be able to meet their financial obligations:

The assumption that the settlers will eventually be able to make repayment of the expenditures undertaken on their behalf precludes the absolute limitation of the colonists to subsistence farming. A large part of the land in Mindanao that is now being made available for Filipino settlers is being subdivided into blocks of 5 to 12 hectares (12.5 to 30 acres). Farms of such sizes will satisfy the ordinary Filipino farm laborer whose wants are, after all, very simple; such small areas would not, however, be large enough to provide security and contentment for people of greater wants, with a great desire to improve their material condition and who must also make plans for the repayment of rather substantial sums of money. For such people, the size of the farm for each family should not be less than from 40 to 60 acres. Furthermore, it would be necessary to farm on a larger and more intensive scale, with adequate rotation of fields, to insure maintenance of fertility and soil conservation, as well as necessary pasturage for livestock.

3—The Philippine Commonwealth Government's conditions for the establishment of agricultural colonies of political refugees:

A—Citizenship:

The immigrants shall take out naturalization papers as early as possible thereby expressing their intention to become Filipino citizens. (To become such requires five years of residence.)

B—Title to the Land:

Under existing laws the immigrants, being aliens, cannot acquire or lease public lands. The National Development Company, a Government corporation, can by Executive Order reserve public lands and lease to a corporation whose membership is made up of 60% of Americans or Filipinos. Presumably stipulations would be made whereby the land could, in conformity with existing laws, be purchased after acquiring citizenship.

C—Crops which cannot be grown for export:

No specific crop is mentioned, but only the statement: "will agree to engage in subsistence farming or such other activities as may be compatible with the best interests of the Philippines". While no official ruling has been made, the idea behind this is undoubtedly to exclude crops which are competitive with Filipino crops now sold in the American market. This would exclude sugar, coconuts, tobacco, and possibly abaca (Manila hemp).

D—Number of Refugees to be admitted annually:

The number shall be fixed from time to time by the Commonwealth Government acting upon the recommendation of the committee in charge of settlement in course of preparation, having in view the committee's ability to take care of the settlers and the consequence of large scale settlement upon the national economy of the Philippines. This is very indefinite and could be made to mean anything. The figure commonly held in official minds is a limit of 1,000 annually over a period of 10 years.

E—Length of obligated residence on the land:

They shall reside on the land reserved for them until acquisition of Filipino citizenship.

F—Satisfactory Financing of Settlement:

It is stipulated that a responsible committee representing the refugees or acting in their behalf shall submit a satisfactory plan to finance such settlements.

G—Must conform to immigration laws:

The plan contemplated and its execution shall be subject to the immigration laws now in force or which may hereafter be passed by the National Assembly.

PROGRAM AND TIME USED

From the time of his arrival in the Philippines, to join this Commission, each of the three full-time members (Hargis, Youngberg and Pendleton) devoted much time to contacting officials and others, gathering information and maps from all possible sources, in Manila and elsewhere in Luzon. While the fruits of this activity have been very useful in the subsequent field work, it was indeed unfortunate that we were unable to leave Manila for Mindanao weeks earlier than we did, but there were circumstances beyond our control. In May the rainier season in Mindanao had already set in, and our field work was seriously handicapped by the rain itself, as well as by swollen rivers, muddy trails, and washed-out bridges, which resulted from the heaviest single month's rainfall in a decade (as measured at Del Monte, Bukidnon). In Mindanao we spent from May 19th to July 1st, dividing our time between actual work in the field, by cars, horseback, afoot, airplanes, and inquiries at the various provincial and other regional government offices, where there is available much pertinent data not available in headquarters in Manila.¹

THE ISLAND OF MINDANAO²

The great southern Island of Mindanao, extending from 6° 30' to nearly 10° north latitude, and from 122° to 126° 30' east longitude, has an area of nearly 37,000 square miles (nearly the size of the State of Indiana) and is the second largest island in the Philippines. It lies in the extreme southeastern corner of the Archipelago.

¹ In obtaining information and for assistance in the field work we wish to express our gratitude to many different organizations and individuals: To the U. S. Government and to the Philippine Commonwealth Government for the pilot services of Captain M. K. Lewis, A. C., for the use of a Philippine Army observation plane; to the Commonwealth Government Bureaus of Forestry, Lands, Plant Industry, Animal Industry, Weather, Science, Constabulary and Public Works; and to the Faculty of the College of Agriculture, University of the Philippines.

² In preparing this section, we have been made of material from:

Warren D. Smith: "Geology and Mineral Resources of the Philippine Islands". Bureau of Science, Manila, 1924.

P. J. Wester: "Mindanao and the Sulu Archipelago: Their Natural Resources and Opportunities for Development". Bureau of Agriculture, Manila. Bulletin No. 38, 1922.

C. F. Vance et al.: "Possibilities for Para Rubber Production in the Philippine Islands". U. S. Department of Commerce.

Trade Promotion Series—No. 17. Washington, D. C. 1925.

(It may be noted that in the opinion of this Commission a number of Wester's statements and predictions in this publication are very much on the optimistic side. The knowledge and experience, gained in the 17 years since Wester wrote, do not seem to be bearing out many of the hopes of the author.)

Maps: While the United States Coast and Geodetic Survey has made exceptionally fine charts of the coastline of this Island, even the latest and best topographic map of the land surface¹ is very far from being accurate either in the location of places or roads, or in giving an accurate idea of the topography and drainage. Consequently, for the purposes of our survey this map was far from satisfactory, but being the best obtainable, it has been used continuously in the field and as the base map for the presentation of the data accompanying this report.

TOPOGRAPHY

Mindanao may be described as a region of many relatively lofty mountains, a rugged coastline, a generally rough interior with many rapid, short rivers flowing in deep gorges or narrow valleys, and with many waterfalls; on the other hand there are two very long and relatively sluggish rivers, navigable to shallow draft vessels for long distances, with vast areas of swamps in their valleys. Coastal plains are almost non-existent. The dense tropical high forest which doubtless originally covered practically the entire land surface, and which still covers a very large proportion of the Island, and the lack of communication facilities until relatively recently prevented the explorer from getting an adequate conception of the nature of much of the land surface. Having had an unusual opportunity to see much of Mindanao from an airplane, our Commission has been astonished at the large proportion of the land surface which is very rough or at least quite hilly and hence unsuited for agriculture on any large scale. The outstanding features of the Island might be said to be: the long, narrow mountainous Peninsula of Zamboanga; the high level Lake Lanao; the line of extinct and dormant volcanic peaks in the Makaturing-Piapayungan Range; the 400 km. long and also navigable Cotabato River, also with vast swamps in its valley, as well as fertile plains; Mt. Apo, the crowning peak in the Matutum Range and the highest point in the Philippines; the great, northflowing Agusan River about 300 km. long; and the vast, ravine-cut grassy slopes radiating from the two extinct volcanic complexes of Katanglad and Kalatuhan, in Bukidnon.

The attention of the reader is called to Map No. 1 attached to this report. Thereon are indicated roughly the portions of the land surface of Mindanao which may be divided into the following groups:

Lowlands—Hot and Humid. Not Suitable for European Colonists

Low plains, not padi (lowland rice) land, and lower, gentle slopes of the hills, not more than a few hundred feet above sea level. Mostly arable and mostly already under cultivation. A portion of this group still under commercial forest, which must be cut under rules of the Bureau of Forestry before the land will be available for agriculture.

Lowland rice (padi) land; part now under cultivation, as in the lower Cotabato Valley; and about Zamboanga. In the Davao-Agusan region, with as yet almost no padi cultivation, this land-use group is as yet almost hypothetical.

Swampy, poorly drained land, principally in the Cotabato and Central Agusan Valleys. Much of this land might be drained and then used for padi production—however, drainage would eliminate valuable flood-regulating functions, which these swamps now have, consequently elimination of the swamps would seriously aggravate flood conditions on the lower reaches of both the rivers.

Land at Intermediate Elevations

Generally rough topography, suitable mainly for cañgin (hoe) culture or for tree crops. For the most part not arable, i.e. cannot be plowed because of steep slope, danger of erosion, shallow depth of the soil, etc. Much of this land group is still under forest, both commercial and non-commercial, but as already seen from the air, cañgin agriculture has already made alarming inroads into the certain sections of the forest resources of the Island.

Higher Lands Topographically and Climatically Suited for Europeans

Higher slopes and some higher valley floors, from about 1,000 to 5,000 feet elevation, particularly about the volcanic complexes in Bukidnon and about Lake Lanao. The slopes are

¹ Mindanao. Scale 1:600,000. Map No. 50. 1934. U. S. Coast and Geodetic Survey, Manila.

dissected by numerous gullies and cañons, but the flat or rounded uplands between are arable, particularly if done on the contour. Probably half the area is arable. The climate is moderate to cool, making the higher portions of this land-use group suitable for certain temperate zone crops, as potatoes, as well as for coffee. Most of this group is now in pasture, being leased out in large blocks. Around Lake Lanao the land in this group is already fully occupied and cultivated by Moros.

High and Rough Mountainous Regions

Not useful for cultivation nor for any sort of crop, with the possible exception of small plantings of Cinchona (for quinine). These rough mountains must remain in forest, where that will grow, for on the roughest and highest portions not even forest will grow.

GEOLOGY

While Mindanao is indeed a volcanic region, and the evidences of volcanic activity are very widely scattered and enormous in quantity, there are, particularly in certain localities, also great areas of sedimentary and metamorphic rocks, as well as only partially consolidated deposits which have not been covered by volcanic ejecta. By far the greatest proportion of the magmatic materials which have been weathered to form the soils, particularly in the Provinces of Bukidnon and Lanao, has been of material moderately to strongly basic in nature, i.e. there are no free quartz crystals present in the rock. Consequently, the soils weathered from such rocks are clays, markedly free from quartz sand. Recent volcanic ash deposits, as in the Province of Davao, undoubtedly materially contribute to the lasting fertility of the abaca soils of that region. On the other hand, the excessive quantities of black ash which have fallen in the Malabang region of Lanao from the Makaturing Range have, temporarily at least, considerably reduced the fertility of soils in that locality.

Fortunately for the future agricultural development of Mindanao, elevated coral reefs and deposits of coralline detritus are fairly widely distributed, for not only do these materials give rise to fertile soils, but they will be excellent sources of agricultural limestone, for which there will doubtless be a need in the future.

As evidenced by the earthquakes, the tectonic activity of Mindanao continues. It is the relatively recent (geologically speaking) elevation of the Island high above its previous levels, combined with the very deeply penetrating weathering processes, which is responsible for the rapid erosion of the land surface and the consequently very rough topography which now so generally prevails.

CLIMATE

Because there are very few meteorological stations in the portions of Mindanao which are better suited to white settlement, and because even those few stations have as yet relatively very short series of observations, meteorological data adequate for our purposes have not as yet been collected. In addition to Table A, in which are given some typical observations for the Island as a whole, there is included Figure B, which shows graphically some striking rainfall data obtained at Del Monte, northern Bukidnon, at the extreme northern and lowest portion of the slopes of the Bukidnon Plateau, a region which appears to be one of the few practicable sites for white colonization.

General Character of the Climate: Some general statements regarding the climate of Mindanao may also be of value: As a whole, it is humid tropical, with an irregularly distributed rainfall. There are no marked seasons. As shown by the records in Table A mentioned above, as a whole in Mindanao there is generally less rainfall in March and April. Because of the northeast trade winds which prevail from November to April, inclusive, the eastern, and particularly the northeastern coast, the Surigao region, is very rainy. Zamboanga, on the other hand, in the extreme southwestern corner is the driest, both because it is out of the trade wind zone and because it is in the rain shadow of the high mountains of the Peninsula.

In Bukidnon, Lanao, and some other mountainous regions, the mornings are often marked by fog in the valleys at about 1,200 feet elevation; this fog soon burns off, and most of the mornings are bright and clear, or with gathering rain clouds, first about the mountains. The afternoons are usually rainy; at least there are showers.

Typhoons: While Mindanao is south of the main typhoon belt, occasional typhoons have passed near to or over the Island.¹ However, winds of destructive intensity are reputedly very rare. On the other hand, the northern coast of Mindanao undoubtedly has its periods of longest continuous rainy weather during the passage of typhoons across the Visayan Islands, which lie to the north.

Elevation and Climate: As is generally appreciated in the tropics, where "hill stations" are so important as health resorts and as refuge from the oppressive heat of the lowlands, as well as providing the rarely available conditions for the growth of certain crops which will not thrive in the tropical lowlands, the higher mountains have a markedly cooler climate. As reported for Java, the relationship is about 1°C decrease in average temperature for each 100 meters rise in elevation, or roughly ½°F decrease for each 100 feet rise in elevation. Until we have sufficient data from suitably located meteorological stations in the mountains of Mindanao, we may accept the above relationships as at least a rough approximation.²

FLORA AND FAUNA OF MINDANAO

Flora: The climate and soils of Mindanao are such that before man commenced to disturb conditions, except for portions of high mountain peaks and some mangrove swamps, practically the entire Island was covered with a dense tropical rain forest, in which the tall and useful trees of the dipterocarp group are the characteristic forms. Of the dipterocarps, the lasuans, apitong, and tanguile furnish important commercial timbers. It should not, however, be forgotten that tropical forests are usually made up of a very great diversity of species—there are practically no clear stands of one or of a few sorts of timber.³ Rattans and other minor forest products, such as gums, are also obtained from these forests. At the head of bays in some places along the sea coast, mangrove swamps are important, but practically all of their utilizable bark has already been collected and worked into cutch in Zamboanga by the now defunct Philippine Cutch Company.

Cattle or shifting agriculture has been responsible for the destruction of vast areas of primeval forest, and for the commencement of the transformation into grassy plains and slopes of vast areas, particularly in Bukidnon, Lanao, Cotabato and Zamboanga Provinces. These grasslands are now very important as cattle pastures.

Fauna: While the number of kinds of larger wild animals in Mindanao, as in the Philippines as a whole, is much more limited than in most parts of the humid tropics, there is an astonishingly great diversity of insects and related smaller forms of animal life. Agriculturally this fact is

¹ Pilot Chart of the North Pacific Ocean, No. 1401. Various issues, as October, November, and December 1938. Hydrographic Office, Washington, D. C.

² It is, however, not out of place to point out that while certain temperate zone crops, such as potatoes and cabbages, can easily be grown at higher elevations in the tropics, it is not always merely a question of temperature. Sometimes it is a question of photo-periodism, i.e. of the relative length of day and night, which is more important in determining the successful maturity of certain plants or fruits. For example, no matter how satisfactory the prevailing temperature might be on a tropical mountain, certain plants will not flower, or if they do, will not likely mature fruit as long as night and day are of nearly equal length. It is the gradually increasing length of daylight in the spring in temperate zones which is frequently the important factor in inducing normal flowering and fruiting.

³ To illustrate this point, we may take the case of Mt. Makiling, a relatively small volcanic mountain on Luzon, which has been intensively studied. On this one mountain 3,700 feet high Dean C. F. Baker found there are more different species of woody plants than are found in the entire continental United States.

of great importance, for it means a larger number of actual and potential plant, animal and human pests. And since there is no cold season to check the activities of these organisms, they are a potential threat the year around, with almost continuously new generations appearing. Such pests are often the determining factor in the success or failure of certain plant and animal crops.

SOILS

The soils of Mindanao are indeed very diverse, due to the many different factors which have contributed to or have affected their formation: such as the great diversity and varying proportions of the different parent materials, and the varying lengths of time these have been subject to the weathering processes. No attempt will be made to describe more than a very few of the soils, namely, those which are important in the localities which appear to be practicable for white colonization.

However, since one so frequently sees statements as to the marvellous fertility of the soils of various parts of Mindanao, as well as of many other places in the humid tropics, it seems pertinent to comment briefly regarding the fertility of tropical soils in general, stating some of the factors which affect that fertility, as well as to mention reasons for the very general erroneous popular belief that tropical soils as a whole are unusually fertile.¹ For the purposes of this discussion, fertility is considered to be the crop producing power of the soil, usually with reference to some particular crop. And this is an important point, for while certain tropical crops, as rice and Hevea rubber, do not need a soil with abundant supplies of organic matter and plant food substances, other crops such as coffee and ramie do.

It is not surprising that the uninformed person believes that land, which carries a dense growth of tall tropical forest producing annually enormous quantities of organic matter, is well provided with plant food materials. And it is natural for that person to expect that when cleared such land will be certain to produce annually over a long period of time heavy and profitable crops of agricultural plants. This does not, however, by any means necessarily follow, and for the following reasons: the dense tropical forest grows only where there is an abundant rainfall and one rather well distributed throughout the year. Such a forest indeed does produce an enormous amount annually of vegetable matter (leaves, twigs, branches). But the dead leaves, twigs, and even entire fallen trees very rapidly disappear as the result of the attack of molds, fungi, termites and other organisms. Consequently, in spite of the large amount of forest offal which reaches the ground annually, there is practically no leafmold or other organic soil cover in a tropical rain forest, except at high elevations, on mountain peaks where the destroyers of the organic matter are less active. The plant food materials, usually very rapidly liberated from the broken down forest wastage, are very quickly taken up again by the roots of the living forest trees. In fact, there appears to be intense competition between the various forest trees for this food; their intertwined roots are just below the soil surface, to seize the merest trace of nutriment. Thus there is a constant circulation of plant food materials. As a consequence of leaching down past the tree roots, or from being carried off over the surface by runoff water during heavy rains, or being eroded away with some of the surface soil, some nutrient material, however, is inevitably lost from the cycle. Such losses as these, however, will probably be more than made up by those roots of the forest trees which penetrate deep down below the surface, often reaching zones where the rocks are still weathering and liberating fresh supplies of plant food materials.

Now, when the forest is first cleared, the brush and timber burned, and the soil exposed to the sun and rain, there is suddenly liberated at the surface of the soil most of the plant food materials which have long been moving in the above sketched forest cycle. Naturally the

¹ For a fuller discussion of this important question, with references to other papers on the subject, see the note by Robert L. Fendleton, of this commission entitled "Soils in the Tropics" which is expected to appear in the next (July 1939) issue of the *Geographical Review*.

shallow-rooted annual or young tree crop in the first months has an excessive supply of plant food substances to draw upon. But it cannot quickly use nearly all of the available materials, and leaching and erosion soon carry away much of the very slowly accumulated stores of plant foods and organic matter; and neither does the planted crop have any deep roots which can soon tap the deeper supplies being liberated where weathering is proceeding, nor are there usually left any of the forest trees which can do this. Quite naturally, the productive power of such a cleared tropical soil very rapidly declines. The decrease of the organic matter content makes the soil less suitable for such crops as coffee, which demand a soil rich in organic matter. The native farmer meets this difficulty by clearing another bit of forest for next year's crop. He thus also runs away from the weeds.

Other things being equal, the greater the annual rainfall of a region, the more rapidly the rocks weather into soils, the greater the amount of plant food materials leached away, and consequently the poorer the resulting soil will become. This is one of the reasons why, except for some alluvial plains, very rainy portions of the tropics usually have the sparsest populations.

It will be noted that an exception has been made of alluvial flood plain soils, which are to a very considerable extent made up of silt (rock powder), usually from a wide range of kinds of rocks. Such plains, when they receive annual increments of silt, are notably fertile and will usually remain so as long as the annual floods of muddy water continue. But the very fact that such plains are subject to annual overflow means that in the tropics they can usually not be utilized for other crops than rice; the specialized and more profitable crops adapted to upland soils cannot be planted, and so such soils for the most part are not of interest to us in this discussion.

But there is a related condition in the case of upland soils when these are covered by a moderate fall of volcanic ash rich in plant food materials. This seems to be the case with the sloping soils in Davao Province, which produce such excellent crops of abaca year after year. If the soils of Bukidnon could have occasional additions of a few cms. of rich volcanic ash they would doubtless be greatly benefited.

Although the fallacy of too great a dependence upon chemical analysis of soils was long ago appreciated by the soil scientist, the average layman still seems to believe chemical analysis of soil samples in the laboratory to be the best method of evaluating the fertility of soils and of determining plant food deficiencies which can be made good by fertilizers. Actually, very much more, often ten times as much, can be learned about the fertility of most soils, and their utility, by studying them in the field. For these and other reasons, which space will not permit discussing here, the soils of the localities in Mindanao considered possible for colonization were studied only in the field. In this reconnaissance survey no attempt was made to have samples analyzed chemically, for the time and expense which this would have necessitated would not have been at all justified, particularly at this stage in consideration of the questions before us.

FOREST RESOURCES AND REGULATIONS

Outside of the large grasslands located principally in the Province of Bukidnon, and to a lesser extent in all the other provinces, the whole of Mindanao within recent times was heavily forested. Commercial lumbering in various favorable locations, the felling of trees by the semi-wild people all over the Island for their shifting system of agriculture (known locally as "caingin" culture), and the felling by permanent settlers and homesteaders, has considerably diminished the original stand of timber within recent times. However, there still remain large areas of forest outside of the National Parks and permanent reserves, for future utilization.

The forests in Mindanao, like those of other parts of the Archipelago, belong to the "tropical rain forest type". This essentially means a stand of large high trees which act as a sort of umbrellas, and beneath which are trees of lesser height, and beneath these palms, lianas (vines), shrubs, etc. A characteristic of this type of forest is the wide dispersion of different species of trees, i.e. there are no thick stands of individual species of desirable quality, such as exist in temperate zones, as for example pines, cedars, etc. However, it would appear that, in general, the Philippines are fortunate in having thicker stands of similar merchantable trees than most tropical countries and, therefore, commercial lumbering can here be carried on more profitably. The classification of the trees which are of most importance in the areas under consideration, from the standpoint of quantity per hectare and utility are the dipterocarps, such as

- a—Red Luan (*Shorea negrosensis* Forst.).
- b—White Luan (*Pentacme contorta* (Vid.) Merr. and Rolfe).
- c—Apitong (*Dipterocarpus grandiflorus*) and other species of the same genus.
- d—Tañgile (*Shorea polysperma* (Blanco) Merr.).

Another tree very useful particularly in the regions under consideration is molave. (*Pithecellobium dulce* Juss.)

In the United States the lauans are commonly known as Philippine mahogany, and constitute the largest supply of commercial timber in the Islands, amounting to approximately 85% to 90% of the total Philippine lumber export. Of the two, the white luan is much more generally abundant than the red. They are relatively soft woods, whereas molave belongs to the hardwood group.

The characteristics of the above timbers are as follows:

A—Red Luan: "It is a very large tree, sometimes reaching a diameter of 7.5 feet. This is the darkest of the 'dark red Philippine Mahogany', generally dark red to dark brownish red. Its grain crossed or interlocked, showing a distinct 'ribbon' when quartered; texture moderately coarse, glossy. It is moderately hard, comparatively light, weighing an average of 36.5 pounds per cubic foot, air dry; seasons well; checks negligibly; easy to work with common tools, and takes a beautiful polish; durable for interior work, moderately durable when exposed to the weather or in contact with the ground. In the Occident, red luan is employed, together with other species classified as Philippine mahogany, for many of the uses of genuine mahogany, such as furniture and interior work, veneer and plywoods, boat planking and numerous other purposes for which a comparatively light and beautifully figured wood is required".¹

In addition to the above uses it is also used as planking and for interior construction purposes in buildings.

B—White Luan: "This species is a very large tree attaining a diameter up to 6 feet. It has a cylindrical bole similar to all members of the luan group. It is one of the most abundant woods

of the Islands and constitutes, together with other white lauans such as *alnos* and *bagitan*, the bulk of the timber cut by the lumber companies. The wood is light gray, turning light pink when dry; its grain is crossed, producing a distinct 'ribbon' when quarter-sawed; texture moderately coarse; glossy; light to comparatively heavy, weighing an average of 33.6 pounds per cubic foot, air dry; seasons well and once dried stays put; checks negligibly; works easily, and takes a beautiful finish; durable for interior work; moderately durable when exposed to the elements or in contact with the ground".¹

It is also used in construction work as planking, etc.

C—Apitong: "There are about fifteen species of the genus *Dipterocarpus*, the woods of which are very similar to one another, both in anatomical structure and strength properties and, consequently, are all marketed as apitong. The trees are of medium to large size, attaining a diameter up to 4 feet and a clear length up to 80 feet. Apitong is one of the most abundant woods of the Islands and is obtainable in large quantities.

"The wood ranges from reddish to light brown. The grain is slightly crossed, occasionally wavy. Texture is moderately fine to moderately coarse; has a slightly resinous scent, but no distinctive taste; hard and heavy, weighing an average of 48 pounds per cubic foot, air dry; needs careful seasoning as it warps and shrinks more than any of the sorts of Philippine mahogany; works and finishes fairly well; durable for interior work; unless treated, perishable when exposed to the weather or in contact with the ground; absorbs preservatives readily because of the open character of the vessels of the wood.

"It is used for posts (above foundations), beams, joists, rafters, flooring, bridge and wharf construction including piles (treated), wagon beds, automobile framing, framing of barges and lighters, railroad car constructions, medium grade furniture, telegraph and telephone poles (treated), and other purposes for which a hard and comparatively heavy wood is required".¹

D—Tañgile: "This species is a large tree attaining a diameter up to 6.5 feet. Tañgile, together with red luan produces about 95% of the woods of the Philippine red mahogany group. The wood varies from light red to dark red; its grain crossed or interlocked and, like the red luan, shows distinct 'ribbon' when quartered; texture moderately fine; very similar to that of genuine mahogany; lustrous especially when quartered. It is moderately hard and comparatively light, weighing an average of 35.2 pounds per cubic foot, air dry; moderately strong, seasons well, checks negligibly; works well; finishes very highly; durable for interior work, moderately durable when in contact with the ground. Tañgile is used for furniture and interior work, veneer and plywood, boat planking, and numerous other purposes for which a comparatively light, beautifully figured wood is required".¹

E—Molave: "This species attains a diameter up to 6.5 feet with a short, crooked, and fluted bole. It is always obtainable in small quantities in Manila and other local lumber centers. The wood is light straw-colored, sometimes light yellowish brown; grain is slightly crossed, inclined to be wavy; texture is fine to moderately fine; glossy; lime-water stains the wood greenish yellow, and chips color water yellow; very hard; very heavy, weighing 59 pounds per cubic foot, air dry; brittle, very strong; seasons with little shrinking; easy to work for a hardwood, and finishes very highly; very durable under all conditions except when exposed to marine wood borers. Its name is synonymous for strength and stability all over the Archipelago.

"Molave is used for high grade construction for which both strength and durability are required, such as shipbuilding, posts, railroad ties, paving blocks, sculpture and carving novelties, furniture making, flooring, window sills, frames of windows and doors, and balusters. It is recommended for making shuttles".¹ Molave can be used satisfactorily for more different purposes than any other wood in the Philippines, though it is usually too expensive to be used where other woods will serve.

¹ Forest Resources of the Philippines; Bureau of Printing, Manila, 1939.

¹ *Ibid.*

Molave, taken from nearby forests, was observed to be used in the construction of permanent bridges on the highways, especially in Bukidnon Province.

The above constitute the timbers with which the colonists would come mostly in contact for purposes of house construction, bridges, furniture making, and general purposes. In addition, for special purposes, the following are available in minor quantities:

Narra (*Pterocarpus indicus* Willd. and *P. vitalianus* Rolfe): These produce both the yellow narra and red narra. It is the best known furniture wood in the Philippines. It is used for high-grade furniture, and cabinet work, veneers, radio cabinets, showcases and similar articles requiring a beautiful, strong, durable wood.

Tindalo (*Palaudia rhomboidea* (blanco) Prain): This is also a fine cabinet wood, and is also employed in house construction for door and window frames, stair cases and flooring. It is also suitable for veneer and plywoods.

MINOR FOREST PRODUCTS

Among the minor forest products for which the colonists would find many uses may be mentioned only two, though there are many others for which immediate uses might be found, and commercially exploited in the future:

Bamboo: The various sorts of Bamboo are used for innumerable purposes by the natives and may be considered as his "structural steel". It enters into the construction of his houses, for fences around his fields, for a container for carrying water, etc., etc.

Rattan: "Rattan is indispensable in the economic life of the Filipinos. It enters into the manufacture of tables, lampshades, chairs, baskets, walking sticks, horse whips, ropes, grocery baskets, cradles, sewing baskets, and other important household articles".¹

ADMINISTRATION OF PHILIPPINE FORESTS

The lands of the public domain are grouped into the three great divisions, namely:

- 1—Alienable or disposable.
- 2—Timber.
- 3—Mineral.

The Bureau of Forestry has jurisdiction over 2—Timber, and is by law charged with the administration, protection, and management of all public forests, including forest reserves, national parks, etc.

With the exception of some areas in Mindanao which due to roughness of terrain and difficulty of access are relatively little known or explored, the forests of the island have been mapped and classified by the Bureau.

Outside of permanent forest reserves, the Bureau of Forestry classifies the timber lands into (a) commercial and (b) non-commercial.

The non-commercial (which may also include grass lands) are certified to the Bureau of Lands as agricultural or non-agricultural; the former are made alienable or disposable by the latter Bureau. This Bureau can then, according to laws governing the matter, dispose of these

¹ Ibid.

lands. The Bureau of Forestry has just been given full jurisdiction in the matter of issuing all grazing leases or permits.

Licenses for cutting timber in the commercial forests can be secured from the Secretary of Agriculture and Commerce or from the Director of Forestry. Two classes of cutting licenses are granted, viz.: (1) long-term license agreements; and (2) the ordinary license. Licenses may be secured by American or Filipino citizens, or corporations in which, however, 60% of the stock is held by American or Filipino citizens. Long-time licenses are granted to those legally authorized to transact business in the Philippines, who will use machinery in logging and saw-milling, and whose plan of operation is sufficient to warrant the holding of a long-term license. The applicant must furnish proof of financial ability to use the lease effectively, and will be held responsible for any violation committed in the operation of his license. The long-term license is issued for a period of not more than 10 years, renewable for an equal term, but the original term plus renewals is not to exceed fifty years.

Ordinary licenses are issued generally for one year. If the area is large enough and the timber can be exploited for a longer period, and if the applicant has sufficient capital, a five-year license may be issued. A regular tariff is in effect for all lumber cut, the timber being classified into four groups with fixed forest charges for each group as follows:

1st Group. P3.50 per cubic meter. In this group are listed 28 species among which are Molave, Narra and Tindalo. In the case of Molave fees for the whole log is P3.50, but if the sapwood is stripped and only heartwood taken the charge is P4.00 per cubic meter.

2nd Group. P2.00 per cubic meter. 45 species are listed.

3rd Group. P1.25 per cubic meter. 68 species are listed in which are included Apitong, Red Lauan and Tañgile.

4th Group. Contains 44 species in which is included White Lauan. The forest charge is P0.60 per cubic meter.

After the timber has been removed, the land may then be classified and if deemed suitable, may be released for agricultural purposes.

In addition to the above, a new regulation has come into effect applicable to some locations considered suitable for colonization and which are at some distance from large forested areas. This is the setting aside of certain smaller areas of forest for communal uses and known as "communal forests". They may be adjacent to the settlements or at some distance and are intended to supply the local population with lumber necessary for their requirements, such as buildings, furniture, etc.

USE OF FOREST LAND FOR COLONIZATION PURPOSES AND LAND CLEARING

A consideration of the above rules and regulations governing the exploitation of forest areas indicates that any such areas chosen for settlement by colonists must first be secured as timber leases and the commercial timber cut and removed, for the use of the colonists as material for construction of houses, barns, bridges, etc. Any excess may be sold in the various markets. After clearing, the land may be leased for agricultural purposes.

It will be necessary for the properly constituted authority under which this colonization scheme would operate either to purchase its own logging equipment and retain the services of professional lumbermen to cut and work up the timber, or else make suitable arrangements with an approved lumbering concern now operating to take charge of these operations.

If the area were within a reasonable distance of an operating sawmill some arrangement could undoubtedly be made to deliver logs and receive required lumber in return. If this were impracticable, it would be necessary to purchase and operate a small sawmill. The cost of such a mill in Manila would be approximately P7,500.00. This sawmill would have to be larger and

stronger than the small portable mills used in the United States which are designed for softer woods and where most of the work is done by groups of farmers in the winter. This mill would use a 60-inch saw and a 25-foot carriage, and could be operated with a TD-35 or TD-40 International Harvester Diesel Tractor, or an equal powered steam engine. The cost would be made up of P5,000.00 for the mill proper and P2,500.00 for edgers, swing cut-off saws and other necessary equipment.

The degree to which land should be cleared, that is to say, removal of stumps and roots, would depend on the character of the terrain, the crops to be produced, and the methods of plowing and cultivation. On hills or rolling land where tree crops only could be considered, it would not be necessary to remove roots and stumps, as these would rot and disappear within a few years. On the other hand, on lands level enough to plow and cultivate, either with animals or tractors, it would probably be found advisable to remove the stumps and roots. With hand labor this would be a laborious task, and probably beyond the physical capacity of refugees fresh from cooler lands, and not inured to such severe physical labor. To have it done with hired labor would be an expensive matter, besides being very slow, and might amount to as much as P150 to P175 per hectare.

With European labor, accustomed to handling machinery, the most satisfactory method would probably be to do it with machinery, using winches and stump pullers. For such work American supervision and machinery is superior to any other and for this reason we believe it could be done quickly and at reasonable costs. The use of dynamite for the removal of stumps has not proven satisfactory in tropical clearing.

The estimated cost in Manila of a Dorsey Model "B" stump puller (Dorsey Bros., Elba, Alabama, U. S. A.) is approximately P1,300.00 and cable, tackle, blocks, etc., about P1,000.00 or a total of P2,300.00. Capacity is claimed "up to more than five feet in diameter", and three hundred or more stumps per day.

The approximate cost of an International Harvester caterpillar type Model T-20 tractor, operated on kerosene, is P3,455.00 including special additional equipment. The heavier Diesel tractors which would probably be more effective in the long run would cost about P5,640.00 for the TD-35 and P7,150.00 for the TD-40.

There are smaller and cheaper outfits to be operated by Fordson tractors, but they do not stand up to the heavy strain and wear as well as the heavier machines. Some years ago there was one such called the K-Stump puller so equipped, with sales offices in New York and San Francisco.

Non-commercial forests are usually second-growth and such areas could usually be cleared and stumped by the colonists themselves.

If it were necessary for financial reasons or otherwise for the colonists to plant food crops immediately and depend upon hand planting and cultivation for a few years, stumping (clean clearing) could be dispensed with or postponed and the stumps and roots left to rot and disappear, which they would do in a very few years.

In any case, however, if forest areas are chosen for settlement, auxiliary means would be required for the sustenance of the group in the intervening period until the area is adequately cleared and in production.

TYPES OF CROPS ADAPTED TO MINDANAO IN CONNECTION WITH EUROPEAN COLONIZATION

While there is a wide variety of possible crops which might be considered as adaptable over a large part of the Island, and which might be produced, we are to a certain extent limited in our choice by the terms of the offer made by the Commonwealth Government, which, in effect, stated that the settlers will agree to engage in subsistence farming or such other activities as may be compatible with the best interests of all the Philippines. Our understanding is that this means that in addition to crops produced for subsistence any crop may be grown which is not competitive with Philippine products now sold in the American market.

This rules out in the beginning consideration of such crops as coconuts, sugar, and tobacco. As to abaca (Manila hemp) which grows well in most places of the Island and is one of the major crops and which is sold in the world's markets, an official ruling might have to be secured. At the present time the price of this product is very low and the view might be taken that any increase of production would tend to still further depress the price, and thus not be compatible with the best interests of the country as a whole.

PROBABLE FOOD CROPS AS A BASIC PROGRAM

Rice: The main starchy food of the natives in the Island is rice, and this can be produced in any part of the Island. In the lowlands certain varieties are grown as wet rice (padi) and in the higher lands other varieties as upland rice. The colonists would undoubtedly become accustomed to use rice as a staple article of food, and this would be generally raised as upland rice.

Corn (maize): Corn is generally produced all over the Island in small amounts and is used as an article of food, though to a much less extent than rice. We are aware that corn is not used by Europeans as an article of food, but under the circumstances the colonists might have to accustom themselves to its use. At least two and in some places three crops can be grown in a year, and with proper selection of variety and seed and cultivation excellent crops can be produced. It may be consumed as "roasting ears" in the immature stage, or allowed to mature and dry and be ground as meal, or made into hominy, corn flakes, or similar corn products.

It might be noted that in the nearby Visayan Islands the sturdier groups of inhabitants thrive on corn rather than rice.

Peanuts: Peanuts do well on the higher lands, and in their natural state, or worked up into various products, would furnish an important protein element in the diet.

Sweet potatoes: An inferior variety, locally known as *camote*, is raised rather generally over the Island, and is a common article of food. The leaves are sometimes boiled and eaten as a vegetable.

An early American Colony, at Mombungan, between Dansalan, Lanao, and the north coast introduced yams from Georgia. These are still produced locally, and of very good quality. A good variety of sweet potatoes should be introduced and used by the colonists as an article of food.

Bananas: Except at the higher elevations bananas are quickly and easily grown and, as in all tropical countries, furnish an important article of diet.

Pineapples: The success of the Philippine Packing Corporation at Del Monte (elevation 1700-2500 ft.), northern Bukidnon, in the growing of pineapples leaves little to say as to the adaptability of this fruit to the area. Ripe fruits can be secured within 21 to 24 months after planting. In the form of fresh fruit, juice, jams and preserves, pineapples would be of great benefit during the first years until the tree fruits would come into bearing.

Sugar cane: For strictly home and personal consumption we do not believe any objection would arise over the production of small amounts for the preparation of syrup, muscovado or brown sugar, and fermentation into vinegar.

Cassava (Manioc): Small amounts of this plant have been observed in various locations. It can be grown almost anywhere, with the possible exception of the very highest altitudes. The tuber can be cooked and eaten as a starchy food. Starch for domestic use or for making tapioca and sago can be made from it. Since this plant is very exhausting on the soil, extensive plantings are not recommended.

Papaya: This tropical fruit can be grown quickly and its quality in the Philippines is excellent. In the diet it can be substituted for melons, which it somewhat resembles in form and taste. In some of the tropical countries, particularly Siam, papain, from the green fruit, is produced and exported. The preparation of this product would furnish another possible export product.

Vegetables: The general statement is often heard that vegetables do not do well, due to damage by pests and diseases. At low elevations (say below 2,000 ft.), white or Irish potatoes and tomatoes suffer from wilt. But at the higher elevations, say 3,000 ft. and above, potatoes at least do very well.

From our own observations and experience we are of the opinion that with a reasonable amount of insect control, the following green vegetables can be grown successfully in those areas likely to be selected for colonization:

- String beans, many forms, both local and exotic
- Cabbage
- Egg plant
- Okra
- Squashes, many forms, resembling both Hubbard and Summer squashes
- Pigeon peas
- Mung beans, various kinds.

POSSIBLE CASH CROPS

Below we are giving a list of crops which are of economic importance and which (with possibly a few exceptions) would not be prohibited under the general terms of the refugee settlements. In many instances it is difficult to make specific recommendations, or to guess at long term market trends, due to the uncertain political situation at this time. Should U. S. control definitely cease within a few years none of these crops (which might be grown for export to the U. S.) would have any tariff advantages in the United States market, and would have to be produced for local consumption only and for world markets in competition with other tropical countries exporting the same products. It would be advisable to have a competent agricultural economist study the matter on the spot and make recommendations. For the present we enumerate those crops adaptable to the regions and which now can be marketed either locally, in the U. S., or in the world markets:

For convenience we are dividing the possible cash crops into two general groups: (1) Tree crops, (permanent); (2) Other crops (permanent and/or annual).

TREE CROPS

Citrus Fruits: Our observations have indicated that citrus trees do very well, especially in those areas above about 1,000 ft. elevation. While we have seen many cases of poor development and unsatisfactory condition of trees, on the other hand we have seen many fine specimens of healthy, thrifty trees. No special care is given the trees in the way of pest control. The only place where citrus is grown on what might be considered a commercial scale is at Sumilao, a village in northern Bukidnon, on a branch road 7 kms. off the main highway, and a short distance

from the Del Monte pineapple plantation. The elevation of Sumilao is around 1,800 ft. We were informed that in the season oranges were sent from there to Manila. In addition to oranges, limes might be grown on a smaller scale. A good variety should find a ready market in the larger cities.

Oranges, and to a lesser amount grapefruit and lemons, are regular imports into the Philippine Islands from California and from China. The quantities and value of citrus fruit imported in the Philippines from 1934 to 1937 inclusive was:

Quantities (kilos)				Value (Pesos)				
1934	1935	1936	1937	1934	1935	1936	1937	
216,159	245,871	213,463	163,534	Lemons	₱ 78,720	₱ 87,825	₱ 92,364	₱ 68,565
3,153,568	4,910,818	4,815,456	4,592,243	Oranges	680,218	949,669	882,534	858,328
352,036	499,831	462,090	315,860	Pomelos (grape fruit)	41,149	57,601	63,583	54,442

Retail prices for American oranges in Manila, as quoted in the press for July 4th were: 30 centavos to ₱1.20 per dozen, depending on size.

While we saw but very little evidence of diseases or pests it is known that the citrus trees and fruit are subject to attack by several enemies. In Lano (and the same would be true elsewhere) the principal diseases are said to be: pink disease, gummosis, canker, foot rot, and pests; stem, rind and bark borers. Where citrus might be grown on a sufficiently large scale, it should be possible to spray and/or dust economically for pest control. The diseases enumerated can be controlled.

Only budded citrus stock, which can be secured, should be planted.

Coffee: In the higher lands, those best suited to European settlement, coffee has proven a successful crop. It has the advantage that it can be grown on rather steep and rough land, but on the other hand has the disadvantage that it must have a rather rich soil, and unless rather heavily fertilized after 15 to 18 years must be planted on new, freshly cleared land. In the lower elevations, say up to 1500 to 2000 ft., *excelsa* and *robusta* varieties are generally grown. Higher than this *arabica* still does well; however, there is always the serious danger that this sort, which admittedly produces the best quality coffee berries, will be wiped out by disease. The higher the elevations the better the quality, and in areas like the Marayon Valley, with elevations around 5,000 feet, an excellent quality could be grown.

The Philippines consume a considerable quantity of home-grown coffee, but still a large amount of coffee is imported from abroad, and there appears to be no reason why this imported amount should not be produced on the higher lands of the island. On the other hand, coffee cannot be considered for an export crop, in face of the enormous Brazilian production.

IMPORTS OF COFFEE

(Div. of Statistics, Manila, 1938)

Quantities (kilos)				Value (Pesos)				
1934	1935	1936	1937	1934	1935	1936	1937	
2,545,904	3,545,661	3,513,541	3,433,192	Raw	₱1,061,847	₱1,208,545	₱1,104,794	₱1,209,962
141,070	139,966	275,833	174,600	Roasted or Prepared	130,124	138,233	197,496	148,583
2,686,974	3,685,567	3,789,374	3,607,792		₱1,191,971	₱1,346,778	₱1,302,290	₱1,358,545

During our field work we have seen a large number of coffee trees, in various localities, and in one place (Orandang Plantation, Cotabato Province) coffee is produced commercially. We did not notice any evidence of disease, except possibly in one locality, an abandoned settlement of

Manobos, at Pidaoranan, above Pangantocan, on the southern slopes of Mt. Kalatungan, Bukidnon, at an elevation of about 3,500 ft. The limbs were bare of leaves, which the natives claimed was due to neglect and absence of cultivation, but not to disease. Trees come into bearing at not more than three years of age; in some localities at two years.

Avocado: At the present time avocados bring a fairly good price, 1 to 2 centavos each. Probably, however, it cannot be considered a commercial crop, since avocado trees have already been planted pretty generally in the Bukidnon region, and seem to be doing well. By the time more of them will be coming into bearing, the local markets will be saturated. However, a few trees should be grown by each colonist, for home consumption. Budded stock should be used to obtain superior varieties and earlier fruiting; such trees would usually come into bearing 3 to 4 years after planting.

Pili (*Camarium sp.*): This tree is the source of the pili nut, a most delicious edible nut, and one which is now being exported to the U. S. A market might also be developed in other countries. This tree is also an important producer of resin, the material being obtained by tapping the bark. The product is known by the Spanish name "brea blanco" (white pitch).

The pili is at present a forest tree, and the products are obtained from the forest. But young plantations of these trees, combined with coffee and lumbang, have been noted, and the trees give promise of doing well; there is thus good reason for believing that it can well be grown under plantation conditions. It is a very tall, slow-growing tree, requiring many years to reach production, hence the desirability of combining it with other tree or with shrub crops, as coffee. By marcotting, however, production can be obtained earlier, in from 5-6 years.

The following statistics are taken from Bulletin of Philippine Statistics, 1938.

	1936	1937
Trees Planted	257,307	257,840
Area Covered (hectares)	2,059	2,062
Trees Bearing	160,560	160,830
Production (Kilos)	5,129,770	5,276,650
Yield per tree	32	33
Average price per 100 kilos	P 5.83	P 5.87
Total value	P298,890	P309,570

EXPORTS OF PILI

The exports for 1934-1937 inclusive, according to above sources were:

1934	1,684 kilos	P 930
1935	7,608 kilos	2,844
1936	47,838 kilos	9,896
1937	63,809 kilos	23,009

Lumbang (*Alseodora moluccana*): This is a native forest tree in the Philippines; the very hard-shelled seeds are the source of lumbang oil and the oil cake, which are obtained from the kernel. Lumbang oil is largely used locally in the manufacture of paints, varnishes, and lacquers, for it is a similar oil to tung oil and to a certain extent can be substituted for the latter. The lumbang tree can be grown under plantation conditions, and requires only 3 to 4 years before beginning to produce nuts. While a special machine is very desirable for cracking the nuts, extraction of the oil can be done with the usual oil mill machinery.

Two other species of the same genus, *A. Fordii*, and *A. Montana*, reputed to yield earlier, should be planted in Mindanao, if they can be made to grow satisfactorily, because *A. Fordii* nuts produce the true tung oil, so valuable for paints, varnishes and so extensively used in the American paint industries. *A. Montana* nuts give a similar, though not identical oil, and experience in other tropical countries indicates that plantations should be pure stands of one or the other

of these three species—the species should not be mixed in commercial plantations and the oil from the different species should also be kept separate.

PRODUCTION OF LUMBANG

The following statistics are taken from the Bulletin of Philippine Statistics, Department of Agriculture and Commerce, Manila, 1938:

	1936	1937
Total trees planted.....	154,180	148,430
Area covered	1,280	1,232
Trees Bearing	74,180	72,180
Production (kilos)	2,067,760	2,035,850
Yield per Tree	27.87	28.20
Average price per 100 kilos	P 15.74	P 15.18
Total Value	P 325,440	P 309,070

EXPORTS OF LUMBANG

	Quantity (Kilos)	Value (Pesos)
1934	2,487	P384
1935	261	60
1936	2,268	858
1937	1,834	624

The data above indicates that practically all production is consumed locally.

Kapok: This is an important article of commerce, the main supply coming from the Dutch East Indies. A considerable amount is produced in the Philippines for local use and for export. Kapok is used all through the East for mattresses, cushions, and pillows, in place of cotton. It finds great use in the manufacture of life-preservers, life-rafts, etc. For the latter purpose, however, it may find effective competition in the growing use of sponge rubber and similar products.

By planting superior varieties, instead of the common local variety, and possibly working it up into merchantable products, a new local industry could be developed.

The production for 1936 and 1937 and report of Kapok for 1934 to 1937 inclusive are given as:

	1936	1937
Total Trees Planted	2,294,470	2,298,970
Area Covered (Hectares)	7,572	7,580
Trees Bearing	1,068,710	1,070,910
Production (Kilos)	1,408,410	1,413,850
Yield per Tree (Kilos)	1.32	1.32
Average Price per 100 kilos	P 32.42	P 32.44
Total Value	P 456,610	P 458,640

	Exports	Value
1934	1,072,669 kilos	P108,948
1935	696,341 kilos	105,148
1936	1,003,387 kilos	245,183
1937	1,129,186 kilos	246,265

From the seeds a useful oil can be expressed, leaving an oilcake useful for fertilizer.

Cacao: At the lower altitudes and with the heavy and rather well distributed rainfall, cacao should do very well. Relatively very small amounts are now produced in the Islands. The tree and fruit are subject to many fungous diseases. Due to large production in many tropical lands, we doubt if it would prove an economical crop to grow, but it is worth considering.

Large amounts of cocoa and its products are imported into the Philippines annually, and while its treatment and preparation is a rather specialized industry, consideration should be given to its possible manufacture to replace the present importation from abroad.

Data regarding cocoa for the years 1936 and 1937 are taken from the Bulletin of Philippine Statistics:

	1936	1937
Total trees planted.....	2,211,190	2,221,910
Area covered (hectares).....	1,555	1,548
Trees Bearing	1,190,850	1,194,130
Production	798,080	807,290
Yield per tree (kilos).....	.67	.68
Average price per kilo	P 75	P 76
Total Value	P 601,810	P 612,680

IMPORTS OF CACAO

	Crude	Manufactured except confectionaire	Total (kilos)	Value (Pesos)	
				Crude	Manufactured
1934	1,397,952	625,580	2,023,532	447,101	304,560
1935	1,932,223	877,776	2,809,999	562,908	448,046
1936	1,048,150	1,358,402	2,406,552	345,240	578,625
1937	1,443,788	1,201,870	1,645,658	739,836	526,816

Cinchona: This product is mentioned, though at the present time or in the immediate future we doubt if it would fit in with the activities of the colonists. However, in the future it might be a different matter, and under scientific and technical direction there are undoubtedly possibilities of developing a quinine industry. Cinchona can only be grown successfully at elevations of something like 4,000 ft. and above, and on especially friable soil well supplied with organic matter. This means in rough and rugged country, usually without satisfactory means of transportation. Should a road be built into the Mirayon Valley, the upper slopes would be an excellent location.

The Commonwealth Government is at present operating a seedling nursery at Impalutao, near Malaybalay, Bukidnon, and a nursery and plantation at Kaatoan, above the village of Alanib, on the slopes of Mt. Katanglad. The elevation at the plantation office, in the lower edge of the plantation, is 1150 meters (3773 ft.) and the rainfall for the last two years is as follows:

1937	3571 millimeters (152 inches)
1938	3104 millimeters (122 inches)

Two species of Cinchona are being grown extensively: *Cinchona zaccirabra* and *C. ledgeriana*, the latter being the species cultivated on the government quinine plantations in Java. Many hybrids between these and other species are being experimented with in the hope that still higher alkaloid contents can be obtained, as well being selected for higher yield, earlier maturity, and resistance to pests and diseases. The bark of *C. ledgeriana* is said to yield 7-12% alkaloid, while yields of as high as 15% have been obtained.

The young trees from the nursery, when about a year old, are planted out on the newly cleared forest slopes, at distances of about a meter each way. After some years, as soon as the trees begin to crowd each other, thinning is commenced, the weaker trees being removed, roots and all, for the bark of the roots is even richer in quinine than the bark of the above-ground portions. The bark is all removed, dried, and shipped to Manila for manufacturing the pharmaceutical products. According to experience in Java, the thinnings are continued, and finally all of the trees cut for their bark at about 30 years of age; then the plantation is planted afresh.

From the above it is seen that the growing of Cinchona for quinine is a long-time proposition. Also there is reason to believe that the Government might not look with favor upon the production of Cinchona bark by colonists, as there may be the desire to keep it as a government monopoly. However, there is a definite shortage now; the supplies are inadequate for the malaria infested regions.

Ilang-ilang (*Conoquium odoratum*): This is a local tree, the flowers of which contain an essential oil useful in the compounding of perfumes. Before the war there was a considerable industry in another part of the Philippines, in producing the flowers and distilling the oil. With expert chemical and technical knowledge it might be possible to produce this oil and make use of it in the preparation of perfumes which would find a ready market locally, and possibly also for export to neighboring countries. The tree does well under plantation conditions. It begins to flower in about 7 years.

The amount of ilang-ilang oil exported the past few years is given as:

		Value
1934	184 kilos	P14,465
1935	861 kilos	20,375
1936	968 kilos	18,674
1937	1,188 kilos	25,015

Cashew nuts: The cashew nut has now risen to an important place as an edible nut, particularly in the U. S. and that country is importing considerable quantities, mainly from southern India, where cheap labor is abundant and already skilled in the process of removing by hand the closely adhering hulls. The technique of this process is the secret of the virtual monopoly enjoyed by India.

The relatively large fleshy fruit, to which the cashew nut is attached, can be used for the manufacture of wine, somewhat resembling sherry. It would probably be largely for this purpose that the cashew nut trees would be grown on any considerable scale in the Philippines, particularly because grapes and other fruits which serve as sources of alcoholic beverages do not thrive in these islands. The tree, which will grow even in relatively poor soil, though of course better with good soil conditions, begins to yield at 3 years of age, and is reputed to be in full bearing at 5 years.

The importation of cashew nuts into the United States, according to figures of the Manila Chamber of Commerce, was: \$2,349,261 in 1934; \$3,658,860 in 1935; \$3,706,833 in 1936. At present cashew nuts from the Philippines would enjoy a tariff protection of 2 cents (U.S.Cy.) per pound.

Rubber (*Hevea brasiliensis*): In all the areas under consideration particularly at elevations below 1,800 ft., there are large tracts of land suitable for the growing of the commercial rubber tree. The following factors warrant serious consideration before a decision could be made as to the feasibility of undertaking the production of rubber:

1—It is useless to plant anything except tested high-yielding stock (clones), and these are not easy to obtain. Due to the very great potential over-production of rubber in the British, Dutch, and French colonies and protectorates for some time, those nations have an embargo against export of any planting material, and this prohibition of export will probably continue for some

considerable time in the future. However, trees of most of the best clones are at present growing on one American-owned plantation in Mindanao (the Goodyear Tire & Rubber Co., Kabasalan, Zamboanga). Arrangements could undoubtedly be made to obtain from this Company the necessary planting stock, but it would require two or three years to propagate a sufficient supply for planting purposes on any reasonable scale.

2—Rubber is produced most economically with areas and operations on a large scale. Most of the work on a rubber plantation is hand labor, the abundance and cheapness of which in the above-mentioned colonies gives them such a marked advantage in production as against the rest of the world. It is true that a large proportion of the world's supply of rubber now comes from small native holdings in Malaya, Sumatra, Java, and Borneo; however, the natives of those regions are used to a far lower living scale than are Europeans. At times, when rubber prices are low, as they have been at many times during the past few years, even the native owners cease to tap their trees, and resume only when the price rises again sufficiently.

3—As indicated above, there is a large potential over-production and there is no indication that within any reasonable time the price of crude rubber will be profitable to a small grower. Through informal but effective mutual arrangements the British, French, and Dutch Governments can and do regulate world prices in a way to discourage any large scale planting in any part of the world.

African Oil Palm (*Elaeis guineensis*): This is a crop that might bear investigating, but from the Commission's personal knowledge, it is of the opinion that many of the objections enumerated above for rubber would also apply against the oil palm as a cash crop for small producers.

In the East, at least, it is planted and produced on a large scale—that is to say, on large plantations by corporations with large capital resources. The proper treatment of the kernels to produce oil of the best quality, requires considerable machinery and, therefore, a considerable financial outlay. It is understood that in Africa a considerable quantity of palm oil is produced by small native growers, but again they are used to a low standard of living and satisfied with a small financial return. Unfortunately, however, no member of this Commission is personally acquainted with conditions in tropical Africa.

The palm grows very well in the Philippines. In the gardens of the Bureau of Plant Industry, in Manila, it has fruited in three years.

Other Tree Crops: There remain a few tropical products that might bear investigation, but regarding which we have no local information. Among these crops are:

Cinnamon.

Nutmeg.

Spices in general (exclusive of black and white pepper, which certainly must not be considered on account of the great over-production in nearby countries and the enormous amount of hand labor required).

OTHER CROPS (PERMANENT AND/OR ANNUAL)

Rice: Rice is one of the most promising cash crops for the present and probably for some years in the immediate future. Strange as it may seem, the Philippine Islands does not produce sufficient rice for its own requirements, so that large amounts have to be imported each year from exporting countries, i.e. Siam and French Indo-China. There is thus an immediate local market, at fair prices, for a crop that the colonists could immediately begin to grow, once the land is prepared. It may be added that rice does not demand more than moderately fertile soils.

Except on the rough and more sloping lands, rice is admirably adapted to machine planting and harvesting, as is done in California, Louisiana and Texas. Our idea would be that for any group of colonists, where the land is satisfactory for the purpose, the fields set aside for rice growing should be contiguous, and the planting done by tractors, and harvested by combines, as a sort of communal or community proposition. In this way the most efficient use could be made of the necessary machinery.

The rice grown would be of two different types, requiring different agronomic treatment; roughly, these would be as follows:

1—**Lowland (wet rice or padi) type:** In this type the land would be plowed and prepared during the drier months of April and May, the seed being broadcast or drilled in early June. After germination the area would be flooded to prevent growth of weeds, and at the proper time the water drained off to allow the ground to dry for harvesting. In general, only one crop per year could be expected, though there is the possibility of following the rice with a crop of peanuts or soy beans, providing suitable varieties of these legumes can be found.

The average yields secured by the native transplanting methods are of course greater, but the enormous amount of very hard labor involved in transplanting, as well as the soil preparation, rule it out of consideration for employment by European colonists.

Yield depends upon several factors, one main one being variety. In fertile irrigated tracts an average of 70 cavans of palay (unhusked rice) per hectare is not uncommon. In the Lake Lanao area the average yield was said to be only around 28 cavans per hectare. A fair average for the country as a whole is said to be from 40 to 50 cavans per hectare.

The unit used in estimating yields is the *cavan*. 1 cavan = 2.13 bushels. 1 cavan of unhusked rice is approximately 44 kilos, and of clean rice 37 kilos. The above yields expressed in bushels per acre would be: 70 cavans per hectare = 149.1 bu. per hectare = 59.6 bu. per acre. 28 cavans per hectare = 59.6 bu. per hectare = 23.8 bu. per acre.

2—**Upland Rice:** On lands which cannot be flooded, either because of the slope of the land, or because irrigation water is not available, or for other reasons, upland types of rice will have to be used, for which different methods of planting, cultivation, and harvesting will have to be employed.

The native method is to plow the field several times with his iron-pointed wooden plow, then harrow to collect the grass, weeds, and roots which are either removed from the field or burned in heaps. Seed is then broadcasted, and the ground harrowed again. After the rice plants are from 8 inches to 1 ft in height, the field is harrowed two or three times, at intervals of a week. This thins the rice and removes some of the weeds, but an enormous amount of hand weeding is also necessary before the field is clean and the rice has the proper chance to develop and mature. With machinery this method would almost certainly be modified, and it probably would be found much better to drill the seed in rows and interculture with animal drawn tools to remove the weeds.

Upland rice gives lower yields than lowland rice, but commands a better price. Many natives, where possible, plant both kinds, retaining the upland rice for their own use and selling the lowland crop.

Average yields under native farming practices are lower than for lowland rice and depend upon fertility of soil, varieties, etc. On poor upland soils production is said sometimes to sink as low as 15 cavans per hectare. In Lanao the average yield of unhusked rice was said to be around 18-20 cavans per hectare, or roughly 17 bu. per acre. It is said that with deep plowing and drilling in the seed there have been productions up to 50 cavans.

Due to the wet climate in practically all parts of Mindanao, the palay (unhusked rice) produced on a large scale would have to be dried artificially before storing, to prevent molding

and heating. Rough unhusked rice will shrink as much as 10% in weight in two weeks. With a moisture content of 12% and under it can be stored for a year without damage; if the moisture content is above 12% it will ferment. Unhusked rice will keep better sacked in storage than in bulk; though in Siam unhusked rice is always handled and stored in bulk, and no deterioration is feared. Rice stored in the Philippines should be fumigated for weevils at regular intervals; the National Rice and Corn Corporation considers that Chloropicrin is the best fumigant. The cost of treatment is around 1 to 1.5 centavos per bag per fumigation.

The importation of rice and corn and their distribution and sale throughout the Islands is now controlled by the National Rice and Corn Corporation, "Naric" a Government organization. It is their object to keep the price paid the native grower and that paid by the consumer at reasonable levels. This organization enters the market to buy and sell only when these price conditions are abnormal. According to this Corporation the importation of foreign rice has been as follows:

1938	400,000 bags	22,600,000 kilos
1939	1,170,000 bags	66,105,000 kilos

The importation of rice into the Philippines for the four years 1934-1937 inclusive was:

		Value
1934	6,981,733 kilos	P 529,931
1935	7,270,004 kilos	556,208
1936	91,574,177 kilos	5,874,635
1937	74,000,968 kilos	4,863,344

It is said the large increase in 1936 and following years resulted from damage sustained by crops from the effects of drought, pests and diseases.

In the same years exports were made to Guam, Hawaiian Islands and to a small extent to the U. S. as follows:

		Value
1934	8,149,390 kilos	P898,116
1935	2,632,104 kilos	256,632
1936	465,247 kilos	76,124
1937	2,050,826 kilos	275,552

The research laboratory of the National Rice and Corn Corporation is studying the utilization of by-products of rice milling. They have produced the following, all of which have commercial value:

- 1—Hulls: from these have been made glass, from the ash of hulls; pressed wall board of different sorts from the hulls as such.
- 2—Rice bran; an oil rich in vitamins; sugar and vinegar have been produced.

Milled rice was quoted in Manila for Macan No. 1 and No. 2, the basis for sale, on June 20, 1939 at P6.50 and P6.35 respectively, per sack of 86.5 kilos. This is a high price, as it is between seasons and the tendency will be for the price to increase still more until the new crops begin to come in, from November to January. When the price begins to be burdensome to the populace as a whole, the "Naric" will begin to sell from their stocks and keep the price from advancing further.

Pests and Diseases

"Except in sparsely populated sections, migratory locust infestations have been successfully controlled. Outbreaks invariably follow a cycle and are few and far between. The rice stem borer (*Schoenobius incertellus*), army cutworm (*Spodoptera mauritia*), and rice case worm

(*Nymphula depunctalis*) are three other major pests of rice. The stem borer is widely prevalent and is hard to control owing to its natural predilection to feed inside the stalks. Clean culture, to some extent, mitigates the evils of infestation, and fertilization facilitates the recovery of affected plants.

"Spraying is effective in the control of both rice cutworm and case worms. The latter are similarly controlled by drainage.

"One of the dreaded rice diseases, the rice stem rot, alone causes considerable damage each year. Other diseases in descending order of consequence are the Helminthos poriose, sheath rot, bunt, Rhizoctonia blight, straight head, seedling blight, Tusarium disease, green smut, blast, brown linear spot, and leaf spot.

"Some investigations have been made and their results published to extend to the rice growers helpful suggestions and information with regard to pests and diseases and their control. A great deal more, however, remains to be done in studies of this nature, especially in the matter of adopting cheap and practical means of control and of developing resistant varieties".¹

Corn: Corn is at the present time another excellent cash crop. In many of the Visayan Islands, such as Cebu, Bohol, and Siquijor, corn is the principal article of food of the inhabitants, instead of rice, due largely to the fact that the nature of the land is such that it is better suited to raising corn than rice. Corn grows well in most parts of Mindanao, and in many places three crops can be raised in thirteen months. It cannot be raised continuously at this rate, however, without seriously exhausting the soil; in any continuous cultivation program rotation of crops, and possibly the addition of fertilizers, will have to be done. On some of the soils around Del Monte, near the pineapple plantation, northern Bukidnon, a lack of rain for two weeks will cause serious retardation of the growth of the corn; this is probably a question of moisture retention by those particular soils. For, in spite of being clay loam, the percolation of water down through them is rapid. Pineapples, however, are not at all affected by some weeks without rain.

The corn produced by the native is of small size and usually of an inferior quality, though we have seen some which was of excellent quality. By proper seed selection and by the use of hybrid seed, the quantity and quality of corn produced could undoubtedly be greatly increased. The yields per hectare of shelled corn around Lake Lanao, which may be taken as a fair example, was given as an average of 22 cavans of shelled corn (18.7 bu. per acre) per crop. The first planting is done in October, the second in February, and followed with peanuts in June.

In May of this year corn was selling at P3.80 per sack of 57 kilos in Davao. In Dansalan, Lanao, in June the price for shelled corn was P3.50 to P4.00 per sack, and milled (ground) P4-P5 per sack. It was estimated that the cost of production was not over P1.00 per sack. The price of corn presently is abnormally high. An average over a considerable length of time would be around P2.00 per sack. At times it has been known to be as low as P0.50 per sack.

It is estimated that in the current year, 1939, 6,000 tons of corn will be imported into Cebu alone from Celebes, Netherlands East Indies.

Large yearly importation of corn is not a regular occurrence; in recent times it has occurred about once every three years due to shortage of crops for various reasons. However, due to the large influx of settlers into Mindanao from the Visayan Islands who are accustomed to growing and eating corn and to the improved transportation facilities between Mindanao and Cebu it is expected that in a relatively short time there will be no further need for its importation from outside sources.

As would be expected in a tropical country of heavy rainfall, corn has many insect enemies, among which are: corn borer, ear worms, silk beetles, weevils, and in Lanao, at least, rats.

¹"The Rice Industry in the Philippines". Bureau of Printing, Manila. 1939.

In some years, locusts do great damage to cultivated crops, particularly to corn and rice. Means to combat their ravages, in the form of poison bait, are prepared by the Bureau of Plant Industry; supplies are stored at certain places in Bukidnon, ready for use at the first outbreak. It is believed that damage from locusts will occur from time to time as long as there are extensive grass lands in this region.

Peanuts: Besides being used as an article of local food supply, peanuts is a commercial crop. It is not only valuable for the nuts alone, but being a legume is a soil renovator, and the hay is a good cattle feed. Turned under it makes an excellent green manure. In Lanao Province it is regularly used in crop rotation to conserve fertility.

The yield of the bunchy type is said to be about 1,700 kilos of unshelled nuts per hectare; the creeping type is slightly inferior in yields.

The cost of production is high with native methods, but with mechanized means of farming it could be considerably lowered.

The common enemies of peanuts are leaf spot, plant lice and June beetles, but these are easily controlled by the application of calcium arsenate, bordeaux mixture and soap with derris powder solution, respectively. For the white grub hand picking is employed and for the slug an application of powdered lime scattered on the ground is most effective:

Trade statistics for the years 1934-1937 inclusive are as follows:

	Exports	Value
1934	3,152 kilos	P 621
1935	6,972 kilos	1,645
1936	113,760 kilos	26,107
1937	806,735 kilos	227,771
	Imports	Value
1934	1,157,831 kilos	P121,999
1935	1,281,172 kilos	132,409
1936	1,144,130 kilos	90,877
1937	1,051,951 kilos	93,973

The exports were mainly to the U. S. Imports were from Japan, China and the U. S.

Ramie ("China Grass"): This is a fiber plant which is arousing a great deal of interest and enthusiasm at the present time, and is being raised on a commercial scale, particularly by the Japanese plantations around Davao. They are planting it on areas from which old abaca (Manila hemp) had been cleared. Ramie should give good results in all areas where the soil is quite fertile and the elevation is not too high, say around or under 2,000 ft.

Ramie is a nettle-like plant (though without the sting) which grows to a height of from about 2.5 to 5 feet, depending upon rainfall, location and character of the soil. The fiber is in the bark (bast) and is separated by hand or by machines designed for the purpose. In Davao the first crop is obtained about 8 months after planting the root cuttings; subsequent crops can be cut every two or three months thereafter, the new crop sprouting up from the roots. Unless the soil is quite well supplied with plant food, it is necessary to fertilize to get the best results. The plants should be kept in a vigorous growing condition to prevent making seed.

Some of the claims made for the fiber are: "it is 8.5 times stronger than cotton; six times stronger than silk; four times stronger than flax or hemp. Parachutes made of it are six times

stronger but weigh only half as much as materials now used. It will not mildew or rot and may be packed in storage indefinitely. Ropes, fishing lines, nets and sails will withstand 75 to 100 years of hardest wear and tear. Fabrics made of it are cooler than cotton and thinner than linen. It is finding favor as a filter cloth in the air-conditioning industry, and has many other industrial uses. One ton of cured or dried ramie yields from 300 to 350 lbs. of refined fiber, 1,500 lbs. of cellulose flour, and 150 to 200 lbs. of waste".¹

This Commission paid considerable attention to this crop before reaching Mindanao; and on the Japanese plantations in Davao we were given the following data: The yield is 5 to 25 piculs (666 to 3,333 lbs.) of fiber per hectare per cutting, depending upon the rainfall. Assuming 6 cuttings per year (which probably is too high) this would correspond roughly to a yield of 4,000 to 20,000 lbs. per hectare; 1,600 to 8,000 lbs. per acre per year.

In the field ramie is subject to insect pest damage and is sprayed with Bordeaux mixture at certain seasons. Also water insect traps are used, with coco tuba (coconut wine) as a bait, this proving superior to lights at night as a lure.

The plant is cut and harvested by hand, and seems to require an inordinately large amount of labor. The small hand-fed power raspadors (stripping machines) require 2 men each to operate, each machine producing about 50 kilos of fiber per 10-hour day. A large stripping machine designed by the Japanese on the Ohta plantation for this purpose produces 40 piculs (5,332 lbs.) fiber per day. This machine, too, requires a large number of men and women to operate it, though proportionately less per unit of fiber produced than the raspadors. The refuse from the stripping machines is hauled back and spread on the fields when the trucks go out for fresh loads of cut plants.

Before drying, the fiber is bleached on the premises with Sulphur Dioxide. After drying in the sun the fiber is brushed and straightened in hand-fed brushing machines, graded, and baled. The most noticeable feature, therefore, seemed to be the large amount of hand labor required in harvesting and processing, and consequently high labor overhead in the cost of production.

Practically all the fiber produced in the Davao region goes to Japan. The price was formerly Yen 100. per picul (133.3 lbs.), but is now controlled by the Japanese Government, and at the time of our visit was down to Yen 60. per picul.

After reaching the consuming market the fiber must be degummed and put through further treatment to prepare it ready for spinning. The economical procedure would be to do the degumming here and ship it in this condition. We understand the cost of installation in Mindanao of a machine capable of degumming 10,000 lbs. of fiber in 10 hours would be around \$12,000.00.

We are informed that the present price of refined fiber, ready to spin, in New York, is \$0.60 per lb.

The future would seem to depend upon whether present prices will hold up in competition with the new synthetic fibers, like rayon, nylon and similar products now being developed. Also the resumption of production in China after the present war is ended.

Experts who are reputed to be acquainted with all phases of treatment and machinery for ramie are: Dr. Buchan Gibb, 27 William Street, New York City, Macleod & Company, Inc., 60 Beaver Street, New York City.

Derris Root: Derris root, from which insect poisons are made, is indigenous to the Philippines and its cultivation is attracting much attention here as in other tropical countries. In general, it is not proving a very profitable crop, except in instances where plants with high rotenone content are available for planting material. Its greatest competitor is the "cube" (*Lanthocarpus sp.*) root from the Amazon Valley, Brazil, where it is found in the jungles, gathered, and brought by natives to Manaus and Belem in canoes. Until this natural source of supply is

¹ Maconix, illustrated; November, 1938.

exhausted, this competition will exist for the planted Derris, although Derris still commands a small premium over "cube" for the same rotenone content.

There is now a 10% advalorem tax on ground Derris root imported into the U. S. from foreign countries. Derris from the Philippines would be exempt from this tax until after independence (1946) when the products of these Islands are to be treated on a gradually increasing duty basis.

If Derris should be planted by the refugees in the Philippines, only known clones with a rotenone content of 10% and above should be planted. Export of good Derris clones is now prohibited from the Netherlands Indies, but superior clones are still available from the Department of Agriculture, Federated Malay States, Kuala Lumpur, Selangor, F. M. S. The best clones are "Changi" Nos. 1, 2, and 3. Warner Barnes & Co., Cebu, advertise cuttings for sale of 9.5% rotenone content. The Derris should be ground here and blended to reduce the rotenone content to 5% which is what the American market demands. A limiting factor is that Derris should be planted at lower elevations, preferably not over 800 to 1,000 ft. above sea level.

It might be possible that planting *cube* root would prove more profitable than Derris. The *cube* makes large roots which give more tonnage per acre, and the roots are said to be easier to grind than Derris. *Lasiocharpus* (*cube*) plants were planted a few years ago at the Canal Zone Experimental Garden, Summit, C. Z. and probably a supply for propagation could be secured from there. It may be possible that there is some on the experimental rubber plantation of the Goodyear Company; address: Gatun, Canal Zone. The export of *cube* planting material from Brazil is prohibited.

It is said that about 1,600 hectares are planted to Derris in the different provinces of the Philippines.

The first recorded shipment of the root abroad was in 1934 when about 600 kilos were exported to England and 100 kilos to Spain. In 1937 the exports had risen to 48,901 kilos with a value of about P21,939.

Tobacco for Nicotine Sulfate (*Nicotiana rustica*): We believe that tobacco for consumption and export would be a prohibited crop, but that no objection could be found to growing suitable varieties high in nicotine for conversion into nicotine sulfate for insecticidal purposes. This special sort is *N. rustica*. The preparation of the finished product should prove a practicable local industry.

Soy Beans: This Commission has heard of one case where soy beans were said to have been grown several years ago in Bukidnon, and of another case where many varieties had all failed within recent years. Since there are a very large number of different varieties of soy beans, adapted to different soil, climatic, and seasonal conditions, this Commission believes that a suitable variety can be found which will grow well and produce profitably under Mindanao conditions. Certain varieties have proven successful in Siam and south China, and seed from those places might be tried locally, in comparison with seed from other sources, in the search for varieties adapted to local conditions.

Out of some 70 varieties tried by the Bureau of Plant Industry in Manila they have found two or three which do very well. According to the Bureau successful cultivation depends upon inoculation of the soil with the proper bacteria. They have propagated pure strains from a local source and one from Illinois, and by inoculating soils with these are doing very well with the two or three varieties mentioned above. It is to be expected that equally good results could be secured in Mindanao by the same methods.

Essential Oils: There might be some possibilities in the production of essential oils from plants like lemon grass and citronella grass which, in small quantities, are grown generally throughout the Islands. These plants can be easily grown at the lower altitudes.

The Philippines import a certain amount of volatile and essential oils. These or a suitable substitute might be produced locally.

The imports for the past few years are given hereunder:

		Value
1934	26,656 kilos	P 90,860
1935	36,975 kilos	101,092
1936	28,057 kilos	88,892
1937	25,267 kilos	110,111

Useful information is available in Philippine Resins, Gums, Seed Oils and Essential Oils by West and Brown; Bureau of Forestry, Bulletin No. 20 (3 vols.) Manila, 1920.

Sesame Oil: Sesame is one of the common, the minor crop plants of the Island. A small industry might develop in cultivating the plant and expressing the oil from the seed. The oil finds favor for cooking purposes, and the seed and the oil cake is making candies and pastry.

Possible Industries in Connection with Oil Extraction: In connection with the production of some of the above-mentioned possible seed or kernel-producing crops, the economic procedure would be to extract the oils instead of shipping the seeds or nuts to an exterior market. After the oil is expressed from such crops as lumbang nuts, sesame seeds, kapok seed after separation from the fiber, the resulting cake is useful; some sorts as a protein feed for livestock feeding, other sorts which are not edible can be used profitably as a fertilizer for crops grown in the colony.

If soy beans can be produced economically in any of the areas under consideration, the resulting cake after oil extraction would find a ready market for the above-mentioned purposes, as well as for a fertilizer. The Chinese in Manila import large quantities of soy bean cake from Manchuria for use as a fertilizer in the market gardens. This is diminishing as lumbang oil cake is taking its place.

Bananas: The market for bananas of many sorts in the cities, particularly Manila, is not yet saturated. With the establishment of direct steamer connection to Manila, north Mindanao ports are now shipping astonishing quantities of bananas to that city. Iligan alone, in 1938 shipped 120,391 bunches of the common *latundan* and *asbu* varieties; the former is the ordinary eating banana, and the latter the most common cooking banana or plantain. With proper shipping facilities it might be possible to develop a market in south China to replace the shipments from Formosa.

Medicinal Plants: The Philippine forests contain a large number of medicinal plants which are of commercial importance. Many, if not most, of these plants might be grown under farm conditions and with the skill and intelligence of European refugees a considerable industry might be developed. This field is a specialized one, in which no member of this Commission is conversant, and its development would require most expert advice.

Some common indigenous medicinal plants are: *Hydnocarpus* spp. and *Taraktogenos* spp. from which are produced Chalmugra oil used in the treatment of leprosy. The St. Ignatius bean (*Strychnos ignatii*) yields strychnine. *Aleandra* sp. *Donax* sp. and *Lygodium* sp. are used to neutralize the poison of venomous reptiles and insects. *Ficus* spp. and *Eurycles* sp. yield medicines used in the treatment of rheumatism. *Arthasiphon aristatus* enters into the preparation of a medicine used in the treatment of troubles of the urinary tract. Here are enumerated only a few tropical medicinal plants which skill and knowledge might cultivate to great advantage. Bulletin 22, Vol. 3. Bureau of Forestry, Manila, lists 97 families and 400 species of medicinal plants growing wild or cultivated for which some use is made locally.

Special Crops for High Altitudes:

Potatoes, Irish.
Onions, Bermuda.
Strawberries.

There is a large local demand for Irish potatoes and onions, and these are imported into the Philippines in large quantities from the U. S. and from Japan. The Marayon Valley is splendidly adapted to the growing of the above crops (including berries of all kinds), for which a ready and steady market in Manila and the larger cities is waiting. Unfortunately, at this time the difficulty of transport makes the production in Marayon unprofitable. Even with improved trails for animal transportation (packcarabao) this would be remedied to a small extent. However, no permanent industry in producing these crops can be expected until a good all-weather road is built into the region. At this time there is but slight demand for such a road, as it would be an extremely costly piece of construction, though if the country were settled there would be a demand, and with the government's desire to populate the Island, and with its policy of road building, there is no doubt that within a few years such a road will be built.

If a reservation can be secured for future settlements of colonists in this region these, in addition to tree crops like citrus and coffee, will be important crops.

LIVESTOCK POSSIBILITIES

The raising of domestic animals in the Philippines antedates their discovery by Magellan in 1521. Water buffaloes (carabaos) and cattle were used for the cultivation of the fields, the transportation of products and for meat when their days of usefulness were past. Ponies were used as pack animals and for riding. Swine and poultry were raised for home consumption and for the market. In fact during those days a man's wealth was measured by the number of animals he owned.

The first recorded participation by the Government in the promotion of the livestock industry occurred on February 25, 1768 when an obligatory Royal Order was issued, which, among other things, ordered the raising of pigs and a flock of 12 chickens by every family.

Since the change of sovereignty in 1898, the American as well as the Filipino participation in the Government of the Islands has consistently fostered a policy of livestock improvement. In 1903, two Jersey bulls and five Jersey cows, two Chester White and two Berkshire boars were imported from the United States and one Jersey bull and one shorthorn bull from Australia. From that time up to the present there have been numerous importations of improved stock for breeding purposes.

Cattle:

As a matter of fact, cattle were not indigenous to the Philippines and were no doubt first introduced by Chinese traders many years ago. The cattle now referred to as "native" are a blend of stock introduced from China, French-Indo China and Mexico long before American occupation.

In 1903 and 1904 the Government imported 6 Jersey bulls and 60 cows as well as 1 Holstein bull and 5 cows in an endeavor to establish those two dairy breeds in this country. From 1905 to 1907 animals of the following beef breeds were also added: Angus, Devon, Galloway and Hereford. By 1909 practically all of these animals had died and these unhappy results convinced the Government that there was very little chance for the improvement of the cattle industry by the attempted acclimatization of temperate zone breeds.

These observations coincide with the experience of animal husbandmen in India. Manresa in quoting Captain R. W. Littlewood, Director of the Cattle Farm of the Imperial Government states that: "South India is not the place for animals of temperate-climate origin." Their offspring are greatly reduced in size; they suffer severely from foot-and-mouth disease and other ailments; and it is not economical to raise them. Even if they can be given the best of care and management, they eventually eliminate themselves. Animals graded up to them suffer the same fate as their purebred parents."¹

The Government, therefore, turned its attention to Oriental breeds and in 1909 imported 34 Nellore (Ongole) bulls and 10 Nellore cows from India. It soon became evident that cattle of the various breeds belonging to the *Bos indicus* (Zebu) group readily adapt themselves to conditions in all parts of the Islands; in fact, in those regions that experience a long dry season they usually come through in better shape than the so-called "native" cattle.

Since 1909 many more importations of Nellore cattle have been made with the result that these cattle and their grades have become pretty generally disseminated over the islands.

The largest concentration of Indian cattle in the Islands is in Mindanao, and the great majority of these are found in the Province of Bukidnon, the premier cattle raising part of the Philippines. The quality of the beef produced by the Zebu does not compare with that to which we have been accustomed in the temperate zone, and this is in a great measure due to the type of cattle husbandry that is practiced in the tropics. The animals are grass-fattened on the ranges

¹ Miguel Manresa—General Observations on Animal Husbandry in India—The Philippine Agriculturist 26; 341-376, 1937; pp. 365-6.

and shipped directly from them to the markets, with the result that they lose weight very rapidly and arrive at their destination in much poorer condition than when leaving the home range. No range cattle in this country are "finished" by feeding on corn and hay in feed lots as is the practice in the U. S. Thousands of cattle are sold for fresh beef on the Manila market (which is the only beef market of consequence in the Islands) that would be no better than "canners" according to U. S. standards and many would even be thrown out as "tankers" i. e. for fertilizer. As a matter of fact, the best beef comes from the superannuated work bullocks as they perform have to receive better attention than the range animals.

To supply the colonists with fresh milk the Scindi breed of *Bos indicus* is recommended in preference to any occidental breed, for the very important reason that it, too, can live on the country. It is about the best of the milch breeds of Indian cattle and was first imported into the Philippines ten years ago; in that time, however, it has proven its adaptability to the conditions in different parts of the country. This breed can serve the colonists as a general purpose beast: the cows furnishing milk, the castrated bullocks serving as work animals and surplus stock supplying at least part of the beef requirements of the community.

Cows of the European milch breeds imported from Australia and the United States are used in many of the dairies that supply Manila, Iloilo and Cebu. They are, however, carefully stabled and subsist very largely on imported feed with the result that their milk has to sell for 20 cents a quart, which places it well beyond the reach of the ordinary individual. Colonists "carving out" a new home for themselves would have neither the money nor the time to invest in cattle not able to subsist almost entirely on the country.

There are at present but relatively few Scindi cows in the Philippines and most of them are on the Government stock farms. It would, therefore, be necessary to import directly from India for but very few can be spared from the Government farms. The average cost of these cattle laid down in Manila would be about 600 pesos per head, though this would, of course, be influenced by the demand in India at the time of purchase. The popularity of the breed has increased rapidly during recent years and it is now being exported to many tropical countries.

The breed, though pure, is still unimproved but it shows great possibilities of development. The average production of the cows at the Government stock farms is 4+ liters per day, and it would, therefore, be well to figure on an average of one cow per family to start with, for the majority lactate only from 6 to 7 months. By proper methods of husbandry and breeding it will, however, be possible to improve those records in the course of a few years.

Unpedigreed dairy cows from Australia cost, laid down in Manila, between 500 and 600 pesos per head. It is true that they give more milk than the Scindi, but on the other hand they cannot live off the country and, therefore, require more care and greater expense of maintenance.

The contour of the land in Mindanao is such that much of the steeper land, which it is not advisable to attempt to farm, can be used as pasture for livestock. Furthermore, such forage crops as Guinea grass, Napier grass, Para grass, Sudan grass and the Sorghums do well in Mindanao. The concentrate feeds such as rice bran, corn meal and bran and copra meal can all be produced on the farm or purchased locally.

In this connection it is well to point out that the Philippines is a large importer of dairy products, the average annual value of such importations being ₱7,000,000. With the provision of adequate refrigeration there is always the opportunity for the manufacture of quality brands of butter and cheese for the Manila market.

Swine:

When intelligently cared for, swine of the different occidental breeds also thrive well in the Islands. Pork is an important article of diet of the "Christian" Filipino and usually commands a good price throughout the year. The extent of the development of the swine industry in the colonization projects would, in a great measure, depend upon the ratio between the price of

corn per bushel, and the selling price of the hogs per pound on the hoof. Quite often the value of corn is so high that it would be more profitable to sell it as such than to market it in the form of pork. In such cases it would be necessary to make use of good substitutes such as rice bran, copra meal, cowpea meal, mongo meal or cooked soybean meal. These feeds can all be produced on the farms or purchased locally.

Hog cholera is present throughout the country and it would, therefore, be imperative to vaccinate all pigs at weaning time with hog cholera serum and virus. Also, this being a humid tropical country, parasites are a constant problem and strict attention would have to be paid to sanitation and the proper rotation of pastures.

The Philippines is an importer of pork products, many of which with the development of proper methods of industrialization, could be produced in the country. The value of such products imported during 1937 was as follows:

Hams	₱ 589,856
Bacon	94,564
Sausage	117,364
Canned pork	131,506
Canned Sausage	333,586
Lard	49,734
Total	₱1,316,610

Experiments conducted in the laboratories of the Bureau of Animal Industry have shown conclusively that hams and other pork products of good quality can be produced in this country at a profit. As indicated by the statistics quoted above, there is still a nice local market waiting to be supplied.

Poultry:

Fowls of the various utility breeds common to the U. S. and Europe will, with proper care as to housing, sanitation, and feeding, thrive and produce in nearly all parts of the Philippines. All of the feed, with perhaps the exception of the animal protein, can be produced on the farms. Fish meal and/or tankage may at first have to be brought in from Manila or Cebu, but it should eventually be possible to produce them locally with the development of the industrialization program.

The first consideration would, of course, be to produce sufficient eggs and fowls for the consumption of the colonists. Later on, some surplus could be disposed of in the growing towns along the coast. With the further development of the colony's poultry industry, graded quality eggs could be shipped to the Manila market.

Sheep:

There are very few sheep in the country, and on the whole they are rather a sorry looking lot. The struggle against parasites continues to be a difficult one. European breeds have been imported at various times by the Government, but they and their crosses still have to prove themselves.

Goats:

"Native" goats are found in nearly all parts of the Islands; they are of no particular breed and nothing very definite can be said as to their origin. They have, however, been here for centuries, have accommodated themselves to the local forage and are fairly resistant to the ravages of parasites. They are very poor milkers and are in fact not used for that purpose. Various foreign breeds of milch goats have been introduced by the Government during the past 35 years, in an attempt to develop a breed that will thrive under local conditions. Up to the present time it cannot be said that any conclusive results have been obtained.

At the beginning it is not recommended that very much money or energy be spent on either sheep or goats.

TRANSPORTATION AND COMMUNICATIONS

In the following discussion, both as regards water and land transportation, particular attention has been given mainly to facilities which affect the central part of Mindanao Island, which, after all, is the area most pertinent to our whole study and investigation.

Inter-island Steamers:

Mindanao has ample steamer connections, both freight and passenger, with Manila and the nearby port of Cebu, second city in size in the Philippines. Some of the steamers only touch at Cebu, where connections are made with smaller steamers for the north Mindanao coast ports of Iligan, Bugo and Cagayan de Misamis. The trip to or from Cebu is a one-night run. Usually direct connections are made in Cebu for passengers in trans-shipment to the northern ports of Mindanao, thus obviating the necessity of remaining overnight in Cebu, where hotel facilities are sadly lacking.

The following Companies operate steamers in this traffic:

Manila Railway Company:

S. S. "Mayon" (About 2,000 Tons). Makes alternate trips from Manila via Cebu and Iloilo to Zamboanga. This steamer was formerly operated by the Dollar Steamship Company and on the demise of the latter was purchased by the Manila Railway Company. It is the best and fastest steamer on the run and has excellent accommodations for passengers and freight. Passengers for the northern coast of Mindanao trans-ship at Cebu. Those for Cotabato at Zamboanga.

Compañia Maritima:

S. S. "Mactan" (1,205 Tons). Sails from Manila every Saturday for Cebu (trans-shipment to Iligan and/or Cagayan de Misamis), Zamboanga and Cotabato.

S. S. "Islas Filipinas" (574 Tons). Sails from Manila every Saturday, calling at Cebu and Iligan.

S. S. "Luzon" (829 Tons). Sails every Tuesday from Manila for Cebu, Cagayan de Misamis and Bogu.

S. S. "Bohol" (1,114 Tons). Sails every Wednesday from Manila for Cebu and Cotabato. (Trans-shipment at Cebu for northern ports of Mindanao.)

S. S. "Panay" (1,041 Tons). Sails from Manila every Friday for Cebu, Cagayan de Misamis and Iligan.

The usual running time of these steamers from Manila to Cebu is 36 hours, and overnight from there to Iligan (Lanao Province) and Cagayan de Misamis (Province of Oriental Misamis).

Most of these steamers are old, with only fair to tolerable passenger accommodations.

De la Rama Steamship Company, Inc.:

M. S. "Don Esteban" (889 Tons). In the inter-island trade this Company operates only this motorship. It sails every Monday for Iloilo and every Thursday for Cebu, where trans-shipment has to be made for Iligan and Cagayan. This is a very popular boat with travelers as the passenger accommodations and food are excellent. It makes the run from Manila to Cebu and vice versa in 24 hours.

Cia. Naviera Filipina, Inc.:

M. S. "Elcano" (1,002 Tons), and M. S. "Legazpi" (811 Tons). These alternate, sailing every Thursday from Manila and call at Cebu, with trans-shipment for northern Mindanao ports.

Then proceed to Zamboanga and Cotabato in Mindanao, and other ports in adjacent Islands. The "Elcano" has a good reputation with travelers for its passenger accommodations.

M. S. "Kolambagan" (385 Tons). Sails every Tuesday for Cebu and Kolambagan, in Lanao Province, Mindanao.

Besides the above which constitute the larger, regular vessels in communication with Manila, there are many small independent steamers and launches operating from Cebu which touch smaller and more isolated parts of the Island and which serve as feeders to the larger vessels at Cebu.

Overseas:

Besides tramp and occasional steamers which come into the ports of the Island for special cargoes, several lines maintain regular sailings from the southern port of Davao, and all touch at Cebu which acts as a clearing and concentration point for the whole northern part of the Island. The trans-shipment feature of this traffic has been outlined above. Some of the steamers have accommodations for passengers.

Among the lines having regular services are:

Osaka Shosen Kaisha: Rather frequent regular sailings from Davao, Zamboanga and Cebu to Japan.

American Pioneer Line: Occasional sailings from Cebu via Manila to U. S. ports.

Isthmian Steamship Company: Regular monthly sailings from southern Mindanao ports and Cebu for the U. S.

The Swedish East Asiatic Co., Ltd.: Regular monthly sailings from Cebu for European ports. Has passenger accommodations.

Klaveness Line: Regular monthly service, freight and passenger, from Cebu to Pacific Coast ports of U. S.

Silver-Java Pacific Line: Irregular but frequent service between Pacific Coast ports to and from Manila, touching at Cebu.

Prince Line—Silver Line: Regular fortnightly around the world service touching at Cebu and Davao. Has passenger accommodations.

Air Communication:

There is a regular weekly air mail and passenger service from Cebu to Davao and back on Tuesdays. Formerly it made a stop at the California Packing Company's plantation at Del Monte but this was recently discontinued. The same plane makes three trips from Cebu to Manila and back weekly. The line is operated by a Filipino corporation.

Launch Service on Rivers and Lake Lanao:

On the larger rivers of Cotabato and Agusan there is a regular launch service for a considerable distance into the interior, and practically all transport, passenger and freight, is done by launch to limits of navigation. Beyond these limits small native boats are used.

There are a number of craft, steam and motor, operating on Lake Lanao to connect Dansalan with the many Moro settlements around the border of the Lake. One of these, a steam craft, has been in operation since before the American occupation.

Telegraph and Telephone:

The towns of Davao and Cotabato have radio communication, and Dansalan and Iligan telegraphic, with Cagayan, Misamis. This town in turn has cable connections with Cebu, which in turn has cable connections with Manila and thus with the outside world.

The towns of Davao, Cotabato, Zamboanga and Cagayan have local telephone systems with connections to interior towns and villages of the provinces. The Government has a telephone line from Cagayan to the towns along the highway through Bukidnon Province and at present extends as far as Maramag. Some of the barrios (small villages) at least and several ranches in the interior have telephone connections with the towns of Maramag, Valencia and Malaybalay, capital of the Province. Frequently the lines are out of order and the service leaves much to be desired.

Internal Communications—Roads:

Until within the last few years traveling into the interior of Mindanao was a laborious and hazardous undertaking. The principal means of travel was by launch around the coast, up some of the few navigable rivers such as the Cotabato and Agusan. For the rest, except for short stretches around Davao, Zamboanga, along the north coast, to Lake Lanao from Iligan, and to Malaybalay in Bukidnon from Cagayan, it was either by horse, carabao or on foot.

The past five or six years have seen a remarkable increase in road building, and while the amount now completed is small as compared with the size of the Island and with the mileage in the more densely settled northern Islands, the progress made is very creditable.

With the roads completed, those under process of construction, those projected or contemplated, the Island will have a fairly well integrated road system. The Government seems awake to the fact that the only way to populate the Island, properly police it, and allow economical transport and sale of its products, internally and externally, is the construction of sufficient well-built roads. The statement was made repeatedly by Filipinos that if the Government would put the money into roads that it is to put into settlement projects, the Island would populate itself automatically without any further expense to the Government.

Outside of a few short narrow gauge logging roads and a short stretch at the penal colony near Davao, there is not a mile of commercial railway on the Island. It is probably fortunate that large sums were not spent on railway construction, for the same amount of money put into good surfaced roads benefits a much larger proportion of the population.

The transport of freight and passengers by trucks and busses is an organized and controlled business over the roads already completed and even over those in process of construction; these being under the jurisdiction of the Public Utility Commission.

Roads completed or in process of improvement so that travel is or will be possible in all weather in the areas that might be of interest in the matter of refugee settlement are:

(1) From the port of Iligan to Dansalan, Lanao, a distance of 36 kilometers. Then along the western side of Lake Lanao to Malabang, Parang and Cotabato, crossing the Cotabato River on a ferry. The distance from Dansalan to Cotabato by this road is 159 kilometers. From Dansalan to Malabang the country is very mountainous with many steep grades and sharp curves. From Malabang to Cotabato it is over rolling and low coastal lands.

(2) From Cotabato to Davao, a distance of 235 kilometers, a new road is now open to traffic. This road is gravelled the whole distance and is being widened and improved where needed. From Cotabato to Kidapawan, a distance of 122 kilometers it runs through a low flat country with long stretches of straight road. At Kidapawan the land becomes hilly around the slopes of Mt. Apo (the highest mountain in the Philippines 9610 feet) and traverses more or less hilly terrain to

Digos on the coast, a distance of 52 kilometers, where it follows the coast line to Davao, mainly through low and rolling country. For a few kilometers into Davao the road is asphalted. This road extends about 54 kilometers beyond Davao and connects with the large area set aside for a penal colony (30,000 hectares of land) and is being constructed beyond to continue the proposed road through the Agusan Valley. The Cotabato River is crossed at present by ferry at Cotabato Town and at Ft. Pikit.

(3) From Iligan a road around the coast, mainly through coconut groves, to Cagayan de Misamis, Misamis Province. Cagayan is the most important port on the northern coast of Mindanao and together with Bugo fourteen kilometers up the coast and the seat of the large pineapple packing plant of the Philippine Packing Company, is the entrepot of the vast hinterland of the Bukidnon country.

The coast road continues around the northern rim of the Island through low coconut growing areas following the coast line to Surigao, on the northeast tip of the Island. In Surigao Province large iron deposits are being exploited, as are likewise several gold mines and others in process of development. Incidentally, Surigao Province is a highly mineralized district in contrast to much of the remainder of the Island where great volcanic activity took place and where practically no minerals are found.

The distance by road from Cagayan to Surigao is about 325 kilometers.

(4) The road from Cagayan to the Bukidnon highlands is probably the most important from our standpoint, for on it or on some future road leading off from it is the most likely site for European colonization. Outside of the Lake Lanao country it traverses the most desirable areas from the standpoint of climate, accessibility, character of land and soils in the Island.

At present the road extends from Cagayan to the edge of the uplands, where it connects with roads from the Del Monte pineapple plantation of the Philippine Packing Company. From Cagayan to the Plateau is a distance of 35 kilometers. The main road runs south on through Malaybalay, the seat of Provincial Government of Bukidnon Province, a distance of 106 kilometers from Cagayan. Then on to Mailag where the present first class road ends, 27 kilometers beyond Malaybalay.

The road is now in good condition for cars and trucks, with good permanent bridges. It traverses an exceedingly interesting country, crosses three wide and deep gorges, and in all respects the scenery on all sides can be expressed as gorgeous. The road is being improved, large gangs of men being employed in widening in places and cutting down projections to make safer the many sharp curves.

From Mailag the construction is being pushed through Maramag on to the Cotabato boundary (approximately 225 kilometers from Cagayan) where it will connect with the road under construction from Kabakan on the Cotabato-Davao Road (2 above). Kabakan is 86 kilometers from Cotabato.

It is expected the grading of those roads will be completed by March of next year, and within two years will be consolidated and surfaced ready for use.

The distance from the Cotabato-Bukidnon boundary is approximately 45 kilometers to the junction of the Cotabato-Davao Road at Kabakan. The total distance of this central highway on completion will be about 275 kilometers, or about 360 kilometers from Cotabato to Cagayan and about 425 kilometers from Davao to Cagayan.

When finished this will be the most important road in Mindanao, leading as it does through the heart of the Island. It will make possible in one day an overland trip from both Cotabato and Davao and intermediate points to Cagayan and vice-versa. In the future it will be a great artery of commerce between these three important ports and trade centers.

Proposed Roads (Approved):

In addition to the above roads completed and under construction, certain roads have been projected and in some instances approved, awaiting funds for construction. The most important of these are:

(1) A road southeast from the Davao-Cotabato Road through the Lake Buluan country to Buayan at the head of Sarangani Bay on the southern tip of the Island, a distance of approximately 200 kilometers. This road will pass through the Korandall settlement project of the National Land Settlement Administration consisting of some 97,000 hectares, and on which development has now started.

From Buayan it will continue in a northeasterly direction to connect with the Davao-Cotabato Highway at Digos, a distance of 100 kilometers. This road will open up a vast expanse of country now traversed only by trails.

(2) A road through the Agusan Valley to connect Davao in the south with the Cagayan-Surigao Road in the north near Butuan. This road will be approximately 300 kilometers, and will traverse a country in general low and swampy and at present wholly unoccupied. The Agusan Valley has a bad reputation for malignant malaria which is probably the main reason it has remained relatively unoccupied.

It is intended eventually to continue the road from Surigao along the east coast of the province of the same name to connect with the main through highway at the head of Lianga Bay.

Proposed Roads (Not yet Approved):

(1) There is some agitation by provincial officials of Bukidnon for the extension of the road from Talakag, 33 kilometers from Cagayan, up to and through the Miarayon Valley to connect with the Cagayan-Bukidnon Road at some point near Malaybalay or Maramag. This would be an expensive undertaking as the grades would be steep, many gorges traversed, and in general over very broken country. The distance from Talakag would be approximately 75 kilometers.

The Miarayon Valley, described elsewhere in this report, is around 5,000 feet in elevation, should produce excellent coffee, temperate climate vegetables and berries. Except possibly for the heavy rainfall and humidity it would be an excellent health resort. Undoubtedly some day such a road as proposed will be built.

(2) There has been proposed, one time approved but later rejected, a road to connect Lake Lanao at some point on the eastern shore at Tamparan, with the Cagayan-Bukidnon Highway at Maramag or Kibawe. The air line distance is about 100 kilometers, but due to the rough nature of the country the road would probably be more nearly 150 kilometers long.

This road would pass through the Banisilan and Uao countries near the junction of Lanao, Bukidnon and Cotabato Provinces, a country now a sort of no man's land and reputedly infested with outlaws and had characters generally.

(3) Another road projected, for which we can see little economic reason at this time, and one expensive to build, is from some point on the Cagayan-Bukidnon Road between Maramag and Kibawe in a southeasterly direction to Davao. The air line distance is 100 kilometers but the road would be most likely around 150.

This road would traverse a rough, broken country but with some fertile river valleys and would shorten the distance from Davao to Cagayan some 75 kilometers. Outside of this feature and its value for military and policing purposes little reason for it can be seen, considering the heavy cost involved.

WATER POWER

With respect to the development of water power, it is observed that the Commonwealth Government by Commonwealth Act No. 120, approved November 3, 1936, creating the National Power Corporation, has reserved to itself for the use of the National Power Corporation for water power development all unappropriated public waters.

Section 9 of that Act is quoted as follows:

"Sec. 9. Subject to all existing rights, all unappropriated public waters which may be used and developed for water-power purposes shall be, and hereby are, reserved from appropriation by any person, firm or corporation under any general or special law relating to the appropriation of public waters, for the use of the National Power Corporation created by this Act: Provided, however, That the President, upon the recommendation of the Secretary of Public Works and Communications, concurred in by the National Power Board, may, from time to time, release from this reservation any unappropriated public waters which may not be necessary for the use of the National Power Corporation."

It will be necessary, therefore, in the event hydroelectric power is developed for the use of the resettlement area, either to have the National Power Corporation develop it and furnish the area its power requirements, or to secure the release from the Commonwealth of any stream to be developed for water power, irrigation, or other use after a determination that such public waters would not be required for the use of the National Power Corporation.

In view of the limited government funds available for water power development and the more urgent need, from the Commonwealth Government's viewpoint, for such water powers in other localities, it is not likely that the National Power Corporation would develop water power solely for the use of the resettlement area. The second alternative course would, therefore, have to be resorted to, contingent on the release of the streams by the Commonwealth Government agencies concerned.

There are many large and excellent water power possibilities in Mindanao, including the best large-scale, low-cost hydroelectric possibility in the Philippines, on the Agus River (Lanao) where perfect regulation is afforded by Lake Lanao, assuring a high and regulated flow for the 2,300-foot drop in the short course of the Agus River from the lake to sea level. The lack of any large near-term market makes the early development of this 300,000 to 400,000-hp. project doubtful, although if and when it is developed, power from it could be transmitted to and beyond any resettlement area around the Uao area. There are numerous other possibilities on the larger Mindanao streams such as the Agusan River, Pulangi River and similar streams, together with possibilities for many smaller medium to high-head projects in the steep sloped coastal streams around Mindanao. The general Mindanao area is well suited to water power development by reason of the interior drainage basin and the concentration of slope in many of the streams, where they debouch from the high interior plateaus or fall abruptly from the coastal mountain areas, furnish excellent water power possibilities.

With respect to the plateau area in and about Uao, little information is available as to the discharges of the streams in that locality.

Discharge records are available for a part of 1919, the year 1920, and part of 1921 for the Pulangi, Malitbog and Libungan Rivers, the pertinent data of which are as follows:

Stream	Station	Approx. drain-area in sq. km.	Minimum	Maximum	Mean
Pulangi	Kabakan, Cotabato	7,400	109.74 c. m./sec.	795.45 c. m./sec.	277.96 c. m./sec.
			or 0.915 c. m./sq. km.	0.11 c. m./sq. km.	0.037 c. m./sq. km.
Malitbog	Bao, Cotabato	370	4.75 c. m./sec.	311.00 c. m./sec.	26.71 c. m./sec.
			or 0.013 c. m./sq. km.	0.84 c. m./sq. km.	0.072 c. m./sq. km.
Libungan	Libungan, Cotabato	1,125	8.38 c. m./sec.	219.91 c. m./sec.	27.92 c. m./sec.
			or 0.0075 c. m./sq. km.	0.195 c. m./sq. km.	0.023 c. m./sq. km.

These discharge records are obviously too short and incomplete to be used as a basis for the determination of the water power possibilities of these or other streams in that general area, as discharges greatly in excess of the indicated maximum and much below the indicated minimum flows may be attained. These discharge data are, however, of reference value as indicative of the general type of flow on the various basins.

The mean annual precipitation for the general area in and about Uao is on the order of about 2,700 mm. (89 inches) annually.

The headwaters of the small streams flowing into and through the Uao region, though of small drainage area, have moderately steep slopes, indicating possibilities for small diversion water power projects of moderate head. The Malitbog and Maridagao Rivers, in their middle reaches, have moderate slopes and discharges, with possibilities for medium head water power developments. The lower reaches of the Pulangi River are flat and sinuous and subject to high flood discharges, with little in the way of water power possibilities indicated. This low, flat slope and sinuous course prevail up to about 20 to 25 miles above Kabakan, where the river valley narrows into a moderate size gorge section in the vicinity of Mt. Tianlud. There the slope also becomes steeper in the reach up to and above Valencia.

An excellent waterfall indicated on the map as of 15 meters height, but which appears from an aerial observation to permit of a diversion type of development providing for 100 to 200-foot head or more, exists in the Kulaman River, a tributary of the Pulangi which enters that stream about 10 miles southeast of Kibawe.

Low to moderate head diversion dams could be built in the Pulangi River reach above Mt. Tianlud at relatively low cost to furnish good heads with conduits of moderate length. The large drainage area and discharge above such points would permit the development of a large quantity of power at reasonable cost. The Suaga (or Sawaga) River, flowing through Malaybalay, though of small drainage area has a good flow for a small power development, and has a number of rapids and minor waterfalls in the steep slope in and below Malaybalay, indicating good possibilities for small size diversion type water power projects.

The lack of transportation facilities into the area would make construction costs high, and the lack of development in the surrounding area definitely limits the power market for these power possibilities. Small scale power requirements for small or detached communities in this area could initially be furnished at lowest capital cost by small size Diesel-electric units, rather than by large capacity hydroelectric installations of higher unit capital cost with additional transmission difficulties and expense although the fuel costs would run high by reason of transportation costs. If small scale industry is established in the area (unoubtedly after transportation facilities to it have been provided) water power for such requirements can be located and developed within transmission distance of the general Uao area at reasonable cost, from the streams in that general locality. The type, location, and capacity of development could be determined after the site is chosen and the type of load for which power is required is more definitely determined. As originally stated, however, such developments would have to be undertaken by the Commonwealth Government itself or would require the prior release by that Government of the streams concerned.

The streams in the general Mt. Katanglad area, including those on the northern face of the Bukidnon Plateau, though of small drainage area, have high unit flows and steep gradients and make small hydroelectric developments possible. Such possibilities exist particularly at the waterfalls immediately east of Mt. Katanglad and also just east of the Cagayan-Malaybalay Road between Maluko and Impasugong where a concentrated head of about 100 feet or more is available at each site.

COMMUNICABLE DISEASES

The limited medical personnel and finances allotted to the Island of Mindanao leaves much to be desired along the lines of communicable disease control, while the social status of a vast majority of the population is highly conducive to the spread of communicable diseases.

Administration:

For administrative purposes in connection with sanitation and control of communicable diseases, the Island of Mindanao is divided into nine districts, each district corresponding to one of the provinces of the Island. Each district is in charge of a provincial health officer who, with his assistants, is in charge of all public health activities, including the control of communicable diseases in the province to which he is assigned. Provincial hospitals are maintained at the larger cities.

Vital Statistics:

Due to the general state of undevelopment, lack of transportation and communication facilities, limited bureau of health personnel and the limited number of private physicians who would be required to report cases of and deaths from communicable diseases in Mindanao, vital statistics, one of the primary essentials for efficient public health administration and for the control of communicable diseases, are unquestionably incomplete. It is believed that this is specially true, not only with reference to the reporting of actual cases of illness and deaths, but also with reference to the diagnoses of such cases of illness and deaths therefrom which are reported. This statement is based on the fact that the report of the Provincial Health Officer for Bukidnon Province which, from the standpoint of public health administration and sanitation, is at least on a par with other provinces as a whole, states in his annual report for Bukidnon that over 70% of the deaths reported occurred without medical attention. In Agusan the number of deaths occurring without medical attention was 85.42% of the total deaths reported for 1936, 86.28% for 1937, and 75.91% for 1938.

Prevailing Communicable Diseases:

The prevailing communicable diseases for Mindanao, as shown by the annual report of the Bureau of Health for the fiscal year 1938, are dysentery, typhoid fever, influenza, malaria and tuberculosis. The accompanying table gives the average number of cases and deaths reported for each of the above diseases by provinces and also for the Island as a whole for the five year period 1934-1938. For comparative purposes, the case rate and death rate for each disease per 100,000 population of each province and for the entire Island is also given.

Reference to this table shows a population for the Island of Mindanao of 1,753,387 persons as of January 1, 1939. This table also shows a total of 15,562 cases, with 4,083 deaths per year as the average incidence of the combined diseases of dysentery, typhoid fever, influenza, malaria and tuberculosis for the past five years, the death rate from these four diseases being 240.2 persons per hundred thousand per year with a mortality for the group of 26.2% of the persons afflicted with these diseases.

Disease	Average cases per year for past 5 years	Average deaths per year for past 5 years
Dysentery	1,763.2	377.4
Typhoid	140.8	68.6
Influenza	4,649.8	1,178.0
Malaria	7,169.8	917.8
Tuberculosis	1,838.4	1,542.0

The above table shows that the number of cases of malaria reported was practically four times the number of cases of tuberculosis reported, more than one and one-half times the cases of

influenza and practically five times the number of cases of dysentery. Malaria ranked third in the number of deaths caused by the five major communicable diseases. The above table also shows that of the 1,838 cases of tuberculosis reported each year, 1,542, or 83% died. It is believed that this fatality rate is not a true picture of the conditions existing. The high mortality rate is unquestionably due to the failure of reporting existing cases of tuberculosis.

Dysentery: Dysentery is reported as being prevalent throughout Mindanao. It occurs more frequently, however, in the lowlands, especially along rivers and around the shores of the Lake Lanao district where river and lake water are used for drinking purposes, than in the more elevated and more thinly populated districts of the Island.

Tuberculosis: Tuberculosis is fairly widespread among the population of Mindanao. The lack of proper and sufficient food for the general population of the Island, the overcrowding at night in poorly ventilated houses, the sudden variation of temperature between night and day in certain areas, the promiscuous spitting habit of the people as a whole, together with a low general standard of living and sanitation, are the principal factors which govern the high incidence of tuberculosis in Mindanao.

Malaria: The chief vector of malaria in the Philippines is the *Anopheles minimus* var. *flavirostis*. This species of mosquito is found in certain localities of all provinces comprising the Island of Mindanao. The *Anopheles minimus* breeds particularly along the shaded edges of foot-hill streams, especially among bamboo roots and vegetation lining the edges of such streams. It is also found at the edges of rivers, canals and irrigation ditches. It has been found in wells and is occasionally taken from stagnant pools where presumably it has been carried by an overflow from its natural breeding places. There has been noticed no essential difference in the breeding habits of this anopheline throughout the Philippines. THE *ANOPELES MINIMUS*, HOWEVER, HAS NEVER BEEN FOUND IN THE PHILIPPINES ABOVE AN ALTITUDE OF 2,000 FEET, NOR HAS IT EVER BEEN FOUND IN SALT WATER OR IN RICE FIELDS.

The occurrence of malaria among the population of Mindanao is governed by the topographical location of the districts in which groups of the population reside. The most densely populated areas of the Island are those areas along the coast, the coastal plains and along the lower reaches and coastal portions of the numerous rivers that drain the plateau and mountainous sections of the Island. These most densely populated districts, being also the districts embracing the natural habitat of the mosquito responsible for the transmission of malaria in Mindanao, are the areas where malaria is most highly prevalent. The topography of practically every province of Mindanao embraces areas of varying altitudes, from sea level to plateau land and relatively mountainous sections. Certain sections, therefore, of every province are within the breeding area and the natural habitat of the *Anopheles minimus*. Certain provinces also have area above 2,000 feet, the upper limit of the breeding range for this mosquito. It may be safely said that areas located above the 2,000 foot range in any province are free from endemic malaria while those areas between 2,000 feet and the elevation above the point where tidal streams become brackish, may be classified as endemic malarial districts.

Inquiry made relative to the incidence of malaria occurring among residents living at various elevations leads one to the belief that above the 1,500 foot level the incidence of endemic malaria gradually decreases as the upper level of 2,000 feet is approached.

The following is an abstract from the annual report of the Bureau of Health for the year 1937:

"All the provinces in Mindanao are malarious so that all endeavors to establish agricultural colonies, lumber exploitation and ways of communications theretofore have failed with great losses in lives and of huge sums of money invested, resulting in many instances in a complete abandonment of the projects under way, not to mention untold sufferings among the emigrants and laborers who fell victims to malaria.

"The Government has an extensive four-year plan to open up new roads in the whole of Mindanao traversing and connecting fertile and important regions. Such extensive plan requires naturally great contingents of laborers and if sanitary measures are not taken beforehand, it may be estimated that about 90 per cent of them would die before such projects were finished. This statement is premised upon the experience acquired to the effect that whenever and wherever an agricultural colony is established in any region of those islands, it has cost the country a heavy death-toll among the pioneers, resulting in the failure of the enterprise.

"The idea behind the plan is to make the territory where the roads are to pass sanitary by instituting anti-larval work to control malaria, establishing emergency hospitals at convenient points, organizing camps where laborers could be grouped and provided with potable water, proper excreta disposal, wholesome foodstuffs, and mosquito-proof quarters." (Annual Report, Bureau of Health for the Fiscal Year Ending December 31, 1937, Bureau of Printing, Manila, 1938.)

It is believed that two factors have played important roles in the situation as described in the foregoing paragraphs by the Director of Health:

(1)—Location of Enterprises.

The lack of land transportation facilities in the past in Mindanao has compelled enterprises requiring transportation for supplies, export of products, etc., on that Island, to seek such needed transportation by means of water ways. Such water way transportation is necessarily found only in the lower altitudes, along the coast, and in districts which are the natural habitat of the *Anopheles minimus*, the principal vector of malaria in the Philippines. The localities selected in the past for exploitation, therefore, have been in localities within the breeding range of the *Anopheles minimus* and which are, therefore, by nature potentially malarial districts.

(2)—(a). Failure to institute measures such as proper drainage or other recognized methods to control the breeding of *Anopheles minimus* in the areas occupied, and

(b). Failure to institute the recognized prophylactic measures required in malarial districts, such as properly supervised administration of quinine to persons employed in such areas, use of mosquito bars, screening of houses, etc., etc.

It is an established fact that by instituting and maintaining recognized and required prophylactic measures, certain enterprises are now operating in Mindanao in areas within the breeding range of the *Anopheles minimus* without showing the high malaria morbidity or mortality rate among the personnel of these enterprises as are described in the preceding abstract of the Annual Report of the Bureau of Health.

Bukidnon Province:

Population—57,195.

The public health administration personnel of Bukidnon Province consists of:

One District Health Officer
One Health Officer (P.S.D.)
One District Nurse
One Chief Sanitary Inspector (Nurse)
Five Sanitary Inspectors (Nurses)
Six Sanitary Inspectors (Non-Nurses)

Government expenditures in the Province for public health work during the fiscal year 1938 amounted to P11,463.11 (\$5,731.555), or approximately P0.20 (\$0.10) per capita.

Water Supplies.—Nine relatively small water work systems, supplying 3,890 persons in the communities of Malaybaly (2,200 population), Managoc (300 pop.), Cinchona (100 pop.), Im-

palutao (100 pop.), Maluko (250 pop.), Dalirig (300 pop.), Diklom (100 pop.), Cawayanon (100 pop.), and Malibog (440 pop.), comprise the entire water supply systems of the Province. Only 5% of the population is supplied with community water.

Sewage Disposal.—The most common types of sewage disposal in the province are the Antipolo type toilet and the "Bored Hole" type of latrine. As a general rule, the sub-soil of Bukidnon is of a clay type. The drilling or boring of the "Bored Hole" type of latrine by auger to a required depth does not entail danger of caving in of the soil. This being the case, toilet construction has shifted in Bukidnon Province to the "Bored Hole" type of latrine for rural and urban communities. There were recorded 5,900 toilets of various types in the Province at the close of the fiscal year 1938.

Prevailing Diseases.—Out of 483 deaths registered in the Province during the fiscal year 1938, 67 were due to dysentery, 66 to pneumonia, 40 to tuberculosis, 30 to influenza and 17 to malaria. Reference to the table of communicable diseases over a five year period for the entire Island of Mindanao shows that the case rate per hundred thousand population for the combined diseases of dysentery, typhoid, influenza, malaria and tuberculosis was 3,206, the highest for any province of Mindanao. Reference to the same table, however, shows that the death rate per hundred thousand persons for these same five diseases in Bukidnon is only 185 per hundred thousand population, which rate is lower than any other province of Mindanao with the exception of Cotabato and Lanao.

In connection with a general survey of the malaria problem in Mindanao by the Government, a survey with reference to malaria was conducted by the Government in Bukidnon Province. At the time of this survey, the Bukidnon Agricultural School at Managok, with an elevation of 1,400 feet and with a population of 300 students and teachers, showed an average of 11.6 cases of malaria among the students per year over a period of six years. At the time of the survey, 23 out of 140 students examined were found to be with varying degrees of splenic enlargement and five had blood films positive for malaria organisms. The spleen and blood indices were, therefore, 16% and 3.6%, respectively. The report of this survey does not state the place of residence of these students prior to their arrival at the Bukidnon Agricultural School, nor does it give any data relative to the potential possibility of these students having been afflicted with malaria prior to their arrival at Managok.

Anopheles minimus were, however, found breeding in the immediate vicinity of the school in quantities sufficient to transmit malaria from person to person among those residing in that institution.

No definite or specific recommendations relative to community sanitation or to community control of communicable diseases generally can be made until a definite site for settlement is selected. It is felt that it may be safely stated, however, that any enterprise or project attempted in Mindanao and expecting to culminate in a successful venture must expect and be prepared to expend sufficient sums to establish and maintain efficient malaria control by means of recognized measures should the site of such enterprise or project lie within the breeding range of the *anopheles minimus*. It is believed that the cost of instituting and maintaining such prophylactic measures will be in inverse ratio to the altitude of the site selected when such site is below an elevation of 2,000 feet.

PUBLIC LAND POLICY

Shortly after the inauguration of civil government in the Philippines under Governor William H. Taft, the policy was adopted of granting public land to individuals—and especially to the small fellows—by the occupation and cultivation of homesteads. For several years people were allowed to make their applications, settle on the chosen land, and begin cultivation prior to a general survey of the region. This sometimes led to quite a bit of confusion, the land settled upon in many cases having different shapes and sizes and many corners and angles. Furthermore, the applicants chose only the best part of the land leaving out the undesirable portions and in many cases even occupied land which was covered with commercial forest. The maximum size of the homestead allowed has at different times varied from 16 to 24 hectares (40 to 60 acres).

The present policy does not contemplate any settlement upon public lands until after survey of a certain alienable area has begun and the subdivision into acreage of various sizes has made definite progress. The maximum size of the homestead that may now be granted to an individual cannot exceed 24 hectares (60 acres). As a matter of fact, very few homesteads of that size are at present being granted. Before the subdivision of an alienable area is now begun, a road is already in the process of construction through it or its projected route is definitely known. The land immediately adjoining the road on either side is divided into 5 hectare tracts, behind this into 8 hectare blocks, and behind that into areas of from 10 to 12 hectares, depending upon the fertility, lay of the land, etc. Three kilometers away from the road, the land is divided into blocks not exceeding 100 hectares which are then thrown open for sale to Filipinos or Americans. In this connection it is pertinent to note that the maximum acreage that can be purchased by an individual is 144 hectares.

An individual in order to secure title to his homestead must cultivate not less than one-fifth the area applied for. If he has done this, he can, one year after the date of approval of his application, file his final application and get title. It is thus possible for a homesteader to get a clear title within two years.

An individual may also lease not to exceed 1,024 hectares for a period not in excess of 25 years, renewable at the discretion of the Government for a like period. For grazing purposes only the lease may not exceed 2,000 hectares and is also allowable for a period of not more than 25 years. Some of the grazing land that has been under the jurisdiction of the Bureau of Forestry has been leased on year to year leases.

Corporations not less than 60% of whose stock is held by Filipinos or Americans may also purchase and lease land, in either case not to exceed 1,024 hectares. For grazing purposes the lease cannot exceed 2,000 hectares. As in the case of individuals, the lease is granted for a period not to exceed 25 years and renewable for a like period.

It frequently happens that people have squatted on public land and cultivated it for varying lengths of time before the land was reserved or subdivided and thrown open for settlement. Such squatters have no legal rights. However, in practice and as a matter of justice, if they are found to be bona fide cultivators, they are allowed priority in applying for and perfecting their rights to small homesteads. Should the piece of land which they have been cultivating interfere with the proper development of a contiguous tract, the owner of that land usually pays them for the improvements they have made and the Government allows them to take up a small homestead elsewhere.

Sometimes certain persons will pay taxes on a piece of public land for some years in an attempt to establish a claim to the land. The courts have ruled that the payment of such taxes gives no priority rights whatsoever. The only claim to priority that is recognized by the Government is the actual occupation and cultivation of the land in good faith over a considerable period of time.

Surveys: Surveys of public lands are made both by the Bureau of Lands and licensed private surveyors. The Bureau of Lands charges for its services according to a fixed formula, which is expressed as follows:

$$C = 1.00N + 0.25 \sqrt{S}$$

C = the amount to be charged for the survey.

N = the number of corners of the lot.

S = the area of the lot expressed in square meters; the square root to be determined to the nearest meter only.

Using this formula the charge for the survey of a 2,500 hectare block, for example, would be about P1,250.00.

The licensed private surveyors usually do the work for a smaller fee and one which may mutually be agreed upon in a contract. Their work is, of course, forwarded to the Bureau of Lands and checked for a small fee.

Available Public Lands: Near the roads all public land that has been thrown open for alienation has, in the main, already been claimed. There are no large useful unclaimed blocks available, except land that is already under lease for grazing purposes, and which leases still have some years to run. The only fairly sizeable blocks still remaining that may permit white settlement—though admittedly on the border line—are isolated areas at some distance from passable highways.

Acquisition of Lands for Refugee Settlements: Aliens are not permitted to purchase or to lease public lands, i.e. only Filipino and American citizens are allowed to do so. Since the refugee settlers, being aliens, would not be exempt from this organic law, some means will have to be devised whereby they can secure land for their uses. Fortunately the machinery for such cases is in operation.

To correct a situation which had existed for many years, in which a corporation virtually illegally held larger areas than the law allowed (1,024 hectares) through the use of dummy corporations, the Commonwealth Government recently abrogated all such sales and leases. By Executive Order the lands and leases covered by such sales and leases were transferred to the National Development Company, a Government Corporation, elsewhere described in this Report. The National Development Company is then empowered to lease the land for long periods to the operating concern at a nominal price.

In the case of the refugee settlements our understanding of the set-up would be somewhat as follows: Any public land selected for refugee settlement would, by Executive Order, be reserved for the National Development Company. This Corporation would then lease the land for 50 years for a nominal rental (we understand about P1.00 per hectare per year) to a corporation formed for the purpose, whose membership would have to be made up of American and/or Filipino citizens. In this particular case we assume the leasing corporation would be made up of the local Jewish committee in Manila, or possibly members of the Refugee Economic Corporation of New York.

Since one of the stipulations for the entry of refugees into the Philippines is that they must apply for Filipino citizenship as early as possible, and citizenship can be acquired in 5 years, we assume some provision would be made whereby, as soon as the refugees acquire full citizenship, they could purchase the land they actually develop, i.e. after a 5-year occupancy, in conformity with existing laws governing acquisition of public lands.

REGIONS MORE CAREFULLY STUDIED AS TO THEIR UTILIZATION FOR SETTLEMENT BY POLITICAL REFUGEES

Surprising as it may seem to those unfamiliar with Mindanao, the possible regions rapidly narrowed down to a very few. Those which may be of importance are here described at some length.

THE BUKIDNON-LANAO-COTABATO REGION:

Bukidnon Province, about 50 miles east and west by about 75 miles north and south, is located roughly in the center of the northern part of the main portion of Mindanao. The portion of this Province of interest to us as a possible location for colonies of white settlers, termed the Bukidnon region, does not include the extreme southern portion of the Province, which is low, covered with forest, mostly too rough and has relatively little agricultural land. Nor does the Bukidnon region as here described include that portion of the Province east of the Tagoloan River, a district very rough and of practically no value for agriculture.

Recent Geological History: Certain points of interest and importance to us are the following: In a relatively low region of angular hills and small mountains of sedimentary and metamorphic rocks, such as schists, serpentine, and limestone, which stood roughly in a semicircle from west of Talakag, through Santa Fe, Dalrig, Malako, Impasugong, and east and southeast of Malaybalay, there occurred many violent as well as quiet volcanic eruptions. Most of the greater eruptions (at least as to quantities of magma ejected) were along two lines, roughly parallel, and about 15 miles apart, where now the lines of high and very rough peaks of Katanglad and Kalatuñgan stand. These eruptions threw out many cubic miles of ejecta; lava (which hardened to basalt), coarse fragmental material, and ash. Flowing down the slopes as molten rock or as enormous quantities of thick mud with large boulders floating in the mass, those materials gradually built up the mighty mountains Katanglad and Kalatuñgan. Much later there were, in addition, many minor eruptions which have left their mark as numerous cones and small craters, such as Musuan, which are still conspicuous. The long slopes of ejecta, extending out many miles from the high peaks to and around the encircling older, lower hills, as well as out beyond Maramag into the plain to the south, had a gradually decreasing slope, from above downwards, so characteristic of volcanoes. It should be noted that these ejecta did not form a plateau, but a sloping surface, in the upper parts quite steep, from about 6,000 feet elevation above the sea, down to about 1,500 feet in the north, and down to about 1,000 feet in the south. Between the northeastern line of peaks, Katanglad, and the southern line, Kalatuñgan, there were the upper portions of similar slopes. These slopes are the two sides of the present day Miarayon "valley". To the west of Katanglad and Kalatuñgan the ejected material merged with that from Papayungan Volcano and from vents in the high Ruggan region, which lies in between. The quantities of ejecta, rushing down against the older, distant hills, dammed streams and changed the drainage pattern. A subsidiary crater in the valley southeast of Valencia dammed the Pulangi River, causing the filling in of the valley to form the Maapag Plain, and probably also the small intermountain plain up the Pulangi to the east, in the mountains. Volcanic activity in the Bukidnon region ceased long ago, humanly speaking, all the craters being extinct; now there is not even any solfataric activity.

Weathering and erosion have greatly altered the higher series of peaks, Katanglad, and Kalatuñgan, destroying much of their original volcanic form. Ravines and cañons have been eroded down into the intermediate and lower slopes, cutting them into long, narrow sloping ribbons, often only a few hundred or at most a few thousand feet wide. These cañons usually have steeply sloping sides, though at times the sides are vertical and the cañons sometimes hundreds of feet deep. The Pulangi River continues to meander about on the Maapag Plain, keeping it very marshy, just about at flood river level. Originally the entire region was forested, but as the result of cañon agriculture these long, narrow irregular uplands are usually grassy, and used as pasture for great herds of cattle.

Soils: The magma, which was ejected as lava or as fragmental material, was relatively low in silica (basic), so that the material weathers relatively easily and has given rise to clays rather than to sandy or loamy soils. It is evident that this magma was astonishingly uniform in composition, for in all our field work in this region we noted but little difference in the nature either of the rock or of the nature of the soil material itself. This latter varies from a brown, at times a deep chocolate brown (believed to be the most fertile phase), to a light brown or a light yellowish brown. This varying color of the soil mass is due largely to the amount of rainfall and to the temperature and the nature of the organic matter—the lighter the color the higher the elevation and the more acid the soil; and the brighter the red color, the poorer the soil in plant nutrients, for the leaching which removes the nutrients also intensifies the red color. At Del Monte the reaction of the soil is but moderately acid (pH 5.6—6); with increasing elevations toward the south, thus with greatly increasing annual rainfall, the soil is much more acid (to pH 4.5)¹. In the grass lands, especially, the surface few inches of the soil profile is a very dark to black color; this color is partly the result of the annual grass fires, though doubtless a certain amount of black ash from an eruption in the Makaturing Range, to the southwest on the Cotabato border, has contributed to the black color. While this black color indicates wholesome soil conditions, to the uninitiated it is apt to give a heightened and false idea of the fertility of the soil.

The healthy brown color of the soil mass as a whole indicates satisfactory though possibly excessive drainage conditions in the soil, as would be expected from the topography. In fact, the soil is so porous that the water easily percolates down through it, and if there be a couple of weeks without rain, growing corn is quite apt to suffer. Physically, the soil conditions are very favorable, for while the soil is a clay in texture, and very sticky when puddled, it readily assumes a coarse granular condition, and may be cultivated within a very few hours or half a day after even a hard rain of a couple of inches. Likewise, but a few hours after a hard rain, an earth road may easily be traversed by automobiles or trucks, without even the use of chains. The excessive tendency to granulation leads to "dry wash", which may at times be an important factor in soil erosion. Exposed banks, of road cuts or ditches, dry out, the soil granulates, and the larger or smaller crumbs roll to the bottom. In the first shower, when water rushes down the roadside ditch, the clay granules are carried away more easily than so much loose sand, though the ditch bottom is not apt to erode much. The banks, however, will continue to granulate and the material be carried away until the slope approaches the angle of repose. At the higher elevations, as at Kaatun, about 3,600 feet, the site of the Government's Cinchona Plantation, the surface soil shows excellently the "mountain granulation" or "pseudo-sand" structure, for the soil is so loose that it feels even looser than a sand, more like sawdust, though it is really a clay in texture.

The Maapag Plain, mentioned above. Our observations from the airplane agree with all accounts of those who have had the opportunity to cross this Plain on foot or on carabao back: The Plain is flat, low, wet; of recent alluvial soils on which additional deposits of silt annually accumulate; the rank reed and grass vegetation give the soil a very dark color. Here and there are old sloughs and oxbow lakes, remains of the meanders of the Pulangi River. The Plain is now too wet for cattle pasture, though part of it is said to be under lease for that purpose—carabao are the only animals which can pasture there. This Plain should be handled as a unit—diked to control flooding, drainage and irrigation provided for, and used for lowland rice production. The silt-laden water available would provide an excellent source of plant nutrients to maintain the fertility for padi.

Land Use: The originally heavily timbered Bukidnon region was gradually cleared by the native Bukidnons through the making of cañigins for the planting of upland rice and corn. This shifting cultivation, so characteristic everywhere in the humid tropics, demands continually new forest for clearing, until that destroyed and cultivated a year or two grows up again into jungle sufficiently to kill the weeds and renew the soil structure and fertility. Cogon grass is very apt

¹ Mr. L. H. Phillips, of the Philippine Packing Corporation, in a verbal communication.

to come in, and when that grass is burned annually, as is usually the case, it becomes thicker and thicker, and the tropical high forest never gets a chance to come back, for the young forest trees are not fire-resistant. The native Bukidnons are still pushing back into the forest, for their traditional method of culture without the use of plows cannot contend with the cogon or other weeds.¹ The grass lands which have resulted are now of great extent and are used for stock raising, under lease from the Commonwealth Government. Over-grazing is commencing to cause serious soil erosion, which if not controlled soon, will lead to disastrous consequences in soil destruction.

The farmers from Cebu and Bohol, Visayan Islands, to the north, who in recent years have been immigrating into the Bukidnon region in considerable numbers, are cultivating the grass lands with the modern, light weight, cheap iron plows, which can be pulled by a single bullock. These farmers are raising a number of good crops of corn and upland rice in succession, sometimes two or more crops per year, though as would be expected, after a few years the productivity of the land markedly declines. The results which may be expected of this soil with proper management (fertilization, cultivation, green manuring, and disease and pest control) are clearly shown by the results obtained on the pineapple plantation of the Philippine Packing Corporation, at Del Monte, on the lower, northern slopes of Katanglad, between about 1,700 and 2,200 feet elevation. Excellent pineapples are produced in enormous quantities. The fields are cultivated across the slope, with proper provision for drainage, but prevention of erosion. The pineapple crop is followed by a suitable green manure crop, in this case *Crotalaria oxygynoidea*. Potassium chloride and potassium sulfate are applied annually to the pineapples at the rate of from 200 to 300 kilos per hectare.

Contrary to the predictions made by the rubber commission 15 years ago,² Para rubber does not do particularly well in this Del Monte-Diklum region. Several test plantings of trees, now about 12 years old, are hardly more than half the size they should be under the best conditions. It is probable that the elevation here is too high.

The intermediate slopes, i.e. those at the intermediate elevations, roughly between 1,200 and 2,500 feet, are by far the most extensive and in any agricultural development will be the ones most generally used. Upland rice, corn, sweet potatoes, cassava, coffee, and similar crops, as well as citrus and similar tree crops appear to thrive particularly well, as does the pineapple, so extensively proven.

On the higher slopes of Katanglad and Kalatuñgan, coffee, Irish potatoes, cabbage, and cauliflower can be grown. The facing slopes of these two rows of peaks, Katanglad and Kalatuñgan, form the *Miarayon "valley"*. It may be added that this "valley" has no flat or level land, not even in the center, for the drainage is excessive. The streams have cut deep ravines, so that the slopes are rounded, separate low ridges, running from the center perpendicular from the main drainage, up the slopes of Katanglad and Kalatuñgan. Part of the valley bottom drainage flows northwest, into the Cagayan River, and part southeast into the Pulangi River. At present most of the slopes of this Valley, as well as the other outer slopes of Katanglad and Kalatuñgan, are forested. Our observations from the plane, as we flew through this Valley, agree with the estimates of competent observers who have travelled through by trail and indicate that the agriculturally useful land for cultivated crops in this Valley is about $\frac{1}{2}$ of the total area, lying as a large number of sloping strips or rounded ridges, with steep and sometimes deep ravines between; and that with suitable terracing, tree crops could perhaps occupy another $\frac{1}{2}$ of the area of these highlands; the remaining $\frac{1}{2}$ is entirely too rough for anything but permanent forest. The principal problem in the utilization of the soils in the Miarayon Valley, as well as on the other, outer slopes of the higher elevations, is communication. At best the

¹ Increasing numbers of the Bukidnons near Malaybalay are now following the example of the immigrants from the Visayas and are plowing with iron plows and planting in the grass lands.

² C. F. Vance et al. "Possibilities for Para rubber production in the Philippine Islands". U. S. Dept. of Commerce Trade Promotion Series No. 17. Washington, D. C. 1925.

construction of roads or trails will be very expensive with many bridges required. Moreover, as much of the land is steep, and as the soil structure is very loose, soil erosion is apt to be a serious problem. From the first the land will have to be handled carefully if its value is to be conserved for any reasonable length of time. Clearing of the forest should be done only so far as there is definite need for it, bearing in mind that as in the Bicol region for abaca, a partial forest cover may be very effective in supplying partial shade and protection to the crop, as well as doing much to conserve the soil fertility and to retard soil erosion.

"Hill Stations": If it were not for the high humidity and the excessive rainfall, with much cloud hanging about the peaks, these highlands would provide excellent opportunities for summer or health resorts.

The Maramag-Kitaotao Plain: The extensive plain of undulating to almost flat lands, extending south from Maramag toward Kitaotao, is at a lower elevation, about 1,000 feet above sea level. This Plain seems to be principally old alluvial deposits now high above flood levels, which have been weathered much more than the soils on the volcanic slopes that we have been discussing. These plains soils contain considerable quantities of irregular iron and other concretions, here and there as lenses, in the profile. While considerable portions of the Plain are now grass land, and are mostly under lease to influential cattle raisers, the topography is such that practically all of the land could be tilled by power machinery, and should be used for crop production instead of for pasture. The fact that the Bureau of Lands is now surveying at least portions of this Plain with the intention of dividing it into small blocks for Filipino settlers, indicates a trend in the right direction, to decrease pastures and increase opportunities for agriculture. This Plain south of Maramag is about as fine land for Hevea rubber as could be found anywhere.

Uao and Banisilan Regions: In the extreme southeastern corner of Lanao Province are some open grass lands, on flat terraces and lower rolling hills west of the Maradigao River, and extending over low hills into the Banisilan Valley of Cotabato Province. This region is a relatively very inaccessible one, not only because the trail from Maramag is long and roundabout, but also because it is very difficult to ford the Maradigao. The trail from the south from Fort Pikit, is still longer and runs through very rough country, with the almost unfordable Malitbog River to cross. The Uao region is mainly under the jurisdiction of the Sultan of Maging, and the trail in from his headquarters, near Lake Lanao, through the dense and unbroken leech-infested forests, over the high and very rainy Rugnan Mountains, a trip that for ordinary travellers requires two nights in the forest en route, is anything but an easy one. However, we did get a good chance to study the Uao region in its general relationships, from the air, and it appears that there are several thousand hectares which should be arable, and probably good land. Because of the isolation of this region, it is reputed to be a favorite one for outlaws, as well as for fearless Moros. Doubtless these are the reasons why even the hardy and usually fearless and hard-working staff of the Bureau of Forestry have not as yet penetrated into the Uao region to classify the public lands and indicate what proportions may be made legally available for agriculture, and what should be kept as forest, etc. After our unsuccessful attempts, due to swollen rivers, to get into this region within the time available, we appreciate the difficulties! In any case, it is not possible to develop the region without first constructing a road into the region, and the cheapest useful road would have to be about 30 miles long, leading in from somewhere near Maramag, and costing, with temporary bridges, not less than \$300,000. It is barely possible that the Commonwealth Government would be interested in putting a road into this region to eliminate it as a refuge for outlaws, in which case the region might be developed into a colonization project.

In the Uao and Banisilan regions the elevation is for the most part around 1,000 feet. This would rule out the possibility of producing high elevation crops such as potatoes, berries or cabbages. Corn, upland and possibly some lowland rice, sweet potatoes, cassava, citrus, kapok, ramie, etc., should do well. While no rainfall records are available, the annual rainfall is undoubtedly much lower than in the center of Bukidnon; yet being on the slopes of the very high old Volcano Piapayungan, there should be ample supplies of irrigation water the year round.

Upper Pulangui River Valley: This is a long, narrow tract which lies in the eastern part of Bukidnon Province along the upper reaches of the Pulangui (or Cotabato) River at an elevation of from 1,500 to 2,000 feet. The Bureau of Forestry estimates its area at 10,000 hectares which we believe to be quite generous and not all of which would be susceptible of cultivation. About 25 miles of road would have to be constructed to get into the Valley from the present highway near Malaybalay. Then there would, also, be the problem of finding other land for the squatters already there.

This area can be kept in mind in case the need for land for refugee settlement should force its consideration.

BULDUN-BARERA REGION: This region lies near the northwestern corner of Cotabato Province, close to the Lanao border, on the southern slopes of the Makaturing-Piapayungan Range of volcanic peaks. The Buldun-Barera region is a flat to moderately sloping one, between elevations of 1,000 to 1,500 feet, lying on old lava and mud flows from the now extinct volcanoes to the north. The flat, poorly drained Barera portion of the region is that portion lying back of Mt. Bitan, a subsidiary volcanic cone standing to the southeast of the main range, and just east of the inter-provincial highway. This generally flat, Barera portion of about 4,000 hectares is covered with light, probably second-growth forest. The Buldun, or more easterly portion of this general region is one of sloping volcanic ejecta, deeply incised by rapidly flowing streams into long, narrow strips. These long strips of upland are rounded. The upper, arable portions are intensively cultivated, being planted to upland rice by the considerable numbers of inhabitants, Moros originally from the Lanao region. Consequently there is practically no land available in Buldun for colonization. Farther down, toward the lowland, the streams flow out through valleys filled with masses of coarse gravels—a region in which the useful land is already occupied by individuals or corporations.

The Barera portion of the region is at a favorable altitude, and the soils appear to be moderately fertile, particularly as not many generations ago the region received a considerable but not excessive fall of black volcanic ash from some crater in the range just to the north. Since the Barera region is located only a few kilometers east from the main highway, and the topography is not difficult, branch road construction would not be costly. On the other hand, meteorological observations at Buldun for some years (see Table IV) confirm the opinion that the Barera-Buldun region is excessively wet, and perhaps not very healthy for white colonization. It may be noted that only a few days prior to our crossing this region by foot on the trail, many long survey lines had been cut by private parties through the forest, evidently by someone intending to claim squatter's rights. It seems possible that word had leaked out that we were to consider the area, and others intended to get there first.

Practically all the usual crops we have described would probably do well in this region: corn, upland rice, sweet potatoes, coffee, lumbang, pilli, cassava, cacao, etc. Since this Barera region is flat, and at times poorly drained (forest officers and others report having had to wade nearly knee-deep through the water on the trail last July), it should be handled as a unit for draining, prior to the commencement of cultivation.

KIDAPAWAN REGION: Along the intermediate and lower western slopes of Mt. Apo there is a large region of sloping country, also dissected by numerous streams. The clay soil, weathered from dark igneous rocks erupted from Mt. Apo, is fertile and can produce the usual crops of the Island (corn, upland rice, sweet potatoes, abaca, sugar cane, coffee, cacao, lumbang, etc.). As may be surmised, the topography is hardly favorable for any large scale development, but more than that, not only is there a relatively dense population of Manobos on the higher portions of this tract, at about 400 feet elevation, but subsequent to the construction of the main highway to Davao through this region, the Bureau of Lands has subdivided a zone many kilometers wide along both sides of the highway, and we found much of the land already

in the possession of the settlers. To the southwest of the new townsite of Kidapawan, however, at lower elevations, down toward Lake Buluan, perhaps between 300 and 100 feet above sea level, is a considerable tract of land, some 6,000 hectares, as yet not subdivided, and reputed to have very few squatters. While branch road construction costs would not be high and the soil is doubtless reasonably good, the region is apt to be very malarial, and the elevation probably much too low for reasonable physical comfort for white settlers. The locality was, therefore, not given further consideration.

To the north of Kidapawan is a region (about 23,000 hectares), which had been under consideration for reservation for the use of the Land Settlement Administration. Inspection from the plane showed us at once that the large number of Manobo inhabitants already farming there in the topographically suitable portion of the area, eliminated the tract from further consideration for our purposes.

Recapitulation:

Maramag-Kitaotao Plain, Bukidnon: Contains about 24,000 hectares of level and gently rolling land, at an average elevation of 1,000 feet, which could be tilled by power machinery. Most of it, however, is under lease to influential cattle raisers. Parts not under lease are being surveyed by the Bureau of Lands for subdivision into small tracts for Filipino settlers.

Maapag Plain, Bukidnon: Located across Pulangui River and about 20 kilometers northeast of Maramag Kitaotao Plain, covers an area of about 25,000 hectares at an elevation of from 1,400 to 1,600 feet. Properly diked and drained, much of it should be suitable for mechanized rice production. Large areas are under lease and other sections are occupied by squatters, all of whom would have to be bought out.

Uao and Banisilan Regions of Lanao and Cotabato: Contain about 17,000 hectares, most of which is at an elevation of about 1,000 feet. Probably one-half of this area could be cultivated by European methods and with due regard for the prevention of soil erosion. In order to get into the region, not less than 30 miles of road would have to be constructed at a cost of about \$300,000. Also land would have to be set aside for about 1,000 Moros already there.

Buldun-Barera Region of northwestern Cotabato: Contains about 4,000 hectares between elevations of 1,000 to 1,500 feet. The rainfall is heavy and much of the land would need drainage. The construction of a 10-mile road would also be necessary.

Kidapawan Region of Cotabato: Contains about 6,000 hectares but is too low for European Settlement as elevation ranges from 100 to 600 feet.

Miarayon Valley of Bukidnon: Situated between Katanglad and Kalatuñgan Mountains at an elevation of 5,000 to 6,000 feet. Suited for temperate zone vegetables and Arabian coffee. The area is, however, limited and the communications very difficult with no road for the transportation of products.

Upper Pulangui Valley of Bukidnon: Contains 10,000 hectares between elevations of 1,500 to 2,000 feet. Situation of land, length of road needed and squatters already there place this area in the doubtful column.

Bukidnon Plateau: Covers most of northern and central part of Bukidnon Province and is region best suited for colonization. Lies at an elevation of from 1,500 to 3,000 feet and contains tens of thousands of hectares. Practically entire area is held under lease by corporations and individuals for periods varying from 20 to 45 years. Would be necessary to purchase the leases, and in each case such transactions would need governmental approval.

It is estimated that not less than 4 hectares (10 acres) of land per individual will be necessary to provide for a fair standard of living and at the same time allow for the proper use of the soil with conservation of its fertility.

TABLE A.

Impalutau, Bukidnon, Mindanao Island.

AMOUNT OF RAINFALL

Year	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.
1934	435.7	226.4	295.8	242.8	228.7	279.5	312.1	284.1	262.3	311.9	145.4	171.6	3,196.3
1935	58.2	76.9	84.1	75.5	338.0	370.9	242.1	312.4	222.8	330.1	146.4	84.6	2,342.0
1936	101.7	71.7	130.4	162.8	242.4	484.3	568.1	167.8	261.7	214.9	293.7	90.5	2,790.0
1937	182.4	53.6	72.0	202.8	293.8	299.9	322.2	156.5	502.3	192.7	160.8	205.6	2,644.6
Mean— (1927-37)	183.0 (7.32")	115.9 (4.63")	132.4 (5.2")	165.1 (6.6")	283.2 (11.3")	404.5 (16.2")	309.0 (12.0")	218.8 (8.75")	302.2 (12.0")	269.9 (10.7")	207.8 (8.3")	155.8 (6.2")	2,747.6 (109.9")

RAINY DAYS

Year	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
1934	23	23	26	24	19	21	28	24	19	22	19	16	264
1935	13	13	18	10	24	25	20	22	19	24	21	9	218
1936	17	7	12	21	24	25	29	21	23	23	17	21	240
1937	23	14	13	17	27	23	27	24	26	19	19	26	258
Mean— (1927-37)	20	13	16	15	23	27	28	25	24	25	22	21	259

TABLE B.

Monthly Total Rainfall in MM.
at
Del Monte, Bukidnon—Height 1,750 Feet.

Year	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	
1931	15.5	0.0	20.4	67.6	...	...	...	...	...	375.5	176.2	28.8	
1932	142.8	101.1	116.3	37.9	230.5	279.8	258.2	248.0	317.7	233.7	159.5	143.7	
1933	108.1	83.1	104.1	33.0	185.3	360.6	216.4	185.4	404.0	322.5	129.5	157.6	
1934	243.9	276.9	175.2	203.1	157.4	391.1	260.9	350.5	208.4	200.6	110.0	83.2	
1935	5.1	0.0	30.5	218.5	...	...	218.5	198.2	147.3	137.3	246.5	4.4	
1936	109.2	35.6	94.0	147.4	322.7	292.0	602.0	264.3	78.7	151.1	71.0	87.6	
1937	54.7	32.5	68.9	161.4	136.3	169.5	204.5	161.1	253.2	123.7	94.6	103.4	
1938	128.0	105.9	45.9	149.3	78.7	161.9	145.0	242.6	164.0	232.4	295.4	77.7	
Mean— (1931-38)	101.2 (4.05")	79.4 (3.176")	81.9 (3.276")	127.3 (5.092")	185.2 (7.408")	275.8 (11.03")	272.2 (10.88")	235.7 (9.43")	224.8 (8.99")	222.1 (8.88")	160.4 (6.42")	85.8 (3.43")	2,051.8 (82.07")

TABLE I.

Meteorological Observations.
Cinchona Forest Station, Impalutao, Bukidnon.

	Maximum and Minimum Temperatures			
	1937		1938	
	Minimum	Maximum	Minimum	Maximum
January .....	.....	26.3	17.0	26.0
February	16.3	28.4	16.3	27.3
March	15.6	29.4	16.6	.....
April	16.4	29.4	18.1	.....
May	17.7	28.7	17.5	.....
June	18.1	28.2	17.5	27.3
July	17.3	26.7	17.1	27.5
August	17.3	26.7	16.5	28.6
September	17.4	.....	16.9	28.2
October	17.7	.....	17.1	27.2
November	17.4	.....	17.4	27.4
December	17.5	.....	17.2	27.1

TABLE II.

Obtained from the records on file at the Kaatoan Branch Cinchona
Nursery and Station, Alanib, Malaybalay.

	Rainfall (in mm.)				Catusan Station	
	1935	1936	1937	1938	1937	1938
January	58.2	103.1	182.1	136.4	239.0	142.4
February	76.9	71.7	53.6	98.2	82.0	216.5
March	84.1	130.4	72.0	80.3	55.2	172.0
April	75.4	162.8	202.8	301.2	237.1	228.8
May	337.8	24.8	293.6	398.7	260.8	233.9
June	370.7	484.1	290.0	211.2	324.5	369.6
July	242.1	568.1	322.2	347.5	548.6	411.9
August	312.4	167.6	156.5	286.5	596.0	343.2
September	222.8	270.7	502.3	280.0	467.7	490.5
October .....	.....	214.8	192.7	314.5	295.7	328.7
November	146.4	308.3	160.8	182.0	283.8	177.5
December	84.7	168.8	205.6	121.7	180.7	89.5
Totals	2,011.5* (79")	2,675.2 (105.3")	2,634.2 (103.7")	2,758.2 (108.5")	3,571.1 (140.5")	3,104.5 (122.2")

* Excluding month of October.

TABLE III.

Kidapawan, Cotabato.†

	Mean 1920-27, incl.
January	126.8
February	110.3
March	91.8
April	131.3
May	200.5
June	197.0
July	244.1
August	180.7
September	234.5
October	252.7
November	189.3
December	168.9
Annual mean	2,127.9 mm. (83.8")

† Weather Bureau, Manila.

TABLE IV.

Rainfall in Buldon, Cotabato.†

	1917	1918	1919
January	186	417	136
February	278	301	12
March	203	255	177
April	387	223	259
May	363	283	516
June	316	548	358
July	294	354	380
August	226	240	416
September	237	166	768
October	534	499	713
November	387	257	457
December	251	334	272
	3,622 (145")	3,877 (155")	4,464 (178.5")

Mean for three years 159.5".

† Mindanao and The Sulu Archipelago—P. J. Wester, 1922.

THE MOMUNGAN COLONY

Only one case of what might be called an attempt at white colonization on the land came to the attention of the Commission. This was at Momungan, 19 kilometers from Dansalan and 17 kilometers from Iligan on the Iligan-Dansalan Road in Lanao Province, at an elevation of around 1,300 feet above sea level.

In 1914, at the beginning of the period of replacement of Americans by Filipinos in the service of the Philippine Government, the quartermaster department of the U. S. Army replaced many Americans by Filipinos. The relieved Americans were of a rough and ready type, many illiterate, and had been employed as packers, teamsters and in other work of that nature. Many of these men were old soldiers, members of the Spanish War veterans organization, and the latter brought pressure to bear to force the Government to do something for them instead of throwing them out on their own.

Under the initiative of Frank Carpenter, Governor of Mindanao and Sulu at the time, a colonization scheme was instituted in the above mentioned location; the men were sent down and an attempt made to convert them into farmers. All were married to Filipino women, and one of the conditions was that only married men would be thus taken care of.

The colony was started with about 60 families. The preparation of the land, cost of houses and improvements, etc., was financed by the Government by loans to colonists. Afterwards several individuals came in on their own accord and resources.

There remain today only nine or ten of the original settlers and some descendants. Several of the men were killed by Moros, others met similar violent ends, some moved away, and some died from natural causes.

It might have been expected, bearing in mind the class of people—highly individualistic and hard to get along with—that there would be considerable doubt as to the ultimate success of the undertaking. As a matter of fact the result would probably have been the same with any class of colonists. One of the main reasons for the failure was the isolation, and lack of proper transport and markets for their products, the principal cash crop apparently being Georgia yams. At that time only occasional slow small steamers came into Iligan, the nearest port. There was no pier: products had to be taken out to the steamers in small boats. These vessels visited other ports along the coast before reaching Cebu, the trans-shipment point for Manila, and it might be days before the products reached Cebu. At that place there was no proper facility or organization to store or to transfer to the Manila steamers, and the result was that the produce could not reach Manila in proper condition and was sometimes a dead loss.

The experience of this attempt, to some extent at least, we believe points a moral; successful colonization of white people in the Tropics demands the most expert technical guidance and assistance, ample means of transportation for the products they grow, and accessible markets in which to dispose of them.

SUMMARY AND CONCLUSIONS

I.—The Island of Mindanao with an area of 37,000 square miles is, in general, a rough mountainous country. It is generally favored with good and moderately uniform rainfall and is out of the normal typhoon belt. Level to gently rolling land suitable for European systems of agriculture is of relatively small extent. Larger areas of level land do exist, however, at low elevations, which are consequently hot and humid and not suited to European colonization.

II.—The areas, suitable from the standpoint of climate (due to elevation), rainfall, accessibility and type of crops adaptable for consumption and commercial possibilities, are located in the Provinces of Bukidnon, Lanao and Cotabato. They range in elevation from about 1,000 to 3,000 feet, and consist of undulating sloping plains cut into long narrow ribbons by ravines and canyons; low rolling hills and terraces; and level valley floors.

III.—Lands which may be considered suitable can be classified as:

- A.—Public lands not yet subdivided for homestead, or in process of subdivision.
- B.—Public lands held under lease by individuals or corporations, usually for cattle grazing.
- C.—Lands under private ownership.

A.

Public lands in this category are of limited extent. Those remaining at this time are:

1.—Uao-Banisan region, in Lanao and Cotabato near the junction of Lanao, Cotabato and Bukidnon Provinces. The Uao region consists of flat terraces and low rolling hills which merge into the Banisan Valley of Cotabato. The elevation is for the most part around 1,000 feet. Combined they comprise about 40,000 acres, of which about 20,000 acres are estimated to be arable with the balance probably suitable for tree crops and stock raising. The region is isolated and would require a road of about 30 miles costing about \$300,000.00. The present number of inhabitants is said to be about 1,000, practically all Moros, some of whom are reputed to be outlaws.

2.—Buldun-Barera region lies near the northwestern corner of Cotabato Province. It has an area of about 10,000 acres of flat to moderately sloping land between elevations of 1,000 to 1,500 feet. It is practically all covered with forest, a considerable portion of which appears to be second growth. It has an excessive rainfall and a large part would have to be drained. A road of about 10 miles over fairly easy country would have to be constructed.

3.—Upper Pulangi Valley. This area of level and gently rolling valley land of about 25,000 acres lies on either side of the Pulangi River in the northeastern part of Bukidnon Province at an elevation of 1,500 to 2,000 feet. It is a long narrow strip and mostly in forest. A road of about 25 miles in length from Malaybalay, seat of the Provincial Government of Bukidnon Province, would be necessary to reach it.

All the above contain many squatters for whom some provision would have to be made, and the settlement of these matters is always difficult.

B.

Public lands under lease, mainly grasslands used mostly for cattle grazing, constitute by far the most desirable areas from the standpoint of extent, topography, sufficient elevation, climate, rainfall, adaptable crops and present transportation facilities. These lands are in Bukidnon Province.

C.

A considerable acreage of suitable land in the Bukidnon highlands, but in small separate tracts is owned by present occupants, or held by squatters without any title. However, the fact of occupancy gives these squatters some vested rights.

IV.—There is not sufficient unoccupied or unreserved public land in the regions mentioned above, assuming the Government would make it available, for more than a limited number of individuals in each area.

V.—The soil of the regions suitable for European colonization consist in the main of weathered lava, which has given rise to clays rather than to sandy or loamy soils since the lava was relatively low in silica. This type of soil, particularly in the northern part of the Bukidnon Plateau, is so porous that water easily percolates down through it, and if there be a couple of weeks without rain, crops such as corn may suffer somewhat. Physically the soil conditions are very favorable, for the soil readily assumes a coarse granular condition and may be cultivated within a few hours after even a hard rain. It produces excellent crops and with proper soil management, which can under no circumstances be overlooked, will continue to do so for many years.

VI.—On the grasslands, plowing could be done at once. There are sufficient crops adaptable to the region to make the colonists self-supporting in a short time, say within a year or eighteen months. On forest areas it would be much longer since the land would have to be cleared in an orderly and regulated fashion to include the utilization (or marketing) of the commercial timber, and afterwards the remainder of the forest growth.

VII.—Timber resources within reasonable distance of the public lands are sufficient to furnish lumber for construction purposes. This will not apply in every case to the leased grasslands of the Bukidnon Plateau.

VIII.—Crops to be raised for commercial purposes would have to be approved by the Government so as to avoid conflicts with the requirements of the Government allowing the entrance of refugees.

In general, however, it is felt that the following crops could be successfully grown in this area and that these crops would be permitted by the Government:

Tree Crops:

Citrus fruits; avocados; pili nuts; lumbang (for paints and varnishes); kapok; cocoa; ilang-ilang (flowers for perfumes); cashew (for nuts and wine); African oil palm (doubtful if desirable); rubber (doubtful if desirable).

Other Crops:

Rice; corn; peanuts; ramie (China grass); Derris root; tobacco (for manufacture of insecticide); soy beans; essential oils; sesame; bananas; various medicinal plants. And at high altitudes Irish potatoes; Bermuda onions; berries.

Bukidnon is the premier producer of the Nellore breed of the *boz indicus*. It will be more profitable to start building up a dairy industry and for this purpose the Scindi, also a breed of the *boz indicus*, is proposed because of its hardiness and ability to live off the country.

Hogs and chickens will, also, have an important place in a well-rounded system of diversified farming.

Sheep and goats are not recommended at the beginning, though it may be possible to introduce them later.

IX.—The prevailing communicable diseases in Mindanao are dysentery, typhoid fever, influenza, malaria and tuberculosis. During the past five years the average death rate for these diseases was 240.2 per 100,000 per year with a mortality for the group of 26.2% of the persons affected.

The vector of malaria, anopheles minimus, has not been found above an altitude of 2,000 feet, nor has it been found in salt water or in rice fields. It breeds among the bamboo roots and vegetation along the shaded edges of foothill streams, at the edges of rivers, canals and irrigation ditches, in wells and in stagnant pools to which it has been carried by an overflow from its natural breeding places.

Any project attempted in Mindanao must be prepared to establish and maintain efficient malaria control by means of recognized measures, should the site of such project lie below an elevation of 2,000 feet.

The other diseases mentioned can also be controlled at a reasonable cost by the application of recognized sanitary and prophylactic means.

X.—Present legislation reserves to the Commonwealth the water power resources of the Philippines. Release by the Government of a specific water power site or development by the Government itself would therefore be required before development of the water power of these areas could be accomplished.

Good water power possibilities exist in the general Bukidnon Plateau area. Rainfall is high (100-110 inches annually) and moderately uniform throughout the year. The streams possess moderate to steep slopes with several areas of concentration of head in sizeable waterfalls as east of Mt. Kitanglad, or the Cagayan-Malaybalay Road between Maluko and Imposugong, on the Suaga River at Malaybalay, and on the Kulaman River, a Pulangi River tributary.

Initial power requirements could be most cheaply met by small size Diesel electric units. As the area developed, including the need for industrial power, such power could be provided at moderate cost from the water power possibilities of the area, subject of course to development or release by the government agencies concerned.

XI.—For 10,000 refugees we have estimated 100,000 arable acres would be necessary, or 10 arable acres to one individual in order to provide an adequate standard of living together with proper use of the soil for the conservation of its fertility. Due to the nature of the terrain, in the acquisition of sufficient land to provide for the necessary arable acres there would of necessity be considerable areas suitable only for tree crops and stock raising.

XII.—In summary the Commission concludes:

1.—That the Philippine Commonwealth could provide for up to 10,000 refugees to be admitted to the Philippines on condition that:

a.—They will engage on a self-supporting basis in agriculture and industrial pursuits related thereto in the areas procured and/or set aside for them.

b.—They will raise such crops and engage in such industrial activities as are complementary to but not competitive with existing Philippine economic conditions.

c.—They will become Filipino citizens.

2.—That land is available in the Bukidnon Plateau area of Mindanao, largely in the form of public lands now under long term private lease for grazing, which by reason of climate, elevation, health conditions, topography and soil is well adapted to healthy European colonization and successful agricultural development for up to 10,000 individuals.

3.—That the acquisition of up to 100,000 acres of such land by purchase of these leases or privately owned tracts from their present owners would appear to be the best solution in that:

a.—Lands well suited for the purpose would be so acquired, permitting their early occupation and development without the long delays otherwise attendant on clearing, draining and improvement as would be necessary with the other available public forested lands.

b.—This solution providing for acquisition by purchase of these privately controlled lands might prevent expressions of opposition on the part of those Filipinos who believe that the Mindanao public lands should be made available to the Filipinos rather than to foreign refugees.

c.—These lands being already on or near to transportation facilities would not require extensive and costly additional roads, drainage, etc., which could hardly be expected from the Commonwealth solely or primarily for a foreign refugee settlement.

d.—President Quezon has stated that the Commonwealth Government would cooperate in effecting the purchase and transfer at reasonable prices of these leases of lands now used for cattle grazing.

e.—A successful, self-supporting colonization by these European refugees would thereby be assured, reacting not only to the good of the refugees themselves but also to the good of the Commonwealth in the increase in productive capacity and development which should result from the development of a large area in Mindanao by European agricultural methods.

It is therefore recommended that negotiations be undertaken at once with the owners of the lands and grazing leases in Bukidnon Province, in the areas referred to, to ascertain if it will be possible to purchase a sufficient amount of lands and leases at a price that will make possible the establishment of a refugee colonization project there.

O. D. HARGIS
Chairman

STANTON YOUNGBERG
Secretary

R. L. PENDLETON
Member

HOWARD F. SMITH
Member

HUGH J. CASEY
Member

SUPPLEMENTARY LAND INVESTIGATION—ZAMBOANGA PROVINCE

In addition to the areas covered in the main report, there were doubts in the minds of some members of the mission that possibly we were overlooking certain areas in the Province of Zamboanga that might prove suitable for European colonization. From the air reconnaissance made on June 6, 1939, notes had been made by Captain Casey and the writer that one or two areas in the northern part of the Province had looked promising, but it was the opinion of the writer from a general knowledge of this area acquired several years ago that the elevation was not very great. After dispatching the report and during a lull in proceedings, the writer returned to Zamboanga to get further information on the subject. This supplementary report covers the best information that could be secured without making a detailed study and examination, which would have required a field party and more time than was available.

The sources of information given herein were: The District Officers of the Bureaus of Lands and Forestry and District Engineer in Zamboanga; a branch office of the Bureau of Lands at Kabasalan; a road survey party based at Kabasalan; Captain Frank Christian of the U. S. Army, Petit Barracks, Zamboanga and at present detached as an Inspector of Military Training to the Philippine Army; Mr. Frederick Worcester of Zamboanga, a long time resident of the Province; Mr. Joe Huber, Manager of the Goodyear Rubber Plantation Company's plantation at Kabasalan, and various residents of Kabasalan, pagan and Christian Filipinos.

Except for the areas near the coast line, until the past three or four years there has been no penetration into the interior by homesteaders and consequently knowledge of the interior is limited and information concerning it is very hazy. On the maps the areas are still marked "unexplored". However, local maps of the Bureaus of Forestry and Lands are able to give a little detail.

Entrance to this part of the country is difficult at present on both sides of the Peninsula, and particularly on the eastern side (Sibuguey Bay). A low mangrove swamp borders the coast line, and entrance is effected by ascending mouths of rivers or creeks in launches for a short distance and proceeding further in small boats until solid ground is reached.

The areas in question will be described as (1) Titay Valley and (2) Kipit River Valley.

Titay Valley

This area lies in the interior at the narrowest point of the Zamboanga Peninsula at the head of Sibuguey Bay. At this point the width of the Peninsula is about 25 miles. A trail starts from the mouth of the Sanito River, which is shown at Saro Point on the base coast and Geodetic Survey map and leads in a general northeasterly direction coming out the north coast at the village of Lilui just east of Sindangan Point, shown on the same map. The length of this trail is about 28 miles. The mouth of the Sanito River is about 13 miles a little south of west of the village of Kabasalan.

On this trail about 8 miles from Sanito is the small village of Titay, and beyond this point is the area described as the Titay Valley. The general statement is made that the valley extends north and south, but the writer is inclined to believe it lies somewhat northeast and southwest, or along the trail mentioned above. The land is generally described by those who have been over the trail as level in the valleys, then gently rolling. However, Mr. Obaza, District Engineer, mentioned that some rather rough places were noticed by him. All describe it as being alternating patches of forest and cogon grass along the trail with larger proportion of forest further back.

All describe the soil as being good, with the valley lands being especially adapted for rice culture. Captain Christian, who stated he hunted over the area some five or six years ago, noticed that there was no gravel or stones in the river bed.

The area between the mangrove swamps and the village of Titay has been logged off in past years and the soil is described as poor (thin). But it improves near Titay and homesteaders have

already filed applications for 1,400 hectares. Also 50 Ilocano families have recently moved in and filed further applications.

There is little evidence of homesteaders from air observations, but the applications have been filed by people in the district in the knowledge that a road is to be built around the coast from Malangas through Kabasalan and Titay to connect with the present road from Zamboanga which at present ends at Vitali, about 40 miles from Zamboanga. This road is supposed to be completed within the next 18 months. At the present time homesteaders or squatters have not entered the Titay Valley proper, but with the completion of this road an influx may be expected as there will then be better transportation facilities. There are some pagan people in the area, but the best information is that the number is not large.

It is not possible to estimate the area very accurately since most of it has never been surveyed by either the Bureau of Lands or Forestry. Captain Christian said it was several years since he was there and he roughly estimated it as being something like 8 miles wide and 20 miles long. The writer is inclined to believe this is too large an estimate due to the narrow width of the Peninsula at this point, but he is not prepared to state otherwise. This would give around 100,000 acres which from his general knowledge of the country seems somewhat excessive.

The general statements of most of the people consulted was that the elevation was low, an average of about 500-600 feet above sea level. Captain Christian, whose recollection seemed a little hazy, said he thought it would range from 500 feet to 1,000 feet in places. It is quite possible that at some places the trail might lead around the sides or tops of some of the hills at the latter elevation.

In going by launch to Kabasalan it is possible to see for many miles into the interior at this point, and the land appears low and level, gradually rising toward the west but not to any elevation which might be judged as much as 1,000 feet, except certain peaks north and south of the apparent "pass" through the Peninsula.

Kipit River Valley

For the lack of a better name this area will be called the Kipit River Valley. It is an area practically unknown. The information regarding it was obtained from Mr. Frederick Worcester of Zamboanga, who explored it four or five years ago in prospecting for minerals during the gold excitement at that time.

Mr. Worcester says he entered at Buluan, shown on the east coast of Zamboanga, on the Coast and Geodetic survey map. He crossed the mountain range that runs along the coast, entered the interior and finally came out at Siokun on the west coast, at the mouth of the Siokun River. According to him the Kipit River which is shown on the map as emptying into Quipit Bay on the north coast, has its origin just north of the Siokun River, near Siokun, then flows eastward for several miles and turns northward, coming out as shown on the base map.

While he himself did not follow the River to its mouth, some members of his party did and his knowledge of the lower part was, therefore, second hand.

He describes the area as being a large valley—thousands of hectares—which at that time had only a few primitive pagan people, many of whom had never before seen a white man. He believes he was the first American to traverse the country. The land is described as level in the river and creek valleys and thereafter gently rolling, suitable for plowing. It is in forest with occasional cogon grass areas.

The elevation is described as low; he believes it only 400 to 500 feet above sea level, and therefore hot and humid.

At present the area is extremely isolated, and marked "unexplored" on most maps. However, with the completion of the road mentioned in connection with the Titay area, it would not be difficult to build roads into and make it accessible to the City of Zamboanga.

The rainfall in both the areas would undoubtedly approximate that of the region around Kabasalan, which is around 100 inches per annum. The City of Zamboanga at the tip of the Peninsula has a low rainfall due to its peculiar location. However, a few miles to the north, as well as on Basilan Island, a few miles to the south, the rainfall is heavy and ample.

It is realized that, in general, these areas are of low elevation and therefore not best suited for European colonization. However, as they are areas at present not allocated for any specific purpose, not yet opened to settlement and having few if any homesteader applications, or squatters, it would be well to keep them in mind.

Supplementary Report

Cash Crops

Rubber

In regard to the matter of tree crops which might be planted by colonists, the writer made a further examination of the subject of rubber on the Goodyear plantation at Kabasalan, and after observing the growth of trees and seeing something of the actual yield of the high yielding *budded* rubber which is now in production at that place, he is inclined to look with more favor upon the inclusion of that crop among the cash crops mentioned in the report.

The doubts as to the desirability of planting rubber from the standpoint of the great potential overproduction in the Dutch, British and French colonies and protectorates may still remain. Under normal conditions the lifting of the present restrictions to allow full production and exportation in those countries could so lower the price as to make production from ordinary seedling trees planted at the old practice of around 100 trees per acre unprofitable.

However, taking into consideration the yields obtainable from certain proven strains (clones) of *budded* rubber and planting 200 trees to the acre, a fairly good income could be secured even if the price went as low as 5¢ gold per lb. which is about as low as could be expected, for below that price the low yielding producers, both European estates and native, could not operate and would cease production until the price rose again.

One man and family can easily take care of five acres of mature trees, this including upkeep, tapping the trees and preparation of the rubber. This work would require the morning only, leaving the afternoons for other work. If there were several such units close together it would probably be preferable to have a communal treating plant rather than to have each individual prepare his own.

With a density of 200 trees per acre it can be estimated conservatively that the yields from the proven *budded* clones will be:

5th year after planting	(1st year tapping)	400 lbs. per acre per year
6th year after planting	(2nd year tapping)	500 lbs. per acre per year
7th year after planting	(3rd year tapping)	600 lbs. per acre per year
8th year after planting	(4th year tapping)	700 lbs. per acre per year
9th year after planting	(5th year tapping)	800 lbs. per acre per year
10th year after planting	(6th year tapping)	900 lbs. per acre per year
11th year after planting	and thereafter	1000 lbs. per acre per year

The present price of rubber may be taken roughly as around 15¢ gold per pound. At that price the gross income per acre would be:

1st year tapping	400 lbs. x 15 cents =	\$ 60.00 per acre per year
2nd year tapping	500 lbs. x 15 cents =	75.00 per acre per year
3rd year tapping	600 lbs. x 15 cents =	90.00 per acre per year
4th year tapping	700 lbs. x 15 cents =	105.00 per acre per year
5th year and thereafter	1000 lbs. x 15 cents =	150.00 per acre per year

The cost of chemicals for coagulation and incidentals would be very small—less than 1 cent per lb. Machinery required could be simple and cost little, and amortization would be only a fraction of a cent.

If the price should go as low as 5 cents gold per lb. the gross income would be:

1st year tapping	400 lbs. x .05 =	\$20.00 per acre per year
2nd year tapping	500 lbs. x .05 =	25.00 per acre per year
3rd year tapping	600 lbs. x .05 =	30.00 per acre per year
4th year tapping	700 lbs. x .05 =	35.00 per acre per year
7th year and thereafter	1000 lbs. x .05 =	50.00 per acre per year

It is thus seen that between these ranges in price there is a fair to good cash income, after the trees come into bearing.

It must be emphasized, however, that these results can only be expected if *proven budded* stock is planted. Ordinary seedlings will not do.

While the writer does not have any authority to say so, he feels certain that arrangements can be made with the Goodyear Company to obtain planting material for propagation of these proven clones. At present they are not available anywhere else in the Philippines.

Also, as stated in the report, it is quite unlikely that rubber would do well above an elevation of 1,800 feet. At elevations below that in any of the areas considered, it should prove satisfactory. And especially is it adapted to plant on hilly lands; on terraces on such land it does as well as on flat or level land.

In all the Mindanao areas considered the rainfall, soil and other climatic conditions are considered suitable for the cultivation of rubber trees.

O. D. HARGIS
Chairman

APPENDIX

Preliminary Cost Estimate for Mindanao Refugee Settlement

With respect to the contemplated settlement in Mindanao, the following preliminary cost estimate is submitted, premised on the eventual purchase and colonization of approximately 100,000 hectares of privately owned or leased grazing lands to be settled ultimately by 10,000 refugees:

	<u>For initial group of 600</u>	<u>For 10,000</u>
1.—LAND—with livestock and improvements at \$15 to \$20 per hectare—calculated at 10 hectares per individual... (Note: 1 hectare = 2½ acres. Because of the dissected and broken nature of the land comprising the Bukidnon plateau, 1 hectare of land will on the average yield only 1 acre suitable for cultivation.)	\$ 90,000.	\$1,500,000. to 2,000,000.
2.—SHELTER (barracks and pertinent utilities based on \$150 per person and premised on construction of shelter by personnel occupying it).....	90,000.	1,500,000.
3.—CONSTRUCTION EQUIPMENT (to include survey equipment, carpentry tools, picks, shovels, small farming equipment, concrete mixer, etc.).....	20,000.	50,000.
4.—AGRICULTURAL EQUIPMENT (for necessary tractors, plows, terracers, etc. for agricultural purposes based on unit sets capable of handling 250 acre units in 10 working days per crop season, and considering that units can generally be continuously employed over the 12 months growing season).....	60,000.	1,000,000.
5.—FORESTRY EQUIPMENT (portable sawmill, 2 tractors, stump-puller and miscellaneous hand tools)..... (Note: Owing to the fact that the land now under consideration is non-forested, no forestry equipment will be needed for the initial group.)	.....	30,000.
6.—WORKING CAPITAL AND CONTINGENCIES..... (It is to be impressed that on preliminary cost estimate such as this, ample allowance should be made for unforeseen contingencies and for the provision of a large initial working capital to take care of initial receipt, feeding and miscellaneous equipment of refugee groups, transportation, etc. Attention is especially invited to the fact that provision must be made for the feeding and clothing of the refugees for not less than a period of 6 months after arrival on the land—that is, until the land itself begins to produce in sufficient amounts to take care of these primary requirements.)	150,000.	1,500,000.
7.—TOTAL COST ESTIMATE.....	<u>\$410,000.</u>	<u>\$5,580,000. to \$6,080,000.</u>

APPENDIX

Composition of Initial Refugee Group for Mindanao Settlement

It is to be impressed that a selected group of young, strong, healthy workers of the pioneer and resourceful type should be sent over in the initial increment of refugees to prepare the ground work for subsequent settlers. In general, this group should consist of a small well-qualified supervisory and administrative force; an engineering and construction group; a small medical group; and an advance group of agricultural specialists and workers.

The administrative and supervisory force should consist of the designated leaders or committee in supervisory control with a few administrative assistants, say a total of six persons.

The engineering and construction group should consist of the project engineer in general charge of construction with the following suggested organization:

- 1 Project engineer
- 2 Civil engineer assistants
- 1 Electrical engineer assistant
- 1 Mechanical engineer assistant
- 12 Carpenters
- 3 Plumbers
- 2 Electricians
- 30 Laborers experienced in general construction

- 52 persons

The medical group should consist of 2 or 3 doctors, with possibly an assistant force of from 3 to 6 nurses with necessary medical equipment, say 5 to 9 persons.

The agricultural group may consist of an advance group of specialists made up of from 6 to 12 specialists in crops and horticulture, 2 poultry specialists; 2 dairyman specialists, and say 10 to 20 helpers experienced in farming and dairying; say 20 to 36 persons.

This initial advance echelon, consisting of from 83 to 103 persons, could then prepare the ground for the orderly receipt of subsequent refugees, with the rate of entry governed largely by the rate of land acquired and advance shelter prepared for subsequent groups.

THE WHITE HOUSE
WASHINGTON

3186

October 19, 1939.

MEMORANDUM FOR

THE SECRETARY OF THE INTERIOR ^{x6}

The Intergovernmental Com-
mittee on Political Refugees is ^x
definitely considering the Spanish
refugee problem and several Central
and South American governments
are cooperating. ^{x87}

x422-10
x422-A

F. D. R.

Letter from the Secretary of the Interior,
10/18/39 to the President. The Secretary
wishes to express his personal conviction
that the Intergovernmental Committee on
Political Refugees now in session should give
prompt consideration to the problem of the
two hundred thousand Spanish refugees in France
and North Africa.

x203-A

October 19, 1939

3186

Respectfully referred to the
Department of State.

EDWIN M. WATSON
SECRETARY TO THE PRESIDENT

mgm

THE CHRISTIAN MOBILIZERS, 3196 3rd Avenue, New York, N. Y., 10/18.

"Noting your speech before inter-governmental committee on political refugees, we believe American people would support your immediate negotiation to purchase from Great Britain and -- or France, British and -- or French Guiana or Kenya Colony to be given free and clear to establish a sovereign independent Jewish state not colony. Payment to be made by deducting a fair valuation of such area from the debt owed the United States by the nation ceding the land. As long as millions of Americans remain unemployed admission of a single refugee here is a monstrous wrong to American people."

POMEROY, Emma, Wardman Park Hotel, Washington, D. C. 10/17. Appreciates the President's speech in behalf of Finland, etc.

Copy filed Pomroy

3186

THE WHITE HOUSE
WASHINGTON

October 23, 1939.

MEMORANDUM FOR

THE SECRETARY OF THE INTERIOR ^{x 6}

Will you speak to me about
this at your convenience?

F. D. R.

^{x 20}
Letter from Hon. Sumner Welles, Under Secretary of State, 10/19/39, returning the President's handwritten memo, with accompanying letter from the Secretary of the Interior, 10/18/39, with enclosed draft of letter for the President's signature, prepared by the Dept. of the Interior, to Mr. Stephen Morris, ^x Secretary, Intergovernmental Committee on Refugees, State Dept., in re report prepared by the Dept. of the Interior on the potentialities of Alaska for development purposes. Copy of Mr. Welles' letter retained for our files. The President's handwritten memo reads as follows: "S. W. - Do you think I should sign this? FDR".

x 400 Alaska

October 19, 1939

My dear Mr. President:

In reply to your memorandum of October 19, I feel that it would be preferable if you did not sign the letter prepared for your signature by the Secretary of the Interior.

I have spoken with the Secretary of State and we both agree that if you sent the suggested letter and the report on Alaska were presented in this manner to the Intergovernmental Committee on Refugees a great deal of unnecessary excitement would be stirred up in this country because of the mistaken belief that would arise that Alaska offered in reality an extensive field for resettlement of refugees, with the inevitable implication that great quantities of refugees would soon be pouring from Alaska into the United States proper over and above the number now permitted by law.

I would suggest that this report on Alaska be submitted to the Intergovernmental Committee on Refugees

The President,

The White House.

-2-

at some time in the future when there would be less likelihood of misunderstanding on the part of public opinion in this country.

Believe me

Faithfully yours,

SUMNER WELLES

Enclosure:
From the Secretary of the
Interior, October 16, 1939.

THE WHITE HOUSE
WASHINGTON

1939

C
O
P
Y

3186

The following is a copy of the President's
handwritten memo:

"S. W.

x20

Do you think I should sign this?

F.D.R."

Letter from the Secretary of the Interior, ^{x6}
10/18/39 to the President, with enclosed
letter prepared for the President's signature,
addressed to Mr. Stephen Morris, Secretary,
Intergovernmental Committee on Refugees,
State Dept., Washington; copies retained for
our files. Sent to Hon. Sumner Welles.

THE SECRETARY OF THE INTERIOR
WASHINGTON

3186

OCT 18 1939

The President,

The White House.

My dear Mr. President:

In connection with the conference of the Intergovernmental Committee on Refugees which is now being held in Washington, and more particularly your comment on the refugee situation made to the press on Tuesday, I would like to suggest the desirability of submitting to the conference for its study the report on Alaska, prepared by the Department of the Interior. The report is familiar to you and, I think you will agree, sets out facts and the outline of a procedure which may be helpful to the conference in its deliberations.

If you think this proposal is feasible and will so indicate, there are available in the Department enough copies of the report to supply the conference. If the conferees, in addition, would like to have an oral exposition of the report, a member of my staff is available at such time and place as the conferees may, through you, indicate.

For your convenience, I enclose the draft of a letter to the Secretary of the Committee.

Sincerely yours,

(Sgd.) HAROLD L. ICKES

Secretary of the Interior.

Wolfsoln

THE WHITE HOUSE
WASHINGTON

3186

My dear Mr. Morris:

It has occurred to me that the Intergovernmental Committee on Refugees may be interested in studying the report prepared by the Department of the Interior on the potentialities of Alaska for development purposes. I have, therefore, requested Secretary of the Interior Ickes to send you for distribution to the Committee a supply of these reports.

I am sure you will find the report of tremendous interest. If the Committee desires to discuss the contents of the statement or wishes additional information, Secretary Ickes will be glad to have one of his staff appear before the Committee at its convenience.

Sincerely yours,

Mr. Stephen Morris, ^x
Secretary, Intergovernmental Committee on Refugees,
State Department,
Washington, D. C. x

DRAFT REPLY SENT TO THE
WHITE HOUSE FOR SIGNATURE. OCT 18 1959

x400 Alaska

COPY FOR WHITE HOUSE FILES

THE WHITE HOUSE
WASHINGTON

3186

October 25, 1939.

MEMORANDUM FOR

THE SECRETARY OF STATE

x80

FOR YOUR INFORMATION

F. D. R.

x
Telegram from "Ynchausti", NYC, 10/16/39
to Mrs. Franklin D. Roosevelt - "Having
just heard about international conference
on refugees to be opened these days by
President Roosevelt. The Basques shall feel
extremely grateful if you would be willing to
suggest or recommend to the said conference
the inclusion in their program of the Basque
refugees in order it may be granted to them
also the same facilities or advantages to be
granted to the other European refugees".
Penciled notation "For the President".

x 9972

x 422-6

October 27, 1939

Respectfully referred to the officials
of the Department of State for acknowledg-
ment.

STEPHEN EARLY
Secretary to the President

avb

X
Letter from Mrs. William Prince, President, Women's League for Palestine,
1860 Broadway, New York, N. Y., 10/26/39 to the President. RE: Express
appreciation for President's continued advocacy of refugee resettlement,
and says American Jewry may be relied upon for every possible assistance
in program of the Inter-Governmental Committee on Political Refugees.

3186

U. S. DEPARTMENT OF LABOR
IMMIGRATION AND NATURALIZATION SERVICE
WASHINGTON

ADDRESS REPLY TO COMMISSIONER OF
IMMIGRATION AND NATURALIZATION
AND REFER TO FILE NUMBER

November 4, 1939.

3186

Honorable Stephen T. Early,
White House,
Washington, D. C.

Dear Mr. Early:

I thought the President would be interested to see the enclosed article published in London on October 20, 1939. The London Chronicle, as it is usually referred to for short, is regarded as the best edited and most influential periodical of its kind in the world.

With warm greetings and renewed expressions of high regards, I am

Yours very sincerely,

Bernard G. Richards

Bernard G. Richards.

X

Enclosure.

Home Address - 310 West 106 Street, New York City

THE Jewish Chronicle

THE ORGAN OF BRITISH JEWRY • INCORPORATING THE "JEWISH WORLD"

Ninety-Eighth Year



Established 1841

No. 3,680.

Friday, October 20, 1939

Marcheshvan 7, 5700

Price: 4d.

Twenty Million Refugees

PRESIDENT ROOSEVELT'S GRIM WARNING

President Roosevelt addressed the delegates (including Lord Winterton) of the Intergovernmental Committee for Refugees at a White House luncheon in Washington on Tuesday.

He suggested that the present refugee problem was a drop in the ocean compared with the problem that might well face the world after the war. It was now mainly a problem for the neutral nations and one that should be faced in a hopeful spirit, for new communities could be built under the pressure of need and there could be real achievement in human progress.

[From our Correspondent—New York]

Urging the immediate solution of "a short-range program presenting a problem of comparatively small magnitude" preliminary to greater future problems, President Roosevelt, at a White House luncheon on Tuesday, challenged delegates of the Intergovernmental Committee for Refugees to tackle the task of resettling 300,000 European outcasts who "must seek to rebuild their lives in a new environment."

With Britain and France engaged in war, said the President, the problem was mainly up to the neutral nations. He advocated the establishment of a distinguished Anglo-American group to help investigate the suitability of places for immigrant settlement.

"When this Ghastly War Ends—"

"When this ghastly war ends," he continued, "there may be not one but ten or twenty million men, women, and children of many races and religions in many countries, who will enter the wide picture—the problem of the human refugee."

The President recommended a prompt survey and scientific study of the geographical and economic angles of the colonisation of millions of square miles of the little inhabited territories of the young republics and dominions of America, Africa, and Australasia.

"Tired, Poor, Huddled Masses"

He stressed the opportunity of building new communities under the pressure of need. "Out of the drags of the present disaster," he said, "we can distil real achievement in human progress. It involves no one race or group, no one religious faith. It is not enough to indulge in horrified humanitarianism, empty resolutions, golden rhetoric or pious words. We must

face it actively if democratic principle based on human dignity is to survive, if world order resting on individual security is to be restored. Remembering the words on the Statue of Liberty, let us lift our lamp beside the new golden doors and build new refuges for tired, poor, huddled masses yearning to be free."

The President saw in the definite Dominican and Philippine endeavours "the forerunners of similar projects in other nations."

At a meeting of the State Department, Secretary Hull declared: "The financial resources of member Governments bearing the burden of an immeasurable war disaster are now fully pledged to the prosecution of a mighty struggle engaging their blood and treasure, yet their will to work together to solve the refugee problem is still alive."

The Intergovernmental Committee has received a memorandum from the Emergency Palestine Affairs Committee stressing that "American Jewry will give funds for Palestine because it fills all requirements of organised mass settlement."

Jewish Gratitude

Our Diplomatic Correspondent writes:— President Roosevelt has once more earned for himself the gratitude of the Jewish people by insisting, despite the grave preoccupations of his Administration with the European turmoil, on the holding of his personal conference at the White House with the heads of the Evian Refugee Committee.

Lord Winterton is there, with, it is to be hoped, a better mission than that of excluding the potentialities of Palestine as a National Jewish Home from the scope of the discussions. But the presence, at King Leopold's special Envoy, of M. van Zeeland, is particularly welcome at this date.

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THEY NEED THE JEWS!

Nazis' Eye on Their Exports

It is reported in Paris that the Nazi authorities have issued instructions to all German export firms to induce their dismissed Jewish representatives abroad to resume their services for German trade. Amsterdam and Zürich messages confirm this statement, and say that it is part of a drive launched in Germany under the slogan "Export at all costs." According to the Amsterdam message, German exporters are offering goods to Dutch firms at fifty per cent. less than pre-war prices and are ready to sell great quantities even of articles of which there is a scarcity in Germany.

To counteract any possible expansion of German trade abroad, Jewish boycott organisations in France are at present engaged on working out a world-wide propaganda scheme to be conducted in all neutral countries against German exports.

The Swiss daily *Bund* reports that the Gestapo has worked out a detailed plan for drafting the entire Jewish population into labour battalions supervised by S.S. Black Guards. Many Jewish girls have already been sent to unknown destinations to do forced labour.

HITLER'S JEWISH COLONY

Conflicting Reports

According to several Press reports, the new Jewish state or province which the Nazis propose to create is to be centred round the town of Lublin, in Central Poland, which already has a Jewish population of 40,000. Another source declares that the new Jewish region will be centred in Galicia, in Southern Poland, and that all Vienna Jews are to be deported there.

Finally, the *Jewish Telegraphic Agency* reports that the Nazis are contemplating the establishment of not one, but many Jewish "reservations" in the more sparsely populated parts of Poland, from which all non-Jews would be evacuated.

ENLARGED VAAD LEUMI

Revisionists Included

The Vaad Leumi has been reconstituted with eighteen members to include all sections of the Yishuv. Two representatives of the Revisionists and one of the Jewish Farmers' Association are now included, as well as additional members of the other parties already represented. New members include Messrs. Berl Katznelson, David Remez, and Zisling, of the Labour group; Mr. Shragai, for the Hapoel Hamizrachi; Dr. Landauer, for the Olei Germania; and Mr. Abouloff, for the Sefardim. New elections for the Assafath Hanivcharim will be held shortly.

M'FTI ESCAPES AGAIN

At Large in Baghdad

Exactly two years ago the Mufti of Jerusalem escaped from the British in Palestine. Now he has escaped again, this time from the French in the Lebanon. Travelling by way of Mosul, he arrived on Monday in Baghdad, where he is staying at a hotel.

TELEGRAM

120NT-4 The White House
Washington

Jump Theological Seminary Philadelphia

5wuh 1 a. m. 116 NT

New York, N. Y., Dec. 27, 1939

via White House coach at 287K

DR. CYRUS ADLER:

In discussion at White House to-morrow, will you raise question of fate of five million Jews in Eastern Europe who must leave or die? Two years of discussion by inter-governmental refugee committee inspired by President Roosevelt have failed to find a haven for them. Palestine, whether or not you approve of Zionism, is only place on earth's surface where they can go as of right. Will Great Britain open doors of Holy Land to these homeless Jews? Specifically interested in plight of 1,300 German Jews stranded and freezing in small barges on Danube near Giurgiu, Rumania, enroute to Palestine. Funds ran out and existing agencies can not help. Return to Germany means certain death in concentration camps.

American Friends of a Jewish Palestine.

46005 = 208/MA =

3186

VMB -

OHLMAN, M.
New York, N.Y.,
July 15, 1939

Writes to the President presenting an idea in re the President's stamps which are duplicates, using the proceeds for charity, either for the European Refugees or for the Infantile Paralysis Fund in connection with the President's birthday balls. Suggests that a set of stamps be autographed by the President and his Cabinet. Asks the President's reaction. -- On July 18, the President replied thanking for his note, but says all his duplicate stamps go to the CCC camps and hospitals. Says he receives numerous requests of this kind and cannot make an exception.

SEE - P.P.F. 2400

3186

VMB -

AGRICULTURE, The Secretary of
July 20, 1939

The President sent a memo, enclosing a letter which Mrs. Hilda Roosevelt von Koschembahr, Portland, Maine, sent to the President's mother, Mrs. James Roosevelt, asking possibility of securing Government aid to start a farm. The President says that the Secretary has doubtless read about these people. She is a very distant relative whose mother or grandmother married a German. Her own husband, being the President thinks, one quarter Jewish, was thrown out though he was very high in the German railway system. They have located near Portland Maine. Asks if someone can look into their case and see if through Farm Security or Farm Credit they could be helped to start their farming endeavor. The President says he knows nothing whatsoever about it personally.

(Refugee)

SEE - 3729

3186

ROBINSON, Rev. R. B.
President, The International Religious Bureau,
Washington, D. C.,
July 25, 1939.

Writes the President enclosing a circular of the drive that this Bureau has on to raise funds to establish the International Religious Home, for refugees for all nations. The circular is entitled "The International Religious Home and Shaw Memorial Bible Institute, Inc., Does not ask the President for funds but asks that the President will address the meeting and wishes the President to set the date for same. States he is 92 years of age. The meeting will be held in Washington, D. C. at what ever time suits the convenience of the President.----General Watson, on July 27th, wrote Rev. R. B. Robinson, saying the President would be unable to accept this invitation as his engagements for the next several months precluded acceptance of any further invitations. General Watson said the President wished to convey his congratulations on Reverend Robinson's 92nd birthday.

SEE P.P.F. 6154

3186

Speech Material
filed 8-29-39

Copy of a telegram sent by Ambassador Joseph P. Kennedy to the Secretary of State, Personal for the Acting Secretary from Rublee, on Dec. 8, 1938 from London, saying that the representative of the German Embassy assured them that they would receive further explanation of the cancellation of (or postponement) the Brussels meeting in the course of the previous day, Dec. 7th. Through a telephone call from Berenger's office in Paris, they were told that the matter of refugees had been raised by Bonnet in his conversation with von Ribbentrop. The result was very bad. Ribbentrop, when pressed, had said to Bonnet that the Jews in Germany without exception were pickpockets, murderers and thieves. Went on to explain how the German Government had decided to assimilate them with the criminal elements of the population with their subsequent loss of property and possible escape for some into other countries. Ambassador Kennedy goes on to say that from German contact they have information that the French raised the question of refugees not only in principle but concretely in respect to the financial aspects of the question. Berenger gave hint that his Government was preparing to take this line. Mr. Kennedy said that they attempted to dissuade him from crossing wires with their negotiations and he assured he would do his best to keep the discussion of refugees on a general plane but he added that Chamberlain had requested Daladier to take the matter up with Ribbentrop. This is denied by Sturton. The British assured that they did not communicate to the French the details of the financial plan which they now have prepared but which they are holding back. Mr. Kennedy goes on to say that the British do not know what specific financial proposals Bonnet may have raised with Ribbentrop and with regard to the visit of Schacht to London no conclusive information can be had.

See P.P.F. 180

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3186

vah.

OFFICE MEMO TO MR. EARLY
October 16, 1939

3186

Unsigned memo to the effect that the movies and stills, also broadcasting people, all are asking to cover the refugee meeting at the White House on above date.- Also another item on same memo as follows:- "Carlton Smith says the V.M.I. people have announced that the President will speak at V.M.I. at 11:00 on Nov. 11th. He asks if the broadcasting companies may release the story that the address will be broadcast?"

See P.P.F. 513

vah.

RIVERS, Hon. E. D.,
Governor of Georgia,
Atlanta, Ga.
October 18, 1939

3186

Wires the President expressing heartiest commendations on the President's proposed refugee plan. States, "It evidences a masterful grasp of a world situation and evidences a human understanding that only a great mind and great heart like yours can express."--Under date of Oct. 19, 1939, the President wrote to Gov. Rivers thanking him for the above wire, and expressing his gratification that the Governor approves of his statement on the refugee problem to the Intergovernmental Committee, etc.

See P.P.F. 4966

SILVERSTEIN, A., Pres.,
Commencement In Absentia League of New Jersey,
(A Younger People's Group to Assist Refugee Students),
Newark, N.J.

Oct. 18, 1939.

Letter to Mr. Early, that about three years ago, he cooperated with Rev. Dr. T. Porter Drumm, minister of the North Reformed Church in Newark, in sponsoring a Good Will Forum for people of all faiths. Dr. Drumm is again sponsoring such a Forum on Oct. 29th next, and he is writing to inquire whether the President could possibly send them a message to be incorporated as part of the printed program for the occasion.

See P.P.F.3343

3186

br

VMB -

STEWART, Donald Ogden - President, League of American Writers, Inc.,
New York, N.Y.,
Filed, Nov. 1, 1939.

Writes to the President re their plans for their 3rd manuscript sale. Says Booksellers Guild of America is cooperating. This is for the benefit of exiled writers due to War situation. Asks the President to contribute one of his manuscripts for the sale. Lists manuscripts already received or promised. The letter is also signed by: Louis Bromfi
Dorothy Canfield Fisher and Vincent Sheean. -- On Oct. 30, Mr. Early replied regretting that the President cannot submit a manuscript to be disposed of for the benefit of writers exiled by tragedy of war. States that the President has already entered into an undertaking to contribute all of his papers to the library now under construction at Hyde Park, N.Y. Says the plight of the war refugees is one arousing President's deepest sympathy, as instanced by his initiative in setting up the Intergovernmental Committee on Political Refugees.

SEE - P.P.F. 5259

3186

VMB -

McCORMICK, Mr. Chauncey
Chicago, Ill.,
Nov. 2, 1939

Writes General Watson re their recent conversation about the Commission for Polish Relief, Inc. Asks for a Presidential recommendation of someone linked closely with the Administration to serve on this Board. -- Gen. Watson sent a memo to the President, Nov. 2, saying the Commission wants Mr. M.H. Szymczak of the Federal Reserve Board to join them. -- On Nov. 4, Gen. Watson wrote to Mr. McCormick that the President asked him to tell him (McCormick) that the best procedure was for him to go to see Norman Davis, get his recommendation and be guided accordingly. Seems to be best course to pursue right now.

(W. J. ...)

SEE - 3821

3/86

DAVIS, Hon. Norman
Chairman, American Red Cross
November 3, 1939

The President referred to him, for suggestion as to reply to Mrs. Roosevelt's memo, dated November 2, 1939, re attached letter received by Mrs. Roosevelt from Mrs. Margaret L. Super (Mrs. Paul Super), Bucharest, Rumania, Sept. 28, 1939, asking Mrs. Roosevelt's support of Polish relief. In her memo, Mrs. Roosevelt told the President "It would seem from this letter that the time had come when either through the YMCA or the Red Cross, this relief work should begin. What have you been able to arrange?"

SEE - 483-A

3186

DAVIS, Norman H.,
American Red Cross,
Wash., D.C.
Nov. 4, 1939.

Memo to the President, in reply to a memorandum from Mrs. Roosevelt enclosing a letter from Mrs. Super about conditions in Roumania and inquiring what has been done to meet the needs. He has sent her a memorandum outlining what has been done and what is being done by the Red Cross for the Polish Refugees in Roumania, Hungary and Lithuania. He is also enclosing a copy of the same memorandum.

See 124

3186

br

TEMPLE, Richmond,
Haymarket, London, S.W.1
Nov. 18, 1939.

Letter to Mr. Early, enclosing to him a little pamphlet entitled
"Some Victims of the Nazi Terror". It tell of what has become and been done
for, many of the Refugees from Central Europe. This booklet was produced by
writer for the German-Jewish Council.

See 198-A

3186

br

VLL -

WELLES, Hon. Sumner - State Dept.,
Dec. 11, 1939

Writes to the President re a letter the President received dated Nov. 22 from Mr. James H. Rosenberg, NYC, encloses copy, which has not been acknowledged. Says Mr. Rosenberg has been most active in refugee work and has contributed \$200,000 of his own money for the Dominican settlement project. Encloses draft for the President to use. -- Mr. Rosenberg in his letter to the President enclosed a letter from the Dominican Minister at Washington, Senor Don Andres Pastoriza announcing agreement of his government to a large-scale settlement of refugees in the Dominican Republic. -- On Dec. 12, the President wrote to Mr. Rosenberg thanking for this information and wishing him well in his undertaking.

SEE - P.P.F. 6364

3/86

BUTTRICK, George A.
NYC., N. Y.,
Dec. 28, 1939.

Writes General Watson re the allocation of funds of the United Jewish Appeal for Refugees toward the other agencies in relieving suffering among non-Jewish refugees. States facts given the day before in confidence to the President re this matter, which will probably be given to the newspaper on New Year's Day. Comments on a large gift to the Catholic Church, which he thinks will be accepted by the Catholic Church. Thinks it would be fine if the President could make some acknowledgment to the leaders of the United Jewish Appeal in connection with this gift.--Attached is memo. of Dec. 27th, to General Watson re this matter.-----
The President, on Jan. 8th, wrote Rabbi Abba H. Silver, and Rabbi Jonah B. Wise, both of NYC, extending congratulations upon the spirit of brotherhood and universal good will which prompted allocation from the funds of the United Jewish Appeal for Refugees. The President said he had heard with satisfaction of the gift to the Catholic Church for its refugee work, as a memorial to George Cardinal Mundelein, and of the allocation of a like amount to the Protestant Churches, through Rev. Dr. George A. Buttrick, President, Federal Council of the Churches of Christ in America, for their refugee relief work. The President said this action bears eloquent witness to the spirit of tolerance and true charity and affords an example in good will which could be widely copied with happy results.

SEE P.P.F. 2905

3186