No. 1

ルーマニア灌漑システム改善計画
実施協議調査団報告書

1995年11月
（平成7年11月）

国際協力事業団
農業開発協力部

ルーマニア灌漑システム改善計画
実施協議調査団報告書

1995年11月
（平成７年11月）

国際協力事業団
農業開発協力部

序　　文

国際協力事業団はルーマニア国政府の要請を受け平成６年９月にルーマニア灌漑システム改善計画に関する事前調査を実施し、また平成７年６月に長期調査員を現地に派遣し、技術協力の範囲等の検討を行いました。それらの現地報告を踏まえ、平成７年10月14日から10月27日まで、農林水産省　農業工学研究所畑地かんがい研究室長　安養寺　久男氏を団長とする実施協議調査団を現地に派遣しました。

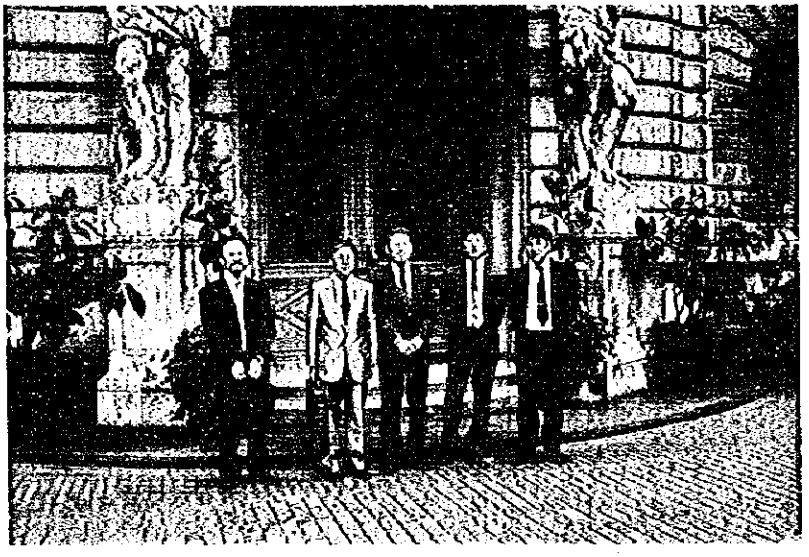
同調査団は、ルーマニア国政府関係者と実施のための協議を行い、討議議事録(R/D)の署名交換を行いました。その結果、本プロジェクトを、平成８年３月１日から５カ年間の計画で実施することとなりました。

本報告書は、同調査団による協議結果等をとりまとめたものであり、今後、本プロジェクトの実施に当たり広く活用されることを願うものです。

終わりに、この調査にご協力とご支援を頂いた内外の関係各位に対し、心から感謝の意を表します。

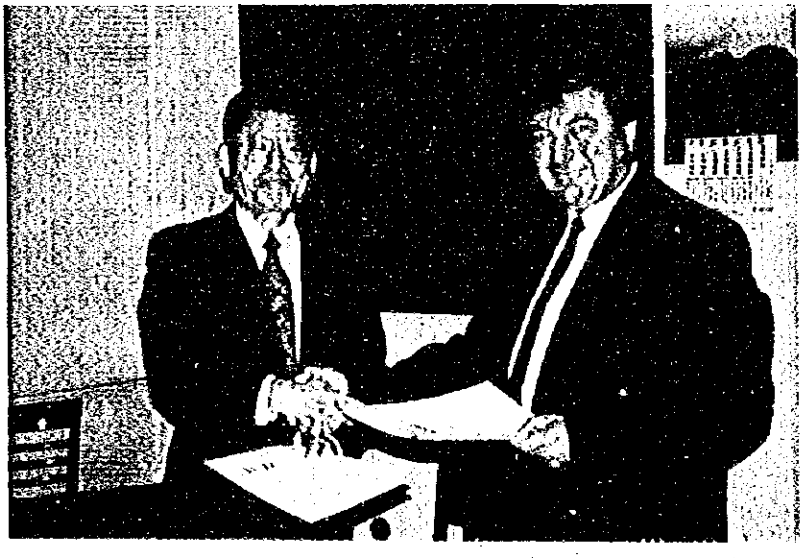
平成７年11月

国際協力事業団
理事　亀若　誠

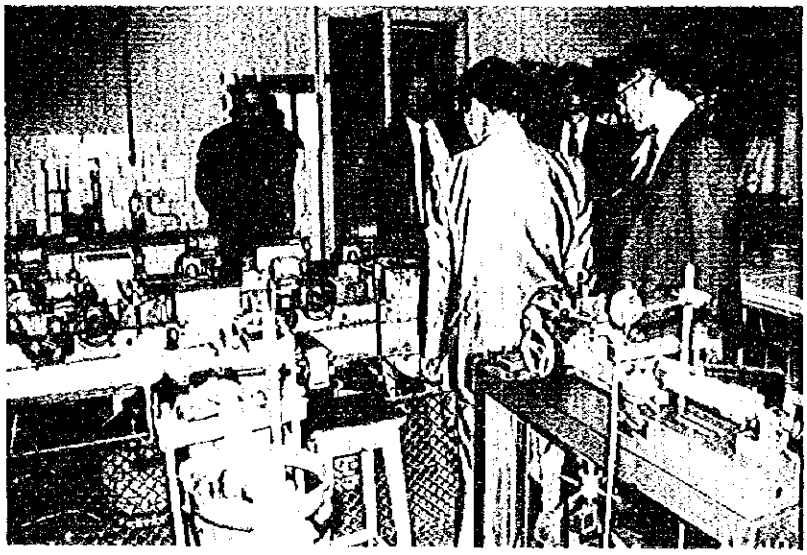


実施協議調査団員
（農業食糧省にて）

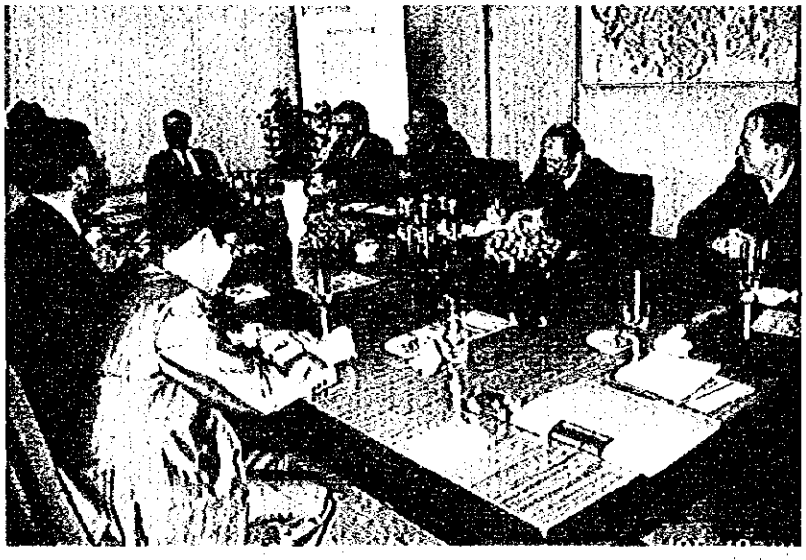
R/D協議



R/D署名交換
安養寺団長と
PUSCA農業食糧省次官

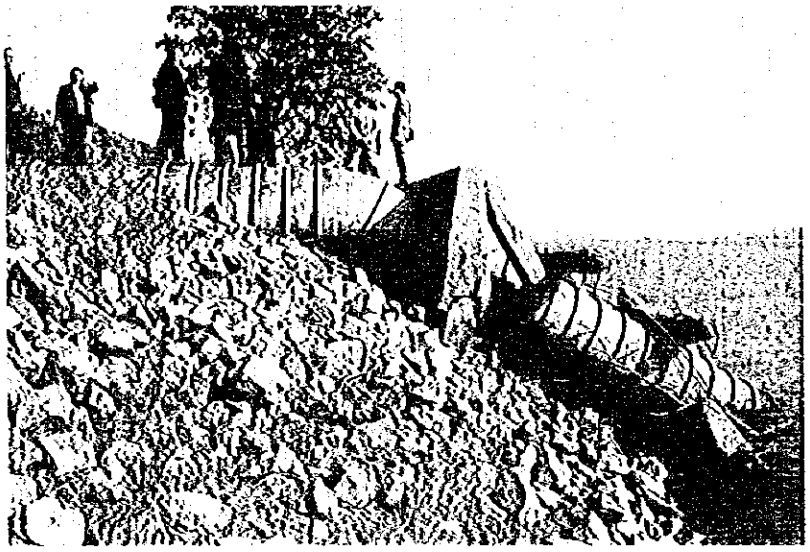


土地改良事業調査設計会社
(ISPIF)
実験施設



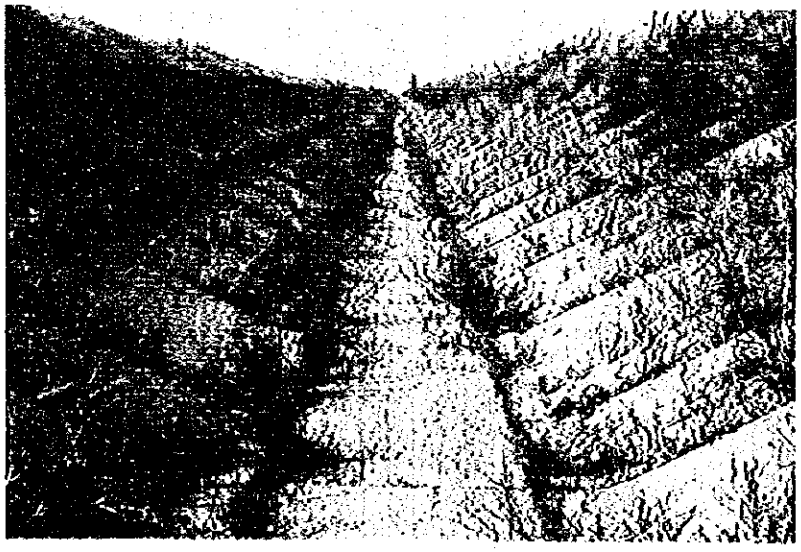
農業工学研究所(ICITID)

プロジェクトサイト圃場
農業工学研究所(ICITID)

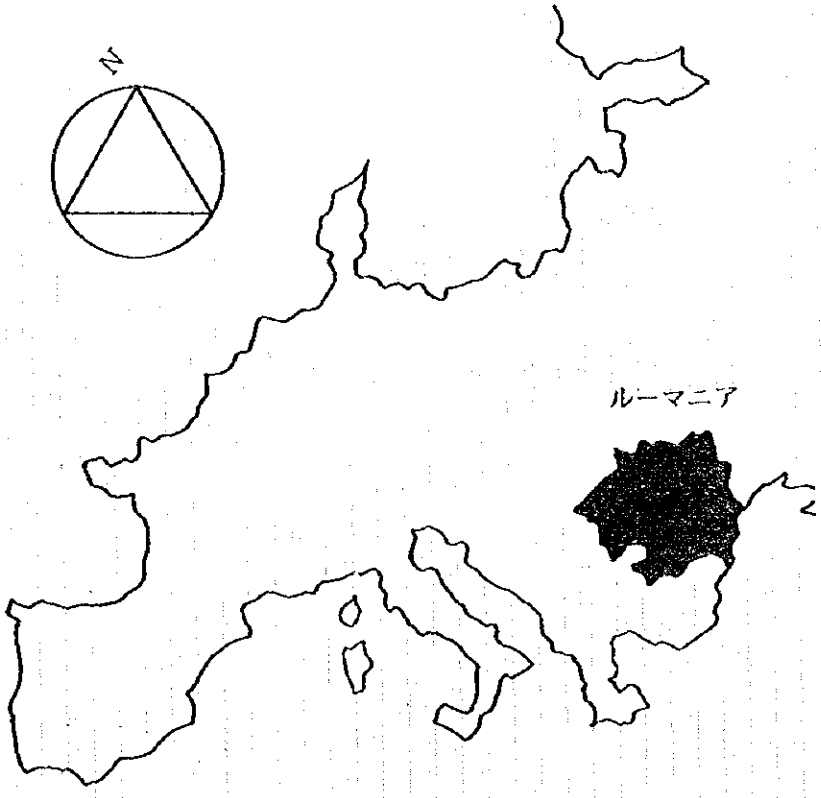


ドナウ河からの取水口

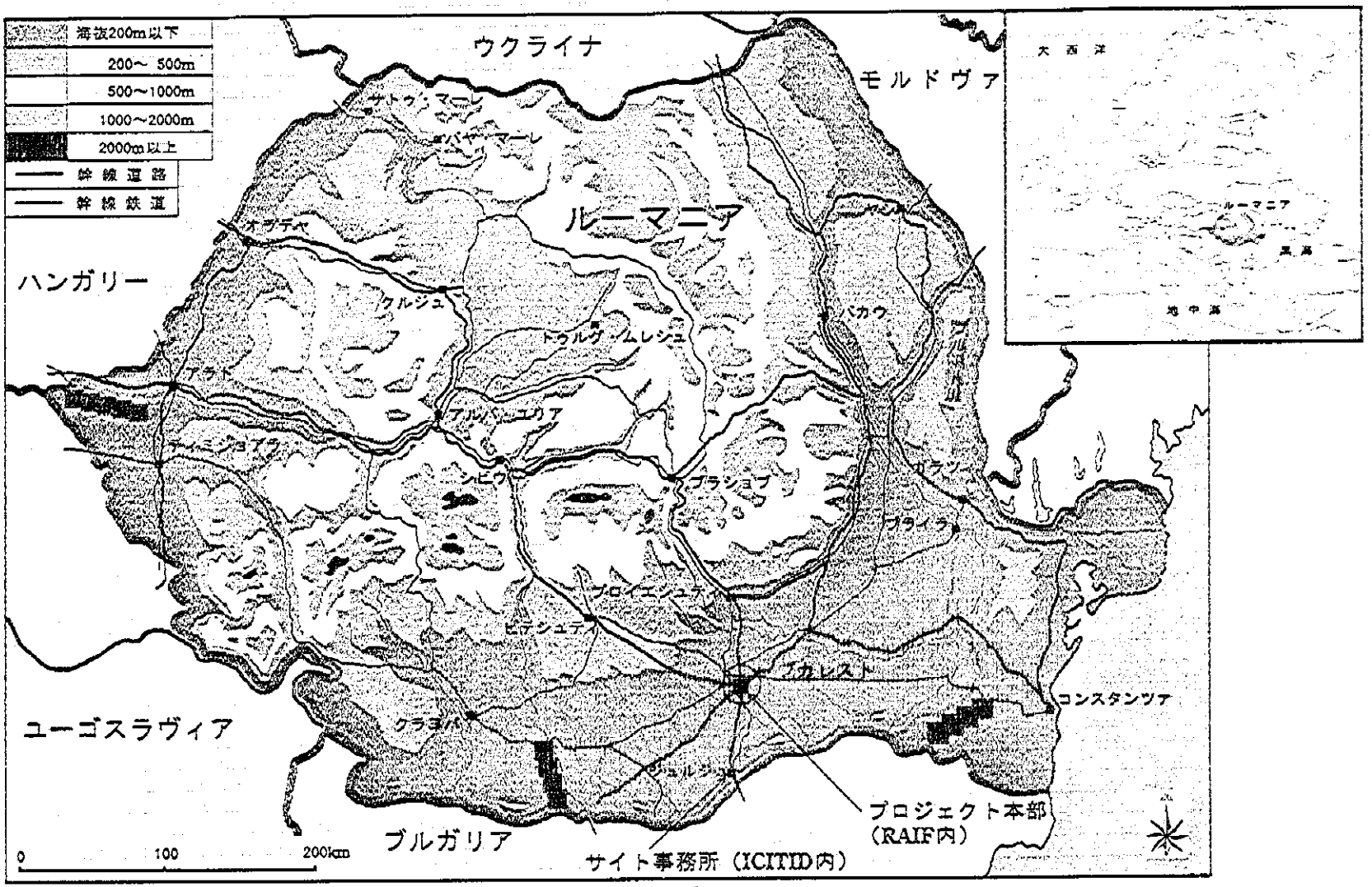
ポンプ機場



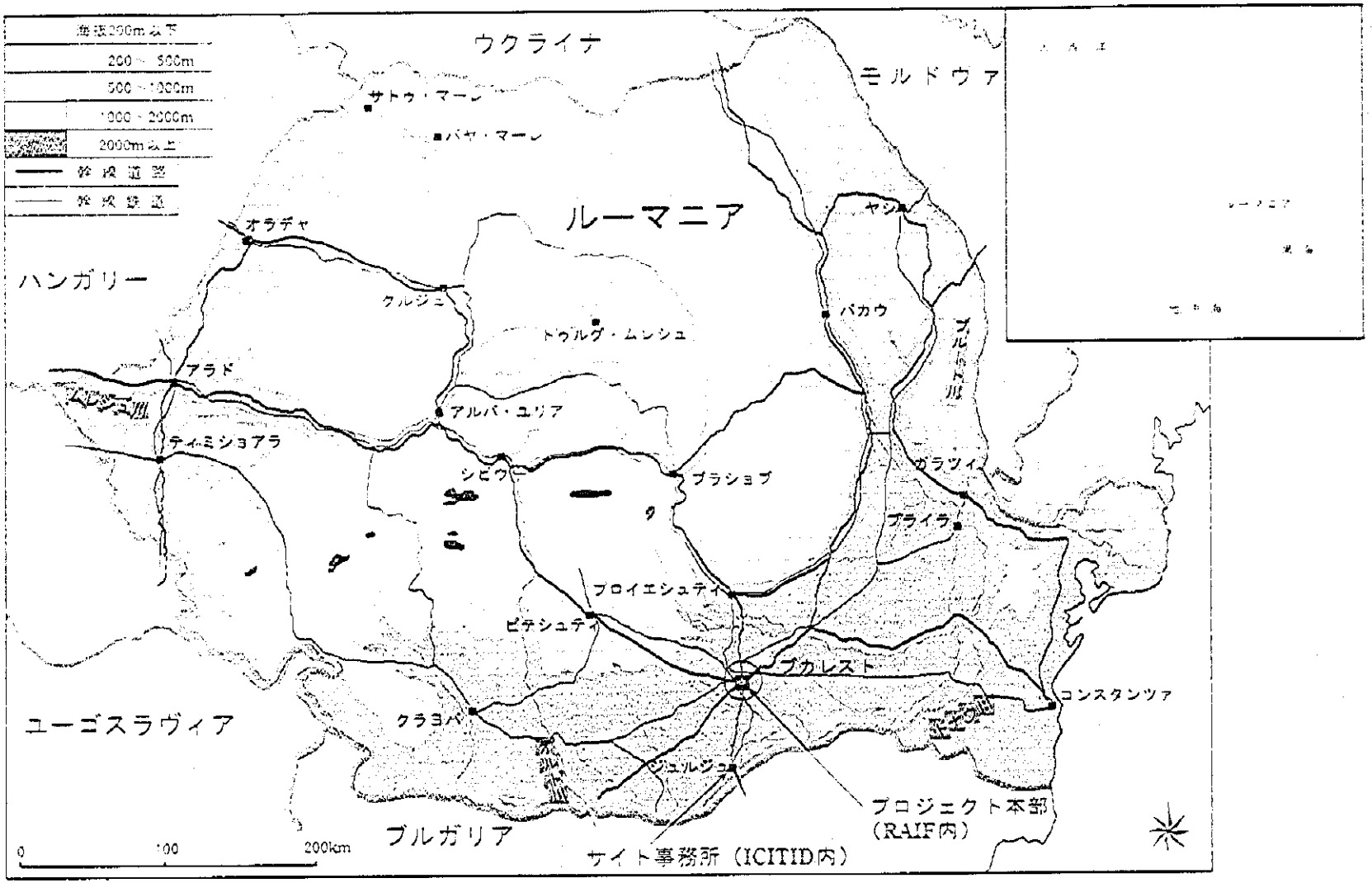
幹線水路


N
ルーマニア

プロジェクト位置図


海抜200m以下
200～ 500m
500～1000m
1000～2000m
2000m以上
幹線道路
幹線鉄道
ウクライナ
モルドヴァ
ルーマニア
ハンガリー
ユーゴスラヴィア
ブルガリア
サトゥ・マーレ
バヤ・マーレ
オラデヤ
クルジュ
トゥルグ・ムレシュ
アラド
アルバ・ユリア
ティミショアラ
シビウ
ブラショブ
バカウ
ブライラ
ブロイエシュティ
ピアシュティ
ブカレスト
コンスタンツァ
クラヨバ
ジュルジュ
プロジェクト本部
(RAIF内)
サイト事務所（ICITID内）
0
100
200km
大西洋
ルーマニア
黒海
地中海

プロジェクト位置図


海抜200m以下
200～500m
500～1000m
1000～2000m
2000m以上
幹線道路
幹線鉄道
ウクライナ
ミルドウア
ルーマニア
ハンガリー
ユーゴスラヴィア
ブルガリア
サトゥ・マーレ
バヤ・マーレ
オラデア
クルジュ
トゥルグ・ムレシュ
アラド
アルバ・ユリア
ティミショアラ
シビウ
ブラショブ
ヤシ
バカウ
ガラツィ
ブライラ
ブロイエシュティ
ピテシュティ
ブカレスト
コンスタンツァ
クラヨバ
ジュルジュ
ムレシュ川
ブルート川
ドナウ川
プロジェクト本部
(RAIF内)
サイト事務所（ICITID内）
0
100
200km

略語

ICITID : Research Institute of Irrigation and Drainage　農業工学研究所
ISPIF : Institute for Studies and Land Reclamation Project　土地改良事業基礎設計会社
MAF : Ministry of Agriculture and Food　農業食糧省
RAIF : Regia Autonomous for Land Reclamation　土地改良公社

目　　次

1．実施協議調査団の派遣

1－1　調査団派遣の経緯と目的

(1)　これまでの経緯

ルーマニア国は国土面積（23万8千㎢）の63％が農用地に当てられる農業国であるが、年間降雨量が400～600㎜と少なく、6～8月の夏期には降雨が全くないときもあって、水不足が深刻である。そのため、同国では旧体制の時代から灌漑に対する認識が高く、ドナウ河沿岸を中心に大規模農業に対する灌漑網が整備されてきた。しかし、その後の経済状況の悪化から、導入された施設・装置は更新されないまま老朽化が進み、また、新しい施設や装置を導入することもできないため、灌漑の効率が悪化している。

一方、1991年に発効した土地法により、集団化以前の旧地主に農地が返還され、土地の私有化が進んでいるものの、農業経営上の理由から、耕作は今なお集団耕作体制が主で、個々の農家が自立した経営を行うには至っていない。しかしながら、国の経済・社会における農業の位置づけは高く、乾燥地における畑作灌漑の施設及び灌漑システムの改善が重要な課題になってきた。

こうした背景からルーマニア政府は1994年4月26日付で、灌漑システム改善に関するプロジェクト方式技術協力の要請書を出し、わが国に協力を求めてきた。

これを受けて国際協力事業団(JICA)は、以下のように事前調査団、長期調査員を派遣するなど、ルーマニア側の協力体制、協力の枠組み等の調査・協議を重ねてきた。

1）事前調査団（団長・西牧隆壮JICA農業開発協力部計画課課長）は1994年（平成6年）9月3日から9月28日まで派遣され、プロジェクトの大まかなフレームを協議した。その結果、ルーマニア農業食糧省(MAF)の土地改良局(LRD)、農業工学研究所(ICITID)、土地改良事業基礎設計会社(ISPIF)をカウンターパートとして、灌漑事業の研究、事業実施、管理、研修にかかわる技術的効率の改善を目的に　①灌漑システム②水管理③情報システム④研修の4分野で技術協力を行うことで、日・ルーマニア双方がほぼ合意した。

2）長期調査員（代表・金森秀行JICA国際協力専門員）は1995年6月3日から6月30日まで3名が派遣され、事前調査を補完するよう、農業政策等農業（特に灌漑農業）を取りまく現状の確認や供与資機材など、協力内容の細目を詳細協議した。しかしこの調査で、ルーマニア側の農政に関する組織が94年9月末に大幅改組され、①協力要請をしてきたLRDが土地改良公社(RAIF)になっていたこと②これによりカウンターパート機関の権限関係があいまいになり、場合によってはルーマニアではまだなじみの薄い「契約」による事業実施を求められる場合もあること――等の問題点が明

らかになった。

3）このため1995年8月12日から8月19日まで、草野孝久・JICA農業開発協力部農業技術協力課長が業務出張して、プロジェクトの実施体制、特に実施機関間の連携体制、管理監督にかかる上部各省の関与と責任等を調整した。この結果、日本側がカウンターパート機関のひとつと目していたISPIFは民間機関であるとして、ルーマニア側が強い難色を示したため、R/D案では実施機関に加えないことになった。

(2) 調査団の目的

上記の経過を踏まえ、調査団はプロジェクト目的、活動内容、実施体制、責任分担など、討議議事録(Record of Discussion:R/D)及び暫定実施計画(Tentative Schedule of Implementation:TSI)に特記すべき事項を確認のうえ、署名交換を行う。

主要調査項目は以下のとおりである。

1）プロジェクト目的、目標

2）技術協力の範囲（活動計画）

3）専門家計画（分野、人数）

4）特権、免除、便宜の受けられる範囲など

5）主要機材リスト

6）カウンターパート配置計画（カウンターパート・リスト）

7）プロジェクト組織と責任体制

8）合同委員会の役割とメンバー・リスト

1－2 調査団の構成

〈氏　名〉	〈担当業務〉	〈所　　属〉
安養寺久男	団長	農林水産省　農業工学研究所　畑地かんがい研究室　室長
金森秀行	圃場灌漑	国際協力事業団　国際協力総合研修所　国際協力専門員
楠　晴王	圃場水管理／配水施設	農林水産省　構造改善局　建設部設計課　課長補佐
岡井芳樹	協力政策	外務省　経済協力局　技術協力課　課長補佐
佐藤宏幸	業務調整	国際協力事業団　農業開発協力部 農業技術協力課　ジュニア専門員

1－3　調査日程　1995年（平成7年）10月14日（土）から10月27日（金）　（14日間）

日順	月　日（曜）	移動及び業務
第1日	10月14日（土）	（本隊）成田(12:10 NH-209)-フランクフルト（16:15） （岡井）成田(21:55 AF-271)
第2日	10月15日（日）	（本隊）フランクフルト(13:25 LH-3278)-ブカレスト(16:50) （岡井）パリ(04:50着 11:20 AF2146発)-ブカレスト(15:15)
第3日	10月16日（月）	土地改良公社(RAIF)表敬 農業食糧省(MAF)表敬
第4日	10月17日（火）	実施協議（土地改良公社にて） 在ルーマニア日本大使館表敬
第5日	10月18日（水）	実施協議（土地改良公社にて）
第6日	10月19日（木）	農業科学アカデミー訪問 土地改良事業調査設計会社(ISPIF)訪問 在ルーマニア日本大使館へ進捗状況の報告
第7日	10月20日（金）	農業工学研究所(ICITID)訪問
第8日	10月21日（土）	専門家生活環境調査 在ブカレスト日本人学校訪問
第9日	10月22日（日）	資料整理
第10日	10月23日（月）	実施協議（農業食糧省にて） 在ルーマニア日本大使館へ進捗状況の報告
第11日	10月24日（火）	実施協議（農業食糧省にて）
第12日	10月25日（水）	R/D署名交換 ブカレスト(15:00 RO341)-ウィーン（15:50） オーストリア事務所結果報告
第13日	10月26日（木）	ウィーン（15:55 OS455)-ロンドン(17:20着　19:45 JL402発)
第14日	10月27日（金）	成田（15:25）

1－4　主要面談者

所　　属	役　職	氏　名
農業食糧省	STATE SECRETARY	PUSCA JULIAN
土地改良公社(RAIF)	DIRECTOR GENERAL	TODOR VOICU
	SENIOR ADVISER	LIVIU CREANGA
	ADVISER	COCU Calin-Ion
農業工学研究所(ICITID)	GENERAL MANAGER	ION NITU
	SCIENTIFIC DIRECTOR	GHEOGE CRUTU
	HYDROTECHNICAL ENGINEER	DRAGANESCU OVIDIU
農業科学アカデミー	DIRECTOR INGINER	VIRGIL DOBRE
	SCIENTIFIC SECRETARY	STELIAN CARSTEA
	SCIENTIFIC SECRETARY	JNCA TUHAI
土地改良事業調査設計会社(ISPIF)	DEPUTY GENERAL MANAGER	OCTAV POPESCU
	MANAGER GESIGN DEPARTMENT	GABRIEL IONITA
	DIRECTOR TECHNIC	PETRE MOROIANU
	COUNCILLOR	OCTAVIAN AUREL MIHAESCU
在ルーマニア日本大使館	参事官	堀江福武
	派遣員	紺野誠二
JICAオーストリア事務所	所長	中村俊男
	職員	山田　健
JICA個別専門家	ルーマニア国総理府欧州統合局	橋本文成

2．要約

(1) 実施協議について

1）本調査はルーマニア灌漑システム改善計画の実施のため、1995年10月15日からルーマニアに滞在し、ルーマニア側関係者と協議を行い、10月25日ブカレストにおいて本プロジェクトにかかるR/Dについて、日本・ルーマニア双方の署名が行われた。

2）調査団はブカレストにおける協議の他、プロジェクトサイトにあるジュルジュ市近郊に位置する農業工学研究所において、試験圃場、研修施設及び日本人専門家の使用が予想される事務所、宿泊施設等を調査した。

3）さらに、関連機関である農業科学アカデミー、協力機関である土地改良事業調査設計会社を表敬訪問するとともに、意見交換を行った。

(2) 事業協議の要点

本プロジェクトは事前・長期調査における両国間の合意事項を基に、今回R/Dとして合意されたもので、その概要は次のとおりである。

1）全体計画

① プロジェクトの目標

本プロジェクトは灌漑事業の調査研究、実施、運営及び管理にかかわる効率の改善とこれらにかかわる研修を行うことを目的とする。

② プロジェクトサイト

ヘッドオフィスをブカレストの土地改良公社本部に置く。

サイトオフィス及びプロジェクトサイトはブカレスト南方70kmのジュルジュにある農業工学研究所内に置く。

③ プロジェクトの内容

日本の技術協力活動は、農業工学研究所内の圃場あるいはジュルジュ灌漑事業地区での圃場で以下の分野に対して行われる。

a．圃場灌漑

・灌漑計画諸元の測定

・灌漑方法の設計と適用の改善

・研修の改善

b．圃場水管理

・灌漑スケジュールの改善

・水管理組織の改善

・研修の改善

c．配水施設

・配水施設の改善

・情報システムの改善

・研修の改善

2）日本人専門家の派遣

a．長期専門家（5名）

・チームリーダー

・業務調整

・圃場灌漑

・圃場水管理

・配水施設

b．短期専門家

3）機材供与

プロジェクト活動に必要となる調査研究用資機材、データ分析用パソコン、補充部品、車両、視聴覚機材など。

4）研修員受け入れ

年間数名程度を研修員として日本に受け入れる。

5）特別措置

中堅技術者及び農民を対象とした研修の実施に要するローカルコストの一部を日本側が負担する。

6）事業の管理

① 農業食糧省次官はプロジェクト責任者として本プロジェクトの実施及び運営にかかる全責任を負う。

② 土地改良公社総裁はプロジェクトマネージャーとして技術上及び管理上の責任を負う。

③ 日本人専門家チームリーダーは、実施にかかる技術上及び管理上の事項についてプロジェクト責任者とプロジェクトマネージャーに必要な助言等を行う。

④ 農業工学研究所所長は副プロジェクトマネージャーとして実施にかかる技術上及び管理上の事項について、プロジェクト責任者とプロジェクトマネージャーに必要な助言等を行う。土地改良公社技術副部長はプロジェクトコーディネーターとして、プロジェクト実施のため、土地改良公社、農業工学研究所と日本側の調整業務を行う。

⑤　土地改良公社と農業工学研究所に派遣された日本人各専門家はプロジェクト実施にかかる技術上及び管理上の事項について必要な助言を行う。また日本人業務調整員はルーマニア側プロジェクトコーディネーターとともにルーマニア・日本双方に必要な助言を行う。

⑥　プロジェクトの円滑な実施のために、次のメンバーにより構成される管理運営委員会を設置する。

〈委員長〉

農業食糧省次官

〈ルーマニア側〉

土地改良公社総裁、農業工学研究所所長、土地改良公社技術副部長、
農業食糧省生産経理部部長、
農林科学アカデミー　土壌、土地改良・環境保全部　科学書記長

〈日本側〉

チームリーダー、各専門家、オーストリア事務所代表者、
その他オブザーバーとして、在ルーマニア日本大使館代表者

7）協力の期間

1996年3月1日から5年間

3．討議議事録の交渉経緯

3－1　交渉経緯

実施協議調査団は事前調査団、長期調査員、JICA農業技術協力課長の業務出張等により調整されてきた協議結果を踏まえ、R/Dの署名交換に向けた最後の詰めを行った。

本案件はルーマニア初のプロジェクト方式技術協力で、相手国側が未経験であったため、当初から協力方式の理解を得るのが難航した。さらに、同国は今なお民主改革・市場経済化の途上にあり、政治・経済の制度改革も道半ばで変動の激しいことが加わって、協議は紆余曲折し、結果は、日本側があらかじめ考えていたのと、やや異なる形となった。

最も大きな相違点は、土地改良事業基礎設計会社(ISPIF)の扱いである。日本側は当初、ISPIFをカウンターパートの一翼を担う実施機関と考えていたが、「1－1(1)これまでの経緯」に記したとおり、ルーマニア農業食糧省(MAF)はISPIFが民間機関であるとして、国家プロジェクトの実施機関に加えることを望まなかった。この間の経緯については、「付属資料7.」に載せた草野孝久・JICA農業技術協力課長の業務出張報告書に詳しい。

R/Dは最終的に、①MAF次官はプロジェクトの実施・運営に全責任を負う責任者、②土地改良公社(RAIF)総裁はプロジェクトマネジャーとして技術・管理上の責任を負う、③農業工学研究所(ICITID)所長は副プロジェクトマネジャーとしてプロジェクトの実施にかかる技術上・管理上の事項に助言、④RAIF技術副部長はプロジェクトコーディネーターとして、RAIF、ICITIDと日本側との調整にあたる――の各点を明記し、責任の所在と実施各機関の連携のあり方を明白にした。

この結果、ISPIFはプロジェクトの協力機関と位置づけられることになったわけで、その協力が必要な場合は、契約により、事業を請け負ってもらうことになる。また、農業科学アカデミーは、プロジェクトの関連機関となる。

一方、ルーマニア国内法によると、本プロジェクトは議会での政府承認を必要とすることが、協議の過程で明らかになった。これについては、「付属資料8．条約の締結と批准に関する1991年1月11日付法第4号」を参照されたい。

なお、今回の調査では暫定実施計画(TSI)の策定には至らなかった。

以下、R/Dの各項目ごとに、案文の修正個所を示して交渉経緯とする。

1）表紙

立会人として表紙の4名の署名者（1)Director General, Cadaster and Reclamation Division, Ministry of Agriculture and Food, 2)Director General, Regia Autonomous for Land Reclamation, 3)Academy of Agricultural and Forestry Sciences, 4) Director, Research Institute of Irrigation and Drainageを削除し、団長と農業食糧次官の署名とすることで了解する。

2）II. 序文

In accordance with the laws and regulations in force in Japan, the Government of Japan will take at its own expense, の後にin the form of a grant technical cooperationを追加し、the following measures through JICA according to the normal procedures under the Technical Cooperation Scheme of Japan.と続ける。

3）II. 1. DISPATCH OF JAPANESE EXPERTS

The Government of Japan will provide the services of the Japanese experts as listed in Annex、の後にChapter IIを追加する。

4）II. 2. PROVISION OF MACHINERY AND EQUIPMENT

The Government of Japan will provide such machinery, equipment and other materials (hereinafter referred to as "the Equipment") necessary for the implementation of the Project as listed in Annex III. The Equipment will become the property of the Government of Romania に変えてRegie Autonome for Land Reclamation (hereinafter referred to as "RAIF") and Research Institute of Irrigation and Drainage (hereinafter referred to as "ICITID") upon being delivered C.I.F. and Delivery Duty Unpaid (International Commercial Terms) とする。またits portに変えて、its point of とする。

5）III. MEASURES TO BE TAKEN BY THE GOVERNMENT OF ROMANIA 1.

The Government of Romania の後にin accordance to the laws and regulations in force in Romania を追記する。その後の文章は変更なし。

6）III. MEASURES TO BE TAKEN BY THE GOVERNMENT OF ROMANIA 3.

The Government of Romania will grant in Romania privilages, exemptions and benefits の後のas listed in Annex IV and will grant provileges, exemtions and benefits no less favorable than those granted to experts of third countries or internatuional organizations performing similar missions を削

除する。to the Japanese experts reffered to以下は同様。

7） III. MEASURES TO BE TAKEN BY THE GOVERNMENT OF ROMANIA 4.
The Government of Romania will ensure that the Equipment referred to in II-2 above will be utilized effectively for the implementation of the Project in consultation with the Japanese experts referred to in Annexの後にChapter II.とする。

8）III. MEASURES TO BE TAKEN BY THE GOVERNMENT OF ROMANIA 6.
(2) LandをExperimental areaに変更する。 buildings and facilities as listed in Annex の後にChapter VI; とする。

9）III. MEASURES TO BE TAKEN BY THE GOVERNMENT OF ROMANIA 6.
(3) Supply or replacement of machinery, equipment, instruments, vehicles, tools, spare parts and any other materials necessary for the implementation of the Project other than the Equipment provided through JICA under II-2 above;は全文削除。

10） III. MEASURES TO BE TAKEN BY THE GOVERNMENT OF ROMANIA (4)
Means of transport and travel allowances for the Japanese experts for official travel within Romania andは Means of transport according to possibilities and travel allowances (fuels and drivers) for the Japanese experts for official travel within Romania. と変更する。

11） III. MEASURES TO BE TAKEN BY THE GOVERNMENT OF ROMANIA (5)
Suitably furnished accommodation for the Japanese experts and their families.を全文削除する。

12） III. MEASURES TO BE TAKEN BY THE GOVERNMENT OF ROMANIA 7. (3)
Running expenses necessary for the implementation of the Project.は全文削除する。

13） IV. 2.
The General Director of the Cadaster and Strategy Division for Land Reclamation, MAFをThe Director General of RAIFに変更する。

14） IV. 3.
The Japanese Team Leader (Chief Advisor) will be the counterpart of the Project Managerを Project Director and the Project Managerとする。

15) IV. 4.

Both the Director General of Regia Autonomous for Land Reclamation (hereinafter referred to as "RAIF") and the Director of the Research Institute of Irrigation and Drainage (hereinafter referred to as "ICITID"), as the Sub-Project Managers, will be responsible for the managerial and technical matters of the Project at their respective organizations.を The Director of ICITID, as the Deputy Project Manager, will be responsible for the managerial and technival matters of the Project at their respective organizations.と変更する。

16) ANNEX I MASTER PLAN 2. Implementing Agency

MAF through RAIF jointly with the cooperation of ICITID.を以下のように変更する。

Ministry of Agriculture and Food (MAF) through Regie Autonome for Land Reclamation (RAIF) jointly with the cooperation of Research Institute of Irrigation and Drainage (ICITID).When deemed necessary, the Government of Romania will ensure that the necessary contracts for the Project activities listed below will be provided by the implementation organization with advanced consultation of the Japanese Team Leader who will be dispatched.

17) ANNEX I 3. (2) 3) 後の

Note: a) Establishment of experimental / pilot area will be considered in carrying out the above activities. b) Where the making of contracts is necessary, the implementing agency must agree with the Japanese Team Leader before making contracts in carrying out the above activities. を全文削除し、Establishment of experimental / pilotarea will be consideredin carrying out the above activities.とする。

18) Annex I 5.Project Site (2)

(2) Experimental / Pilot Area will be selected after further discussions.を(2) Experimental / Pilot Area will be selected in mutual consultation with the Japanese experts, probably in the Giurgiu District.とする。

19) Annex II

Note: のみ削除。文章はそのまま。Short-term expert(s) will be dispatched when necessity arises for the smooth implementation of the Project.

20) ANNEX III

Machinery and equipment necessary for the activities described above in I.3.(2)の後、will be mutually established.を追記する。

21) ANNEX IV 4.

Issue of identification cards to Japanese experts to secure the cooperation of the Romanian authorities necessary for the performance of the duties of Japanese experts and their families.をIssue of identification cards to Japanese experts and their familie to secure the cooperation of the Romanian authorities necessary for the performance of the duties of Japanese experts.とする。

22) ANNEX V 2.

Project Manager : the General Director of the Cadaster and Strategy Division for Land Reclamation, MAF をThe Director General, RAIF に変更する。

23) ANNEX V 3.

Sub-Project Manager I : the Director General, RAIFと 4 .Sub-Project Manager II : the Director, ICITIDを3.Deputy Project Manager : the Director, ICITIDとする。SubをDeputyに変更し、人数を２人から１人へ変更する。

24) ANNEX IV 4

Other land, buildings and facilities necessary for the implementation of the Projectを 4. Experimental area, buildings and facilities necessary for the implementation of the Project, with exception of the accomodation, allowance and means of transport for the Japanese experts and their families.と変更する。

25) ANNEX VII 1. (1)

to give direction and guidance to the activities carried out by the Project and to coordinate inter-related activities within MAF, RAIF, ICITID and other related agencies;のwithin をamongへ変更する。

26) ANNEX VII 1. (3)

to review the overall progress of the technical cooperation program as well as the achievements of the Annual Work Plan andのandを削除し;とする。

27) ANNEX VII 2.

Composition (2)Vice Chairperson; the General Director of the Cadaster and Strategy Division for Land Reclamation, MAFを削除する。

28) ANNEX VII (3)

Committee Membersの Romanian Sideの1) Project Manager を1) the Director General, RAIFに、2) Sub-Project Managers を2) The Director, ICITIDに変更する。 また3)としてthe Techinical Deputy Director, RAIFを追加する。さらに、Note : Official(s) of the Embassy of Japan may attend the Joint Coordinating Committee as observer(s).の Noteを削除すし、(4) Chief Secretariat : the Technical Deputy Director, RAIFを(3) Chief Secretariat will be assigned within RAIFとする。

29) ANNEX VII 3.

The Working Group, composed of the Project Manager, the Sub-Project Managers, Japanese Team Leader and Experts, and the Coordinators, is designed to effectively coordinate and manage the day-to-day activities of the Project and will hold a group meeting at least once a month.の下線部 the Sub-Project Managersをthe Deputy Project Managerとする。

3－2 討議議事録等 英文

(1) The Minutes of Meeting

The Minutes of Meeting
between the representatives of Regie Autonome of Land Reclamation
and
the Japanese Implementation Survey Team,
representing the Japan International Cooperation Agency

During 16th - 25th October 1995, the representatives of the Ministry of Agriculture and Food - Regie Autonome of Land Reclamation (hereinafter referred to as "Romanian Side") and the Japanese Implementation Survey Team, representing the Japan International Cooperation Agency (hereinafter referred to as "Japanese Side") had a series of discussions in Bucharest, discussions regarding to the implementation of the Japanese Project-type Technical Cooperation for Irrigation System Readjustment.

The Japanese Side has submitted for negotiations, with a view to signing, the cooperation documents called "The Record of Discussions" and the attached documents called "The Attached Document".

The Romania Side has taken into consideration the proposals of Japanese Side in order to ensure technical assistance for the implementation of this project under the conditions stipulated in the draft of the Record of Discussions of 8th September and 17th October 1995, respectively.

At experts level, the two Sides agreed on the technical matters, the Romanian Side and the Japanese Side have agreed to sign on the negotiated document under the condition of its approval by the competent authorities.

The two Sides appreciate that this cooperation has to carry out on the basis of a bilateral understanding approved by the two governments. In this meaning, the agreed Record of Discussions, on the basis of the draft prepared by the Japanese Side, will be submitted by the Regie Autonome of Land Reclamation to be approved by the Romanian Government until the end of November, 1995.

This "Minutes of Meeting" was concluded at Bucharest, on 25th October 1995, in two copies, in English language.

Mr. HISAO ANYOJI

Hisao Anyoji

Leader
The Implementation Survey Team - JICA

Mr. IULIAN PUSCA

State Secretary of Ministry of
Agriculture and Food

(2) The Record of Discussions

THE RECORD OF DISCUSSIONS BETWEEN THE JAPANESE IMPLEMENTATION SURVEY TEAM AND THE AUTHORITIES CONCERNED OF THE GOVERNMENT OF ROMANIA ON THE JAPANESE TECHNICAL COOPERATION FOR THE IRRIGATION SYSTEM READJUSTMENT PROJECT

The Japanese Implementation Survey Team (hereinafter referred to as "the Team") organized by the Japan International Cooperation Agency (hereinafter referred to as "JICA") and headed by Mr. Hisao ANYOJI, visited Romania for the purpose of working out the details of the technical cooperation program concerning the Irrigation System Readjustment Project in Romania.

During its stay in Romania, the Team exchanged views and had a series of discussions with the Romanian authorities concerned in respect of desirable measures to be taken by both Governments for the successful implementation of the above mentioned project.

As a result of the discussions, the Team and the Romanian authorities concerned agreed to recommend to their respective Governments the matters referred to in the document attached hereto.

Bucharest, October 25, 1995

Mr. Hisao Anyoji
Leader,
The Implementation Survey Team
Japan International Cooperation Agency

Mr. _____
State Secretary
Ministry of Agriculture and Food

THE ATTACHED DOCUMENT

I. COOPERATION BETWEEN BOTH GOVERNMENTS

1. The Government of Romania will implement the Irrigation System Readjustment Project (hereinafter referred to as "the Project") in cooperation with the Government of Japan.

2. The Project will be implemented in accordance with the Master Plan which is given in Annex.

II. MEASURES TO BE TAKEN BY THE GOVERNMENT OF JAPAN

In accordance with the laws and regulations in force in Japan, the Goveroment of Japan will take, at its own expense in the form of a grant technical cooperation, the following measures through JICA according to the normal procedures under the Technical Cooperation Scheme of Japan.

1. DISPATCH OF JAPANESE EXPERTS
   The Government of Japan will provide the services of the Japanese experts as listed in Annex, Chapter II.

2. PROVISION OF MACHINERY AND EQUIPMENT
   The Government of Japan will provide such machinery, equipment and other materials (hereinafter referred to as "the Equipment") necessary for the implementation of the Project. The Equipment will become the property of Regie Autonome for Land Reclamation (hereinafter referred to as "RAIF") and Research Institute of Irrigation and Drainage (hereinafter referred to as "ICITID") upon being delivered C.I.F. and Delivery Duty Unpaid (International Commercial Terms) at its point of entry into Romania.

3. TRAINING OF ROMANIAN PERSONNEL IN JAPAN
   The Government of Japan will receive the Romanian personnel connected with the Project for technical training in Japan.

III. MEASURES TO BE TAKEN BY THE GOVERNMENT OF ROMANIA

1. The Government of Romania in accordance to the laws and regulations in force in Romania will take necessary measures to ensure that the self-reliant operation of the Project will be sustained during and after the period of Japanese technical cooperation, through the full and active involvement in the Project by all related authorities, beneficiary groups and institutions.

2. The Government of Romania will ensure that the technology and knowledge acquired by the Romanian nationals as a result of the Japanese technical cooperation will contribute to the economic and social development of Romania.

3. The Government of Romania will grant in Romania privileges, exemptions and benefits to the Japanese experts referred to in II-1 above and their families as listed in Annex, Chapter IV.

4. The Government of Romania will ensure that the Equipment referred to in II-2 above will be utilized effectively for the implementation of the Project in consultation with the Japanese experts referred to in Annex, Chapter II.

5. The Government of Romania will take necessary measures to ensure that the knowledge and experience acquired by the Romanian personnel from technical training in Japan will be utilized effectively in the implementation of the Project.

6. In accordance with the laws and regulations in force in Romania, the Government of Romania will take necessary measures to provide at the expenses of RAIF and ICITID.

   (1) Services of the Romanian counterpart personnel and administrative personnel as listed in Annex, Chapter V;

   (2) Experimental area, buildings and facilities as listed in Annex, Chapter VI;

   (3) Means of transport according to possibilities and travel allowances (fuels and drivers) for the Japanese experts for official travel within Romania.

7. In accordance with the laws and regulations in force in Romania, the Government of Romania will take necessary measures to meet:

   (1) Expenses necessary for the transportation within Romania of the Equipment referred to in II-2 above as well as for the installation, operation and maintenance thereof;

   (2) Customs duties, internal taxes and any other charges, imposed in Romania on the

Hisao Anzai

Equipment referred to in II-2 above;

IV. ADMINISTRATION OF THE PROJECT

1. The State Secretary of the Ministry of Agriculture and Food (hereinafter referred to as "MAF"), as the Project Director, will bear overall responsibility for the administration and implementation of the Project.

2. The Director General of RAIF as the Project Manager, will be responsible for the managerial and technical matters of the Project.

3. The Japanese Team Leader (Chief Advisor) will be the counterpart of the Project Director and the Project Manager, and will provide necessary recommendations and advice on any matters pertaining to the implementation of the Project.

4. The Director of ICITID, as the Deputy Project Manager, will be responsible for the managerial and technical matters of the Project at their respective organizations.
   The Technical Deputy Director of RAIF, as the Project Coordinator, will be responsible for the coordination of the two MAF implementing agencies and the Japanese side during the execution of the Project.

5. The long term Japanese experts assigned to RAIF and ICITID will be in charge of tasks related to their respective organizations, and will provide necessary recommendations and advice on any matters pertaining to the implementation of the Project.
   The Japanese Coordinator in consultation with the Project Coordinator will provide necessary recommendations and advice on any matters pertaining to the coordination of Romania and Japanese sides.

6. For the effective and successful implementation of technical cooperation for the Project, a Joint Coordinating Committee will be established whose functions and composition are described in Annex, Chapter VII.

V. JOINT EVALUATION

Evaluation of the Project will be conducted jointly by the two Governments through JICA and the Romanian authorities concerned, (at the middle and) during the last six months of the cooperation term in order to examine the level of achievement.

VI. CLAIMS AGAINST JAPANESE EXPERTS

The Government of Romania undertakes to bear claims, if any arise, against the Japanese experts engaged in technical cooperation for the Project resulting from, occurring in the

course of, or otherwise connected with the discharge of their official functions in Romania except for those arising from the willful misconduct or gross negligence of the Japanese experts.

VII. MUTUAL CONSULTATION

There will be mutual consultation between the two Governments on any major issues arising from, or in connection with this Attached Document.

VIII. MEASURES TO PROMOTE UNDERSTANDING AND SUPPORT TO THE PROJECT

For the purpose of promoting the support of the people of Romania to the Project, the Government of Romania will take appropriate measures to make the Project widely known to the people of Romania.

IX. TERM OF COOPERATION

The duration of technical cooperation for the Project under this Attached Document will be five (5) years from March 1, 1996.

ANNEX

I MASTER PLAN

1. Project Purpose

To readjust the technical efficiency of irrigation through the improvement of the irrigation research, implementation, management and training.

2. Implementing Agency

Ministry of Agriculture and Food (MAF) through Regie Autonome for Land Reclamation (RAIF) jointly with the cooperation of Research Institute of Irrigation and Drainage (ICITID).
When deemed necessary, the Government of Romania will ensure that the necessary contracts for the Project activities listed below will be provided by the implementation organization with advanced consultation of the Japanese Team Leader who will be dispatched.

3. Expected Output and Activities of the Project

(1) The expected output of the Project:

1) Improvement of the irrigation efficiency of water conveyance facilities
2) Improvement of the irrigation efficiency of terminal water conveyance and control facilities
3) Improvement of the irrigation efficiency of field water application
4) Diffusion of the improved methods of irrigation efficiency through training
5) Improvement of the information system for the effective execution of irrigation programs

(2) The Activities of the Project

1) Field irrigation systems
   a) Field evaluation of parameters related to crop water requirements
   b) Improvement of design and application of field irrigation methods
   c) Improvement of training in field irrigation techniques

2) Field water management systems
   a) Improvement of irrigation scheduling
   b) Improvement of operation methods
   c) Improvement of training in water management techniques

3) Water delivery systems
   a) Improvement of water conveyance facilities

b) Improvement of technical information systems
c) Improvement of training in water delivery techniques

Establishment of experimental / pilot area will be considered in carrying out the above activities.

4. Japanese Technical Cooperation

The Government of Japan will assist the Government of Romania in carrying out the activities for obtaining the output which is described in paragraph 2 above.

5. Project Site

(1) Project Office
a) Head office ; in the Headquarters of RAIF (Bucharest)
b) Site office ; in ICITID (Giurgiu)

(2) Experimental / Pilot Area will be selected in mutual consultation with the Japanese experts, probably in the Giurgiu District.

II JAPANESE EXPERTS

1. Team Leader (Chief Advisor)
2. Coordinator
3. Expert in the field of:
   (1) Field irrigation systems
   (2) Field water management systems
   (3) Water delivery systems

Short-term expert(s) will be dispatched when necessity arises for the smooth implementation of the Project.

III LIST OF MACHINERY AND EQUIPMENT

Machinery and equipment necessary for the activities described above in I.3.(2) will be mutually established.

IV PRIVILEGES, EXEMPTIONS AND BENEFITS

1. Exemption from income tax and charges of any kind imposed on or in connection with the living allowances remitted from abroad.
2. Exemption from import and export duties and any other charges imposed in respect of personal and household effects (including one vehicle) which may be brought into Romania.
3. Free medical and dental treatment, and the free use of Public hospital and health center facilities.
4. Issue of identification cards to Japanese experts and their families to secure the cooperation of the Romanian authorities necessary for the performance of the duties of Japanese experts.

Hiano Angaji

V LIST OF THE ROMANIAN COUNTERPART AND ADMINISTRATIVE PERSONNEL

1. Project Director : the State Secretary, MAF
2. Project Manager : the Director General, RAIF
3. Deputy Project Manager : the Director, ICITID
4. Project Coordinator : the Technical Deputy Director, RAIF
5. RAIF and ICITID should assign at least two counterpart personnel each to the Japanese Experts described above in II and in the fields listed below. One counterpart should be senior in level and work on a part time basis and the other junior in level and work full-time. At least one of the junior level personnel for each expert should be able to communicate in English.
   (1) Field irrigation systems
   (2) Field water management systems
   (3) Water delivery systems
6. Administrative Personnel
   (1) Administration and accounting
   (2) Secretary
7. Counterpart personnel for each field of short-term expert(s)
8. Other necessary supporting staff including English speaking secretaries, drivers, field technicians and laborers.

Hiro Angoji

VI LIST OF EXPERIMENTAL AREA, BUILDINGS AND FACILITIES

1. Buildings and facilities and office space for Japanese experts
2. Space for provided machinery and equipment
3. Electricity and communication facilities
4. Experimental area, buildings and facilities necessary for the implementation of the Project, with exception of the accomodation, allowance and means of transport for the Japanese experts and their families.

VII JOINT COORDINATING COMMITTEE

1. Functions

The Joint Coordinating Committee composed of those members as listed in 2 below will meet at least once a year and whenever necessity arises, and will function:

(1) to give direction and guidance to the activities carried out by the Project and to coordinate inter-related activities among MAF, RAIF, ICITID and other related agencies;
(2) to review and approve the Annual Work Plan of the Project to be formulated under the framework of the Record of Discussions;
(3) to review the overall progress of the technical cooperation program as well as the achievements of the Annual Work Plan;
(4) to review and exchange views on major issues arising from or in connection with the technical cooperation program.

2. Composition

(1) Chairperson : the State Secretary of MAF

(2) Committee Members

Romanian Side:

1) the Director General, RAIF
2) the Director, ICITID
3) the Technical Deputy Director, RAIF
4) the General Director, Budget in Production Division, MAF
5) the Scientific Secretary, Section of Soil Science, Land Reclamation & Environment Protection in Agriculture, Academy of Agricultural & Forestry Sciences

Japanese Side:

1) Team leader
2) Experts
3) Personnel dispatched by JICA including Representative(s) of the JICA Austria Office.

Official(s) of the Embassy of Japan may attend the Joint Coordinating Committee as observer(s).

(3) Chief Secretariat will be assigned within RAIF

Hiro Anyoji

3. The Working Group, composed of the Project Manager, the Deputy Project Manager, Japanese Team Leader and Experts, and the Coordinators, is designed to effectively coordinate and manage the day-to-day activities of the Project and will hold a group meeting at least once a month.

4．プロジェクト実施上の留意点

1）協議で明らかになったように、ルーマニア国内法によれば、本プロジェクトのR/Dは議会での政府承認が必要であり、今後の動向に関して必要であれば在ルーマニア日本大使館を通じた適切な対応をとって行く必要がある。

2）本プロジェクトはルーマニアで最初のプロジェクト方式技術協力であり、また社会改革中で国内法の移行期であることにかんがみ、プロジェクトの運営制度上の問題が出ないよう、ルーマニア側関係省庁との調整を密に取る必要がある。

3）今回合意されたのはR/DとM/Mであるので、暫定実施計画(TSI)は、専門家の着任後、ルーマニアにおける諸状況をにらみあわせて、各カウンターパートと十分に協議してから策定することが重要である。

4）カウンターパート、事務員補助スタッフの配置については、専門家到着後に確認し、ルーマニア側の対応が遅れている場合には人員や配置時期を示して協議する必要がある。

5）ルーマニアにはJICA事務所がないため、近隣のオーストリア事務所と連携を図りつつも、専門家の制度上の各種申請は本部が承認することとなる。加えてプロジェクトの年間計画にあるような短期専門家の派遣、供与機材、また資料提供など適時適切な支援が重要であるため、本邦関係機関は円滑な連携を心がける必要がある。

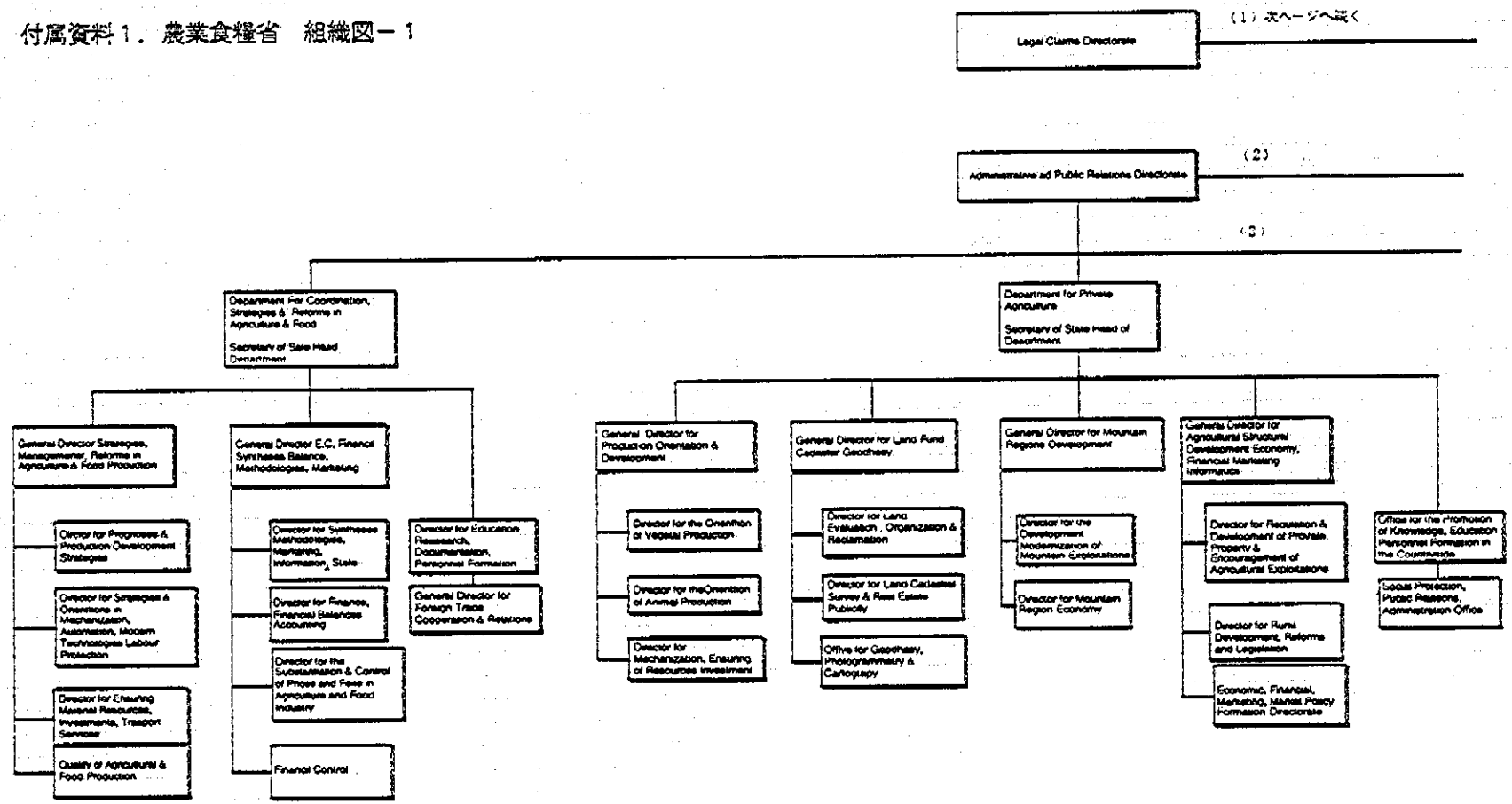
6）冬期にプロジェクトサイトであるジュルジュへ通勤する際、道路が凍結する場合もあるので、専門家の安全面に対して必要に応じた支援対策を配慮する必要がある。

7）今後の技術協力においては、日本側の予算措置の厳しい折、会計検査院から「成果ある協力事業」が厳しく求められている。各専門家はこれを念頭に置きながら協力活動に携わらなければならない。

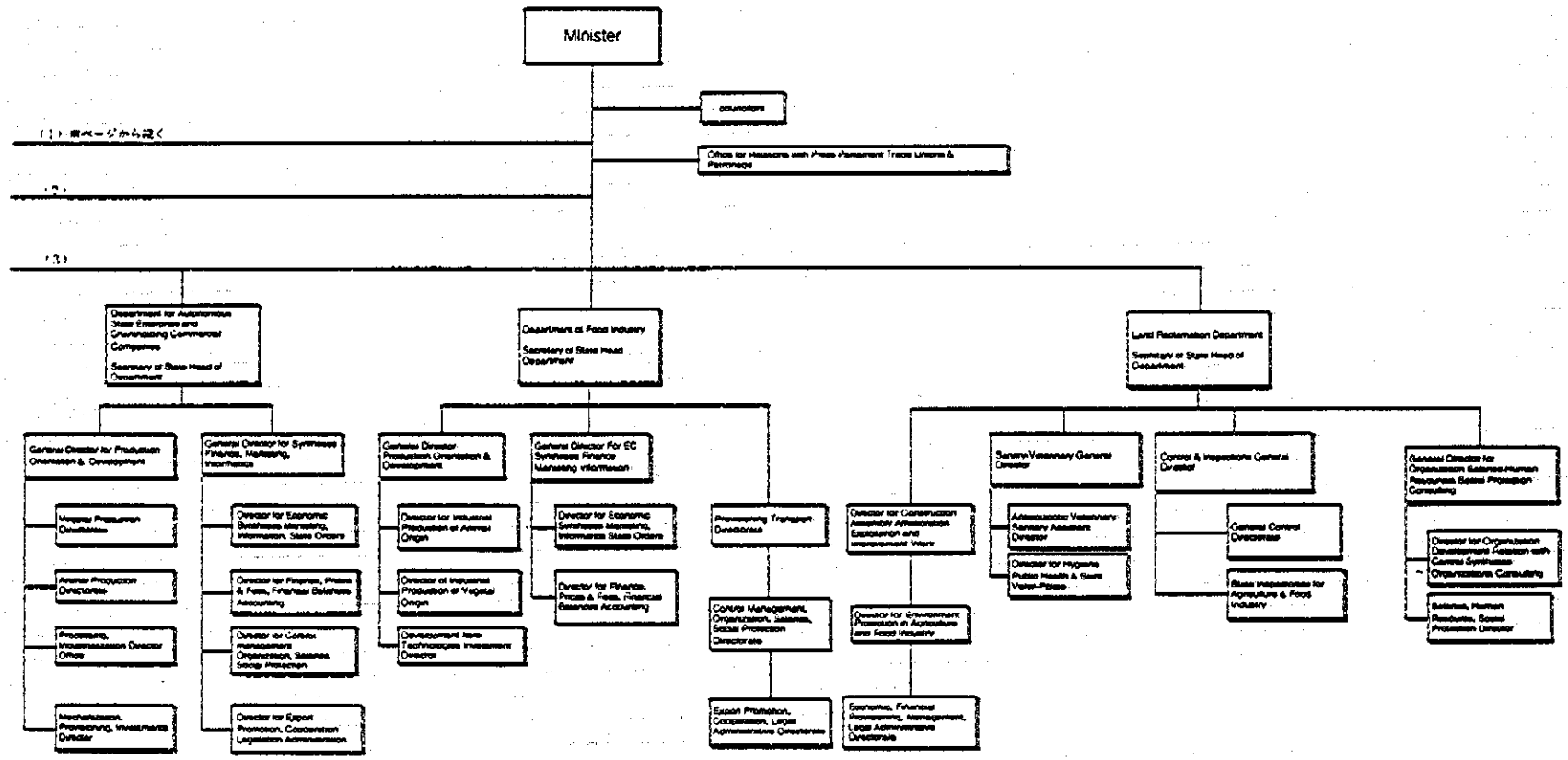
付　属　資　料

1．農業食糧省　組織図
2．土地改良公社 (RAIF) 組織図
3．農業工学研究所 (ICITID) 組織図
4．ルーマニア政府　要請書
5．事前調査ミニッツ（M/D）
6．長期調査ミニッツ（M/M）
7．業務出張報告書（JICA農業技術協力課長）
8．条約の締結と批准に関する法1991年1月11日付第4号

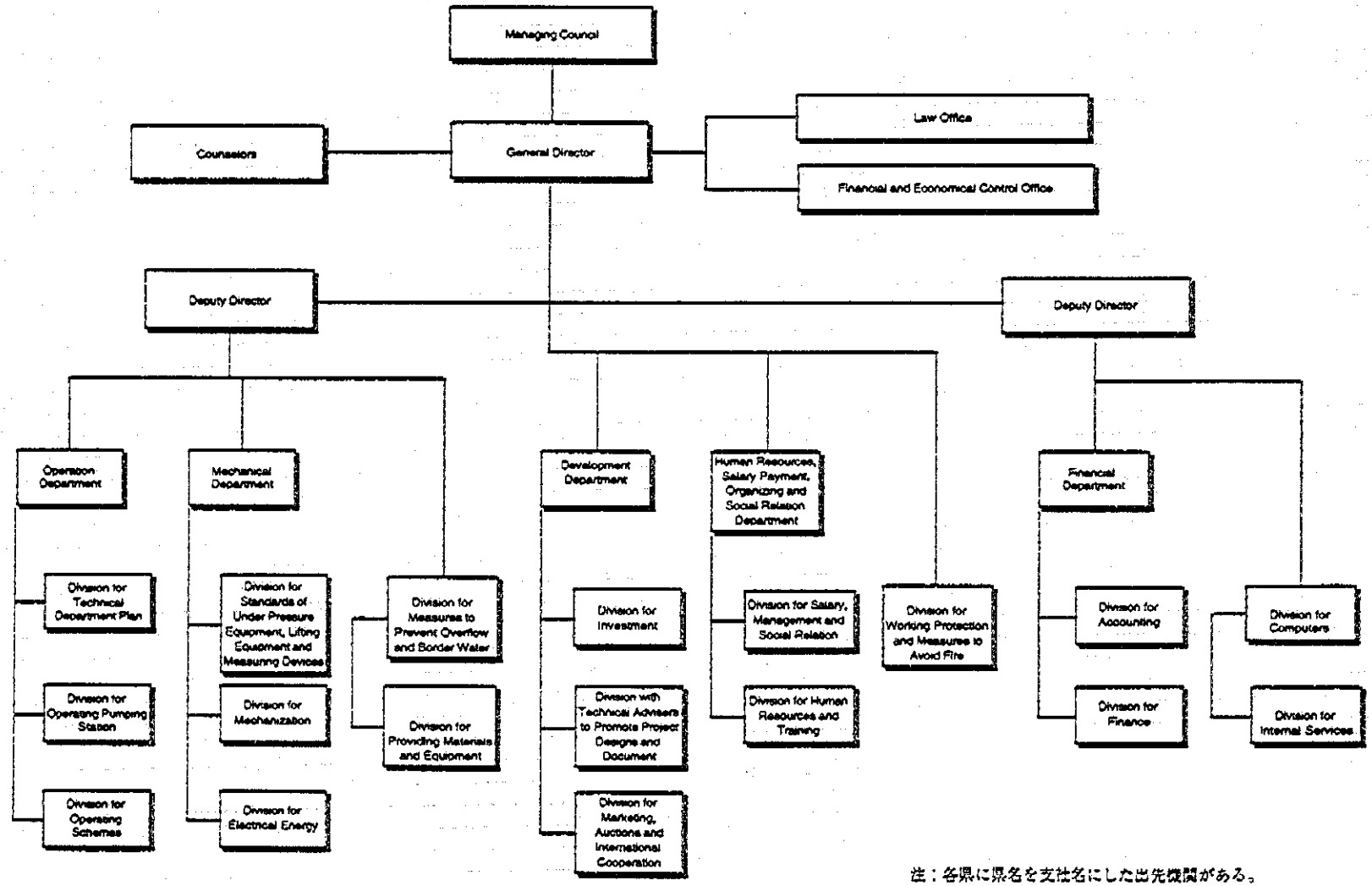
付属資料１．農業食糧省　組織図－１



農業食糧省　組織図－2

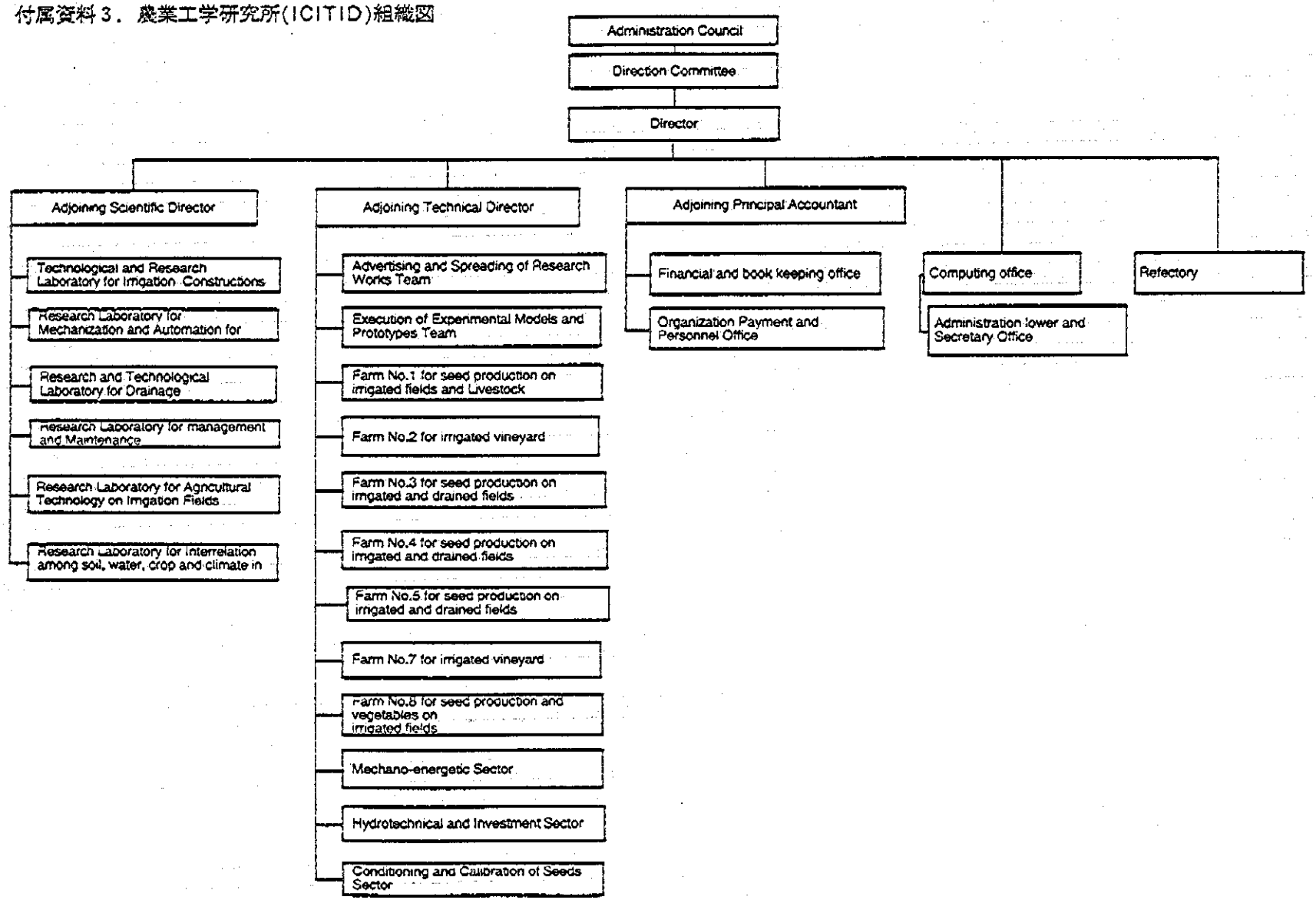

Minister
Department of Food Industry
Secretary of State Head Department
Land Reclamation Department
Secretary of State Head of Department
General Director for Production Orientation & Development
General Director for Synthesis Finance, Marketing, Informatics
General Director Production Orientation & Development
General Director For EC Synthesis Finance Marketing Information
Processing Transport Directorate
Director for Construction Assembly Amelioration Exploitation and improvement Work
Sanitary Veterinary General Director
Control & Inspections General Director
General Director for Organisation Balance-Human Resources Social Protection Consulting
Vegetal Production Directorate
Animal Production Directorate
Processing, Industrialisation Director Office
Mechanisation, Promotion, Investments Director
Director for Economic Synthesis Marketing, Information, State Orders
Director for Finance, Prices & Fees, Financial Balance Accounting
Director for Control management Organisation, Salaries Social Protection
Director for Export Promotion, Cooperation Legislation Administration
Director for Industrial Production of Animal Origin
Director of Industrial Production of Vegetal Origin
Development New Technologies Investment Director
Director for Economic Synthesis Marketing, Informatics State Orders
Director for Finance, Prices & Fees, Financial Balances Accounting
Control Management, Organisation, Salaries, Social Protection Directorate
Export Promotion, Cooperation, Legal Administrative Directorate
Director for Environment Protection in Agriculture and Food Industry
Economic, Financial Programming, Management, Legal Administrative Directorate
Administrative Veterinary Sanitary Assistant Director
Director for Hygiene Public Health & Sanitary Veterinary
General Control Directorate
State Inspectorate for Agriculture & Food Industry
Director for Organisation Development Relation with General Synthesis Organisations Consulting
Salaries, Human Resources, Social Protection Director

付属資料２．土地改良公社(ＲＡＩＦ)組織図



注：各県に県名を支社名にした出先機関がある。

付属資料３．農業工学研究所(ICITID)組織図



付属資料4．ルーマニア政府　要請書

94. 5. 19

00967

第　197　号
平成 6 年 5 月 4 日

外務大臣殿

受付
6. 5. 12
経済協力局

在ルーマニア
杉浦大使

6. 5. 12
経済協力局

件名

平成6年度プロ技協－灌漑システム改善計画（ルーマニア）の要請

引用公・電信　主管課（文書記号）

往信・番号　往電第210号　経協技

本件灌漑システム改善計画の正式要請書を別添の通り送付致し、上申する

(3)

本信送付先：　信務密使

本信写送付先：　信務密使（行）□

省内写配布希望先：　信務密使（OP）□

GA-12-1　在外公館

MINISTRY OF FOREIGN AFFAIRS OF ROMANIA

ASIA AND THE FAR EAST DIVISION

No.E 3/2263

The Ministry of Foreign Affairs of Romania presents its compliments to the Japanese Embassy and has the honour to forward, herewith enclosed, from the Ministry of Agriculture and Food, the required documents connected with the "Irrigation System Readjustment Project" to be implemented within the framework of "Project Type Technical Cooperation in Agriculture".

The Ministry of Foreign Affairs of Romania avails itself of this opportunity to renew to the Japanese Embassy to Bucharest the assurances of its highest consideration.

Bucharest, April 26, 1994

EMBASSY OF JAPAN
- In town -

PROJECT TYPE TECHNICAL COOPERATIONIN AGRICULTURE

PROJECT TITLE:	THE IRRIGATION SYSTEM READJUSTMENT PROJECT
IMPLEMENTING ORGANIZATION:	RESEARCH INSTITUTE OF IRRIGATION AND DRAINAGE (ICITID) IN COOPERATION WITH LAND RECLAMATION DESIGN INSTITUTE (ISPIF)
SUPERVISING ORGANIZATION:	MINISTRY OF AGRICULTURE AND FOOD LAND RECLAMATION DEPARTMENT

RESPONSIBILITY OF LAND RECLAMATION DEPARTMENT:

Land Reclamation Department (LRD) is part of the Ministry of Agriculture and Food. The Head of Land Reclamation Department is a Secretary of State and member of the management of the Ministry of Agriculture and Food.

The Land Reclamation Department is the Governmental Agency:

- conducts the official policy in land reclamation and controls the 41 Companies for Operation and Maintenance of the Land Reclamation Projects [SCELIF] and of others 67 companies for civil works, earth moving equipment, drilling for water supply, etc;
- distribute and audit the investments and subsidisies for operation and maintenance given by the Government for Land Reclamation Works;
- plan the future developments in irrigation, drainage and soil control works. In this respect programme new projects, review and approve all important projects;
- cooperate with foreign companies and financial institutions in the field of land reclamation works;

OUTLINE OF ICITID (its objectives, structure and facilities)

The Research and Engineering Institute for Irrigation and Drainage (ICITID) develops the research in irrigation and drainage at the national level.

The institute is located on the meridional center part of the Romanian Plain and on the Danubian river flood plain and covers an area of 3367 ha of which 2300 ha are on the flood plain, 85 ha on slope land, and 982 ha on the plain. The entire area is developed for irrigation and/or surface and subsurface drainage works.

The institute comprises on two main departments: the research department and the crop production department.

The total staff of institute comprises of about 450 employs of which the research department comprises of 87 researchers with academic degrees and 185 assistant staff.

The main objectives of the institute area:

- establishing the solutions and the set-ups for land reclamation projects for irrigation, surface and subsurface drainage and erosion control works;

- establishing the technical methods for execution (construction), operation and maintenance of the land reclamation projects;

- fitting out techniques for land reclamation projects;

- irrigation, micro-irrigation and antigel technics and technologies;

- water distribution automation and dispatching;

- establishing the irrigation forecasting and warning elements and the water balance elements;

- the evolution of irrigation and drainage schemes during operation;

- the hydroameliorative solutions for the reclamation of degraded lands;

- water application technologies in correlation with agricultural technologies;

- fundamental researches regarding the interrelations of the soil-water-plant-atmosphere systems factors;

- strategies for efficient utilization of irrigation water, electric power (energy) and man power in irrigation and drainage schemes;

- seeds production from superior biological categories (elite, super-elite) for field crops.

The research department consist of 6 research laboratories as follows;

- field irrigation schemes laboratory;
- mechanisation and automation of water application laboratory;
- surface and subsurface drainage laboratory;
- operation of the irrigation schemes laboratory;
- optimization of the land reclamation technologies in correlation with agricultural technologies laboratory;
- interrelations of the soil water-plant-atmosphere systems factors laboratory.

The production department consist of: 4 seeds production farms, 2 winyard farms; one vegetable growing farm, one live-stock farm and one seed conditioning station.

We attach the institute chart.

At the institute headquarter there is a central building were are located the laboratories, the administration and computer office.

There are also other buildings as:

- accommodations of the employs;
- training courses facilities;
- one hydraulic testing stand;
- water and soil testing facilities;
- one construction materials laboratory;
- one workshop for the execution of models for water application equipments and machines.

All laboratories and workshop have the minimum equipment required, some of this equipment being of old standard.

The institute has also different types of irrigation equipment and all kind of agricultural implements.

All over the country the institute dispose of 40 experimental fields were the specialists does investigations in different pedoclimatical conditions.

We have to point out that ICITID does permanent scientifical exchanges with 10 institutes and libraries from foreign countries.

OBJECT OF THE PROJECT

Romania located in Central Eastern part of Europe benefits from all kind of relief forms, large plain in the South and Western part of the Country, high mountains which cross the country from the North to South and a high plateau on the Center.

The total land area of Romania is 23.9 mil ha of which the arable land it represents approximately 10 mil hectares.

After the revolution held in December 1989 the new Government has introduced the land reform and privatisation programme.

According to the privatisation land law issued in 1991, 80% of the land will be return to the private farmers and the rest of 20% will be owned by the agricultural joint stock companies.

The variety of all relief forms create very good natural conditions for developing of the agriculture:

a) The Carpatian Mountains, including its small valley piedmonts;

b) The Moldavian plains bounded between the northern flanks of the Carpatian Mountains and the Siret River and the Republic of Moldavia bordering on the Prut River with a high proportion of chernozem and podzolic soils;

c) Oltenia and Muntenia Plains jointly known as Danube Plain on which is predominantly flat Chernozem (Mollisol) soils;

d) The Central Transilvania plateau 32% of the total area and 29% of the agricultural land. The elevation of the area range between 350-8000 feet.

e) The Western Plain (Banat Region) with an area of large expanses of land with high proportion of Chernozem soils.

The average annual precipitation in most of Romania varies between a minimum of 350 mm per year in the Dobrogea and Danube Plain area, to an average of 550-600 mm. But the distribution of rains in Romania is according to the following pattern = September to November precipitation is between 100-150 mm for most the agricultural areas, it is higher in North Moldavia at 175-200 mm; April and May showers area about 50-100 mm in each month; June, July, August it is serious water deficit, sometimes no rains at all.

Soil deficit moisture is the most limiting factor for the Agricultural productivity in Southern Plains, Moldavia, Oltenia and Dobrogea. It is important to mention that the annual average evapotranspiration exceed with about 300-400 mm the annual average of precipitation.

The nonuniformity of rainfalls associated with the high evapotranspiration during the cropping season (May to September), the high fertility of the land and easy access to the water sources justify the introduction of the irrigation in Romania.

At the present the area under command of irrigation in Romania is about 3,1 mil. hectares distributed on 104 schemes. About 2 mil. hectares being located in the Southern part of the country along the Danube river, which is the main source of water for irrigation.

As regard the cropping pattern and yields on the irrigated areas we give below a typical cropping pattern and comparative yields on a rain fed and irrigated land:

Crops	Average yields to/ha	
	Rain fed conditions	Under irrigation condition
Wheat	2,6	5,0
Barley	2,65	5,5
Maize (grain)	3,35	8,0
Sunflower	1,5	2,7
Soybeans	1,2	2,7
Sugarbeat	25,0	50,0
Alfalfa	4,8	11,0
Vegetables	15,0	25,0
Maize silage	-	35,0
(Potatoes)	-	30,0

Actually the Romanian Government does a great efforts to implement the Land Law. As a consequence all former Cooperative Farmers are distributed to the private farmers and so the average farm size it vary between 1 - 6 ha.

The construction of the most of the irrigation projects made in the past 30 years are working under high pressure and were

constructed with severe limitations in using modern equipments from the world market and in material consumption. Due to this limitations wearing of the equipments appear after short time and also the low efficiency of the equipment have reduced the efficiency of the irrigation schemes and led to a high power consumption.

Now is strongly required the rehabilitation of most of the irrigation schemes. This action imply: installation of new pumping equipment with high efficiency and fiability upgrading of many of the existing pumping and electrical equipment, modern self propelled irrigation equipment, flow meters, redesign the schemes so to better serve the small farms, training of our specialist in the management of the irrigation schemes in the new condition of the land privatisation.

REQUEST TO THE JAPANESE GOVERNMENT

1. Dispatch of Japanese experts (long term)

   (1) leader of the project
   (2) coordinator
   (3) expert in irrigation systems
   (4) expert in water management
   (5) expert in design
   (6) expert in information systems

2. Supply of necessary equipment and other materials

- irrigation equipments:

  - lateral move irrigation equipments;
  - self propelled irrigation equipments for small farms 10-15 ha;
  - pivots for small farms 10-40 ha;
  - equipments for research laboratories as per attached list;
  - two-three, four wheel drive cars for the Japanese experts;
  - neutronic device for determining the soil moisture;
  - spectrophotometer with atomic absorption;
  - spectrophotometer (colorimeter);
    pH - meter and electrodes to measure pH;
  - conductometer and cells to determine the conductivity;
  - electric kitchen range, with magnetic mixer;
    apparatus for soil samples mineralization (kyeldahl);
  - distiller (bidistiller) for research activity;
  - electronic microscope;
  - audio-video apparatus for the training center.

The detailed list should be finalised according to the available budget.

4. TRAINING IN JAPAN (at least 10 people annually)

The Romanian specialists will be trained on:

- Management of irrigation and drainage schemes;
- Operation of the irrigation and drainage projects;
- Improving the efficiency of the irrigation projects;
- Institutional organisation in the irrigated area. Organisation of the water users associations;

- Modern irrigation equipment;
- Efficient methods in water application;
- Modern methods for planning;

- Reclamation of the saline land.

CONTRIBUTION BY THE ROMANIAN GOVERNMENT

1. Provide necessary facilities and land. The necessary facilities and land required to carry out the activity of the Japanese Experts.

2. Offices and Accommodation facilities in ICITID.

3. Counter part assignation. At least one romanian specialist will be assign for each Japanese expert.

4. Provide drivers and service people.

5. Assure easy access to land reclamation projects and other places of interest.

SECRETARY OF STATE,

Vasile Berbeci

付属資料５．事前調査ミニッツ(M/D)

MINUTES OF DISCUSSIONS
ON
THE IRRIGATION SYSTEM READJUSTMENT PROJECT
IN
ROMANIA

In response to the request made by the Government of Romania for the Irrigation System Readjustment Project (hereinafter referred to as "the Project"), the Government of Japan sent, through the Japan International Cooperation Agency (hereinafter referred to as "JICA") which is an official agency for implementing technical cooperation programs of the Government of Japan, a preliminary survey team (hereinafter referred to as "the Team") headed by Mr. Ryuzo NISHIMAKI from September 3, 1994 to September 28, 1994.

During its stay in Romania, the Team had a series of discussions with authorities concerned of Land Reclamation Department of Ministry of Agriculture and Food (hereinafter referred to as " LRD") , Research Institute of Irrigation and Drainage (hereinafter referred to as "ICITID") and Institute of Studies and Design for Land Reclamation Projects (hereinafter referred to as " ISPIF"), and conducted field survey in order to clarify the background and to confirm the objectives, contents and priority of the proposed technical cooperation program.

As a result of a series of discussions, both Romanian side and the Team have agreed to recommend to their respective Governments on following points attached as Annex 1, to take the further step for early commencement of technical cooperation for the Project.

A list of attendants in the meeting is attached as Annex 2.

Bucharest, September 23, 1994

Ryuzo Nishimaki

Mr. Ryuzo NISHIMAKI
Leader,
The Preliminary Survey Team,
Japan International Cooperation Agency

Mr. Vasile BERBECI
General Director,
Land Reclamation Department,
Ministry of Agriculture and Food

1 .Background of the Project

The arable land of Romania is approximately 10 million hectares in the total land area of Romania, 23.9 million hectaers. Agriculture in Romania takes a great part of economy, and government of Romania, therefore, puts the importance to its promotion.

The average annual precipitation in most of Romanian agricultural area is from 400mm to 600mm. It is not enough for the agricultural production. Especially, from June to August, there is a serious water deficit, and sometimes no rain at all. The necessity of irrigation has, thus, been recognized clearly in Romania, and the irrigation and drainage system has been developed mainly along the Danube river since years ago. But such system is not renewed easily. It causes the reduction of the efficiency of irrigation especially for its decrepitude.

According to the law issued in 1991, the land of state and cooperative farms was returned to the original land owners whose land were associated by the previous government. As the result, a lot of small private farmers appear. Privatization program has made the steady progress, however, it will take more time for private farmers to manage their own farms efficiently. In order to support such farmers and to complete the privatization program, suitable irrigation systems for such small farmers are seriously required.

2. Preliminary Framework of the Project

Goal

The goal of the Project is to readjust the schemes in consideration of privatization of the land.

Purpose

The purpose of the Project is to improve the technical efficiency of irrigation schemes on research, implementation, management and training.

Activities

Based on the preliminary survey results shown in Annex 3, the following subjects will be suggested for the Project activities to improve the efficiency.

(1) Irrigation system research

(2) System water management

(3) Information system

(4) In-Country Training

Dispatching the long term and short term Japanese experts and training the Romanian counterpart personnel in Japan will be provided to assist the above activities.

3. Implementation and Management of the Project

Implementation

The Project-Type Technical Cooperation (hereinafter referred to as" Project-Type") is one of the technical cooperation programs. Its essential role is human resource development by participation of the Romanian personnel in specific works with Japanese experts. Proper assignment of counterpart is, therefore, essential. In this regard, there is an important difference when compared with financial cooperation (Loan aid) that contributes directly to realization of development projects. Therefore, civil works for reclamation or rehabilitation are not carried out in the Project-Type although small civil works for model farms and equipment for showing new technologies may be provided with participation of some local costs from the Government of Romania.

The Project-Type is implemented with the project purpose for improving the efficiency of the irrigation scheme through the guidance and advice to the counterpart organization, and JICA assists the part of necessary implementation which the government of is implementing to achieve the project goal. The Government of Japan provides technical cooperation by combining effectively the dispatch of various teams, assignment of experts, provision of equipment and materials, and training of counterpart personnel in Japan. The Government of Romania provides land, building, facilities, etc., which will serve as the project base as well as the local experts who work as counterpart personnel with the Japanese experts. The government of Romania is also to be born the local costs such as operational expenses.

Structure

The Implementation organizations are LRD, ICITID and ISPIF.

The main office is provided in LRD.

Management

The joint coordinating Committee will be set up during the Project for the management. The committee consists of Japanese experts, Representative of JICA Austria office, Personnel concerned to be dispatched by JICA Headquarter, if necessary, and Personnel of Romania concerned with the Project. And also a Representative from the Embassy of Japan may attend the joint coordinating committee as an observer.

4.Others

As the result of the survey, the Team has recognized the necessity and importance of the Project. Therefore, the Team will recommend to its government, to dispatch long term investigators in order to define the contents of the Project concretely.

Annex 2

Attendant List (Romanian Side)

Vasile BERBECI	General Director, Land Reclamation Department, Ministry of Agriculture and Food
Mihail MOISA	Director, Land Reclamation Department, Ministry of Agriculture and Food
Petre MOROIANU	Senior Advisor, Land Reclamation Department, Ministry of Agriculture and Food
Gheorghe CRUȚU	General Director, Research Institute of irrigation and Drainage
Valeriu MARDARE	Scientific Director, Research Institute of irrigation and Drainage
Virgil NEACSU	General Director, Studies and Design Institute for Land Reclamation Projects
Stefan NICOLAU	Technical Director, Studies and Design Institute for Land Reclamation Projects

Attendant List (Japanese Side)

Ryuzo NISHIMAKI	Team Leader Director, Planning Division, Agricultural Development Cooperation Department, JICA
Kenjiro NAKASHIMA	Director, Department of Structure Engineering, National Research Institute of Agricultural Engineering, Ministry of Agriculture, Forestry and Fisheries (MAFF)
Yugo MATSUDA	Director, Planning Division, Department of Overseas Activities, Japan Agricultural Land Development Agency (JALDA)
Hideyuki KANAMORI	Development Specialist, Institute for International Cooperation, JICA
Kazuhiko IHARA	Senior Technical Official, International Cooperation Division, Economic Affairs Bureau, Ministry of Agriculture, Forestry and Fisheries (MAFF)
Satoshi FUJII	Staff, Agricultural Technical Cooperation Division, Agricultural Development Cooperation Department, JICA

Summary of The Survey Results

Irrigation Systems

On field level irrigation, tremendous data are available, all of which show reasonable values. There are, however, the following possibilities for improvement by providing hardware (equipment) and software (experts).

1) Renewing the existing apparatus with the latest ones may raise the research accuracy.
2) Introducing the other methodology than existing may diversify the research topics and it will bring development of new design and management methods.
3) Providing computer systems may improve the data analysis speed and may lead to find new analytical aspects.

Water Management

To reduce the water conveyance and delivery loss, the following improvements may be done by providing hardware and software.

1) Providing the latest measurement apparatus may suggest precise analysis of water loss.
2) Based on the analysis, improvement and management methods on the existing facilities may be found.
3) Providing a model system with small civil works may give the opportunity to verify and demonstrate the effectiveness of the new methods.

Design

We have not been able to find improvement points on design from the results of observing facilities. It may, however, be recommendable to compare the Romanian manuals with Japanese ones to find out the readjustment items for project implementation.

Information Systems

All the existing computers are very efficiently applied. The following improvements, however, may be suggested by providing hardware and software.

1) Providing a information network system (ex. LAN) may increase opportunity of computer application by the staff members.
2) Providing information data base and computation systems may increase smooth implementation of project implementation.

In-Country Training

Although this item was not requested, we will recommend for this project to include the cooperation of training. The following improvement can be done in the project-type technical cooperation.

1) Providing hardware and software of training may assist establishment of systematic training implementation on the field specialists.
2) Introducing the Japanese experience on training key-farmers may accelerate the privatization.
3) Providing the cooperation funds for carrying out training may increase the training opportunities of field specialists and key-farmers.

付属資料6．長期調査ミニッツ(M/M)

MINUTES OF MEETING
BETWEEN JICA LONG-TERM INVESTIGATORS
AND THE AUTHORITIES CONCERNED OF
THE GOVERNMENT OF ROMANIA
ON
THE IRRIGATION SYSTEM READJUSTMENT PROJECT

The Japanese long-term investigators (hereinafter referred to as " the Investigators") organized by the Japan International Cooperation Agency (hereinafter referred to "JICA") visited Romania from June 4 to June 28, 1995 for the purpose of collecting supplementary information and clarifying the changes which have happened after the JICA preliminary survey team dispatched in September, 1994.

During their stay in Romania, the Investigtors exchanged the views and had a series of discussions with the Romanian authorities concerned.

General understanding of the both parties is as stated as in the document attached hereto that will be submitted to the both governments for consideration.

Bucharest, June 27 , 1995

金森秀行

Mr. Hideyuki KANAMORI
Leader of the Long-term
Investigators, JICA

Mr. Vasile BERBECI
General Director of the Cadaster and
Strategy Division for Land Reclamation,
the Ministry of Agriculture and Food

Mr. Todor VOICU
General Director of the Regia
Autonomous for Land Reclamation

ATTACHED DOCUMENTS

1. BACKGROUND

The Land Reclamation Department of the Ministry of Agriculture and Food (MAF) of Romania submitted the request of "Irrigation System Readjustment Project" (hereinafter called "the Project") to the Embassy of Japan in Romania through the Ministry of Foreign Affairs of Romania on April 26, 1984.

A cooperation program called "Project-Type Technical Cooperation" was proposed to apply for the Project. The Government of Japan appreciate the request, and sent the preliminary survey team through the Japan International Cooperation Agency (JICA) from September 3, 1994 to September 28, 1994.

JICA is an official agency for implementing technical cooperation programs. The Preliminary Survey Team had a series of discussions with authorities concerned of MAF and conducted field survey in order to define the details of the request. As the result, the Preliminary Survey Team recognized the necessity and importance of the Project, and recommended the Government of Japan to send long-term investigators for the next step prior to the implementation of the cooperation program.

The detail of survey results were compiled as a document called "Minutes of Discussion" and signed by the General Director of LRD and Leader of the survey team on September 23, 1994.

2. MEMBERS OF THE INVESTIGATION

Hideyuki KANAMORI	Field Irrigation & Training Irrigation Development Specialist, Institute for International Cooperation, JICA
Yoshitake SHIMBO	Water Management & Information Deputy Director, Overseas Land Improvement Cooperation Office, Agricultural Structure Improvement Bureau, Ministry of Agriculture, Forestry and Fisheries
Hisatomo KANAYA	Technical Cooperation Deputy Director, Agricultural Technical Cooperation Division, Agricultural Development Cooperation Department, JICA

3. PERIOD OF THE INVESTIGATION (except trip days)

Hideyuki KANAMORI	From June 4 to 28, 1995
Yoshitake SHIMBO	From June 18 to 28, 1995
Hisatomo KANAYA	From June 18 to 28, 1995

4. RESULTS OF THE INVESTIGATION

During the single long-term investigator's stay, the questionnaire survey was conducted, and it was successfully completed with the efficient cooperation given by specialists on RAIF, ICITID, and ISPIF.

After the other two investigators' arrival, the investigators carried out field surveys with RAIF specialists on OLT-CALMATI irrigation scheme and VIISOARA irrigation scheme in TELEORMAN country. The survey was smoothly finished. These questionnaire and field surveys provided the enough discussion base for formulating the framework.

A series of discussions were made between the investigators and specialists from RAIF, ICITID and ISPIF. As the result, the draft of the framework was suggested. The framework was successfully finalized through meetings with the Director General of Direction of Cadastre and Land Reclamation in MAF, the Director General of RAIF, the programme officer and JICA experts of department for European integration, and other RAIF specialists. The contents of framework are shown in 5. The cooperation framework will be established for continuing the aspects of the Project launching by signing the Record of Discussions and its approval by the two Governments.

5. THE COOPERATION FRAMEWORK AND IMPLEMENTATION SCHEDULE

(1) Purpose of the Project

The purpose of the Project is to improve the technical efficiency of irrigation schemes on research, implementation, management and training.

(2) Implementation Agency of the Project

Ministry of Agriculture and Food (MAF) through Regia Autonomous for Land Reclamation (RAIF) and necessary co-working organizations

(3) Duration of the Project

The duration of the technical cooperation of the Project will be five (5) years from March 1996.

(4) Outputs of the Project

1) The technical capability of RAIF technical staff is to be enhanced.
2) The technical papers in the fields of research, implementation, management and training of the irrigation systems are to be compiled.
3) The training of capable irrigation technical staff in the fields mentioned in 5-(4)-2) is to be improved.

(5) Activities of the Project

1) Farm irrigation systems
   a) Field evaluation of parameters related to crop water requirements
   b) Improvement of design and application of farm irrigation methods
   c) Improvement of training on farm irrigation systems

2) Field water management systems
   a) Improvement of effective irrigation scheduling

4) The Government of Romania will ensure that the equipment mentioned in 6-(2) will be utilized effectively for the implementation of the Project in consultation with the Japanese experts mentioned above.

5) The Government of Romania will take necessary measures to ensure that the knowledge and experience acquired by Romanian personnel from technical training in Japan will be utilized effectively in the implementation of the Project.

6) In accordance with the laws and regulations in force in Romania, the Government of Romania will take necessary measures to provide at its own expense;

a) Services of the following Romanian counterpart personnel and administrative personnel.
   - Project Manager
   - Deputy Project Manager
   - Counterpart Personnel
     One of the Counterpart Personnel for each Japanese exper should be capable of applying English.
   - Administrative Personnel
     Administration, Accounting
   - Counterpart Personnel in each short-term expert's field
   - Other necessary supporting staff

b) Land, buildings and facilities shown below.
   - Land, buildings and facilities necessary for the implementation of the Project in RAIF headquarters.
   - Office space for Japanese experts in RAIF headquarters
   - Training space in RAIF
   - Other land, buildings and facilities necessary for the implementation of the Project

c) Supply or replacement of machinery, equipment, instruments, vehicles, tools, spare parts and any other materials necessary for the implementation of the Project other than the equipment provided through JICA.

d) Means of transport and travel allowances for the Japanes experts for official travel and investigation tour withi. Romania.

e) Suitably furnished accommodation for the Japanese experts and their families.

7) In accordance with the laws and regulations in force in Romania, the Government of Romania will take necessary measures to meet;

a) Expenses necessary for the transportation within Romania of the equipment mentioned in 6-(2) as well as for the installation, operation and maintenance.

b) Customs duties, internal taxes and any other charges, imposed in Romania on the Equipment mentioned in 6-(2).

b) Improvement of effective operation systems
c) Improvement of training of water management systems

3) Water delivery systems
a) Improvement of measuring methods of water flow
b) Improvement of effective water delivery systems
c) Improvement of technical and management information systems
d) Improvement of training of water delivery systems

Establishment of experimental/pilot area will be considered in carrying out the above activities.

6. MEASURES TO BE TAKEN BY THE GOVERNMENT OF JAPAN

(1) Dispatch of Japanese Experts

The Government of Japan will provide the services of the Japanese experts fulfilling the activities referred to in 5.

Note: Short-term experts will be dispatched when the need arises for the smooth implementation of the Project

(2) Provision of machinery and equipment

Taking account of the efficient use of the equipment provided through the project-type technical cooperation scheme, the following will be provided;

1) Equipment necessary for developing and improving the technical papers.
2) Equipment necessary for training
3) Other machinery and equipment necessary for the implementation of the Project.

(3) Training of Romanian personnel in Japan

The Government of Japan will receive Romanian personnel connected with the Project for technical training in Japan.

7. MEASURES TO BE TAKEN BY THE GOVERNMENT OF ROMANIA

1) The Government of Romania will take necessary measures to ensure that the self-reliant operation of the Project will be sustained during and after the period of Japanese technical cooperation, through the full and active involvement in the Project by all related authorities, beneficiary groups and institutions.

2) The Government of Romania will ensure that the technologies and knowledge acquired by the Romanian nationals as a result of the Japanese technical cooperation will contribute to the economic and social development of Romania.

3) The Government of Romania will grant in Romania privileges, exemptions and benefits to the Japanese experts referred in 6-(1) and their families no less favourable than those to experts of third countries, working in Romania.

c) Running expenses necessary for the implementation of the Project.

8) The Government of Romania will ensure that the necessary contracts for the Project activities referred to in 5 will be provided by the implementation organization with advanced consultation of the Japanese experts who will be dispatched.

8. JOINT COORDINATING COMMITTEE

1) Function

The Joint Coordinating Committee will meet at least once a year and whenever the need arises, and function;

a) To give direction and guidance to the activities carried out by the Project and to coordinate interrelated activities within RAIF and other related agencies of RAIF.

b) To review and approve the implementation schedule of the Project to be formulated under the Project framework.

c) To review the overall progress of the technical cooperation program as well as the achievement of it.

d) To review and exchange views on major issues arising from or in connection with the technical cooperation program.

e) To select, examine and evaluate the technical papers including to be developed and improved by the Project.

2) Composition

a) Chairperson
General Directer of RAIF

b) Vice chairperson
General Deputy Directer of RAIF

c) Romanian side
-General Directer of the Cadastre and Strategy Directer from MAF
-General Directer of the Budgetion Production Division from MAF
-General Manager of ISPIF
-Director ICITID
-Project Manager

d) Japanese side
Team Leader, Other Japanese experts including personnel dispatched by JICA and Representative(s) of JICA Austria Office

Note; Official(s) of the Embassy of Japan may attend the Joint Coordinating Committee as observer(s).