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HAITI COUNTRY PAPER

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UNITED NATIONS

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A. NATIONAL AGRICULTURAL RESEARCH POLICY

a) Orientation

The somewhat limited success of Hypothesis Research has inevitably resulted in apparent indifference, if not resistance, on the part of the farmer. The planned improvement of the quality of life in rural environments has certainly been the worse for it. The fact is that this classical conception of the nature of technical management was too often above the level of real problems and never coincided with farming realities. It was at the same time marked by insufficiently intense extension work, frittering away hard-won results to a degree that rendered them wholly or partially inapplicable.

The more engaging concept of Development Research is therefore all the more attractive because it is centred on agronomic, agro-ecological and socio-economic approaches. The system of peasant farms is in principle the pivotal point of any activity which is to have any hope of being adopted in a real setting. When the risks attendant on innovation are reduced by research which has been asked for and shared, neither new nor old technology is massively rejected, since it comes out of experimentation in the peasant milieu.

Development does not take place in a closed circuit. It derives as much benefit as it provides in the matter of effective

management and dissemination of information, by drawing the information from the source and transmitting it to the appropriate clientele. These activities, correctly understood, include collection, processing and dissemination of information.

This approach has led to the foundation, within the Faculty of Agronomy and Veterinary Medicine, of the Agricultural Research and Documentation Centre (CDRA), endowed with the managerial and administrative autonomy necessary to guarantee it both speed of decision-making and an adequate level of efficiency. CDRA supports and guides the policy of sustained training of cadres. It works to build up through research and documentation a technical and documentary archive relating to the particular problems of Haitian agriculture and agronomic science in general.

Overall, the essential functions of CDRA may be defined as follows

- To participate on the spot, together with regional entities and Agricultural Districts, in the strengthening of ongoing activities, with a view to achieving a solution both applicable and economically viable to problems of production.
- To integrate research units operating throughout the country;

- To identify obstacles requiring deeper research, with a view to establishing a permanent strategy of support for plant and animal production.
- To develop new and more efficient forms of utilisation of hitherto neglected productive resources.
- To develop and/or apply relatively simple techniques for putting to use agricultural products and by-products.

The CRDA is also concerned with:

- Research planning and programming
- Evaluation and transmission of results
- Production, treatment and distribution, as well as certification, of improved seed material, cuttings and clones.
- Analysis and processing of documents
- Production of information material
- Administration and distribution of funds allocated for research
- Establishment of criteria for recruitment and supervision of staff.

b) The principal research objectives are:

1. To contribute to a progressive increase in agricultural production, with a view to:
 - increasing the availability of food
 - reducing dependence in food
 - reducing the drain on foreign currency
 - promoting rural employment
 - increasing the volume and number of export commodities

2. To collect, process and distribute agricultural

information, with a view to:

- facilitating access to available documentation
- setting up and cataloguing references to results of local and foreign experimentation
- preparing information
- organising facilities for loan, exchange and communication of documentary resources
- improving the quality and quantity of services to the agricultural sector through functional links with national and international information services.

c) Financial and Human Resources

Financial and human resources allocated to research can be broken down according to the different projects adopted. Data on the allocation of budgetary resources for the financial year 1933-34 relate only to the national contribution, requested and committed; the estimate for the foreign component is not yet available for all the external agencies cooperating with the agricultural sector. It has therefore not been possible to make any statements about the breakdown of overall investment by programme. Such a breakdown, if it is to be meaningful and realistic, must necessarily take into consideration the total budget allocated to the sector.

Nevertheless, the projects to be implemented as a matter

of priority for the financial year 1983-84 will have, failing any unforeseen circumstances at the national level, the following sums available for their execution:

PROJECT	ADS II	\$260,000.00
	FLAI	80,000.00
	CDVA	125,000.00
	SENASA	80,000.00
	CECOSAM	130,000.00
	Documentation	
	CEN	
	CEFG	
	DRIFF	
	CRDA	100,000.00

There should therefore be an overall sum for research of the order of \$775,000 augmented by a substantial contribution from external aid. To this must be added the not inconsiderable amounts appearing in the budgets of other programmes and projects which in one way or another undertake research-type activities.

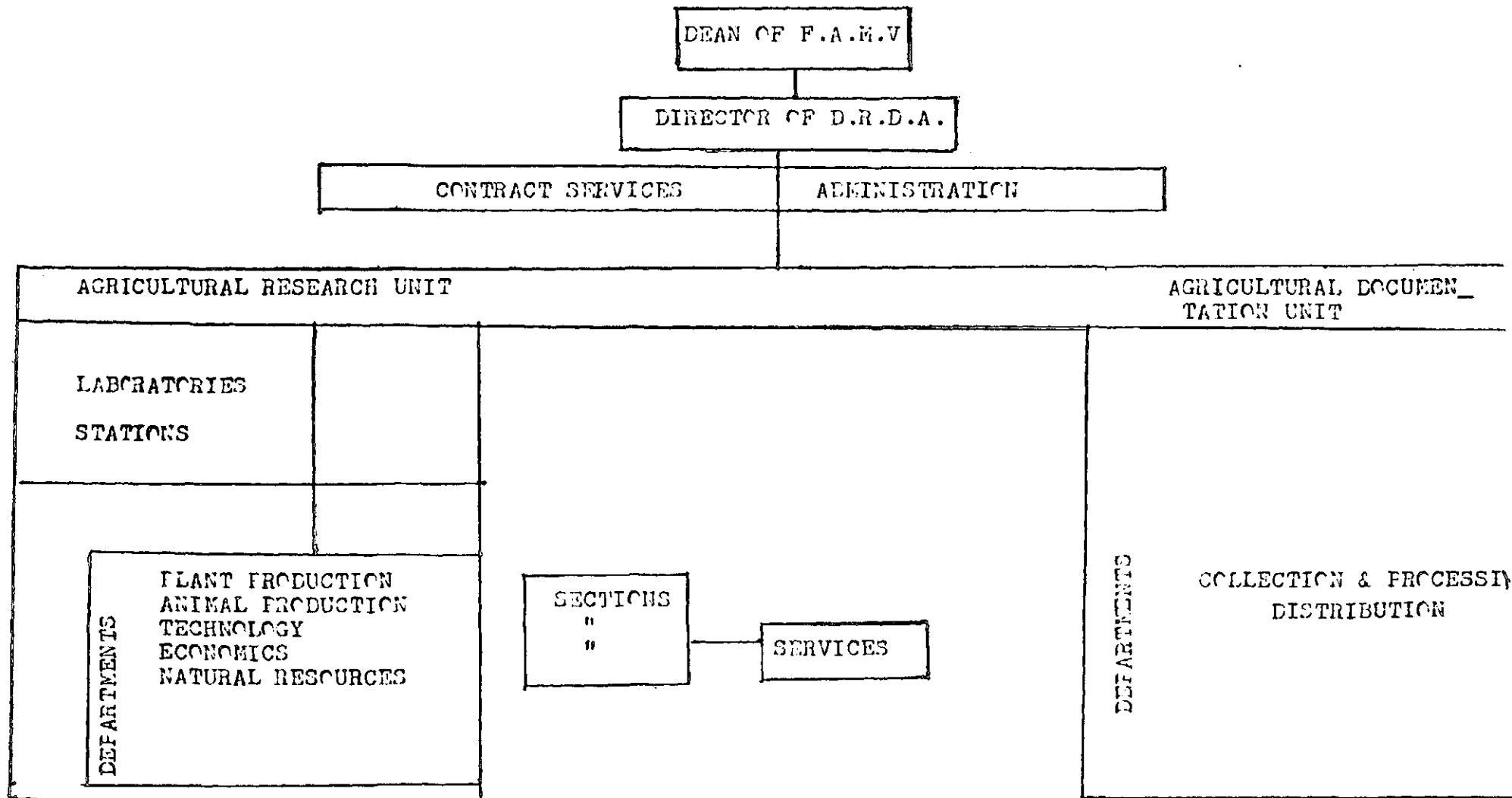
The CRDA at present comprises a nucleus of seventeen researchers to which are added the full-time teachers of the FANV. It is also expected that they may request at any time advice from other technicians from the DANRDR or other institutions whose skills may answer particular requirements.

STRUCTURAL ORGANISATION OF THE NATIONAL SYSTEM FOR
AGRICULTURAL RESEARCH

a) Units of the system

The essentially technical character of the CRDA requires it to be endowed with sufficient autonomy of management and internal administration to carry out its functions. Nevertheless, in the institutional hierarchy the Faculty of Agronomy and Veterinary Medicine (FAMV) is the parent organisation of the CRDA. The Centre comprises two units: the Agricultural Research Unit and the Agricultural Documentation Unit. These units are in turn divided into Departments and then into Sections and Services according to need. Without going into great detail, the organisation chart of the CRDA is as follows:

ORGANISATION CHART OF THE C.R.D.A.



Until quite recently, several research entities were functioning in various parts of the Republic without central coordination. These entities belonged to semi-autonomous public regional organisms or were branches of projects sponsored by foreign aid with perspectives limited to problems specific to their areas of activity. The creation of C&DA has reduced this anomaly and given new direction to the national system of agricultural research.

b) Organisations participating in the system

On the operational level, we may mention:

- a) the contribution of the different departments of the FAMV and of the directorates of the DARNDA
- b) agricultural research in support of ODVA (RADVA)
- c) the studies carried out at Madian-Salagnac under the aegis of French Cooperation
- d) the different ongoing activities of the regional integrated development projects, which receive bilateral or multilateral assistance (DRIFF/ODN/ODFG/DAJA)
- e) the reconversion of State farms to their original objectives of experimentation and demonstration.

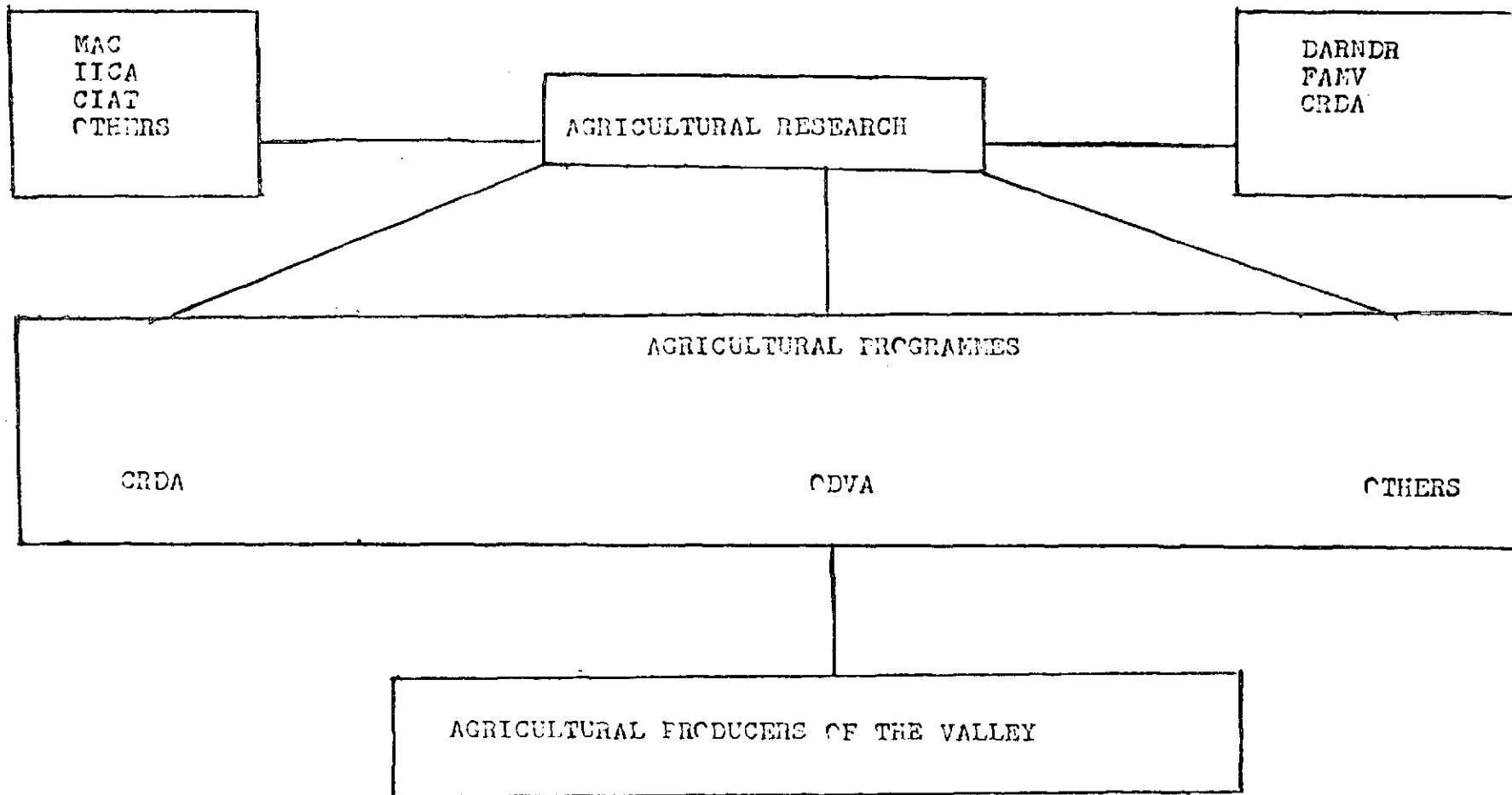
All these organisations in fact have limited technical staff, but sustained efforts are being made at all levels for improvement in quality and quantity of human resources. Table 5 gives figures from a census of management-level staff trained or in training during the last two years. The forecasts for training for coming years are even more promising.

c) Organisation of operational units

The organisational chart of the central research system has already been given at Table 2. As examples of regional centres, we shall cite only the structures of "Research in Support of the Artibonite Valley Development Organism" (RADVA) and the Northern Development Organism (ODN).

Table 4.

STRUCTURE OF THE R.A.D.V.A.



At the CDN, the machinery in operation consists of a network of stations comprising:

- a) the Grand-Fre regional centre, whose functions are seed production, arboriculture and general research;
- b) five (5) support stations each carrying out research into the chief crop of the region in which it is situated. These are:
 - 1 sugar cane and sugar sorghum station
 - 1 cassava station
 - 1 vegetable station
 - 1 irrigated rice station
 - 1 test crop centre

C. Organisation of programmes and projects

a) Planning methodology

With a view to facilitating the achievement of the 1983-84 Annual Plan and guaranteeing the success of the activities planned, the Ministry of Agriculture, with reference to the major difficulties normally encountered in the implementation of most agricultural projects, intends, from the next financial year onward, to take the following steps:

- The various activities will be developed through wide-ranging promotional projects, of national, regional and local scope, likely to have a real developmental impact on the rural communities concerned.
- Except for the so-called integrated regional development (DRI) projects, the implementation of programmes involving

of the heads of technical and administrative directorates of the DARNDR.

- The follow-up and control structures of the projects will be effectively reinforced, particularly by the establishment of an appropriate coordination mechanism which must facilitate execution of the sectoral development budget. In this context the Ministry of Agriculture will also take the steps required to achieve a functional and efficient balance between the operating and development budgets in the interest of more efficient utilisation of available resources.

b) Principal agricultural research projects

The emergency procedures developed to close the food gap, both quantitative and qualitative, and the pressing need to reduce the outflow of foreign currency necessarily orient research projects toward activities designed to bring about constant growth of production and productivity. Taking into consideration the essential components of the national diet, they cover:

- 1) cereals (maize, sorghum, millet, rice, etc.)
- 2) edible seed legumes (common bean, pois inconnu, black peas, etc.)
- 3) roots and tubers (cassava, yam, malanga, sweet potato, etc.)
- 4) fruits (avocado, mango, banana, etc.)
- 5) oil-seed crops (peanuts, coconut, ochro, etc.)
- 6) spices and vegetables (onion, garlic, carrot, tomato, cabbage, beetroot, etc.)
- 7) industrial crops (coffee, cacao, sugar cane, cotton, etc.)

Research planned in the various crops includes:

- a) systems of production: systems of cultivation, soil, water, fertilisation
- b) species resistance to drought
- c) plant improvement
- d) phytosanitary work

In animal production, the emphasis is, besides, on restocking in pigs to fill the void created by African swine fever.

Improvements in cattle, goat and poultry rearing and a vigorous campaign for extension of rabbit-breeding suggest that requirements in animal protein can be met if work is pursued relentlessly in

- a) systems of production: systems of rearing and acclimatisation
- b) improvements in feeding and nutrition
- c) animal health
- d) genetic improvement
- e) conservation and utilisation of products

The Departments of Technology, Rural Economics and Natural Resources have not neglected research. Briefly, they have to their credit:

- a) the development of post-harvest protection programmes
- b) improvement of cottage-industry meat, fruit and vegetable preservation
- c) development of agricultural waste recycling processes

- d) discovery of ways to use agricultural and industrial by-products in human and animal alimentation
- e) determination of production costs of principal commodities
- f) study of agricultural yields and earnings
- g) determination of quantity and cost of production inputs.

During the session on research into specific crops, we shall describe the situation in rice growing.

c) Limiting factors

Numerous restrictive factors have always slowed the rate of growth of Haitian agriculture compared to that of other sectors of the national economy. These constraints, which constitute veritable bottlenecks in the agricultural sector, include among others:

Institutional constraints

- . shortage and poor quality of technical staff
- . lack of inter- and intra-institutional coordination
- . incapacity of existing structures to produce and disseminate reliable basic statistical information
- . weakness of existing small farmers' organisations

Physical constraints

- . deterioration of the natural conditions of the local environment resulting in the progressive diminution of the productive capacity of the land
- . inadequacy of existing agricultural infrastructure, including irrigation and drainage systems, secondary access roads, storage and preservation facilities.

Economic constraints

- . high cost of strategic agricultural inputs
- . high cost of transport
- . low purchasing power in rural areas
- . faulty price support policies
- . difficulty of access to agricultural credit

Technological constraints

- . shortage of technical staff
- . inefficiency of agricultural equipment
- . deficiencies in research

Irregular constraints

- . prolonged drought
- . periodic flooding
- . frequent hurricanes
- . incidence of plant and animal disease.

d) Budget breakdown

The plan for the various heads of expenditure can be broken down as follows:

Heads of expenditure

Personnel.....	15.0
Operations.....	50.0
Installations.....	25.0
General services.....	10.0

D.- HUMAN RESOURCE DEVELOPMENTa) Research personnel

The limitations resulting from shortage of specialists mean that training of technical personnel must have a prominent place in the selective development of a balanced work force. The great majority of technicians working in the field of agricultural research consists of graduates at BS level of the Faculty of Agronomy and Veterinary Medicine. As their training has been of a "generalist" type, they are not strictly speaking qualified for research, and might just as well be employed as extension officers, agricultural advisors or production agronomists.

The present situation with regard to staff trained for research as such is shown at Table 5.

TABLE 5. PERSONNEL TRAINED FOR RESEARCH

FIELD	LEVEL OF TRAINING	NUMBER	
		AVAILABLE	IN TRAINING
Cereals & legumes	3-6 mths course	8	1
" "	M.S.	2	1
" "	PhD	3	-
Tubers	3-6 mths course	3	1
Agric. economics	M.S.	3	3
" "	PhD	1	-
Agronomy	Bachelor's	3	2
Comparative Agric.	Bachelor's	2	-
Food technology	M.S.	2	-
" "	PhD	1	-
Biochem. & Nutrition	PhD	1	-
Phytopathology & Crop protection	M.S.	4	1
Plant physiology	M.S.	1	-
Botany	M.S.	1	-
Fruit growing	M.S.	-	1
Cilseed crops	M.S.	-	1
Irrigation & drge.	M.S.	1	2
Soils & soil cons.	M.S.	2	5
" "	PhD	1	-
Hydrology	M.S.	1	-
Agrostology	M.S.	-	1
"	PhD	-	1
Coffee, cacao	M.S.	-	1
Animal nutrition	M.S.	1	-
Animal production & nutrition	PhD	1	-

Animal production	M.S.	1	-
Vet. medicine	DVM	4	-
Rural sociology	M.S.	-	1
" "	PhD	1	-
Agric. education	M.S.	-	1
Horticulture	M.S.	1	-

Examination of Table 5 shows, if it is necessary to show, the extent of the gaps and deficiencies. It is therefore urgent to develop a programme of post-graduate training to respond adequately to staff needs in agricultural research, teaching and development projects. .

b) Auxiliary personnel

If manpower is taken to mean research auxiliaries, there is obviously a great gap to be filled not only in the field but also in the laboratory. Programmes to step up training will reduce these gaps, but the road ahead is long and arduous.

c) Personnel utilisation

A certain caution is required when referring to direct loss of qualified staff. It would be better to think in terms of the lack of an adequate cadre of personnel leading in the more or less short run to lack of motivation. This leads inevitably to the search for work considered to be more suitable or to requests for posting to jobs judged to be more in keeping with newly-acquired qualifications. In addition the Département of Agriculture may for administrative or

other reasons find it necessary to make certain transfers which unfortunately thin the ranks of research. Nevertheless it must be admitted that the great concern for restructuring research services has already engendered new approaches to personnel management which tend more and more to assure long service.

B.- EXTERNAL RELATIONS

In recent years considerable effort has been expended in the field of agricultural research international technical and financial help. Nevertheless, except for a few valuable activities such as the Madian-Salagnac centre jointly supported by French assistance and the FAMV, and the CDVA Experimental Centre which benefited from the technical assistance of the Chinese Mission, it can be said that agricultural research has suffered from the weaknesses generally attendant on external assistance. These can be summed up as lack of follow-through more or less related to political factors or arising out of internal financial difficulties. There is evidence on both sides of re-awakening interest and the interventions of the Consultative Group on International Agricultural Research (CGIAR) are multiplying to the advantage of agricultural development. One need only consider the training and cooperation facilities provided by CIAT, CIMMYT, IICA, ICRISAT, IITA, CRDI, FAS, FIS and AID to realise how much aid there is to absorb.

Haiti is participating more and more in exchanges with other Caribbean systems and indeed has just joined the Dominican Republic and Cuba in an FAC-sponsored cooperative programme on edible seed legumes, roots and tubers.

F.- TRANSMISSION OF INFORMATION AND TECHNOLOGY

a) Method of application of results

Research and extension are considered as one and indivisible because of their inevitable interdependence. Extension furnishes research with data; research analyses data, checks it and develops the technological package appropriate to each type of activity. This package is itself the subject of extension work, which through its various techniques finally reaches the producer. A close link with extension is indispensable if positive results achieved in experimental stations are to be given adequate trials in the field under normal conditions and on farms with uniform agro-climatic characteristics.

The more extension officers are able to participate in the definitive field trials of any recommended procedure the more interest they have in getting it accepted by farmers. Extension must have close and permanent links with research to enable extension personnel to be kept informed of the latest technical developments.

b) The approach considered most valuable consists of:

- collection and interpretation of data from 1200 cooperation and verification experiments carried out on peasant plots.
- preparation of a training manual on systems of production
- establishment of functional and operational units able to reproduce the development strategy of the improved crop.

c) Transmission to farmers is achieved by:

- establishment and development of a training programme for farmers with a view to transfer of technology. In this context, 14,400 growers will have participated in visits to farms.
- creation of growers' organisations and appropriate public services (credit, marketing) to institutionalise improved systems of production and techniques of environmental protection in the target communities
- implementation of a training programme for a hundred local resident agricultural advisers in the fields of agricultural management, research into production systems and transfer of technology
- establishment of short- and long-term training programmes abroad for forty technicians in the fields of systems of production and models for rational land use.
- improvement of production and productivity levels through use of selected crops and techniques of soil management.

3.- PREPARATION, EVALUATION AND CONTROL OF PROJECTS

The project preparation, evaluation and control service is responsible for elaboration of research project document as well as all tasks of a technical nature impinging on control and evaluation of research activities.

In all research investment the "evaluation and control" component has been shown to be of prime importance, in the sense that it allows:

- on the one hand, to observe the state of operations at any point in their development, and take whatever corrective measures may be needed;
- on the other hand, to evaluate, periodically, according to needs and circumstances, the results obtained and thus discern the real economic impact of projects.

This is undeniably a complex and arduous task requiring effective and sustained support of all levels of responsibility and decision involved in the process of agricultural development.

The Project Preparation, Evaluation and Control Service is divided into two sections and has the following responsibilities:

a) Preparation of Projects

- To keep a complete up-to-date file of ongoing projects
- To prepare, in collaboration with other Directorates and Organisms involved, dossiers on projects of particular interest to the sector and capable of benefiting from internal and/or external financing.
- To provide interested institutions and other entities with such assistance and technical guidance as they may need in the conception and elaboration of project dossiers.
- To participate actively in the preparation of documents for any ad hoc projects, in collaboration with the relevant institutions and/or organisms.

b) Control and follow-up evaluation

- To undertake the regular collection of data with a view to the periodic evaluation of ongoing projects, according to the initial plans and the conditions of execution
- To carry out the control and follow-up of ongoing research activities and recommend any mid-course adjustments.
- To keep all ongoing projects up to date both as to their technical progress and financing, in close collaboration with the organisms concerned.
- To prepare annual statements of research achievements and all periodic or ad hoc technical and/or administrative reports relating to the evaluation of research activities

c) Follow-up and budget control (Development budget)

- To keep up to date the financial statements of ongoing research projects, as regards both local counterpart funds and foreign contributions.
- To undertake the periodic follow-up and control of project financing, by intervening where necessary to avoid any bottlenecks, particularly as regards disbursement of local moneys.
- To propose any mid-course adjustment deemed necessary to facilitate the regular flow of funding to projects.

H.- RESEARCH PRIORITIES

In the prevailing national economic climate it is essential that available human, material and financial resources be

exploited in the most intelligent possible way in order to permit the country to continue building up its own means of subsistence and independent development. With this in mind, the national effort in the area of agricultural research will be focussed principally on:

1. Strengthening of institutions, special attention being paid to the promotion of manpower development, as regards both technical and administrative staff on the one hand and farmers on the other.
2. promotion of plant production, oriented essentially toward:
 - high-consumption food commodities: rice, maize, millet, beans and other food products;
 - export crops;
 - agro-industrial crops;
3. livestock, including principally:
 - the preparatory phase of a pig restocking programme
 - small livestock development
 - animal health
4. improvement of systems of production.

It should be noted in passing that maintenance, rehabilitation and construction of irrigation and drainage systems, access roads, and laying down of anti-erosion structures are generally labour-intensive activities. They are therefore expected to make a valuable contribution to the reduction of unemployment and underemployment in farming areas and therefore to have a favourable effect on the stabilisation of the rural population, which is generally drifting toward the urban areas and to foreign countries in search of an often uncertain improvement in living standards.