COMMUNICATIONS PROJECT MANAGEMENT FOR SOCIO-ECONOMIC DEVELOPMENT : (A CASE HISTORY OF TWO CANADIAN APPROACHES)

PROJECT NO. 5-701

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COMMUNICATIONS PROJECT MANAGEMENT FOR SOCIO-ECONOMIC DEVELOPMENT (A CASE HISTORY OF TWO CANADIAN APPROACHES)

DEPARTMENT OF COMMUNICATIONS

the bureau of management consulting is an agency of the department of supply and services

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BUREAU OF MANAGEMENT CONSULTING
BUREAU DES CONSEILLERS EN GESTION

Ottawa, Canada
K1A 0T5

July 25, 1973.

Mr. R. Gwyn,
Director General,
Environmental Planning,
Department of Communications,
Room 801, Berger Building,
100 Metcalfe Street,
Ottawa, Ontario,
K1A 0C8.

Dear Mr. Gwyn:

Enclosed is the final edited text of the case histories prepared under our contract with you, on behalf of the United Nations Educational, Scientific and Cultural Organization.

This material has been prepared and editéd in close consultation with yourself and Messrs. Gilbert, Kerr and Blevis. It represents a substantial revision of the rough draft previously submitted. The revision - insofar as the Northern Pilot Project is concerned - is to accommodate the assumed interests of UNESCO by the addition of and Introduction which attempts to provide background to the cases for those unfamiliar with the Canadian scene and highlight some of the views you have expressed on the implications of Anik I. At your suggestion, we have also reduced the section devoted to the Evaluator and rewritten the last section to provide the summation you suggested and to pose some questions for discussion where the case material is to be used for developmental purposes (its main intent).

Part II was found to be unacceptable to CRC in style and in terms of the interpretations placed on the management approach and has accordingly been substantially rewritten to accommodate Dr. Blevis' objections, editing and helpful suggestions. Although now a somewhat more descriptive account than that written in Part I, this treatment will hopefully prevent from being accentuated the differences in understandings that appear to exist at a conceptual level at a time when the project may still be in too early a stage of development for a concensus to have been reached.

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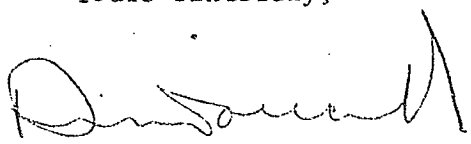
The contact we have had with you and your staff in the preparation of this material has been a very interesting and stimulating association. May we thank all concerned for their most helpful cooperation and take this opportunity to wish NPP and everyone associated with it the success their inspired efforts richly deserve. We most sincerely hope that our own efforts will do justice to theirs.

May we also ask that our thanks go to Dr. Blevis, without whose thorough editing we would have been unable to complete the revision of Part II within the severe limitations of the time available to us.

Yours sincerely,



for V.H. Earle,
Senior Consultant,
Bureau of Management Consulting.

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FORWARD

The case histories presented here were jointly commissioned by the Government of Canada, Department of Communications, and the Division of the Development and Application of the Communications Media, UNESCO. They have been prepared by the Bureau of Management Consulting, Department of Supply and Services, to describe two current projects undertaken by the Department of Communications which are aimed at exploring the potential of communications media for socio-economic development, with a particular concern for conditions in the remotely located communities of the Canadian northlands.

Since both these projects were launched as much to learn from the experience they would provide as to achieve the more concrete result of improving communications, the case histories describing them have been prepared with the object of presenting them as a learning experience. For this purpose, the example of the Harvard Business School's "Case Method" has been followed: actual experience is re-created in a way that aims at having the reader share it as though it were his own. The case histories are non-evaluative; they make no analysis of the facts presented; they offer no conclusions. The reader is left to make his own analysis and reach his own decisions on the premise that what is most valuably to be learned from experience is not the ability to repeat it but rather to apply what may be generalized from it to a different set of circumstances. On this basis, the projects are not described as models. No judgment is made as to whether they are "good" or "bad", useful or not useful: there is only the judgment of what is true for the individual as he judges it for himself and applies to his own unique situation.

If some concession to the needs of composition may be allowed, this is a factual account of real events and of real people. The opinions and feelings of those involved - which are part of the project's reality and for that reason included - are reported as they were interpreted but with every effort made, short of direct quotation, to preserve the original sense.

Because of the international interest the projects have aroused and for the benefit of those unfamiliar with the Canadian scene, the case histories have been supplemented with explanatory notes and illustrations which are intended as background information. As such it is necessarily highly generalized and, particularly with respect to any government or other institutional body mentioned, should not be taken as an official expression of the policies and interest of such bodies.

Although in these several ways every effort has been made to present an historical account free of the "historian's" own opinions and feelings, it would be an unforgivable omission if for that reason no mention was to be made of how much is so gratefully owing to those who are a part of this history and who were so unstinting in the help they gave to its writing. This is only in part an indebtedness for the information they willingly shared. It is as much a debt of gratitude for the pleasure it was to share their company, their generous fellowship and their infectious enthusiasm.

PART I

"THE NORTHERN PILOT PROJECT"

"It is as though we are now experiencing, across the board, a demand that the balance of power should be righted. This is merely a demand for 'our'share'..... It included demands for participation, decentralization, local control, autonomy, that in recent years have taken on revolutionary proportions."

Donald A. Schon in
'Beyond the Stable State'

Aug. 74

PART I

THE NORTHERN PILOT PROJECT

SECTION I - INTRODUCTION

This is a history of two communications projects which at first glance may seem entirely unrelated except for their origin in the Federal Government of Canada's Department of Communications and their concurrent place in time. The first is The Northern Pilot Project, so called because it is concerned with the introduction of High Frequency Radio Telephone networks and low-powered Radio Broadcasting stations. The second, - The CTS Communications Experiments Project - is concerned with applications of satellite communications, not only in the North and not only to benefit remotely located and largely isolated communities but throughout Canada and serving such sophisticated needs as high-speed data transmission. At least in technological terms, therefore, the two projects have little similarity, one being the application of a fully developed state of the art and the other being still on the frontiers of developing technology and existing to explore a potential much of which remains still untapped.

To understand why such apparently dissimilar undertakings can be considered not as separate histories but as one, and to appreciate how they in fact complement one another like the two sides of the same coin, it is necessary to have some appreciation of their background. It is a background shaped in broad outline by the characteristics of geography and climate and, in finer detail, by social, political and economic features which portray the Canadian identity.

The cultivation and preservation of that identity has been and remains a central concern of Canadians and their Federal Government. To be a Canadian is to be conscious of a considerable diversity in qualities of life and physical surroundings. It is to live in a country whose population is most densely distributed across a narrow band of its total land area, running along its border with the United States and at most, only some 200 miles in depth. Over 80% of the land mass lies to the north of this band and is occupied by not more than 1% of the population living in isolated centres established primarily for the extraction of minerals or for lumbering and, beyond the tree-line marking the sub-arctic and arctic regions, in a scattering of settlements whose mostly Indian and Eskimo inhabitants live precariously by hunting and fishing.

Indians and Eskimos inhabiting this vast expanse of the Canada's northland are, of course, the original Canadians. Their geography, their severe climate, their traditions, their economic condition sharply contrast them with their fellow nationals of the more populous South who are of mixed but predominantly French and British descent. Among these are not only the diversities of extraction and of corresponding cultural traditions, not only those of physical environment varying widely in the 3,000 mile breadth of a continent, but also the regional differences of provincial governments which individually tend to have a more immediate impact on the lives of citizens living within their respective boundaries than any national influence. Provincial governments are not autonomous but nevertheless have very wide powers constitutionally granted them which they jealously guard against Federal encroachment.

The forging of Canadian nationhood has been against these geographic, cultural and political odds but has also had to take into account the fact that in these and economic terms the majority of the population, spread as it is so narrowly along the country's border with the United States, is everywhere closer to that country than to its own centres of population. Their proximity, ironically, makes it easier for them to communicate with Americans and share their values than with their fellow Canadians, especially with those in the distant North but also along the extended breadth of the country.

Under these circumstances, it is not hard to understand why transport and communications play so important a role in national policy or why Canada, fortunate in the means to do so, is prepared to invest heavily to maintain herself at the forefront of technological advancement in these vital aspects of her national life. Thus it is not surprising that Canada was the first to establish a domestic satellite communications system with the launching of Anik I, a satellite which provides telephone, radio and television reception wherever in the 3,851,809 square miles of the land area there are facilities to receive its signals.

Satellite Communications

Launched with the collaboration of the United States' National Aeronautical and Space Administration (NASA) on the 9th of November 1972, Anik I was prompted by federal government initiatives aimed at overcoming, in the words of a prominent official, the disadvantages "of our impossible geography" and "bringing Canadians closer together". In the latter respect, it was intended to bestow a special benefit on the North, a benefit terres-

trial communications could not confer owing to the high cost of providing adequate telephone services except by radio telephone, a less than reliable means subject to ionospheric disturbances. Anik's capabilities made it justifiably a "technological marvel" and it is considered to offer benefits greatly better than any of the existing forms of transmission, its special advantage being that its costs are independent of the distance covered.

Disappointingly, however, it received a mixed public reaction. For the majority of the southern population who already benefited from telephone, television and other communication services brought to them by an extensive micro-wave system which might fairly be ranked among the best in the world, Anik's superior qualities were scarcely visible. In the North, where it was expected to make the greatest contribution, reception was limited to only the few larger centres having ground stations to receive the satellite's signals. It was acknowledged in these locations that the quality of long distance telephone service had been greatly improved but this was a benefit appreciated most by those who for commercial or administrative purposes had need of good communication with the South or who felt isolated from the life of the South with only delayed access to television programming. But for others, the native northerners in particular, these were doubtful advantages. Whilst the powerful impact of television could be felt to indeed bring "Canadians closer together", so far as the indigenous population was concerned it was predominantly on southern terms. In these terms it provided information and entertainment but not dialogue. Worse, so some argued, it emphasized the great difference existing between living conditions in the affluent South and the greatly inferior ones in the North and deepened the northerner's sense of isolation and deprivation. If it did not adequately meet the need for dialogue

between North and South, still less did it meet the greater need among native northerners for dialogue among themselves or portray their own environment to themselves.

Following the launching of Anik I, therefore, there was a significant body of opinion, shared by increasingly vociferous organizations representing the indigenous population of the North, that was critical of the Federal Government's communications policies, mainly on the grounds that the newest of communications technologies had been applied with a greater concern for its technological merits and socio-economic value to the South than with a sufficient recognition of the needs of northerners; and their greatest need was for intra and inter-community communication.

Whatever the virtues of Anik, they were still only available to a relative few and those mostly of southern origin. But the home of native northerners was for the most part scattered village settlements clinging to existence far from centres benefiting from television and far from one another. Theirs was the isolation of an empty landscape and a long and fiercely cruel winter whose ice and snow allowed only infrequent and hazardous access by air. Yet theirs was a culture and way of life, originally and authentically Canadian, which successive governments had long pledged to protect and cherish. How sincere was this government if it acted, as with the launching of Anik I, professedly in the interests of the North but without consulting the Indians and Eskimo who were the majority of its population and whom geography, climate and history had placed at such severe disadvantage compared to their fellow Canadians to the South? Was this not a confirmation that the role of government was essentially regulatory; that it chose to decide what was in people's best interests rather than allow the governed to

to decide this for themselves? Anik I ushered in a new era of communications but the policies and attitudes of government appeared unchanged. For the Indian and Eskimo peoples, it was an example of another technological development which would erode their ability to live in harmony with their natural surroundings, pollute their cultural inheritance as surely as other industrial technologies had polluted their physical environment, their wildlife, their forests, lakes and rivers. Satellite communications, instituted without consulting their needs, appeared only to hasten the ultimate disappearance of their way of life.

Communications Policy Planning

It is against this background of criticism that the Northern Pilot and the Communications Technology Satellite (CTS) Communications Experiments Projects need to be understood. Dissimilar in the technologies they employ, they nevertheless have a unity of purpose which is in direct answer to these criticisms of public policy; for what they express is the resolve among those who are responsible for the future of communications in Canada - policy-makers and planners in the Department of Communications - to consult the interests of the public and to win the public's direct participation in the application of communication media to satisfy those interests. If they may be termed innovative - and they may fairly be described as such - it is because they seek to play a role in which the government is not cast in the regulatory capacity and does not use its powers unilaterally to decide the public good as has typically been its tradition. Instead, government sees itself acting in a facilitative capacity to generate a process whereby the public may assume responsibility for deciding for itself how best the means the government can place at its disposal can be applied.

The Northern Pilot Project

NPP

Since this is an unaccustomed role for most government departments, there was an obvious need to gain experience in applying these new principles where they could most appropriately be applied and where there was the greatest need. It could be hoped that the Communications Technology Satellite, intended as it was as an experimental model, would be the forerunner of future generations of communications satellites succeeding Anik I. If so, its experimental use ought to be approached on a basis that would meet the demand for consultation and participation which had greeted the introduction of Anik particularly among the native peoples of the North. Clearly, also, that response indicated that succeeding generations of domestic communications satellites would not make the contribution to the North that had been sought in Anik unless, in addition to linking northerners visually with the South, they were also linked between themselves, could use this newest of technologies for their own purposes and could regard it as their own rather than as an imposed 'import' from the South. The future of domestic communications satellite systems to which the government had firmly staked itself could not but lie in this direction, but meanwhile the demand for inter-community communication remained; and in the relatively low-cost availability of High Frequency Radio Transceiver and Low-Power Radio Broadcasting systems there were the means to meet it. By applying these systems a declared need would be met; but, in the way they were introduced, experience could be gained in the practice of the consultative and facilitative principles which the public interest seemed to call for.

It is for these reasons that the Northern Pilot Project can be regarded as a learning experience but one that has the very concrete and

practical purpose of supplying a known public demand. The details of its operations are described in the first part of the text that follows. They may be read as a study of the processes of project management, but - more importantly - as the management of participative relationships and processes of involvement aimed at satisfying human needs and enhancing individual and organizational growth: processes, in short, of social development.

For purposes of introduction it may suffice to describe only the project's salient features. These are, first, that it is an operation of very limited scale - deliberately so, considering its exploratory nature and the need to confine it as far as possible to measurable limits for purposes of evaluating both its processes and results. The project group numbers only five, the Project Manager and his Secretary, two fieldworkers and the Evaluator. Secondly, as might be supposed considering the small staff employed, it places a heavy emphasis on the development of cooperative relationships. The project is highly dependent on the skills of fieldworkers in performing the catalytic role enabling the communities they work with to assume responsibility for acting in their own interests and helping them to identify the resources available to them from among various government agencies at federal and provincial levels. Thirdly, because of the project's exploratory nature, the function of evaluation necessarily plays an important part (and for that reason has been dealt with at some length in the following text).

In this last connection, it might be well to take the opportunity to anticipate a possible objection: namely, that because the project involves so small a group it must inevitably reflect in large measure the personal qualities of its individual members, especially as each acts in

relative isolation. On these grounds, it might be argued, anything to be concluded from the experience will lack the objectivity from which valid generalizations can be drawn.

In attempting to answer this objection, a fourth point should be made; and this is that the Northern Pilot Project, like its companion, the CTS Communications Experiments Project, is still in progress and no final conclusions can therefore yet be reached as to whether its objectives will be met or the effectiveness of the developmental processes it demonstrated can be confirmed. The prognosis is favourable, but it would be premature to draw any firm conclusions at this time. It is the difficult task of the Evaluator to test the project against such objective criteria of success as she may find to apply and to search out such truths as there may be in an undertaking which is nothing if not human and embued with all the vagaries of human nature.

In the meantime, experience is being gained and it is experience that can be shared with the reader. Even if what finally remains to be learned from it has yet to be told, there is still much to be learned from what has transpired to date, assuming that it will be agreed that in the final analysis there is nothing to be learned from experience except that which can be applied to oneself and personally felt to be true. This is the assumption which explains why the particular 'style' of presenting the histories of these projects has been adopted. It is precisely because their histories are still unfinished, that the projects have been described in a way that leaves it for those for whom they are of interest to draw their own conclusions as to how the experience, albeit shared at second hand, relates to their own circumstances. Are these circumstances such that com-

munications media can be seen, as in the Canadian North, as instruments of social development? Are there communities, like those the Northern Pilot Project is concerned with, whose inhabitants lack the benefits modern communications technology could bring them? Is there a comparison to be drawn with Canadian Indian and Eskimo peoples, minorities who have an identity of their own to preserve but an identity which must somehow be allied to the larger national one? Are there similar peoples whose remoteness and inaccessibility place them at a disadvantage compared to those fortunate enough to live where the social and economic environment is more favourable and, as in Canada, where a high standard of living can be taken almost for granted? Is there elsewhere an application of the underlying principles of participatory democracy which are the claimed aspirations of government in Canada?

The CTS Communications Experiments Project

These are the questions implicitly arising from a study of the Northern Pilot Project and, in terms of their implications for the future of Canadian communications most particularly in the North, arising also from what is still the very early history of the CTS Communications Experiments Project.

This project was referred to earlier as the companion of the Northern Pilot Project; and it may now be clear why this is so. If domestic satellites on which Canada has staked her communications future are to achieve their full potential, it must not only be in the furtherance of a high order of technological capability, vital as that may be to the growth of the Canadian communications industry both in economic terms and in terms

of technological and scientific advancement. It must also be in the actual and - perhaps more importantly - the publicly perceived capability to satisfy human needs and to enhance the quality of life. This was not the perception of Anik among a significant element of the northern population; and it might be added that so long as that perception is negative there is little value in arguing whether it is justified or not.

The more constructive alternative is to adopt the approach that gives the Northern Pilot Project its raison d'être. Basically, as has been said, 1) this is to discover the needs of the inhabitants of the North's distant and isolated communities as they are felt by the people themselves, 2) to help them determine for themselves how their needs may best be met by the media that can be made available and, 3) finally, to provide such means with the instruction that enables the communities concerned to assume responsibility for the operation and maintenance of the facilities offered them - in short, to become self-sufficient in the use of the media in their own interests.

The value of these activities lies not so much in what is to be learned about the technical performance of this system operating under typically adverse conditions, as about the processes of gaining community involvement in the application of communication media towards social development. This is the knowledge it is essential to acquire if the introduction of the greatly more advanced technology represented by future generations of satellite communications systems is not to be seen as a threat and if their full potential for human betterment is to be realized.

The CTS Communications Experiments Project has this two-fold purpose: the advancement of scientific and technological knowledge, the furtherance of the state of the art for its own sake and for the future benefit of telecommunications in Canada, but equally, the exploration of the potential of the new medium for human betterment.

Is this not a single rather than a double purpose? After all, are not scientific discovery and technological development aimed at the ultimate good of mankind? The issue is, of course, a philosophical one too large to be debated here, except to make the point that in the approach to this project a distinction has been drawn, borrowing McLuhan's terms, between the 'medium' and the 'message' - the 'medium' representing the satellite technology (which, in Anik, was a matter of justifiable pride to Canadians) and the 'message' being program content. If, borrowing again from McLuhan, "the medium is the message", then in terms of the television programming which Anik brought to the North, and judging by the mixed reaction it received particularly among native northerners, it was something less than the boon it was expected to be.

Television is not the only medium at issue even if among other media like radio and telephone it has the greater impact on social values and the one, therefore, for which there might be the greater hope of a favourable reception. The considerable improvement in the quality of long-distance telephone service brought by Anik (immensely important for emergency purposes in the isolated North) was only one of the several benefits to be commonly and enthusiastically welcomed. Despite its southern content, even television was valued for its entertainment as much by native

northerners as by those of other origins. So it would be entirely misleading to leave the impression that Anik was anything less than the outstanding achievement it has been claimed to be, technologically or otherwise. Its relevance in this context is only to make what is now the universally familiar point: that man's technological genius leaps far ahead of his ability to improve the human condition; and it might be said that in being the first in the world to make the great leap forward into a domestic satellite, Canadians are now all the more aware of how much remains to pace the effort with achievements in social development - particularly in the North where the human condition is still a grave concern.

Thus the provision of an experimental vehicle, which is what the Communications Technology Satellite is, has been approached with a view to finding a balance between technological experimentation and explorations of social applications wherein conditions in the North will remain a prime consideration. The particular 'style' of this approach, which is described in the second part of the history that follows, will be seen to owe much to the Northern Pilot Project with its emphasis on securing the involvement of both the users and providers of communications systems in discovering how the media can best be applied in the public interest. Since this is a process which is itself exploratory, the two projects complement one another as histories of a learning experience; and it is for the value of what experience may teach that they are presented here even if what may finally be learned from them is yet to be known.

The People of the North

By way of introduction, having attempted to outline the main features of the history's plot and sketch in something of the scene in which

it is set, it remains to refer briefly to the principal cast: the northern people. They number some 250,000 of whom about 150,000 are original Canadians. Popularly, northerners of all extractions think of themselves as living north of the 60th Parallel. It is a somewhat gross generalization but it will serve our purpose here to say that Indians tend to inhabit the southerly forested areas. Eskimos are more exactly located a little south of the Arctic Circle. Those that feature in the history of the Northern Pilot Project live in village settlements along the northwest coast of Hudson Bay or inland, as in Baker Lake, by nearly 200 miles. Politically, their habitat is the Keewatin District of the Northwest Territories. The so-called white population there tends to be concerned with administrative and commercial activities or the provision of a variety of social services.

South some 800 miles by a direct line is the other locale of the Northern Pilot Project's operations: the Patricia District of Northwest Ontario where there are the settlements of the Cree and Ojibway Indians.

To say that they, like Indians of all other tribal descent elsewhere in Canada and the Eskimo as well, are landless is to state an economic fact but also one that is the historical heart of their condition. Once, of course, all the land was theirs and the natural elements gave them their sustenance and spiritual life. The white man's coming brought a different ethos. He was property-owning and the land, except for what was agreed to be reserved to the original occupants, was his by right of conquest or by the (white) laws of ownership. So long as the reservation was observed and so long as within it Indians could maintain their traditional way of life, they were content to live a separate existence; and the more distant from centres of white population with their welath-producing values, the more

they could believe their isolation would be a protection preserving for them their own values. In this respect, the lives of the nomadic Eskimo who thinly populated the far-away Arctic could remain virtually untouched even by the question of what land was free to them.

Technologies that have produced the locomotive, the aeroplane and now communications by satellite have since collapsed the barriers of distance and, except for those remaining in a forbidding climate, have all but removed the protections once offered by isolation. With these obstacles almost gone, technologies among the most advanced in the world are now being used to discover and exploit the rich mineral resources never before dreamed to be accessible. There is no retreat left before them; and thus the future of the indigenous peoples of the North lies inevitably either in assimilation some would regard as cultural genocide, or in achieving, between their own and southern values, some state of balance akin to the harmony it has been the essence of their lives to have with the natural elements.

But the original deprivation - their landlessness - is still their fundamental dilemma; for without the wealth of property they are an economic anachronism and remain dependent on the benevolence of government for all that the land left to them by reservation will not provide. At this juncture in their history they find that dependence deepened as never before by new dimensions of deprivation. The advance of an economic society as an irresistable tide from the South has brought with it serious ecological damage that threatens to destroy their livelihood as fishermen and hunters. Moreover, this same technologically-based society has so commercialized the fishing and hunting of certain species as to seriously deplete the supply of some that are staples of Indian and Eskimo life. At the same time, the

material well-being of this society has been brought closer than it has ever been before to once isolated communities to sharpen the severe contrast in standards of living.

No government proclaiming principles of social equality and justice could ignore the condition of the Indian and Eskimo people: that without wishing it and powerless to prevent it, these once proudly independent peoples should have been reduced to a state of almost total dependence on government support and protection for their material welfare and even of what little remains of their identity. And could the effects of that sense of dependence go unnoticed: the loss of self-esteem, the feeling of defeat and of hopelessness, the emptiness and sterility of idle, meaningless days leading nowhere? Would the consequent moral decline manifesting itself in chronic alcoholism be dismissed or, conversely, tackled punitively without thought of remedying its cause? Would their numbers, making them such a small minority group, be a reason to allow their unique art forms to disappear? Would it justify nothing being done to raise their standards of education and health care?

In areas lacking an economically viable base (and the District of Keewatin is one of these), the Canadian government is faced with the difficult problem that the continuing effort to raise living standards can only be at the cost of furthering that sense of dependence which has proved so self-defeating for both the people and their government. But in such areas and until some economic solution presents itself, can the communication media be applied to provide higher standards of social welfare through ready access to distant educational, medical and other resources? And can they at the same time be applied in such a way that they can become instruments in the

hands of the people themselves to regain their independent spirit and to shape their own destiny?

For the Government of Canada and the Department of Communications the answer is in the affirmative. That, at least, is the inspiration of the Northern Pilot and CTS Communications Experiments Projects. It is the promise of the yet unfinished histories to be found in these pages.

SECTION II - EXECUTIVE MANAGEMENT'S VIEWPOINT

The Working Environment

With the approach of the Northern Pilot Project's first anniversary in April of 1973, arrangements were made for the project group to meet in its Ottawa headquarters. Progress to date would be reviewed and plans confirmed to complete the final phase of an operation that had begun more than a year before with the presentation of a proposal to the Minister of the Canadian federal government's Department of Communications (DOC). Reduced to its essentials, the proposal advocated the organization of a project aimed at providing inter-community radio communication in the remote areas of the Canadian northland in order to study its effectiveness in both technical and social terms.

The proposal had been originally put forward by Harriet Hampton, a university doctoral candidate, whose summer employment by the Department had given her experience of living conditions among native peoples in isolated communities of the North and who had developed a keen interest in the social impact of communication media and their potentialities for social development. The proposal had been drawn up in collaboration with a colleague, a physicist who also had experience of the North and was particularly interested in the ionospheric effects on radio communications in the sub-arctic and arctic regions. Their combined interests led them to suggest that there was much to be gained on both technological and sociological grounds from studying the results of introducing inter-community communication facilities on a limited, experimental basis.

ORGANIZATION

DEPARTMENT OF COMMUNICATIONS

(MARCH 1973)

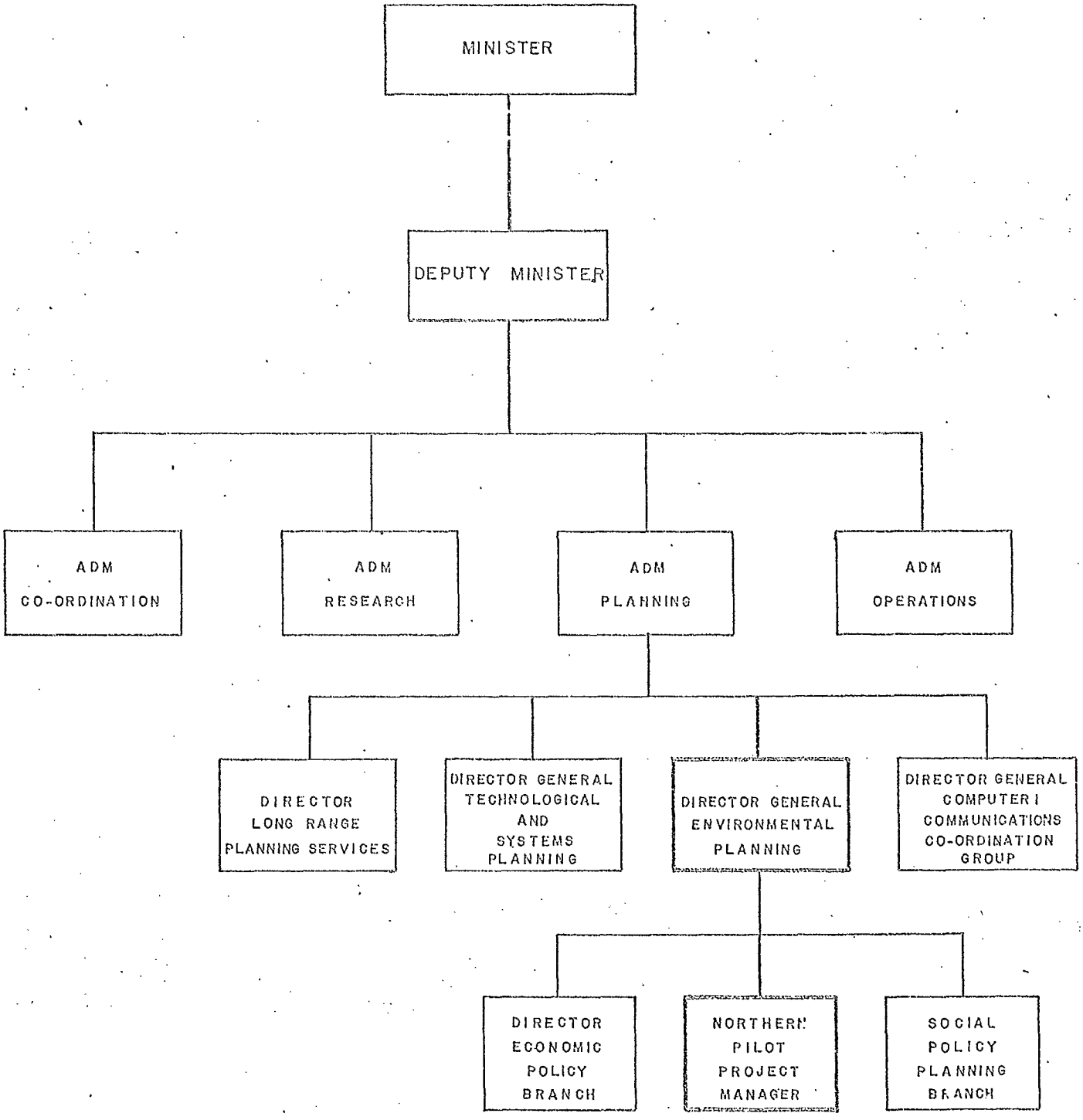

Figure 1

ADVISORY COMMITTEE ON NORTHERN DEVELOPMENT

COMMITTEE STRUCTURE

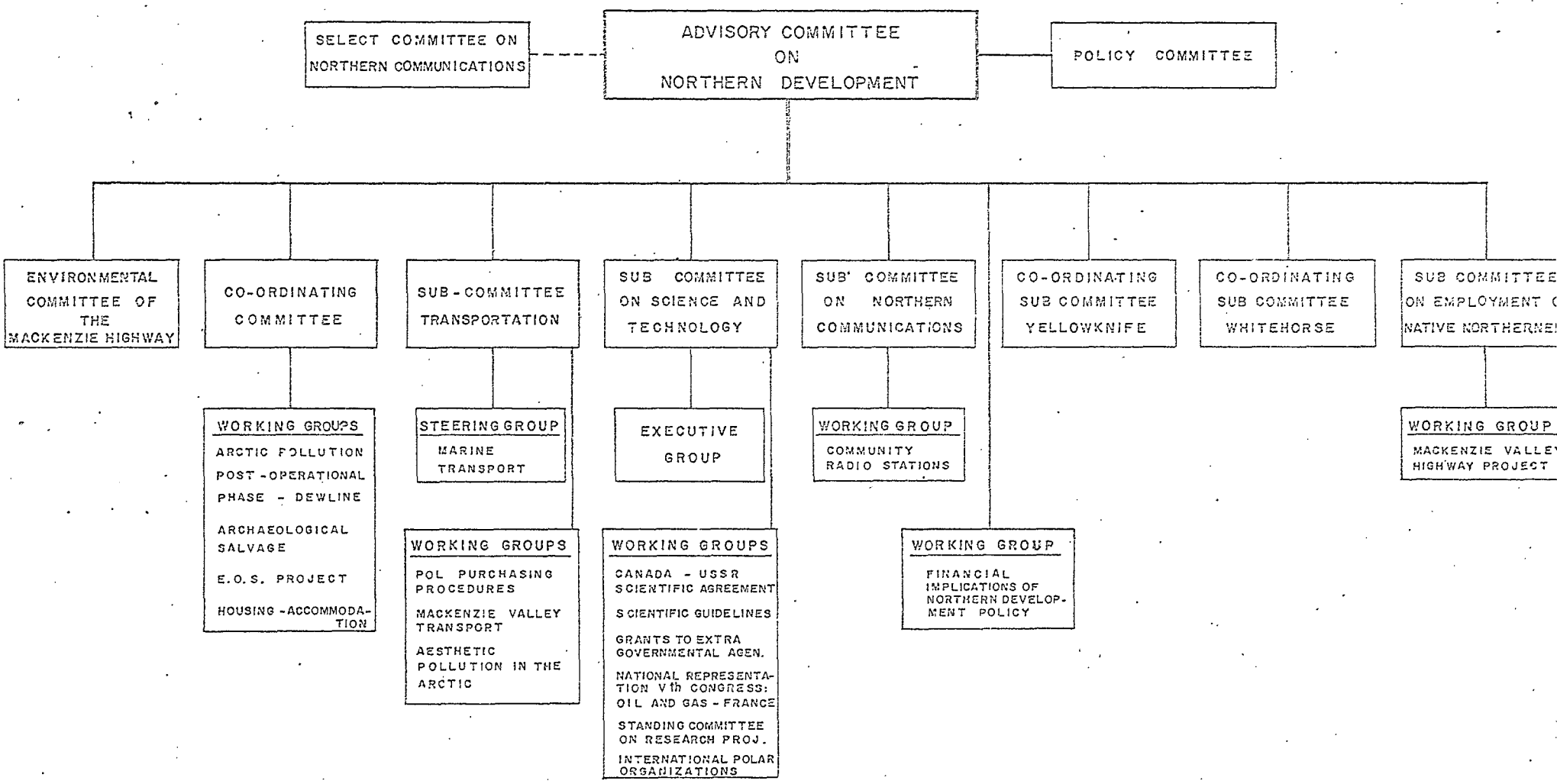

Figure 2

Geoffrey Rogers, Director General of Environmental Planning for DOC's Planning Branch (Figure 1) had accepted the proposal and agreed to re-draft it for the consideration of senior officials not only within that Department but among other ministries as well.

Fundamentally at issue was northern development. This was a concern shared by many federal departments and it occupied a central position in government policy planning. An entire ministry was devoted to it - the Department of Indian Affairs and Northern Development[1] (DIAND) whose Minister was responsible to Parliament for the governments of the Northwest Territories and the Yukon. But its many facets - social, economic, political, cultural - involved many other jurisdictions. Indian and Eskimo cultures were, for instance, unique features of the Canadian cultural mosaic and their preservation was of special interest to the Department of the Secretary of State[2] within its broad mandate for enhancing the quality of Canadian life and cultural values.

These and other federal government interests were coordinated through the Advisory Committee on Northern Development (Figure 2), a sub-committee of which was specifically concerned with northern communications, its chairman being a senior official of the Operations Branch[3] of DOC. If the Northern Pilot proposal was to be accepted, it would be essential for it to be referred to the Advisory Committee where the principal institutional interests would be represented. On recent cabinet insistence, all plans, policies and programs affecting northern development were to be drawn up by consultation among the Departments concerned and, wherever possible, proceeded with jointly.

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1. See note 1, Annex 2
2. See note 2, Annex 2
3. See note 3, Annex 2

At the same level, a policy statement had also been issued making what was to be proposed particularly appropriate and giving it added purpose: social development in the North, of all other priorities (including those arising out of the need to develop the large energy resources found in the Arctic), was to be the highest. To that end, but also for any other purpose, policy directed attention to "the need to consult and involve the native peoples at all stages".

It was against this background that the proposal had been advanced and, after careful consultation with all the federal bodies concerned - consultations extending over some four months - finally approved by the Minister of Communications for implementation.

Implementation officially began with the opening of the Project Office in DOC's headquarters building in April 1972, but since the proposal's progress through the latter stages of consultation gave promise of it being accepted, pre-implementation planning had started some months before.

WORKING ENVIRONMENT

Institutional Sector

The project would succeed or fail to the extent that it was responsive to its external environment, comprising three sectors of interest groups. One of these could be called "Institutional"; and comprised the various government bodies on whom the project would depend for support, financial or otherwise. It included, among others, certain national service bodies referred

to as crown agencies - so-called because they functioned outside the immediate jurisdiction of a government department and were responsible to the public through its representation in the Canadian Parliament. The Canadian Broadcasting Corporation, which provided a national broadcasting service, both radio and T.V. and in both French and English, was one such agency that was particularly relevant. The Canadian Radio and Television Commission was another. This was a licensing body ensuring that radio and television stations met acceptable standards of public service in their program content and manner of operation.

Public Sector

Another sector of the working environment was that made up by the native communities the project was aimed to approach and their representative organizations. Initially, it had been planned to confine the project to the Keewatin area of the Northwest Territories (Annex I) where there was a known, if still to be defined, need for improved communication. However, at an early stage in the project's development, it was considered advisable to include the Patricia area of Northwest Ontario where similar needs had been brought to the attention of the Department of Communications, Regional Office, headquartered in Toronto.

The native population of the Keewatin was Eskimo, whilst in Patricia, it was Indian - descendants of the Cree and Ojibway Tribes. Eskimo interests were represented by a fraternal organization known as the Inuit Tapirisat. The Cree and Ojibway Indians of Northwest Ontario were settled on land reserved for them by the government by treaty rights that

had increasingly become a matter of controversy over this decade and prompted the emergence of representative native brotherhoods whose claims upon the government were a cause for growing political concern. Typically, however, representative organizations at community levels - Band Councils - were concerned with local interests and, in the Patricia area, such interests were collectively represented on a regional basis by the Sioux Lookout Fellowship,[1] an organization of native people located at Sioux Lookout where they maintained conference, recreational and accommodation facilities available to resident and transient native people.

These were the project's "clients"; their's were the interests it was intended to serve; their's the condition to satisfy. Whether Indian or Eskimo, they had lived off the land by hunting and fishing but, with the advance of white industrialized society, their way of life had barely survived and they were now heavily dependent on government support. The Eskimo, once a nomadic people, hunters of the caribou, had suffered near-starvation by a change in the migratory patterns of their food source in the mid-fifties and had scattered to government-provided settlements where there was little to provide them with independent support. Maintained for the most part on public welfare, they were cut off from relatives and friends dispersed among other settlements too distant and too difficult to reach by travel in that formidable winter climate. Their settlements were inaccessible except by air, especially in winter; and air services (providing postal delivery among

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1. Significantly, as an indication of their interest in communications, the Fellowship named its headquarters 'The Sioux Lookout Friendship and Communications Centre'.

Unit of social cohesion:
- Eskimos: family
- Indians: tribes

other amenities taken for granted in the urbanized South) were plagued by the uncertainties of weather and, at the turn of the seasons, by ground conditions preventing lake-ice landing strips being used. Indian settlements were similarly inaccessible and cut off from one another, but Indians felt their isolation differently than Eskimos. Whereas among the latter the unit of social cohesion tended to be the family, among the Indians it was the commonalities of tribal traditions. Thus the need for inter-community communication was less a matter of keeping in touch with relatives and friends as it was in the Keewatin, and more a concern for sharing information about local conditions and maintaining an identity of interests. The aspirations of Indian and Eskimo people alike had increasingly impressed themselves on the government with the emergence of vocal representative organizations expressing the native peoples' claim for social equality and for recognition of their unique qualities.

Organizational Sector

Communication was, of course, the special concern of the last sector making up the working environment: the Department of Communications itself. Its role had been stated as "...one of helping to ensure that all Canadians obtain access to a rapidly expanding range of communication services." This statement gave obvious point to the project. Indians and Eskimos, however remotely located in Canada, were by the fact of location still Canadians; and pluralism had long been a firm government policy. Yet because of their remoteness they were most in need of access to communication services such as telephone. Telephone services were provided by what were referred to

as "common carriers": privately or provincially-owned telecommunication organizations regulated by government policies. These organizations could look with justifiable pride on the quality and availability of the east-west, trans-Canada services they provided in the urbanized South. Their difficulty with services in the North was that terrestrial, line and micro-wave systems, owing to the conditions of geography and climate, could not be provided without heavy capital expenditures which, with the very light density to be served, would not return a revenue making them economically viable. The quality of service provided by radio telephone was in any case uncertain because of radio disturbances caused by ionospheric phenomena. Satellite communication overcame many of the physical difficulties encountered in providing terrestrial services but not the economic ones.

If, for these reasons, northerners were at a distinct disadvantage compared to southerners in terms of the quality and cost of the services offered them, the native peoples among them (the population majority) were even more so. The north-south orientation of the services, useful to the administrative and commercial minority, made them of little value[1] to the majority and were in any event prohibitively expensive for a typically low-income community whose needs were more localized and not of that orientation.

The utilitarian value of telephone services was, however, only one aspect of what concerned DOC. In terms of its social impact - its influence on public opinion, its capacity to give public expression to the

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1. It should not be inferred, however, that reliable telephone services were unimportant among the native people, especially as such services provide their only link with distant centres capable of providing help in emergencies. In this respect, the telephone was a vital "life-support" system.

ideas and creative energies which give a people their awareness of themselves and a sense of their national identity - radio and television broadcasting was a "communication service" of the greatest significance. Here again, northerners were at a disadvantage which went well beyond the vagaries of reception in the remote areas where they found themselves. The basic issue was a cultural one. If a healthy society respected ethnic and cultural differences, then such differences had to be accommodated in national policies. This was a principle recognized by the Canadian Broadcasting Corporation[1] (CBC) in providing national radio and television services; and the CBC's Northern Service program included broadcasts in native languages reflecting local interests. Because, however, programs mostly originated in the South and were in any event part of a national service, their content was inevitably heavily influenced by southern interests. Certainly, the values implicit in it were a stronger tide moving to the North than any reverse current. Satellite communication surmounting difficulties of terrestrial communication only strengthened the flow of influence from the South; and it was for reasons of this kind that that more powerful medium had been regarded by some as another example of an advance in technology more destructive than beneficial. If it met the need for native people to be connected to the mainstreams of life in the South, it failed significantly to make the reverse connection and left largely unsolved the question of how their own values could be preserved.

On these social and cultural grounds, and not only as a test of technical feasibilities, the project could make a significant contribution to the advancement of policies aimed at northern development and enable the

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1. See note 4, Annex 2

Department to play what could be described as a catalytic role in joining other agencies approaching this policy area.

Strategic Considerations

Role

His analysis of the working environment, the environment within which the project had its being and by which it would be judged, led to a central strategic consideration in Mr. Rogers' mind, and revolved around the concept of a catalytic role. To perform a catalytic role was to become a change agent; it was to act not to change things by changing them oneself but rather to create a condition which enabled change to take place. Harriet Hampton's proposal had this implication in recommending the "style" of approach to the native communities; and it was a style clearly looked for in the institutional sector of the environment with publication of the policy paper on Northern Development. Fieldwork, carried out with a heavy emphasis on social animation, meant a role of helping the "client" define for himself what to do in his own best interests and become responsible for his own acts. The fieldworker was to be a "resource person" - someone whose skills were applied on the "client's" terms and not on terms decided for him by the field-worker.

His own view of the catalytic function was an extension of this principle to the entire milieu, a milieu in which a number of institutional interests were separately represented. Each was a resource to be brought to bear on a given problem, each was a potential that could contribute to concerted

action or could be applied as a special and complementing source of expertise. What was often typically lacking was some interactive medium which acted catalytically to set these forces in motion when, otherwise, for a variety of often very subtle reasons, they would remain inert, their potential untapped. Acting catalytically towards native communities so as to enable them to undertake their own development was a necessary and useful activity; but it was another, more essential and more useful undertaking in the long run, to extend such action to rallying all the forces that could be brought to bear.

From these considerations Mr. Rogers had evolved two principles which he felt it would be important to emphasize in the project's approach. He referred to one as the principle of "multiple-funding". It was a fact of life that the public was to often unaware of what government departments made available in the form of grants for various purposes. One aspect of the catalytic function was to create an awareness of what was available and help communities to take advantage of these kinds of assistance. The second principle was to act - also catalytically - in promoting inter-institutional cooperation since it was also a fact frequently ignored that a number of government agencies had overlapping interests and programs that could be tapped.

On this premise, it was Mr. Rogers' view that three strategies were of the utmost importance:

- Every effort should be directed towards gaining commitment to the project from all agencies with relevant interests and capabilities, and towards retaining that commitment once given;

- Opportunities should be seized wherever possible to gain the active involvement of any organization body with resources to contribute;

- Thirdly, and probably most importantly, the project should take full advantage of any opportunity for exercising initiatives that would extend and continue the initial commitment.

It was essential always to keep in mind that the project had been mounted on a limited scale and was to have a limited duration. Planning had to contemplate its ending. If successful in showing that communications media had a significant role to play in social development, it could not come to an end leaving what remained to be done to chance. Nor could it do so leaving the Department of Communications the single contributor to future development in a field where other resources would have to be brought to bear. Moreover, if unsuccessful, but yet having demonstrated a willingness to provide for native needs, it could not place the department in the position of having to continue to expend its resources on a cause it knew to be lost. Equally, having accepted a responsibility, it could not abandon the field leaving some other agency, like the Northwest Territories government,[1] to "pick up the pieces".

Transition

To call the project "The Northern Pilot Project" was a happy choice of words. "Pilot", of course, had two meanings. Its intended meaning was that the project was a prototype, a scale model meant to serve as an example of something that, if successful, could be done on a larger scale. This was why the project had originally been referred to as "experimental". That term had been dropped - wisely, he thought - because, with the intention

1. See note 5, Annex 2

of providing the "hardware" for inter-community communication, something would have been introduced which would remain whether effectively used or not; and expectations would have been created. So the project could not be carried out in real-time under actual conditions and considered an experiment in the laboratory sense. This was a strategic consideration: planning would have to recognize what kind of transition needed to be made from a prototype stage to an on-going activity of some sort.

But the word "Pilot" had another meaning that was particularly apt to describe long-range aims, aims that went well beyond even the large issue of northern development and encompassed the whole question of the impact of communication media on public life. In the navigational sense, "pilot" meant guide; piloting was path-finding. In some ways, social needs in the North among native peoples - needs for public expression, for being informed, for participating in public life - were only the most obvious, the most conspicuous manifestations of qualities of life looked for by the general public. The introduction of communication media in native communities which the Northern Pilot Project was to bring about raised issues far larger than the most obvious one of enabling communities to be in touch with one another when there had been scarcely no other means of doing so. What the project was "piloting" was not even the exploration of new techniques such as the use of VTR for educational purposes. Looking ahead (and the future was rapidly closing in), the very much wider issue, the one at stake for the Canadian people as a whole, was the whole question of public access to the media. Broad as that question was, it too was only a dimension of the very fundamental

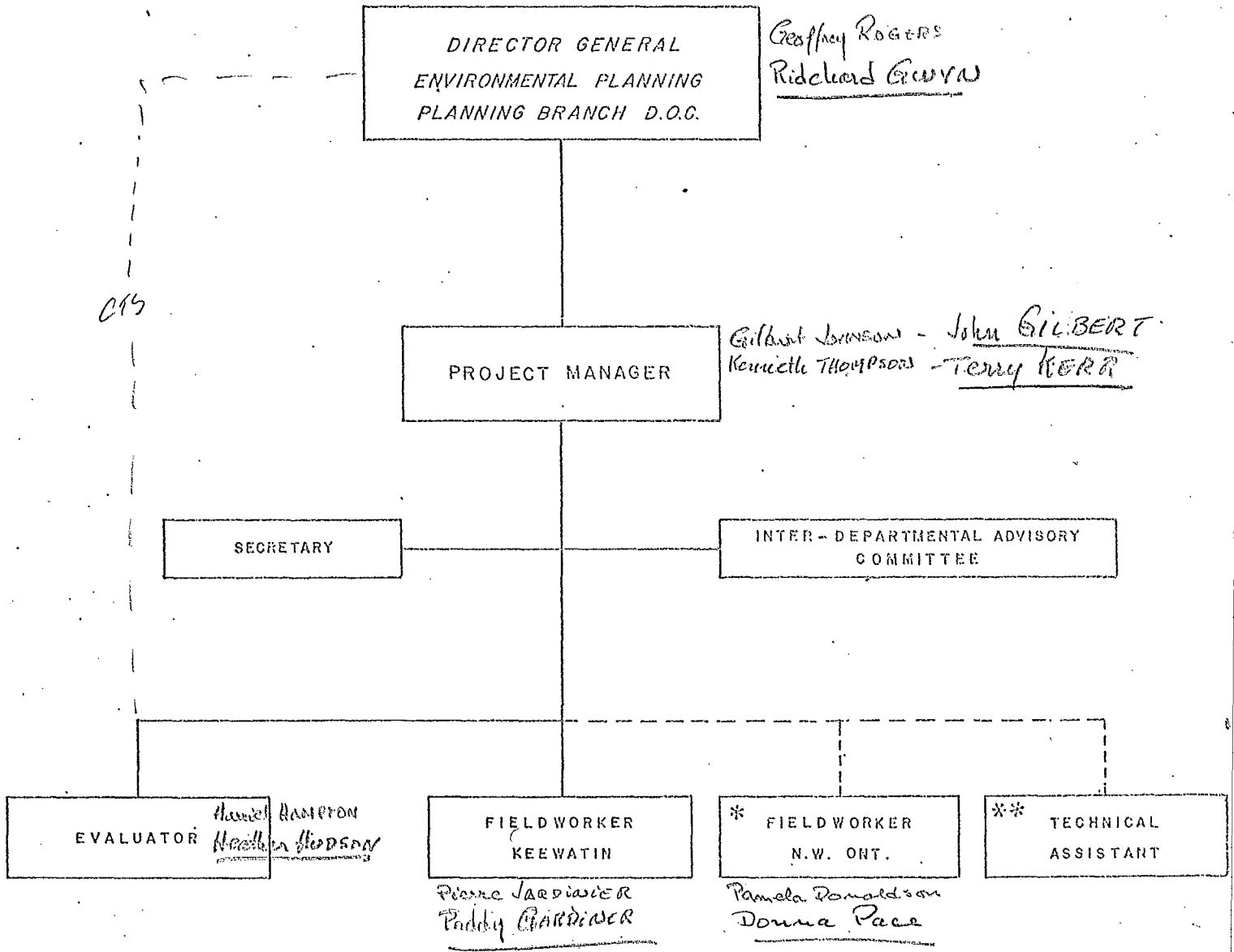
question of how governments responded to public interests and how the public participated in the processes of government. These were not academic issues. They were live. Despite the enormous advantage of people in the South over those in the North, southerners were nevertheless increasingly vociferous about having access to radio and television, not merely to receive program material but to produce it themselves as an expression of their needs and interests as defined by themselves and for themselves. On this basis, communications media could add entirely new dimensions to democratic principles.

In its catalytic approach, therefore, what the project was piloting was the process of public involvement in determining for itself how its interests are to be met; and it was path-finding the role government institutions might play in precipitating that process. With this strategic aim, what was to be learned from the experience would contribute greatly to the fulfilment of the Planning Branch's role as architects of the country's communications policies.

Organization

In looking ahead to the approaching meeting of the project group, it would be important to reaffirm these strategic considerations because Rogers was not sure the group fully appreciated them. With executive responsibility for the project's overall direction and having been its original advocate as an undertaking which was strategically significant, he saw a danger in the group losing sight of the long-range aims in a preoccupation with their immediate concerns; and there were some signs of the project losing momentum as a result. Pragmatically, there was in the fact

NORTHERN PILOT PROJECT ORGANIZATION



* ADMINISTRATIVELY REPORTS TO REGIONAL OFFICE, ONTARIO

** ADMINISTRATIVELY REPORTS TO COMMUNICATIONS RESEARCH CENTRE

Figure 3

that Gilbert Johnson was heavily committed to his other responsibilities concerning the CTS Experiments Project a need for him (Rogers) to become more actively involved in the supervision of the Northern Pilot Project. There was an agreement between himself and Johnson to share the management of the project.

Harriet Hampton, the original author of the proposal, reported directly to Johnson in her role as the project's Evaluator and indirectly to Rogers himself in the broader context of social research. Also reporting to Johnson were, in addition to his secretary, the two fieldworkers: Pamela Donaldson and Pierre Jardinier. As Pamela's field was the Patricia area of Northwest Ontario, she reported for general direction and for administrative purposes to the manager of the Ontario Regional Office of the Operations Branch. The organization chart (figure 3) indicated this relationship by a dotted line. The line going to the Technical Assistant was also dotted to indicate his relationship with the Communications Research Centre[1] (CRC) which had made his professional services available for technical advice and for the installation and testing of communications equipment.

Recognizing the project's temporary nature, all team members were assigned on a temporary basis. For Gilbert Johnson, the appointment was aimed at providing broadening management experience under an inter-department plan aimed at career advancement for high-potential managers. The two field-workers and the Evaluator had been engaged on a contract basis and were new to government systems and procedures.

1. See not 6, Annex 2

All were highly dedicated and had performed excellently in undertaking a program that almost from the beginning offered greater opportunities than had been anticipated and therefore gave them a reasonably heavy work load. If he had misgivings about their ability to maintain the project's momentum and to see what its strategic aims required them to do, it was perhaps because with no previous experience of government processes, the fieldworkers lacked the wisdom to accept what they could not change. Government administrative practices might indeed be as bureaucratically inflexible as the fieldworkers obviously felt them to be; but whatever they were, they were nevertheless a reality of the working environment. They did not change by being decried; they had to be worked with; for within them were the resources that needed to be applied - as, for example, funds to provide employment for local initiative, available from the Department of Manpower under a scheme designed to encourage such initiatives. If a community needed money to pay local labour for erecting antennae or to train a radio operator, these were sources that could be tapped. Not tapping them because of the "bureaucracy" that might be involved was to do a disservice to the very community the fieldworker was trying to help.

Again, some vision was needed to keep the long-range aim in mind. It was fair criticism to say that the administrative system was based on what was appropriate in the South and was not appropriate to the very different circumstances found in the North. The application to CRTC[1] for licensing a radio station, to take only one example, was complicated, contained many concepts unfamiliar to Eskimos and was not written in their language.

1. See note 7, Annex 2

But you cannot operate a radio station without one. The more important point, however, was that by going through the arduous process of applying for it you were helping to make the authority concerned more aware of what needed to be changed to make its public effect more appropriate. It was in ways such as this that the project was promoting change, not only among native communities, but among government institutions as well.

NPP GDAC's

The project's success could be measured in terms of its explicit goals, the goals stated in the original proposal which had read:

a. To establish communication needs and priorities in isolated regions by implementing pilot projects built upon the basis of existing knowledge.

b. To define criteria and operational methodologies for communications systems in which users are directly involved and for which they have a direct responsibility.

c. To test the effectiveness of various communication media in meeting social communication needs, particularly those of indigenous peoples, in remote areas.

d. Demystification of the media: in preparation for the introduction of more sophisticated technology (e.g., television, satellite).

e. To provide experience for residents of selected communities in setting up and operating a local communication project.

f. To provide training for residents in operation and maintenance of equipment.

g. To increase understanding of the role of communication media in the development process.

h. To provide recommendations on whether or not such communication media should be provided to other isolated communities.

The project was substantially along the way towards accomplishing these goals and there was every reason to expect the project would be highly

successful in the quantifiable result of the media it would put into use. But in the long run, its implicit goals, illustrated in the example of applying for a broadcasting license, were more important.

When the group met, therefore, it would be an opportunity to congratulate them on what they had achieved to date but also to remind them of what so vitally remained to be done.

SECTION III - GILBERT JOHNSON, PROJECT MANAGER

For Gilbert Johnson, the project group meeting which was to be called was the last of a series of personal milestones; for, on reaching the project's first anniversary, he was to leave to take up another appointment.

He looked ahead to the meeting with mixed feelings. On the one hand, he had come to the project as a special assignment without previous communications systems planning experience but with the prospect of it offering a challenging and broadening opportunity. It had certainly been that, particularly as it had originally been supposed that the project would only be an incidental responsibility, the better part of his time being concerned with the CTS Communications Experiments Project - his prime and only appointment at the time he made the move. While, on the other hand, he looked forward to his new assignment as offering even greater challenge, he regretted leaving when the Northern Pilot Project remained to be completed and while it was still hard to tell what could firmly be concluded. He had played a large part in its initial planning, had managed its progress to the present juncture and, although he was confident it would reach a successful end with the transfer of his responsibilities to his successor, he could not help feeling a sense of personal loss at having to abandon something his efforts had done much to create.

In planning

If the forthcoming meeting was to be the last of his personal mi es, the first was his introduction to Geoffrey Rogers who had out- li e general terms of what was to be proposed and explained the res- po ities he was to assume.

He was to be responsible for planning and administering the p in close coordination with Rogers himself. From his own study and fr briefing by the Director General, it was clear that the project's su was highly dependent on maintaining cooperative relationships within tl rtment of Communications and outside it. His responsibility for li and consultation to maintain these relationships was therefore very i t. Amongst his administrative responsibilities would be the negotia- ti settlement of the terms of contracts for the installation and main- te of equipment. Finally, with an awareness of both the technological an o-economic implications of the project, he was responsible for seeing th effectiveness in these terms was adequately evaluated. The importance of ation had been stressed. The project was to serve communications needs in ar North. It would have this utilitarian value and be instrumental in fu ng social development among people often referred to as "socially de ". But it was also to be a learning experience; its purpose was to see wh knowledge could be gained for application on a larger scale. Ev ng what was done and how it was done, observing and recording, was th e essential to the learning process.

He recalled his original appreciation of what the project would involve and how his conclusions had led him to draw up a PERT[1] chart describing how it could be planned from its submission as a proposal to its completion in terms of meeting the objectives foreseen at that time. His information was that it was desirable to proceed on a relatively limited scale; otherwise the project might fail even in being accepted at the proposal stage for the resources it would require. Another important reason for not being too ambitious about the project's scope was the need to limit the number of variables that could be introduced by cultural and linguistic diversities, differing political jurisdictions and the like. An important first decision was therefore the selection of an appropriate area of operation. With this decided, the resources required - human and monetary - could be determined, as well, of course, as the kind of equipment required.

Given approval by the Department's Senior Policy Committee[2], he estimated that the preliminary planning phase (Phase I) would require four months to complete; so that the implementation phase (Phase II) could be expected to start in April 1972.

Completion of Phase II would see the appropriate equipment installed and manned by resident people trained in its operation and maintenance. Throughout this phase, what was done would have to be carefully documented by the Evaluator as would its impact among the people and institutions involved.

1. See Annex 3A-C
2. See note 9, Annex 2, Page 3

If the program could be judged a success in terms of its original objectives, communication media meeting the needs of the communities would have been placed in the hands of the inhabitants who would have assumed responsibility for the media's use in furthering their own social development.

This would be a pre-condition of the third or operational phase. It could be expected that successful application of the principles that had inspired the study would lead to requests for similar projects being started elsewhere. Meanwhile, as the inhabitants gained experience and confidence in the use of the media, they would require further training at a more advanced level. In any event, the learning that had taken place could be assumed to need reinforcement. If this did not occur or if the operational experience was not self-sustaining for other reasons, Phase III might lead to a different conclusion than that drawn on completion of the second phase. Evaluation would therefore have to continue throughout the operational phase. It was estimated that no final conclusions could be drawn before November 1973; and the project was therefore planned to have a two-year life.

Organizing and Funding

The past fifteen months had been busy ones for Gilbert Johnson. On the whole, he was satisfied with the progress made, although things had not turned out quite as planned.

The project team had been formed but was larger than originally anticipated because of the decision to extend the project by including a

parallel activity undertaken by the Department's regional office in Northwest Ontario. Effectively, there were now two projects instead of one. Since the ends to be accomplished by each were the same, enlarging the project to include operations in two areas seemed a sensible enough decision, particularly as the added resources required were to come from the Regional Office. The arrangement did however make extra demands on himself in terms of the coordination required to manage the project as a single entity but with two jurisdictions involved. The overriding jurisdiction was still the Department of Communication but the arrangement did mean that the fieldworker concerned - Pamela Donaldson - tended to have divided loyalties as between the project as supervised by Gilbert on the one hand and, on the other, the director of the Regional Office to whose staff she remained assigned.

A somewhat similar problem existed in the assignment of the Evaluator, originally referred to as the "Social Researcher", Harriet Hampton. Both she and Pierre Jardinier, the fieldworker in the Keewatin, were retained on a contract basis. But, unlike Pierre who had been assigned exclusively to the Northern Pilot Project, Harriet had been engaged for summer employment by the Director General the year before. She reported to him as far as her work on the project was concerned but, otherwise, she remained reporting to the Director General. Because the latter's temperament and general management "style" encouraged a highly informal working environment, he (Johnson) was unwilling to raise the question as to whether the working relationships should be more formalized. But he remained uncertain about the extent of his authority should problems arise over the relationships within the project group.

He considered the organization of an Advisory Committee[1] a major step forward, greatly facilitating his responsibilities for liaison and coordination with the variety of influential groups within and outside the department. It gave these groups active involvement in the project as their interests were effected by it. It demonstrated the principle of promoting inter-institutional cooperation and was a means not only of exchanging information but of gaining readier access to the resources they could apply. Above all, by evidencing a genuine desire to set in consultation with others, rather than unilaterally, it was instrumental in securing commitment. Commitment and the sense of participating in a joint venture were the prerequisites of a project which if advanced unilaterally could well be regarded apprehensively as an invasion of the several jurisdictions it cut across. What happened in the Keewatin was, for example, a concern of the government of the Northwest Territories and the Department of Indian Affairs and Northern Development. In Northwest Ontario the interests of the Ontario Department of Social and Community Services would be involved. Establishing a radio broadcasting station would have considerable implications for the Canadian Broadcasting Corporation. But the existence of the Advisory Committee meant that responsible representatives from these organizations could satisfy themselves that their interests were not being overlooked. Convinced on that score and willing to become involved, they had expertise and in the preparation of VTR programming and the CBC's equipment given for Baker Lake's radio broadcasting station. There were also national policy issues at stake

1. The Advisory Committee was chaired by the Project Manager and was composed of committee members representing the Government of the Northwest Territories, Department of Indian Affairs & Northern Development, the Department of the Secretary of State, the Canadian Broadcasting Corporation, the Indian Community Branch, Province of Ontario and the National Film Board.

which were best discussed in the forum the Advisory Committee provided.

On the whole, in organizational terms, Phases I and II had been more than satisfactorily completed. The same could be said about the provision of equipment[1]. In this respect, the project was substantially ahead of schedule. But there were indications that they might even have moved too far too fast. The Advisory Committee had proved invaluable as a means of dealing with political and jurisdictional sensitivities and gaining a unity of purpose out of a diversity of interests. But, as with any consensus-forming, representative group, there was always the danger that any one of its members would feel propelled by pressures within the group into undertaking commitments the "constituents" he represented would find unacceptable. The project was itself such a commitment. It had to move at a pace the members of this sanctioning body were prepared to go in order to retain their trust and their confidence that it would not exceed the mandate they had given it. Trust was the key word; it was the cement binding together interests that might otherwise be conflicting. Without it, justifiably or not, the project could be regarded as a manipulative device and the Department's leadership would lose its credibility.

Funding

Despite some qualms about these institutional relationships, Gilbert Johnson could not feel there was any immediate cause for concern. He remained worried, however, about the third of his major responsibilities: funding. The other two - managing human and material resources - had posed problems; but, from the beginning, securing the necessary funding had been

1. See Annex III for a summary of technical information.

difficult. It was one thing to have the budget approved with the Senior Policy Committee's approval of the proposal but quite another to find a source of funds.

In submitting estimates of costs[1] for the original proposal, it had been explained that a variation of approximately ± 10% could result from the extent cost-sharing arrangements could be negotiated between the various jurisdictions involved at provincial and/or federal levels, as well as from the amounts that could be absorbed within regular departmental budgets. For reasons of this sort, a cash flow plan could not be drawn up. Indeed, by the very exploratory nature of the project, both financial planning and even budgetary control were difficult.

In every sense, management was feeling its way; which meant that the technical, sociological and economic feasibilities of the project would, for the most part, inevitably be determined by ad hoc arrangements. Considering the financial hazards of "ad hoc-ery", they were exceedingly fortunate, Johnson thought, to be able to report in January of 1973 that by the end of March (three months into the final phase) expenditures incurred or commited totalled $145,230 against a budget approved in December of 1971 of $155,000.

However, in making that report, he expressed his concern about maintaining commitments for the remainder of 1973 so that, as he put it, "a reasonable pay-off from the investment" could be obtained. The 1973-74 program cost estimate totalled $122,750 for capital, salaries and travelling

1. See Annex 4 for cost estimates submitted with original proposal.

expenses and O&M (the operation and maintenance of equipment, including its installation). It turned out, he concluded rather grimly, that the costs estimated when the project had been proposed some sixteen months before had been more accurate than the amount approved for the budget had suggested. The original worries over finding sufficient sources of funds had begun to reassert themselves, the more so as the remaining costs could be quite accurately estimated and would take the total expenditures incurred some 30% over what had been estimated, even on the high side.

The problem of funding would have to be taken up at the forth-coming meeting. The budget had not been revised and when the $155,000 had been authorized in December of 1971, it was less than what had been estimated in the proposal even for the 1972-73 period ($171,500 - $208,000). No provision had been made for the 1973-74 period, although he was hopful that his recommendations in that regard for the additional $122,750 would be approved.

Thinking of the problems of funding, of the seemingly uncontrollable demands on his own time to fulfill the apparently ever-widening range of his coordinating and liaison activities, he reached the conclusion that his own preferences would have been for a project of more limited scope. Had it been confined to what had been originally envisaged, the "experiment" would have been more controllable in every way. They would have known what funds they could count on being available; and to that extent they would have known what they could do and what they could not do. This would have prescribed both the administrative and evaluative processes and made both more reliable by being confined to a set of given parameters. It would also have

made the work load more predictable. His own work is an example. It had originally been estimated the project would take about a third of his time; whereas, in fact, 50% was a bare minimum.

But the project had been allowed to go on-ended. New demands were constantly being made upon it as it attracted interest and gained impetus. First it had absorbed program developments in Northwest Ontario. In the July meeting, the year before, working needs in Labrador had been discussed and the project had been in that direction. Work in the Mackenzie Delta was considered compatible with more activities in northern British Columbia and the Yukon. All these constantly threatened to broaden the original terms of reference if they did not actually do so. Whether or not they were formally included in the project, they were still issues that had to be explored, and followed up and generally paid attention to; so they always posed additional demands on his time.

Administration

He had the sense of constantly juggling an ever-increasing number of balls in the air, never too sure when the next one would be handed to him or, when it was, whether he could keep it going with all the rest. It did not help that some of the project staff members were independent spirits who chafed at the rigidities of an administrative structure which was well beyond his control to change and was never made to accommodate the flexibilities they expected from it.

Ordinary amenities and everyday practices, taken for granted in the South, were almost non-existent in the far northern settlements. Fieldworkers like Pierre Jardinier were people of action. They wanted things done. They were impatient with delays; and sometimes their impatience and, to be fair, the urgencies of the local situation (which was hard to appreciate from some 1,500 miles away in the Ottawa headquarters) would cause them to take local initiatives or make demands that the "system" could not possibly justify. These were not easy people to manage. They responded to the informal working environment the Director General's "style" encouraged. They were dedicated in the sense that they would willingly do whatever was asked of them no matter what the cost to their private interests. On the other hand, they were inclined to follow no fixed hours and to decide priorities for themselves; so often they couldn't be relied upon to be available when needed or to meet targets he had expected they would meet.

These were the negative reasons for wishing that the original, more prescribed intent had been adhered to. However, on the positive side, there was the real accomplishment of having supplied services that would not have existed but for these maneuvers, complicated, personally taxing, unsystematic and sometimes frantic as they might be. Money had been found, somehow, somewhere; forces had been rallied, enthusiasm generated. It had not been his preferred style of management; but it was the management of uncertainty, and it had gotten results.

Did the ends justify the means? Perhaps only the future would tell. Meanwhile, the forthcoming meeting would be a major milestone. Decisions

would be taken to plot the course of the project's originally planned final phase. Progress in the Keewatin district had been reasonably consistent with what his PERT chart had anticipated. With the exception of one community (Eskimo Point) the HF radio network was established as was the radio broadcasting station at Baker Lake. Pierre Jardinier's task would be to complete the HF radio installation at Eskimo Point and continue with the training that would enable the communities to be self-sustaining. What remained to be done in the Patricia area was far greater because of the intended expansion of the HF radio network to twenty-four communities from an original six, and a decision to establish a radio station at Big Trout Lake along the lines of the one at Baker Lake. It would be up to his successor to determine whether that work could be completed to the Phase IV stage so that the project could terminate as planned. He himself saw no way that it could - at least on the basis of the original terms of reference - but, of course, the Patricia area had not been included when the PERT chart had originally been made. It might therefore be considered a separate issue. But that, Gilbert Johnson concluded, would be his successor's problem - the problem of when a project made the transition into being an on-going program.

SECTION IV - EVALUATION, HARRIET HAMPTON

Harriet Hampton had a double role to play in the approaching conference on the Northern Pilot Project. She was to be its convenor; and in this she was assisting the Director General who had called it. It was one of a variety of jobs that came her way, evaluation of the project being the prime one and the one for which she was directly responsible to Gilbert Johnson, the Project Manager. But the so-called reporting relationships - her relationship with Johnson as a member of the project group on the one hand and, on the other, with Geoffrey Rogers as a member of the Socio-Economic Planning Branch which he headed - were treated pretty informally. It was an informality that made her work more interesting because it involved her in the wide-ranging interests of the department at a policy level and gave her a broader perspective than she would have in an organization that more narrowly defined her role and offered less access to senior people. Whether the duality of these relationships and the freedom their informality gave her made for difficulties on Gilbert Johnson's part, she was uncertain; but she could imagine that they might if he were to feel that Rogers had a superior claim on her time. Fortunately, so far as she was aware, no such problems had arisen.

The other part she was to play in the conference was to report the project's progress to date, the progress she had tried to monitor from Ottawa when not in the field and able to make her observations at first hand.

Her review prompted a growing number of questions she hoped the meeting would be an opportunity to resolve. Wanting to capitalize on that opportunity, she decided to write to the participants urging them to bring up their concerns when they met. Opportunities of this sort came all too rarely; and it was becoming obvious to her that communications within the group were not as good as they might be. Distance, the fact that team members in the field were so far apart both from one another and from Ottawa was a reason. It was doubly a reason because it isolated them from the ordinary communications facilities taken for granted in the South. It was easier to get in touch with Pamela Donaldson in the Patricia area than with Pierre Jardinier in the Keewatin because his was the remoter region and the facilities there were more rudimentary and less reliable. But both fieldworkers had to move about a lot; so you were never sure where they'd be if you wanted to contact them. This again was a more severe problem in Keewatin. There, the whereabouts of someone could sometimes only be learned by word of mouth and might even be more rumour than known fact.

In terms of communication with the fieldworkers, she was probably the one most affected by these difficulties. Up to a point, they could get along quite independently of one another. But, in the evaluator role, she was a link between them; for the role was meant to be a means not only of receiving information about what was going on for evaluation purposes, but of passing it on if it came out of some experience that could usefully be applied elsewhere. She tried to be present in the field as much as possible, travelling

between the sites to let each know what was going on in the other. But obviously she couldn't be everywhere simultaneously; and she also couldn't spend all her time in the field. Actually, at a guess, she probably spent about two-thirds of her time back at the Ottawa Headquarters; so she had to rely on communicating from a distance, and this was less than satisfactory.

Having better communication was vital to her function as the evaluator. No less vital, however, was the communication enabling the members of the group to be a group, to relate to one another, to get their problems out in the open, to reach decisions together, to share information, to develop understanding. She was reasonably certain that others felt the lack of this kind of communication and sensed, as she did, that it was making for disruptive tensions within the group.

She conveyed these thoughts in her memorandum. What did the group want to get out of the meeting? Where did they feel they stood at this juncture? What did they think lay ahead now that the project was entering its final phase? Administration: what had they learned; what changes ought to be made, what improvements and for what reasons?

They were questions that reflected her own concerns. She asked about the group's perceptions of their respective roles but what was her own? Was her role different now than she had expected it to be? How did others see it? What was her relationship to the rest of the group in it? How should she approach it when in the field?

Clearly, there were problems: the concrete difficulties like the weather and geography, but also the more subtle ones underlying their

relationships one with another.

There was, perhaps, a complicating duality about her own relationships and her role. How complicating was not clear but it was there. It was to be felt in what could be called her 'accountabilities' - to the Director General on the one hand, to Gilbert Johnson on the other: her two 'bosses'. It was in being part of the project team and yet, in the Evaluator role, observing and reporting what they did and evaluating it, outside it. It made her simultaneously participant and judge.

Role Definition

She had defined the role herself in drawing up the original drafts for the proposal. She had then labelled it "Social Research" and stated it as a responsibility for the "conception, definition, implementation, monitoring and reporting of all social research to evaluate the success, or failure, of the various projects. In broad terms, the evaluation research would attempt to identify pre-project communications patterns within and between selected communities and to identify the changes, beneficial or detrimental, effected by the pilot projects."

She would return to the definition in writing her report for the up-coming meeting, emphasizing the underlying principle that had been in her mind from the beginning. It was a principle expressing her own conviction and interest but was also supported on good, academic authority. Pointing out that the project was for developmental purposes and was not a laboratory experiment, she wrote: "The feedback mechanisms will be designed to reflect

the community's reactions and desires as the project progresses, so that suggested changes can be implemented." She herself would raise the obvious question: "Is it possible for a researcher to be objective while in the field helping to run the project?"

She had not seen her evaluator role as going as far as placing her in a position to insist on the implementation of what her research told her ought to be done or not done. Equally, however, she had not thought of playing a purely passive role, the academic one of collecting, analyzing and reporting data - which left aside the question of whether what was learned would be applied.

She had assumed - indeed, it was the whole point of the project with its aim of social development - that it would be understood that question would never arise. Yet it had. Her suggestions, based on conclusions drawn from her observations, had more than once been flatly rejected in the field. She had had to accept the reason: what might be usefully learned from one set of circumstances did not necessarily apply in another and different setting.

But was this the real reason? Might it not be as much the rejection of the active and, to her, all-important aspect of her role, the part that made her a participating change-agent? In which case, it invalidated the role as she had conceived it. It left her personally, as well as in terms of her role, very much on the outside looking in, made her a third party, almost an intruder. This made it seem appropriate, when writing her report, to head the section dealing with the problems of evaluation: "The Evaluator as an Extra - Doesn't Anyone Understand?"

Rationale

Her own feelings aside, did it matter if the evaluation lost its original intent of being an active ingredient of the change process? The answer, surely, depended on what was expected of the project itself. For some it might be enough only to meet the indentified needs. If the needs were met, ways and means might be unimportant. For the pragmatist, therefore, evaluation might be no more than the recording of events and the role merely that of the historian. There were those who would count the project a success by what it accomplished rather than by what could be learned from either its success or failure.

Her own expectations went well beyond such goals and measures of success as these. To succeed, for instance, in establishing a broadcasting station at Baker Lake, operated by and serving the interests of the people of that community, would be a worthwhile achievement. But a greater achievement would be to show how those interests were being served, to provide some authentic measure of the value of the service to its recipients and, finally, if it was a proven value, to be able to demonstrate how the steps leading to the achievement could be duplicated for application elsewhere. The project would not have fulfilled its mandate if it did not provide a well-documented example for others to follow, an example both of what could be done as well as what should not. It set out to be a learning experience. The knowledge gained had to be transferrable so that others could apply it for planning purposes or to undertake similar projects. The knowledge transfer could not be made without thorough documentation and evaluation of the experience they would undergo.

But for some, evaluation was a spurious activity. For them, what was concretely accomplished would count for more than its social consequences, and tangible results would speak for themselves. This was an outlook that made her an academic, not the actively participating member of the group she wanted to be and felt she could be if the research was regarded as making an on-going contribution to the processes of social development.

Evaluation - Structure and Methodology

But it was true that her credibility in her role depended on her work satisfying academic standards of research. It had to be professionally approached.

The structure of her research, as she had originally outlined it, would consist of three 'subject' communities:

- One provided with HF radio;
- Another provided with both HF radio and a radio broadcasting station.
- A third, serving as a control community, which had neither media provided to it but could be considered part of the region under study.

While it would be clearly impossible to find the same set of variables in each community, she proposed to choose as the communities she would study those that had the largest commonalities in terms of population size, cultural and historical background, degree of isolation and other social, economic and political factors.

Having selected the communities for study in each of the two regions where the project was to be conducted, she had intended to make paired comparisons by taking a sample community from one region and comparing it to a like community in another region in terms of a number of assessable variables. The variables she saw as pertinent to the assessment of the effect of introducing communication media were:

VARIABLES

- Knowledge levels - the extent to which media gave the community's inhabitants more information, made them more knowledgable about community affairs;
- Information flow - the effect of media in changing channels of information;
- Influence - changes resulting from the media. How did the media affect the way decisions were reached and the distribution of decision-making responsibilities?
- Participation - the degree to which the media enabled more people to become actively involved in community affairs;
- Social contact - how much the media enabled people to be in better communication with friends and relatives from whom they had become separated?
- Community - how much the media brought a sense of pride in belonging to the community and an increased sense of self-esteem?
- Cultural pride - the extent to which the media were instrumental in restoring a cultural identity in terms of self-expression through language and arts.

Considering these as the dimensions of the effect of introducing communication media, she also had to concern herself with the cause, the processes involved in introducing the means of improved communication.

The study of process was the study of the dynamics of planning, organizing, decision-making involving both project group members and the people

in the communities and institutions they interfaced with.

If process was the first consideration, the second was equally important: assessing the use to which the facilities were put. It was usage that would describe the role the media were to play in social terms; and usage was a question not only of what the communities did with the facilities but also of how much use they made of them.

Her research methodology - how she went about her study - would include:

- Interviews
- Analysis of log books and other records of information exchan- exchange
- Observation
- Questionnaires, as appropriate.

To provide a focus for the information collected in these ways, she had proposed some preliminary research aimed at identifying issues the communities considered significant. If, as a consequence of the introduction of media, social development was to occur in any of the several dimensions of her study, it would do so around issues talked about, for instance, at Community Council meetings. It might be the need for improved housing, better educational facilities, a concern about medical care. People would be asked what they knew about such topics, how they got to know about them, what their own opinion was, and so on. How they answered before and after the introduction of the media would give her the gauge of the effect.

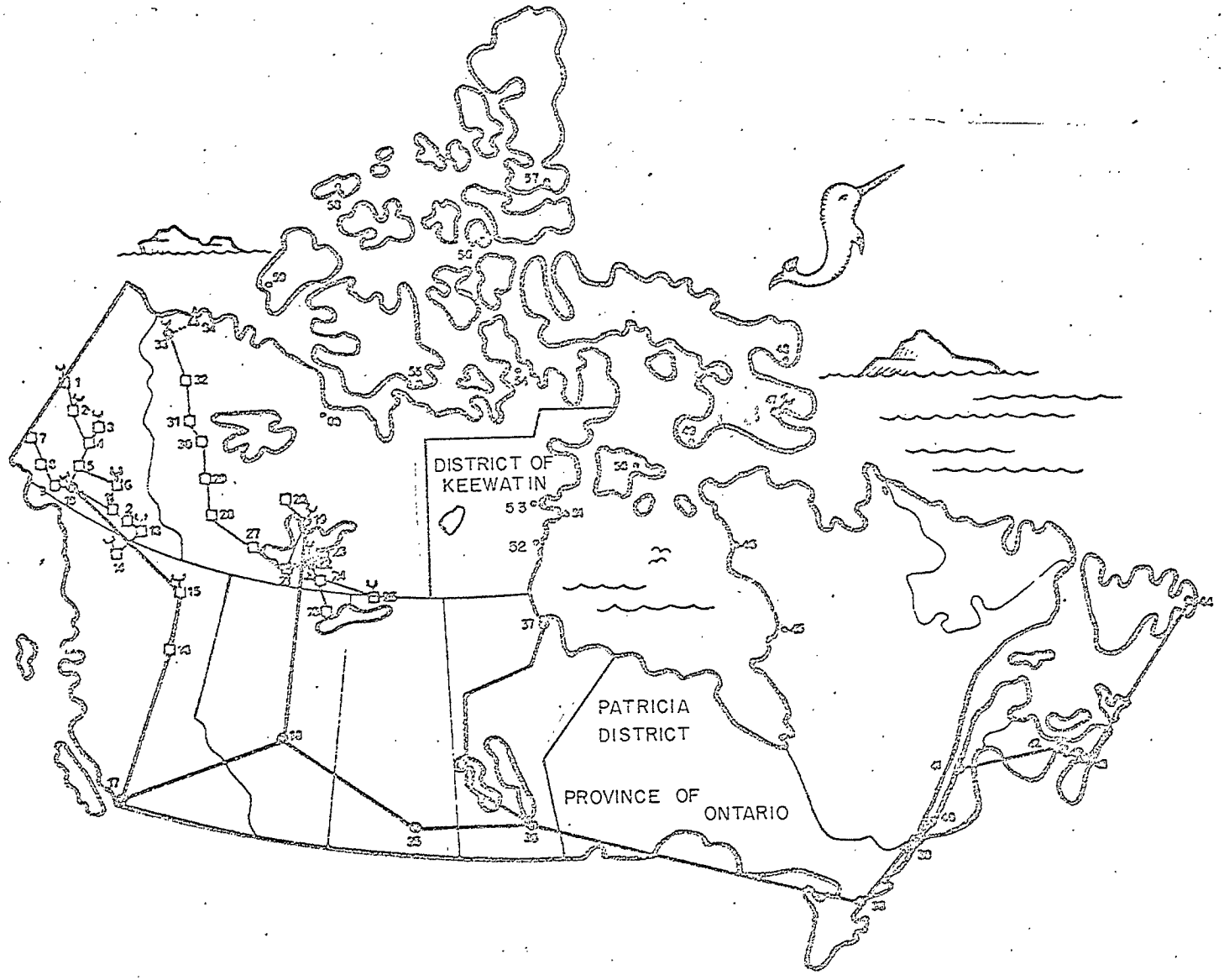
But it was one thing to design the research along these lines and quite another to conduct it in practical terms. An obvious prerequisite in interviewing was to establish a rapport in the community and gain acceptance. This required her to live among and work with the people in the community. She could not otherwise gain their confidence and trust. But fieldworkers confirmed how slow a process this was, starting with the difficulty of being an outsider and belonging to a different culture. There was the separation of language to be contended with and, more importantly, the wider separation of outlook and conceptual understanding. Social distance was as handicapping in her work as the geographical constraints, and time was always a limitation.

Under the circumstances, it was likely that she might have to content herself with a thorough documentation of particular incidents and treat them as case studies. This might be a less 'scientific' approach and less authentic to the extent that the information she obtained would come from careful interrogation of the fieldworkers rather than the inhabitants themselves and could therefore be 'filtered', consciously or unconsciously, by the fieldworkers. She could corroborate some of their evidence by reference to log books and other sources of factual data and she might be able to confirm the accuracy of their impressions by later interviewing members of the communities featuring in particular incidents.

It was essential, however, not only that she have good rapport with the fieldworkers but that they would regard themselves as extensions of herself in the sense of appreciating the need for evaluation.

But here she returned full circle to the issue of her personal relationship with the other members of the group. Did they see her as the 'extra' she sometimes felt she'd become? How much did they share her beliefs? How convinced were they about the value of evaluation? Did it make her only a critic in their eyes? Was her's a welcome influence or did they see it as interference?

The answers, she hoped would be forthcoming when they met.



1. Clinton Creek
2. Dawson City
3. Elsa
4. Mayo
5. Carmacks
6. Faro
7. Beaver Creek
8. Destruction Bay
9. Haines Junction
10. WHITEHORSE
11. Teslin
12. Swift River
13. Watson Lake
14. Cassiar
15. Fort Nelson
16. Fort St. John
17. Vancouver
18. Edmonton
19. YELLOWKNIFE
20. Rae
21. Hay River
22. Pine Point
23. Fort Resolution
24. Fort Smith
25. Uranium City
26. Fort Chipewyan
27. Fort Providence
28. Fort Simpson
29. Wrigley
30. Fort Norman
31. Norman Wells
32. Fort Good Hope
33. INUVIK
34. Tuktoyaktuk
35. Regina
36. Winnipeg
37. CHURCHILL
38. Toronto
39. Ottawa
40. Montreal
41. Quebec City
42. Sackville
43. Halifax
44. St. John's
45. Great Whale Riv
46. Povungnituk
47. FROBISHER BA
48. Pangnirtung
49. Cape Dorset
50. Coral Harbour
51. Chesterfield Inl
52. Eskimo Point
53. Baker Lake
54. Spence Bay
55. Cambridge Bay
56. Resolute Bay
57. Grise Fjord
58. Mould Bay
59. Sachs Harbour
60. Coppermine

- ◎ principal national and Northern Service radio stations
- ▭ national network
- — regional network (Northern Service)
- ▭ low power relay transmitter stations
- ▽ frontier coverage package television stations
- ∘ important settlements of Eskimo people reached by the Northern Service shortwave from Sackville, New Brunswick
- ▲ affiliated stations
- ... feed to affiliated stations

Figure 4

SECTION V - FIELDWORK

Task

Paraphrasing the project's objectives as they apply to fieldworkers, their task is to:

- Identify community needs that can be served by the communications technologies offered;
- Respond to such needs through the introduction of media in such a way that the communities served accept responsibility for the use and control of the systems provided.

When the original proposal was made, it was envisaged that the performance of the task would require the fieldworker to:

- "...visit the communities to explain the project..."
- "...help set it (the project) up by working directly with representative community groups and associations..."
- "...monitor the progress..."
- "...provide assistance when required."
- "...act as liaison between the communities and both the Project Office and district offices when required."

Community Entry

Different sets of circumstances were encountered in the two areas chosen for the project's operations - the Keewatin area of the eastern Northwest Territories (Figure 4), bordering the west coast of Hudson Bay, and the Patricia area of Northwest Ontario.

The fieldworker in the Patricia area - Pamela Donaldson - reported for administrative direction to the regional office in Toronto but to the Project Office in Ottawa with respect to project responsibilities. The duality of this reporting relationship was to become a matter of some concern to her as the project progressed as it caused confusion in knowing with whom to communicate most directly: Ottawa (the Project Office Headquarters) or Toronto, the Regional Headquarters. From a project management point of view, however, the inclusion of the existing activities in the Patricia area offered some advantages. The area met the criteria established for the selection of operational sites and provided an opportunity for cooperation with the Provincial Government's Indian Community Branch.[1] The project's social development aims were highly compatible with those of the Ontario organization and justified the latter's assistance in terms both of field staff and funding.[2] The scope of the project's operations could thus be extended without additional resources having to be found and with the added advantage to the fieldworker concerned of having easier access to the communities to be served by a "ready-made" contact.

Reporting her experiences to the Project Evaluator, Pamela Donaldson emphasized the difficulty and yet the prime importance of finding a representative body to work with from among the several whose aims furthered Indian interests. The difficulty was that it was not initially apparent that different aspects of Indian interests were represented by these bodies. Within

1. See Note 10, Annex 2

2. Specifically, the provincial authorities concerned allocated funds for 5 additional HF radios which could not be afforded on the project's budget - as an example of the principle of multiple-funding and of federal-provincial government cooperation.

the communities themselves there were differences in the value attached to these aspects and, therefore, in the priority given them. Since the Indian peoples had a tradition of operating on democratic principles, the question of what priority would be given the introduction of the communication media was itself one that could be resolved only after the question of which body was the appropriate one to resolve it had been answered. There was thus something of a vicious circle in the problem and progress towards identifying community needs was initially slow.

The Sioux Lookout Fellowship which eventually emerged as the organization most closely identified with community affairs in the region, has its headquarters in the Sioux Lookout Fellowship Centre. It was here that the representatives from several communities met to decide the question of priorities, the HF inter-community radio system being only one of several other needs to be considered. This meeting gave the fieldworker the opportunity to describe the system, to outline the benefits it could bring and indicate what would be required on the communities' part to have it installed. The merits of other options, such as the building of recreational facilities, were discussed, but it was decided that acquiring the means to communicate between communities should be placed ahead of other priorities because it was a prerequisite of the process of sharing information, developing a commonality of interests and reaching joint decisions. The inaccessibility of these communities greatly impeded this process, which made it harder to achieve the solidarity required for the Fellowship to function effectively in the interests of its members.

Approach to Developing Community Relations

It seemed to the fieldworker that the directors of the Sioux Lookout Fellowship Centre were to exercise leadership initiatives and that she should play a supportive role even if at times, in her judgment, a better quality of decision might result by asserting herself. She reasoned that however right she might be to intervene on this basis, she would be offering a form of leadership which might be regarded as challenging the formal leadership recognized by the group. No matter how qualified she might be to provide leadership, she was unwilling to risk being seen as a threat in that respect. Not only might she antagonize or alienate the group leaders but it might place her in the undesirable position of being depended upon for future decisions. A dependent relationship - one in which she or the authorities she represented were relied upon for initiatives - would prevent the ultimate objective being achieved: the communities assuming responsibility for their own development. She concluded, therefore, that it was better to sacrifice certain efficiencies (as she saw them) for the sake of developing a relationship in which she could be looked upon as a resource, one who would help them make decisions for themselves.

Conditions in the Keewatin area (predominantly inhabited by Eskimos) required a somewhat different approach, according to the fieldworker there, Mr. Pierre Jardinier. Unlike the Indian communities that Miss Donaldson was concerned with in Northwest Ontario, he reported, the Eskimos' settlements tended to be less cohesive around representative organizations. He attributed this to their nomadic tradition, a tradition of travelling in family groups to hunt the caribou which they relied upon as their chief food source. The settle-

ments in which they now found themselves were provided by the government of the Northwest Territories on whom they were almost totally dependent for support. They were settled there in the fifties when changes in the migratory patterns of the caribou had reduced them to near-starvation but they were traditionally not adapted to this form of community life. Not being a vocal people, inclined to be timid with strangers and being temperamentally disposed to accept the conditions of life as they found them day by day, they did not tend to readily assert themselves and take the kinds of organizational initiatives required for social action.

Pierre did not feel that the project management in Ottawa sufficiently appreciated these characteristics of the social environment in which he was working or why they required him to take more initiatives than might be necessary in a more socially-organized setting such as the one Pamela Donaldson described. Unlike the Eskimo, the Indians had a largely unbroken tradition of organizing into bands or tribes led by a chief and were therefore prepared to take their own initiatives.

The differences he saw among Eskimo peoples were based on his experiences when responsible for the introduction of "Cominterphone" in Rankin Inlet.[1] This was a project undertaken by a joint venture of Bell Canada and its research subsidiary, Bell-Northern Research with the CBC and the Department of Communications to experiment with a system whereby, in a community with telephones, where there was a need to promote public discussion of community issues and interests, a caller could access a radio transmitter by dialling "0".

1. This community (population approximately 525) lies on a small natural harbour on the Hudson Bay Coast about 300 air miles North of the nearest administrative centre: Churchill (See map)

His call would then be broadcast and up to three other subscribers listening to the broadcast on a standard, household AM radio could join the conversation by dialling "0". Cominterphone was introduced as a community communication medium with the purpose of experimenting with a means of public access to radio broadcasting which would meet a need and yet provide its originators with useful research as to how such a system was used by the community.

A Settlement Council representing community interests had been approached to explain the purpose of the system and gain support for it. When this was given and the system was put in service, Pierre had appointed the Eskimo Assistant Settlement Manager[1] to form and chair a policy committee responsible for managing the system's operation.

The committee's efforts to gain public involvement were largely unsuccessful. They were met with indifference or else by an unwillingness to participate constructively. Pierre attributed the difficulty to a characteristic reticence among Eskimo people about assuming responsibility (especially where it was assumed the system's proponents were more knowledgeable), and an inherent perceptual difficulty with abstract ideas. Despite the original efforts to explain the system, it had become clear that the community had thought it was to be presented with a radio station - a misconception based on their concrete experience of listening to short-wave and AM program material as opposed to the abstraction of what was then being proposed. Similarly, even if enthused about being directly involved in some aspect of the system's operations, Eskimos tended to be at a loss to know how to go about dealing with issues in the abstract.

1. Each community in the Northwest Territories has a resident government official responsible for community services and administration.

This tendency reflected itself in planning and program implementation problems going largely unanswered.

Drawing these conclusions from his experience with the Cominterphone project (experience which had led to his selection for the Northern Pilot Project), Mr. Jardinier saw his first task to lie in gaining acceptance for himself in the community where he located himself: Baker Lake,[1] a settlement which had tried since 1967 to establish a radio station but without success. He reported that the most appropriate way to set about this task was "...to start with cooperation from local people right from the start (sic). This meant attempting to involve them in the initial decisions to get things done, and finally, using them as the actual people to do the actual mechanics of setting the equipment up."

He attempted to reduce the "social distance" between them and himself as a Southerner by living among the Eskimo and individually winning their confidence by adopting their social habits. He considered this a prerequisite of getting people organized "in order to get the project on the road".

Recognizing their difficulty with abstractions, he made video tapes of various activities within the community featuring the future radio station manager as an interviewer. His purpose was to use this medium as a visible illustration of how information to be used in local broadcast programming material was collected. It was also a means of ensuring that the community would identify with the role the station manager was to perform in doubling as an announcer. He claimed that featuring the latter as the interviewer in these

1. Baker Lake is a community of some 710 people (of whom 620 are Eskimo) located about 170 miles inland from Hudson's Bay.

taped situations had the additional advantage not only of affording him practice in the interviewing process involved in collecting broadcast material, but also of creating opportunities for him to explain the intended system to the inhabitants in their own language, since he was a local Eskimo inhabitant himself. A complementary technique was to make an audio tape, playable by a cassette recorder, simulating 18 minutes of broadcast programming and featuring the station manager in the radio announcer role. Both the video and audio tapes were then shown door-to-door and were claimed by the fieldworker to have had a considerable effect in "increasing the information flow in a small community and causing discussion"- an essential pre-condition, he believed, of a successful operating system.

Satisfied that his approach had been highly successful in terms both of gaining acceptance of himself in the community and of creating a realistic awareness of what was intended to be done (an awareness that would enable it to be enthusiastically supported), he was disappointed when it invited critical comment from the project management in Ottawa. The substance of this criticism was that his own initiatives were likely to remove or dampen local ones and result in the community becoming dependent on the fieldworker rather than being encouraged to be self-dependent. Specifically, the Ottawa office was not satisfied that a locally-formed radio committee, which had agreed to accept responsibility for policy direction for the radio station, had been kept adequately informed or involved in such decisions as whether the radio station manager should double as an announcer, whether more than one should be trained in the latter capacity, etc. As one official put it, referring to the training of the local manager whom the fieldworker intended to have

PROJECT IMPLEMENTATION PROCESS

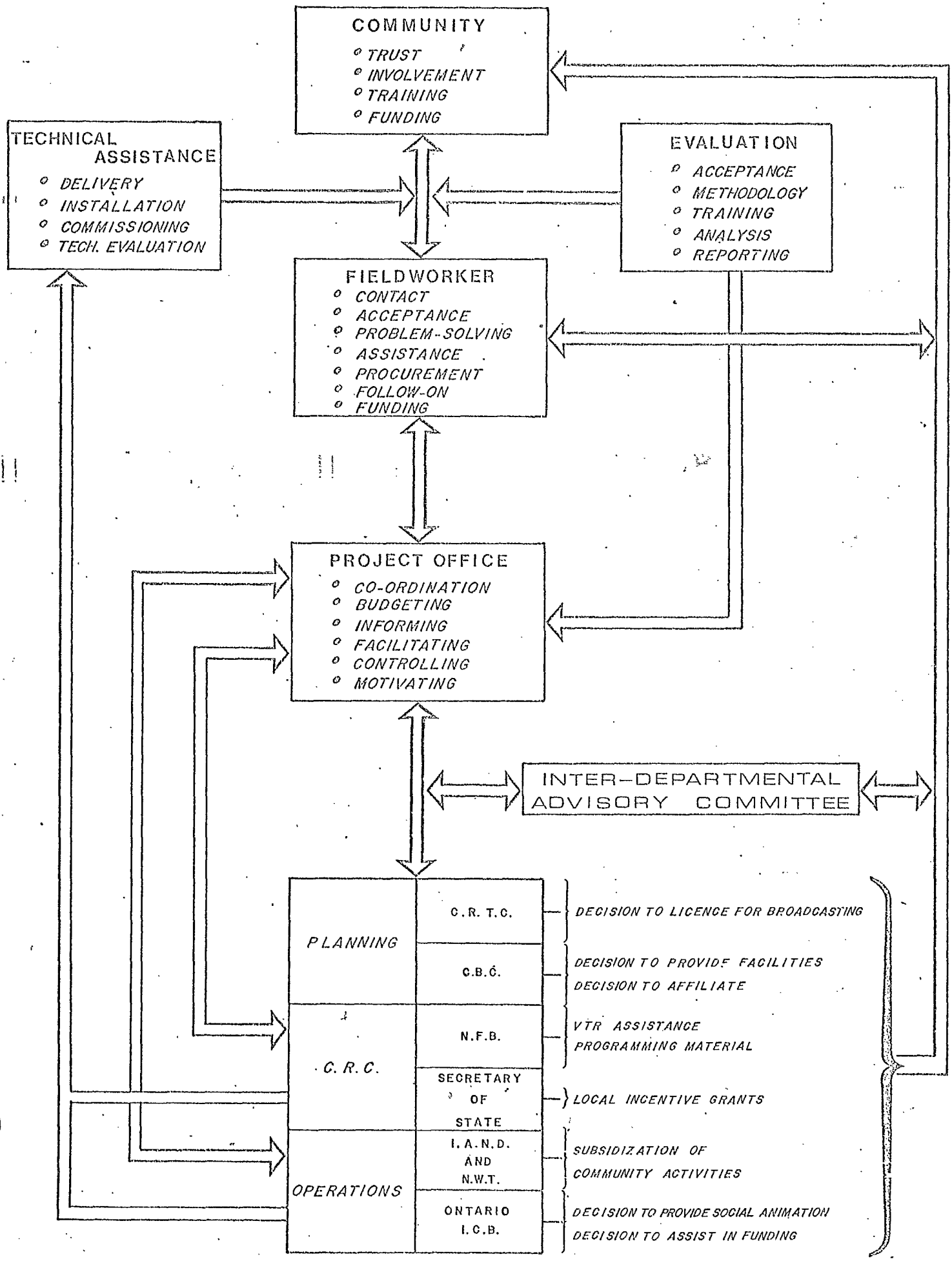


Figure 5

working closely with him, "learning all there is to learn about operations": "...there could be problems (in that) you might find that the chosen person came to relate very strongly to you (the fieldworker) and that the local committee became very dependent on that person, rather than the other way around. It will be important to help the radio committee establish itself as an important group, of whom the coordinator is a servant. In fact, the manager will have a lot of power, and that is why it is important to help fortify the committee to which he or she is responsible, before the whole structure becomes a paper structure only."

Program Implementation (Figure 5)

Although their "styles" of approach differed, the fieldworkers discovered they had much in common when they had the infrequent opportunity to meet. A dominant shared concern was the feeling that their role was inherently contradictory. On the one hand, their purpose was to serve the interests of the native peoples who, as the users of the media, were to define the terms of what was done on their behalf. On the other hand, although responding to expressed needs, their presence among these peoples was not invited but rather came as a result of sourthern and therefore alien initiatives. It was thus an intervention, however well-intended or however non-directive in style, the terms of which had already been pre-determined by the program that had been set. The program was a "hidden agenda" - hidden to the extent that in their relations with the native communities they did not put it forward as something to be complied with. Nevertheless, it represented a plan drawn up without consultation

with the users and set limitations on the help to be offered. The limitations of the types of systems provided, the amount of money to be made available and the time by which the results were achieved.

But what results? Results as defined by project management in terms of the installation and commissioning of "hardware packages"? Or were they results defined by user satisfactions, satisfactions that might lie as much in being entertained through access to program material from the south (recordings by Johnny Cash, the folk-singer from the southern United States were tremendously popular!) as in being educated through educational programming?

The issue was two-fold. At one level, deeply commited a they were to the interests of the native people, it presented them with the moral question of their own integrity: whose interests were they truly serving? At another level they had their own welfare to consider: what was the measure of their performance in the eyes of project management, a measure determining their career prospects?

The program that had been laid down had calculated on the imperative of winter. Summer in the far north was short and only in summer would the ground thaw enough to permit holes being dug for the erection of antennae. Winter broke suddenly into summer; summer into winter. The intervening spring and fall were periods when the communities of the region were least accessible by air because of the break-up of ice on lakes and the marshiness of thawing tundra-based airstrips in spring, and, in fall, the thin icing of the waters and the first falls of snow. If there were not pressures from the project

office to speed their progress, there were the irrefutable demands of the climate. The systems were to be operational by the onset of winter and not later than the second week of September, 1972, according to the originally proposed plan (Annex 3B).

In the Keewatin area, to meet this target, five communities were to be supplied with HF transceivers and a radio broadcasting station was to be made operational in the Baker Lake settlement (see Annex 5 for technical data). In addition, ways were to be explored of using VTR equipment as a means of training prospective equipment operators and as an alternative medium for inter-community communication premised on tapes being transported between communities. Another, if lesser, priority, was the possibility of providing emergency trap-line equipment enabling hunters to get help if in difficulty when tending their distant trap-line.

Tasks

The tasks to be performed and the decisions required followed much the same sequence in both the Keewatin and Patricia areas:

1. Community contact

   - determining or affirming communication needs by negotiation with locally representative groups;
   - collaborative preliminary planning (selecting suitable installation sites, determining when installation could be arranged, securing commitments for supply of local labour to erect antennae and install the system, outlining operational requirements, to include the need for the community to select operational people for training).

2. Return to base to make preliminary arrangements to procure equipment

- outline equipment requirements;
- establish tentative delivery dates;
- arrange tentative schedule for arrival of technical assistance to supervise installation.

3. Install equipment

- obtain on-site delivery;
- arrange local labour for digging holes for antennae;
- orient antennae;
- install, tune and test equipment.

4. Train operators

- draw up course outline;
- arrange suitable accommodation for participants and for the conduct of course;
- make travel arrangements;
- conduct course.

Progress in the Keewatin

In the Keewatin area, however, the first priority was establishing the radio broadcasting station, a more involved procedure than described above and one that was more protracted than originally planned. Whereas it had been expected that the total program to include the commissioning of the radio station would be complete by the second week in September, the installation of HF radio in the communities of Baker Lake, Rankin Inlet, Whale Cove, and Chesterfield Inlet was not complete before the last week in October and the radio station went on the air with the New Year. Delays caused both by an underestimation of

how long it would take to develop the essential community support for the project in organizational terms and by administrative difficulties, meant that the installation of HF transceivers had to be undertaken with the return of winter conditions. When the community of Eskimo Point was unable to resolve organizational difficulties so as to provide the manpower required to install the system there, the fieldworker felt that the deteriorating weather conditions left him no choice but to abandon the effort there in favour of other communities. Thus four communities, and not the intended five, received the facility.

Progress in the Patricia

In the Patricia area, work proceeded much along the lines followed in the Keewatin, without the complication of having to provide a broadcasting station and with the implementation of the program being undertaken as an on-going regional activity rather than having been pre-planned by the project office. An important other contrast with the Keewatin component of the project was that whereas the field worker there had to depend largely on himself for developing community relations, Pamela Donaldson had the active assistance of the Indian Community Branch of the provincial government of Ontario. It was through this organization that she was to learn of the communication needs in the Sioux Lookout region. Understanding of these needs had emerged as a result of the Indian Community Branch initiating a program aimed at affording the native peoples of the region the opportunity to "articulate their views on provincial services and programs." Known as

"Meeting '71", the program provided funds enabling the Indian bands concerned to meet and discuss among themselves the social and economic issues affecting them and to formulate a regionally representative viewpoint. From this process of dialogue between community representatives and provincial government officials, it evolved that inter-community radio systems were an overriding priority, and that there was a readiness to assume responsibility for their operation and eventual ownership. Because of its cooperation with the Indian Community Branch, therefore, the Federal Communications Department in the region could proceed with the assurance of provincial government support and with a well-developed understanding of the needs to be met at all public and government levels.

The interests of the communities were represented by eight Chiefs who readily accepted responsibility for all decisions regarding the location of the HF transceivers, the hiring of trainees, the siting of equipment, etc., and assumed control of the progress of the project, the fieldworker and the supporting federal and provincial organizations functioning only to provide expertise and "resources necessary to implement the system".[1]

Although its operating principles were thus firmly established and the potential of what needed to be done could be readily visualized, the implementation program had to be extemporized mainly because of funding limitations. Initially funding permitted the installation of only six radio sets. Additional funding was found to provide for a further five. A twelfth was added as a contribution from another provincial government agency. Funds were then made available in December of 1972 from provincial government sources

1. Quotations are from the I.C.B. report of March 1973 titled, "Northwestern Ontario High Frequency Radio Network".

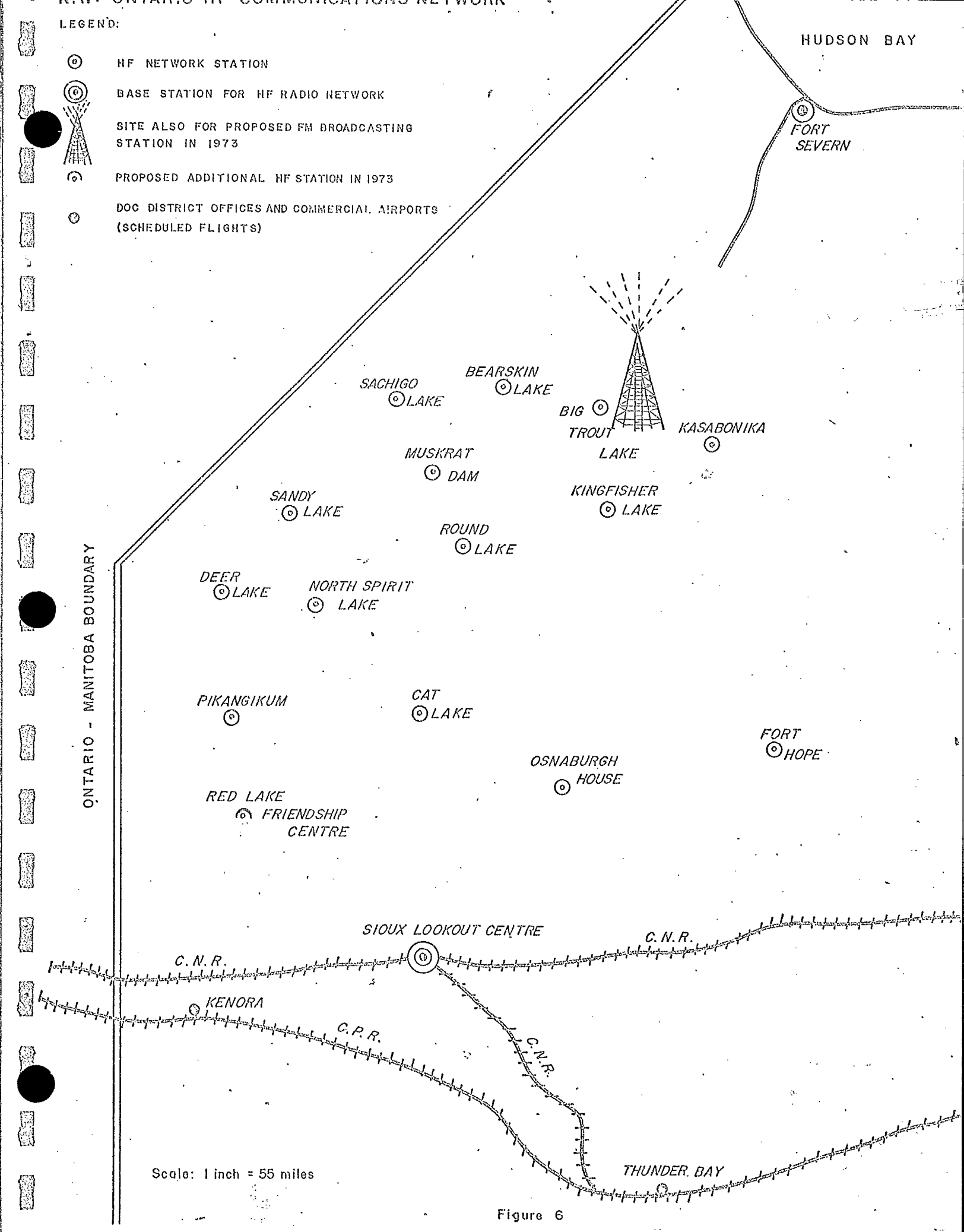

LEGEND:
HF NETWORK STATION
BASE STATION FOR HF RADIO NETWORK
SITE ALSO FOR PROPOSED FM BROADCASTING STATION IN 1973
PROPOSED ADDITIONAL HF STATION IN 1973
DOC DISTRICT OFFICES AND COMMERCIAL AIRPORTS (SCHEDULED FLIGHTS)
HUDSON BAY
FORT SEVERN
SACHIGO LAKE
BEARSKIN LAKE
BIG TROUT LAKE
KASABONIKA LAKE
MUSKRAT DAM
SANDY LAKE
KINGFISHER LAKE
ROUND LAKE
DEER LAKE
NORTH SPIRIT LAKE
ONTARIO - MANITOBA BOUNDARY
PIKANGIKUM
CAT LAKE
FORT HOPE
OSNABURGH HOUSE
RED LAKE
FRIENDSHIP CENTRE
SIOUX LOOKOUT CENTRE
C.N.R.
C.N.R.
KENORA
C.P.R.
C.N.R.
THUNDER BAY
Scale: 1 inch = 55 miles

Figure 6

to supply five more. The progression of the project in this region tended therefore to be a process of evolution rather than of planning, making it difficult to manage as an integral part of the overall project as originally planned.[1] By March of 1973, twelve communities had been supplied with HF radio transceivers and preparations were made to install sets in three other communities. Seven other communities still require them. A total network of twenty-four stations was to be completed.

While the regional fieldworker acknowledged that in terms of meeting "hardware" needs, the project had succeeded beyond any reasonable expectation, she was nevertheless greatly concerned about the project's gathering momentum. This concern was in part to find herself propelled into a position of having to be guided by two sets of criteria, one emanating from the project office which required her to follow a pre-determined course and to meet certain planned targets and deadlines, and the other arising out of evolving local situations which she was urged to exploit in the interest of meeting needs as they developed. To a degree she felt compromised by a seeming double standard in the project's aims - aims that were originally limited and were to be approached with an emphasis on social development but which had rapidly become open-ended with an apparent emphasis on social development on providing "hardware" wherever the need manifested itself and regardless of the subtleties involved in playing the "social animator" role she had understood was her prime responsibility. Not only did this make her uncertain as to the standard upon which her performance would be measured but it also gave her

1. See Figure 6 for map of HF Radio network

misgivings as to her ability to find a compromise that would enable her to keep up with the pace of developing events and demands on her time. The more open-ended the project became, the more she felt she would be burnt out in the difficult, delicate and time-consuming process of establishing a relationship based on trust in an ever-increasing number of communities. Like the fieldworker in the Keewatin, she did not believe the project management fully appreciated the sensitivities of the social animation role in field conditions or recognize its difficulties.

Administration

Fieldworkers had a variety of administrative tasks to perform falling into the following categories:

- Procurement, to include the placement of orders for equipment and the handling of paperwork associated with delivery of material by air, railway or sea;
- Transportation, obtaining by charter or other means transportation services (usually by air) for the transportation of people (for example, trainee radio operators) and material;
- Disbursements, processing and paying invoices for transportation and other services received, maintenance of cash funds for payment of paid labour;
- Documentation, to include completing, or helping community representatives to complete, applications for operating licenses as required by regulatory bodies such as DOC, CRTC or to obtain locally available government grants such as those provided by the Secretary of State's Department;
- Miscellaneous (fieldworkers, being sometimes the only contact with remote areas, could be called upon to obtain statistical and other data needed by government authorities).

Administration was a subject of much dissatisfaction on the part both of the fieldworkers and the project office. The latter had complained that fieldworkers were notably deficient in meeting their administrative responsibilities. Their neglects in this regard, however unintentional or excusable by their difficult circumstances, had "hurt" the project by causing delays in the delivery of goods or errors in the selection of materials required, and by incurring unauthorized expense which had strained the project's budget. More importantly, they had "hurt" the communities served because, for instance, available grants that would pay for the employment of local labour had not been applied for and a badly-needed local employment opportunity had consequently been missed. Neglects of this sort could alienate those whose goodwill was important within the Communications Department and, externally, among cooperating associated agencies.

In the light of their circumstances, their isolation, their lack of most of the ordinary services taken for granted in the developed South (office equipment, ready access to a telephone, not to mention services like banks and shops), the fieldworkers felt that unreasonable administrative demands were being made on them. They contended that the administrative procedures they were asked to abide by were unduly rigid and totally inappropriate in a working environment that made on-the-spot decisions and extemporizations essential. They recognized the need to take advantage of locally available grants and to assist in the preparation of applications for required licenses, but the agencies concerned apparently did not recognize in turn

how complicated the documentation procedures were and how incomprehensible were even the accompanying explanatory materials. These were barely understandable to the fieldworkers themselves but were impossible to explain in communities where not only language was a barrier but where the concepts involved were entirely foreign. The basic issue, they argued, was that the conditions of field work required a highly flexible, decentralized administrative system which aimed at making project implementation largely a self-sustaining activity; whereas the project was administratively based on a centralized system which hampered rather than helped the fieldwork by a staunch refusal to adapt to the conditions in the field. Centralized in Ottawa, the lines of communication were unduly attenuated and intensified the difficulties of remoteness. They acknowledged and appreciated efforts on the part of the Project Manager to "cut corners" on their behalf, but felt that the administrative system had been evolved to meet southern requirements not northern. For his part, the Project Manager regretted that both fieldworkers had had no prior administrative experience in the government and were thereby less able to accept its constraints or recognize the difficulty of changing it.

Evaluation

Both fieldworkers were sympathetic towards the need for evaluation but were agreed that the evaluator's role was most difficult, especially if by being centralized it prevented the evaluator from living in the communities and participating in the on-going process of developing community relations - the essential requirement of working in a climate of trust and acceptance.

H.F. RADIO TRANSMISSIONS - CONTENT ANALYSIS

FIGURE 7

OCTOBER 1-31, 1972

		ROUND LAKE		BIG TROUT LAKE		SIOUX LOOKOUT	
		# OF CALLS	% OF TOTAL	# OF CALLS	% OF TOTAL	# OF CALLS	% OF TOTAL
1	PERSONAL	36	33.6	80	32.0	64	31.7
2	BAND AND CENTRE	22	20.6	61	24.4	17	8.5
3	GOVERNMENT AGENCIES	17	15.9	32	12.8	17	8.5
4	WEATHER	12	11.2	30	12.0	35	17.4
5	AIRCRAFT	7	6.5	22	8.8	23	11.4
6	RADIO	3	2.8	2	0.8	15	7.5
7	RELAYS	3	2.8	8	3.2	10	5.0
8	ELECTIONS	5	4.7	-	-	7	3.5
	OTHER	2	1.9	15	6.0	13	6.5
		107	100.0	250	100.0	201	100.0

1 CALLS FOR SUPPLIES, PERSONAL MESSAGES, ETC.
2 ORGANIZATIONAL CALLS, COMMUNITY AFFAIRS
3 ADMINISTRATIVE BUSINESS CALLS
4 INFORMATION ABOUT WEATHER CONDITIONS
5 INFORMATION ABOUT AIRCRAFT ARRIVALS
6 OPERATIONAL INFORMATION
7 RELAYED MESSAGES
8 FEDERAL ELECTION RESULTS

They observed that this was an extremely hard condition to acheive even by remaining in continuous contact with a community because of the characteristic indifference and sometimes hostility of native people towards those by whom they felt they were being studied rather than helped in tangible ways. If, as fieldworkers, their presence was an intrusion, the Evaluator's was even more so; indeed, there were occasions when her presence compromised their own by association; for it was vital to their being trusted and accepted to be perceived as a helpful presence acting in the interests of the community and not as one which judged the values of acting in that capacity or which served external interests. This was why neither believed the fieldworker's role could include evaluation, despite their feeling that it could only be performed by remaining in close and continuing contact with the community.

Much as it might fall short of what was needed, the assistance they could give evaluation was confined to reporting their own experiences as time and circumstances allowed and answering questions the Evaluator might put to them. They had arranged that log-books and other records were maintained so that quantifiable data could be referred to her for analysis. (Figure 7)

Results

By the end of January, 1973, the Project Management was able to report that the fieldworkers' efforts had "exceeded by far my original expectations. We have met all our original objectives for specific systems and, in several instances, have exceed them. More important, we have, through the help

of agencies such as the C.B.C.[1]; the N.F.B.[2]; I.A.N.D.[3] and the Ontario and N.W.T.[4] governments, laid the basis for activities that would extend far beyond the Pilot Project itself.....All our systems are owned and operated by the communities concerned, our role being to act as a catalyst and to provide all the necessary advice and support, but to work ourselves out of our job as quickly as possible".

(Memorandum from Project Office)

Referring to results in the Patricia area, the Indian Community Branch of the Ontario government, Ministry of Community and Social Services reported:

> "In commenting on the progress of the Northern Pilot Project to the (March 1973), several factors must be emphasized as critical to the success of the system. Foremost is the fact that the Chiefs and Councils of the eight bands have participated in all plans and decisions regarding the radio network.. ...there also has been considerable cooperation and coordination between the two government agencies which have been particularly involved in this project - the Department of Communications and the Indian Community Branch. Without this liaison, it is fair to state that the installations and the overall progress would have been hindered considerably. Through the involvement of the Chiefs and Councils, the radio system has definitely become their own system and not the government's. This fact is significant in terms of facilitating meaningful communication among the remote communities. It also has major implications in terms of providing a means of Indian people to discuss among themselves both their own concerns and programs as well as government programs. This system will allow them to have a meaningful input into programs. These changes cannot be underestimated in the impact on development of northern communities."

Insofar, at least, as the Patricia area was concerned, feedback of this kind gave project management the confidence to feel that its strategic

1. Canadian Broadcasting Corporation
2. National Film Board
3. Department of Indian Affairs and Northern Development
4. Northwest Territories.

aims were being met: the development of cooperative inter-institutional relationships sustaining joint action in the pursuit of common goals and the fulfillment of national policies; the involvement of the public in the process of securing their interests; the encouragement of public acceptance of responsibility for the means by which their interests were met.

A by-product of the last strategy - responsibility being taken over by the public - already presented itself; for, as one official put it, "...there is a possibility that the radio system can be utilized (by the native communities) to provide service, to the government agencies who use it, on a contractual basis, i.e., weather reports for the Department of Transport. If this type of service is paid for, the income will defray at least some of the maintenance costs." Although this idea was still in the planning stage, it held out the prospect of the systems becoming a source of income in communities where typically the people were supported by public welfare. While such income would never be large enough to enable an entire community to be self-sustaining in economic terms, it nevertheless could be counted as a tangible cost-benefit. But, more importantly, in communities lacking a viable economic base, it provided a much-needed reason for people to believe they could employ themselves to their own gain and have some hope of not being predestined to live an unproductive life on government relief.

Looking ahead to when they would meet in Ottawa, fieldworkers expressed several misgivings. The issue that concerned them most was the project's "open-endedness", its marked tendency to enlarge itself as new

opportunities presented themselves and to propel them into added commitments at an ever-accelerating pace. This was a thrust that came only in part from the field, from the known needs remaining to be met and from those that might be anticipated as the communities recognized the potential of the media in their hands. The stronger thrust was from project management, as though by a determination to seize every opportunity to demonstrate its own initiatives no matter what other interests or priorities were at stake. It prompted the tacit question: were they in fact working themselves out of a job, as the management put it? Or was the opposite true? Whose interests were really being served? Was the provision of hardware their object? If so, what had been achieved and what they were being pressed to achieve would be impressive evidence of their effectiveness. But as to the process - the subtle sensitivities of the tactics of social development - they could only wonder about how effective they had been or could be with the thrust to achieve the concrete. The measure of their results in this less tangible area of their responsibilities would depend presumably, on the findings of evaluation and it would be almost a year before they would know how if found them.

SECTION VI - THE MEETING AND AFTER

Members of the project group assembled in their Ottawa Headquarters for their March meeting, the rush and bustle of the Nation's capital seeming to the two fieldworkers like a different world after their distant areas of operations.

Much had happened since they had last met and the meeting was an opportunity for them to share their experience like travellers returning home from far-off places who have a bond between them in what they have seen and done. It was the first time in many months the group had all been together and the occasion seemed like the celebration of a reunion. Geoffrey Rogers and Gilbert Johnson could hear at first hand how the fieldworkers had fared, review their own impressions and lay the plan for the project's final phase. Harriet Hampton could finally piece together the information needed for evaluation which until then could only be obtained separately from each of the fieldworkers but could now be matched in face-to-face discussion. For her, as for the group as a whole, the meeting was an opportunity for re-capitulation and re-assessment, for planning for the future on the basis of the experience gained, but also - and this was what for all was so important about meeting together as a group - for gaining the integration so difficult to achieve when such distance separated its members and made the communication between them so frail. Kenneth Thompson, succeeding Gilbert Johnson as the group's Project Manager, could meet the members of the group for the first time and Johnson could be wished success in his new appointment. The meeting

marked a transition and a time for renewal.

Progress in the Keewatin

At this time the previous year Pierre Jardinier had been making his survey of possible sites for HF Radio installations, explaining to the settlement councils concerned what the project was about, learning what the communities' interests and priorities were and making his assessment of the technical feasibilities. Out of this had come the decision to select the communities of Chesterfield and Rankin Inlets, Whale Cove, Eskimo Point and Baker Lake for the community radio-telephone network and to respond to the long-declared need at Baker Lake for a radio broadcasting station. The survey had set the project's goals in the area, goals that in March 1973 they could now agree had been achieved, with the exception of Eskimo Point which would become the first priority for the final phase.

The quality of the achievement was, of course, not only to be measured in terms of these tangible results. Had the project's intangible objectives been realized? Did the communities concerned regard these as their accomplishments? Did they feel that the decisions made were theirs and had they become actively involved in carrying them out? Did they genuinely feel the systems belonged to them, were their responsibility to operate and maintain? Was this the acceptance of a delegation of responsibility a compliance with terms set externally and not by themselves? Or was it what the project intended it to be - a willingness to act responsibly? Was there, proof in other words, that, given responsibility, people will act responsibly? As a consequence, was

the fieldworker regarded as someone who was there to help them become self-sufficient and not someone on whom to be dependent?

These were questions it was too soon to answer conclusively, but there were indications that they might be answered affirmatively when there was an opportunity to complete the evaluation. The radio station at Baker Lake - CKQN its code letters - seemed now to be established on a firm footing meeting the projects criteria; and in these respects was the most regarding of Pierre Jardinier's efforts. A local radio committee had been formed to participate actively in bringing the station into being; a Station Manager/Operator had been selected by the committee to work closely with Pierre not only in becoming familiar with programming and broadcasting techniques but also in presenting the concept to the local public and developing community awareness of what it offered them; the committee and their intended Station Manager had actively and responsibly participated in the difficult task of preparing the case for their application to the Canadian Radio and Television Commission for the station's license; the case had been presented and in February of 1973 the station had gone on the air, the occasion marked by a special ceremony attended by the Minister of Communications who officially opened the station. It had been possible to demonstrate all the project's operating principles along the way: community involvement, multiple-funding (advantage had been taken of Opportunity for Youth and Local Incentives grants to defray salary and other expenses); and importantly, in the help received from the National Film Board and the Canadian Broadcasting Corporation, the

principle of promoting inter-institutional co-operation. In addition, there had been opportunities to demonstrate and provide local instruction in the techniques of making video-tape recording presentations and to develop an appreciation of the potentialities of this medium.

Aside from the encouraging indications that Station CKQN was already setting an acknowledged example for community radio broadcasting in the North, there were distinct signs of it having made an impact which augered well for the fulfilment of some of the strategic aims involved: principally, a better appreciation of how southern regulatory practices needed to be adapted to circumstances in the North, a high-lighting of some of the issues involved to provide better balance between north and south orientations.

Progress in the Patricia District

The differences between Pamela Donaldson's experience in the Patricia District and Pierre Jardinier's in the Keewatin were generally agreed to center on the qualities of her relationships with the communities. Perhaps because of their cultural traditions - their sense of community beyond the circle of the family was not apparently strong - or possibly because of their reserved natural temperament, it was always difficult to know how willing the Eskimo were to assume community leadership themselves rather than allow some external figure to take it over. Consequently, it was correspondingly difficult for the group to agree as to what made for the best response on the fieldworker's part. Too aggressive, too ambitious as much for the community as for himself, he might unknowingly become a crutch for others to lean on rather than be the

support that would achieve them their independence. Semantically and behaviourally, support was of two kinds: it was crutch-like or it was the kind of encouragement that prompts self-confidence and a moral resolve to be self-sufficient.

But if this was a matter of controversy so far as the Keewatin was concerned, it was less so in the Patricia where Pamela Donaldson had found the Sioux Lookout Fellowship not only eager to take on the initiatives but well organized to represent the interests of the communities in the region. Her chief difficulty had been to maintain a pace that would keep up with the demand these communities expressed for HF Radio Transceivers. The initial demand for a network of six had been met by the end of September 1972. Two operators from each of the network communities had been trained in the operation and maintenance of the communities and the network was 'on the air'. Beginning in October, work had gone on in active participation with the communities concerned to extend the network by 11 more sites by May of 1973. This additional demand, well beyond the project's scope as it had originally been envisaged, was nevertheless made possible by the application of one of its basic operating principles: namely, the promotion of inter-institutional cooperative relationships. Through its Indian Community Branch, the Ontario Department of Community and Social Services provided funds for the purchase of five of the HF Radios needed, the other six coming from DOC's Regional Operations in Ontario. Advantage was taken of various other forms of government aid to employ and train people within the communities themselves to install the equipment. An added demonstration of the working of these principles was the help

Pamela received from ICB workers in the social animation role. In terms, therefore, both of 'hardware' goals and fulfillment of strategic objectives, there were grounds for considerable satisfaction, even if there were taxing demands still to be met and the use the communities made of the facilities had yet to be evaluated.

The Way Ahead

What remained to be done and where the emphasis would lie were questions addressed by Geoffrey Rogers and Gilbert Johnson. It had been the strategy evolved during the first few months of the preceding period to concentrate on meeting those needs which were more clearly perceived in each area. This had meant that emergency radio equipment, intended for trappers and hunters who might get into difficulties tending their distant trap lines under the hazardous conditions of the North, would have to be put off to the project's second year of operations. Time would not allow earlier the substantial effort that would be required to define needs in that direction: the operating range of the equipment that would be required, its degree of portability and the definition of its other specifications for field trail purposes. Similarly, in the Patricia District, it had been a decision made by the communities themselves to place the creation of the HF Radio Network ahead of a radio broadcasting station destined for Big Trout Lake, much as it was felt that was needed. Further, in both operational areas, other priorities had tended to limit what could be done to apply the medium of VTR.

These, as Geoffrey Rogers outlined them, were now to be the group's new priorities, along with what remained to complete the HF Radio network in Northwest Ontario now grown prospectively to a linkage of twenty-three communities, and not forgetting the completion of the smaller Keewatin network with the installation in Eskimo Point.

Funding, as Gilbert Johnson pointed out, would remain a problem because, although successful in having the additional budget of some $122,000 approved, quite a large portion of the capital allocation was for the purchase of VTR equipment which Mr. Rogers was anxious to see being given greater emphasis in the ensuing phase - adding that he looked to the fieldworkers for details of the programs they proposed for the application of this medium. Since no addition in staff was contemplated, the future would place increased emphasis on the multiple-funding principle and augmenting what had been demonstrated to be feasible in the Patricia area with the cooperation there of the provincial authorities.

What Now? - The Fieldworkers

When the fieldworkers eventually took their leave to return to the very different world of their respective areas, it seemed evident that for the group as a whole the meeting had been a kind of renewal in the opportunity it had given them to share their experience and in the sharing to reach new understanding of one another which enabled them to feel themselves a group more than in name or by the happenstance of organization; it was a renewal of spirit.

But it was clear now to Pamela Donaldson, for one, that they would not be relieved of those misgivings that had mounted when it appeared that the project had a gathering momentum which carried them forward at a pace they could not control or even be certain they could maintain. Still at the heart of her concern was the question of conscience: by whom or for whom was the pace being set? By themselves acting on initiatives more of an institution's choosing than by the choice of the communities they were meant to serve? Was theirs only another - and more subtle - form of imposition? How was the need to introduce new possibilities like VTR to be reconciled with the concept of serving the community's needs on terms the community would decide for itself? How could they proclaim that concept and not abide by it themselves? Whose needs were they really serving? Who defined the public good - government or the governed?

For Pierre Jardinier the question could be put somewhat differently: what if a community lacked within itself the resources, skills or whatever else it took to assume the leadership in its own interests? What if, for reasons of its own, it preferred to look for leadership other than from within? If that were its choice, wasn't it a kind of presumption to deny it and, possibly, for the sake of being non-directive, allow initiatives to be lost or mistakes made that might later be regretted? And wouldn't the community then be justified in feeling that the fieldworker had failed them? One did not have to be authoritarian to get things done; on the other hand, too permissive an attitude could mean that nothing got done, particularly if people were unfamiliar with the imperatives of technology and the requirements of organization.

What Now? - Project Management

Some three weeks after the project group's meeting. Kenneth Thompson had fully assumed his new responsibilities as Project Manager and Coordinator of the CTS Communication Experiments Project. As Gilbert Johnson had predicted, the Northern Pilot Project was turning out to take at least half his time.

Before they left he'd had an opportunity to talk at length with the two fieldworkers. He had the impression that the meeting (which he had attended in largely an observer capacity) had been instrumental in resolving a number of relationship problems, but he had then been too new to the group to appreciate the significance of these dynamics. Based, however, on his interviews with the fieldworkers it seemed clear that if there had been a healthy exchange in matters of that sort, the future was clouded by apprehensions about what was being demanded from them on their return to the field.

These, it seemed, turned on the open-endedness of the project, its tendency to enlarge itself and push its mandate to the limit - certainly far beyond what had been envisaged in the original objectives.

What, if anything, should he do about this as the project's new manager? What were the management decisions someone in his position should make as they effect:

- The setting of objectives?
- Making the transition from project to on-going program?
- Determination of performance criteria?

- Application of the principles of multiple-funding and inter-institutional cooperation?

- The satisfaction of the project group members?

And what was to be concluded from the experience so far that would bear on these decisions? What general principles did it illustrate that might be applicable elsewhere? Would the basic principle of participatory democracy be shown to work - and what did it take to make it work?

PART II

"THE CTS COMMUNICATIONS EXPERIMENTS PROJECT"

"How can Canadian telecommunications systems be developed and used, to the greatest possible extent, to foster Canadian social and cultural values, and to provide a sure means of disseminating a Canadian perception of Canada and of the world to all Canadians?"

The Hon. Gerard Pelletier
in 'Proposals for a Communications
Policy for Canada'.

PART II

THE COMMUNICATIONS TECHNOLOGY SATELLITE (CTS) EXPERIMENTS PROJECT

BACKGROUND

In October of 1972, officials of the Federal Government of Canada's Department of Communications convened a national conference at Winnipeg, Manitoba, to discuss a proposed program of experimentation using the Communications Technology Satellite (CTS) then under development by its Communications Research Centre. Those attending were representatives of a variety of interest groups at federal, provincial and public levels who had responded to invitations and earlier announcements of the intended program.

Design of the satellite by the Department's Communication Research Centre had begun in 1971 based on experience gained from research programs conducted over the previous decade which had lead to the development of the Alouette, ISIS and, to an extent, ANIK satellites. The Communications Technology Satellite derived its name from the intent of having an experimental vehicle permitting investigation of new technology to further the knowledge already gained, it being clear to Canadian communications systems planners that the new technology had a demonstrated potential for overcoming communication problems that were insurmountable by terrestrial communications.

Adequate communications in the Canadian North was a particular difficulty because of the vast distances between communication centres and environmental conditions that placed severe limitations on terrestrial communications systems in terms both of their availability and their reliability.

Yet, if these deficiencies could be overcome by satellite communications, there was experience suggesting it would not be without creating other problems. The isolation of the North, the fact of geography and climate that separated it from the rest of Canada, no longer protected the indigenous way of life from being eroded - if not destroyed - by the encroachment of southern values and the advance of economic expansion. In terms, certainly, of social values, satellite communications only turned this southern tide into a torrent that all the more irresistably swept away what little remained of native identity and tradition. But this was an inevitability only so long as nothing was done to strengthen the capability of northern people, not so much to withstand it as to turn it to their own advantage, as their best interests might dictate, whilst retaining their unique qualities.

Communication policy planners had urged the development of this capability by the creation of HF radio telephone networks which linked scattered but ethnically related native settlements, and by the establishment of regional radio broadcasting stations giving these communities the communications needed to publicly voice their shared needs and aspirations. The Northern Pilot Project had been proposed with the aim of providing this opportunity for public expression, on the theory that public access to communication media could lead to responsible community action, a theory the project was intended to test.

These considerations, coupled with the declared social emphasis of national policy on northern development, had persuaded executive management of the Department of Communications to extend the opportunity for experimentation with CTS to include the social field and not to confine it,

as originally intended, to purely technological interests. To provide for this broadening of the proposed program, named the CTS Communications Experiments Project, a total appropriation of $4.4 million was made for capital expenditure and for operating expenses. It was agreed, further, that the project would be approached by following principles similar to those already adopted for the management of the Northern Pilot Project:

- the interest of the public would be consulted and taken into account
- ground stations would be made available for experimental purposes meeting identified needs
- project staff would perform the catalytic, facilitative role of involving would-be experimenters in determining for themselves how to develop and conduct an experimental program.

On the basis of this approach, a "CTS Communications Experimenters Committee" was formed under the chairmanship of a senior official of the Communications Research Centre "to advise on and to coordinate an effective and well-balanced experimental program". A program aiming at providing consultation and information for those wishing to take advantage of the experimental satellite was developed.

EXPERIMENTAL FACILITIES

The facilities the program offers experimenters public and private (to include those from DOC itself) consist of the satellite itself and a choice of several designs of ground terminals or stations.

The Communications Technology Satellite, because of the allocation of a number of new frequency bands to the space services resulting from the July 1971 conference sponsored by the ITU on space communications,

has been designed to transmit in the frequency band of 11.7-12.2 GHz and receive in the 14.0-14.5 GHz band. It is expected to be launched in August of 1975 and its geostationary orbital position, controlled from a telemetry, tracking and command station located in Ottawa, will give it earth coverage patterns dependent on the direction of its two independently moveable antennae (Annex 10). These could be directed from earth to point anywhere in the western hemisphere dependent on the satellite's daily position relative to the earth. A number of variables, including those resulting from the satellite's drift, give added dimension to the problem of scheduling the experimental programs to provide optimal conditions and complicate the design of earth stations.

The system offers its users a number of options in the choice of ground stations appropriate to their needs. These have been described in the "Communications Experimenters Guide" published in October 1972 for their reference.

For experiments in TV broadcasting to small communities in remote areas or for interactive educational TV (classroom picture transmission, two-way voice reception) two ground terminal capabilities are to be available. The systems control terminal, based in Ottawa on CRC's premises and having a thirty foot antenna, is one (Annex 7).[1] The other is a transportable transmission terminal with a ten-foot antenna (Annex 8).[1] Two of these are to be provided and, in addition to being used to receive TV programs, they can be applied to transmit coverage of special events in isolated areas to a central area for network distribution (such as the CBC provides), for re-transmission to another remote area, or two-way video transmission required for teleconferencing between a remote and central location. Another option

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1. Artist's concepts based on earlier prototypes.

is an eight foot antenna (Annex 9)[1] for reception of signals from the transportable terminal with the ten foot antenna. Eight 8 foot terminals were to be provided.

Thirteen small ground terminals are proposed for experiments in radio telephony and sound broadcasting (Annex 10)[1]. Eight of these are designed for two-way voice experiments by FDM. The balance is capable only of receiving sound broadcast for the technical and social evaluation of sound broadcasting to remote areas.

In a variety of combinations, the thirty foot, ten foot and eight foot antennae can be used for experiments in digital communications, to include:

- Digital data transmission and exchange;
- Investigation of high-speed data transmission;
- Investigation of time division multiple access techniques.

PRELIMINARY PLANNING - STRATEGIC AND TACTICAL CONSIDERATIONS

The Winnipeg conference can be considered the first major step in implementing the project program and was the result of preliminary planning shaping the task to be done and the design of the project management system required to accomplish it.

It was an early indication of the emphasis that would need to be placed on co-ordination. Public participation, to include representation from provincial and territorial governments, as well as from universities, private industry and public associations, was roughly divided between those whose interests in experimentation were largely technological

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1. Artist's concepts based on earlier prototypes.

(the interest, for example, of studying propagation effects) and those who were concerned more with the applications of the technology for social and administrative purposes. But there were other divisions of a different kind: differences in organizational affiliations, in perspective, and, most significantly, in understanding the potentialities of the medium, particularly among participants having a non-technical background. In this latter respect, it was later concluded, there was something akin to the cultural gap between native and "urban white" cultures experienced by the Northern Pilot Project; and the same difficulty in bringing the two orientations together to find a basis for mutual understanding. But it was also concluded, as it had in conducting the NPP, that the process of finding such a meeting of minds offered the organization a facilitative role that was quite as important as anything else it might do. Thus, the holding of the conference - structuring it to provide for work groups being formed around each of several areas of experimental interest so as to promote discussion and allow these groups to reach some conclusions (if only of a preliminary sort) about how they might act together to their mutual advantage, and affording them the information they wanted - was itself a catalytic function contributing as much to the project's objective as any more quantifiable activity it could be engaged in.

Commitment and Integration

Among many strategic considerations determining the tactical decisions directing the project's course, two were considered of topmost importance: the readiness of federal and provincial authorities to accept the department's initiatives where they impinged on interests outside its primary jurisdiction, and, closely related to this issue,

their willingness to integrate their interests and resources under the department's leadership. Among federal departments, interests and their associated programs, particularly in the social field, typically overlapped. It was an overall government policy for these bodies to co-ordinate their efforts through committees or other organizational structures for this purpose. Unilateral action was therefore to be avoided and the project would fail for lack of support if agencies whose interests were affected were not consulted and the program perceived by them as contributing to their aims. Gaining their commitment was therefore essential and emphasized the importance of a consultative and co-ordinative approach.

Constitutionally, federal authorities were prevented from entering a number of areas of provincial jurisdiction except by mutual agreement and consent. Again, overall policy stressed the need for federal initiatives being taken in consultation with the provinces. The provinces themselves sought ways to align their respective interests. Since the project would not have been conceived if it had not aimed at providing information and experience useful for planning communications on a national scale, the interests of the provinces would have to be consulted and ways found to gain their commitment as a prerequisite of their agreeing to strive for a present and future merging of their respective concerns.

From these strategic considerations emerged decisions to:

- Form a committee to provide representation of the interests involved;
- Appoint project co-ordinators with the role of assisting the Experiments Manager in that capacity and as Committee Chairman "to advise on and to co-ordinate an effective and well-balanced experimental program";

- Develop an experimental program on a consultative basis limiting the sponsoring initiatives to facilitating the processes of consultation, decision-making and joint agreement, to providing the necessary "hardware"[1] and establishing the guidelines under which the project would go forward;

- Give first priority to approaching the provinces in soliciting their interest but to give them the choice as to whether to participate or not (i.e. offer an open invitation);

- Seek the appointment of an external figure, who would be universally accepted for his reputation and objectivity, to chair an evaluation committee responsible for recommending to the Minister of Communications the selection of experimental proposals, and thus ensure the neutrality of that function.

Transitional and Security Requirements

Strategically, account was taken of the fact that the project was necessarily temporary, bounded as it was by the life of satellite. By its very nature, its future implications could not be known. Its organization and staffing should, therefore, contemplate its ultimate end; and planning should go forward with that in mind. The project's future could be fixed in time, but only its progress would determine what transition would need to be made, if any, when the life of the vehicle was over. Planning for this eventuality would have to be flexible to allow for the emergence of new conditions as the system progressed.

With the only certainty the one that the project's life was bound to the satellite's, it was decided that the project's staffing should enable its personnel to remain identified with their existing organizations. Their responsibilities, if not exclusively to the

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1. In addition to the satellite itself, this includes Ground Stations.

project, would be shared with their other responsibilities and their salary expense would be charged to their respective organizational units. So long as such units were willing to assume that expense, the employees themselves would have the security of knowing that their future would not be jeopardized by the project's termination.

Visibility

A remaining strategic consideration was the question of the project's visibility. It was one involving more than the obvious aspect of what publicity it would receive, important as that might be in gaining the attention needed to evoke a response to the initial invitation to participate. Clearly, once in progress, the project could not be allowed to be lost from the sight of those bodies or persons who had given it their commitment and who presumably had done so because of what they expected it to return to them. Since, almost by definition, the project depended on their support and involvement being retained, it would be vital to provide for all concerned, whether directly or indirectly, to be kept informed. In any co-operative venture of this sort, this was a sound principle; but for quite pragmatic reasons it was an essential one to adopt, particularly whilst the experimental program was being worked out. Owing to the diversity of experimental interests, the dispersal of experimenters' locations, the need for the experimenters to integrate their efforts with those of others (especially where a given experimental program was a joint undertaking), co-ordination would depend heavily on the availability of accurate and timely information. The inevitable uncertainties of what was essentially an exploratory process, and the need to respond

rapidly to any unanticipated change, only added to the importance of an effective information system giving on-going activities full visibility. However, in the sense of publicity, visibility was a potential problem; for in that sense it was capable of creating expectations which, owing to the project's inherent uncertainties, it might be impossible for management to fulfill.

For these reasons, departmental planners decided that only sufficient publicity should be given the project in its formative stages to solicit a response from prospective experimenters. The project's aim, inviting such response, was advertised by press announcements and articles in technical journals; but primary emphasis was placed, particularly in approaching the provincial governments, on personal visits and contact by letter; and such contacts were made a first priority. In selecting the Project Co-ordinator, a prime consideration was his reputation for having a keen sense of the need to keep people informed, his ability to respond quickly and his scrupulous regard for issuing brief but complete status reports.

IMPLEMENTATION PLANNING

With the appointment of the Project Co-ordinator, planning pertinent to the co-ordination function that had begun in November of 1971 proceeded on the basis of understandings that, in summary, were:

- The Communications Technology Satellite was to be launched in 1975 by agreement with NASA who, among their responsibilities, would be responsible for launching;
- The spacecraft would be available for experimentation on a shared basis with NASA, the broad criteria affecting its use having been agreed with that agency (more specific agreements were reached in the Spring of 1972).

- Through its Communications Research Centre (CRC), the Canadian Department of Communications would provide experimenters with ground terminals[1], located at experimental sites to be agreed upon between experimenters and DOC.

- Ground terminals would offer experimenters the choice of a range of capabilities relevant to their use.

- Connection with the ground terminal would be at the experimenter's expense, as would cost incurred in conducting his own experimental program. (Note: it was anticipated that there would be some experimenters who could valuably participate but who might require funds to assist them to do so. Such assistance would have to be negotiated in the course of organizing participation.)

- Guidelines providing technical information had been published and were available to prospective experimenters. CRC Engineering and Scientific Staff would be available for technical consultation by arrangement with the committee. Socio-economic expertise available from the Planning Branch of DOC would be available on the same basis.

- The spacecraft would be in its orbit for two years. Because of the agreed equal participation with NASA, this gave the Canadian experimental program a cumulative time of one year.

- The Experimenters Committee would be involved as much as possible in efforts to co-ordinate the organization and development of experimental projects forming the total program of experimentation.

The Co-ordinator saw his role as being defined, in his words, as "very general and flexible" terms which he paraphrased as:

- "All activities should be co-ordinated closely with those of (the Program Manager) and the CTS Communications group".[2] "There should be.....discussion to discover those groups with a genuine interest in conducting experiments or demonstrations".

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1. In October of 1972 it was decided to provide these at public expense.

2. The CTS Communications group referred to is the CTS Communications Experiments Project group responsible to the Program Managers as an organizational component of CRC specifically concerned with the CTS development.

CO-ORDINATING RELATIONSHIPS FOR CTS COMMUNICATION EXPERIMENTS

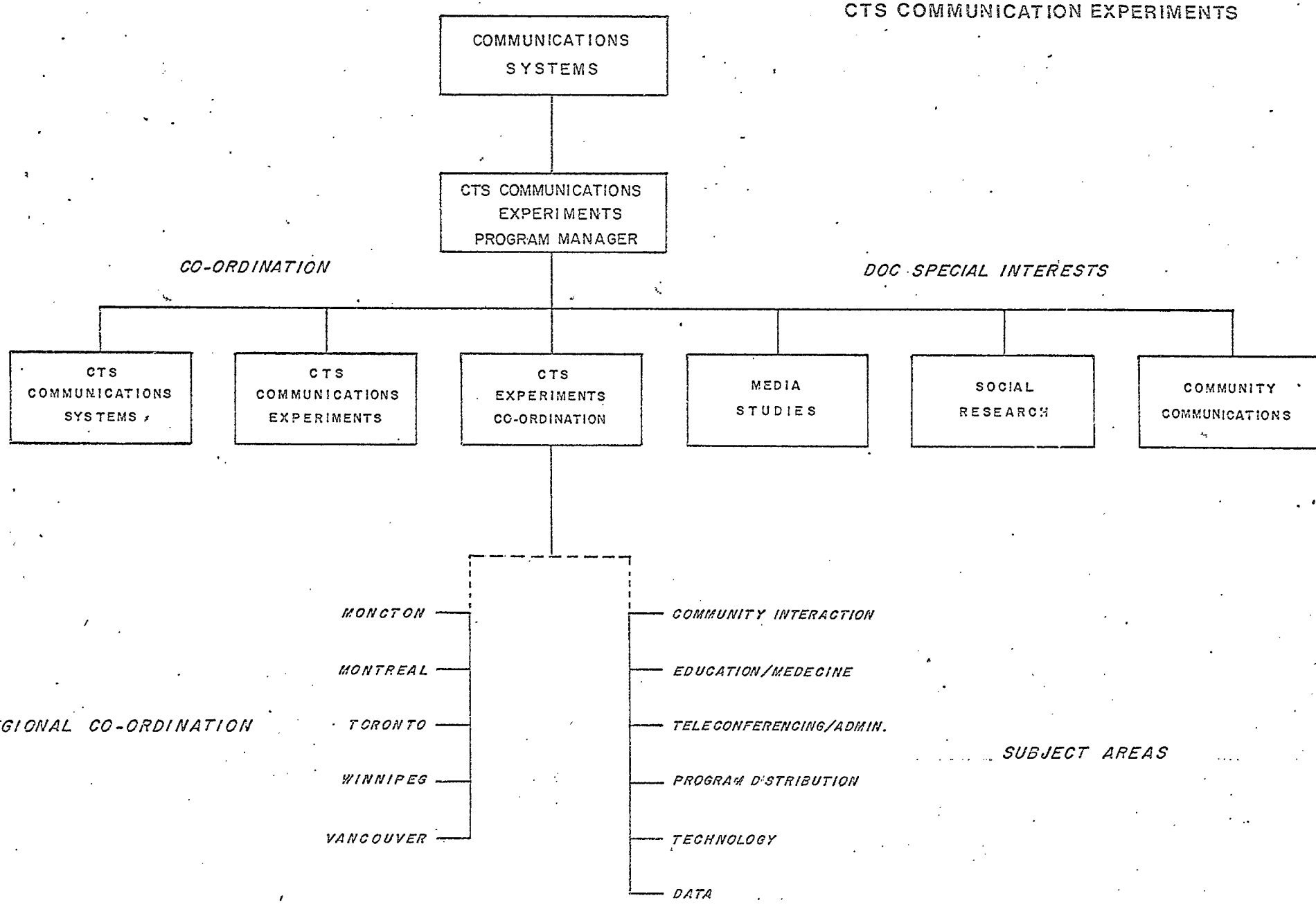


Figure 8

- "Activity should be aimed at bringing together in co-operative experiments, those groups with common interests".

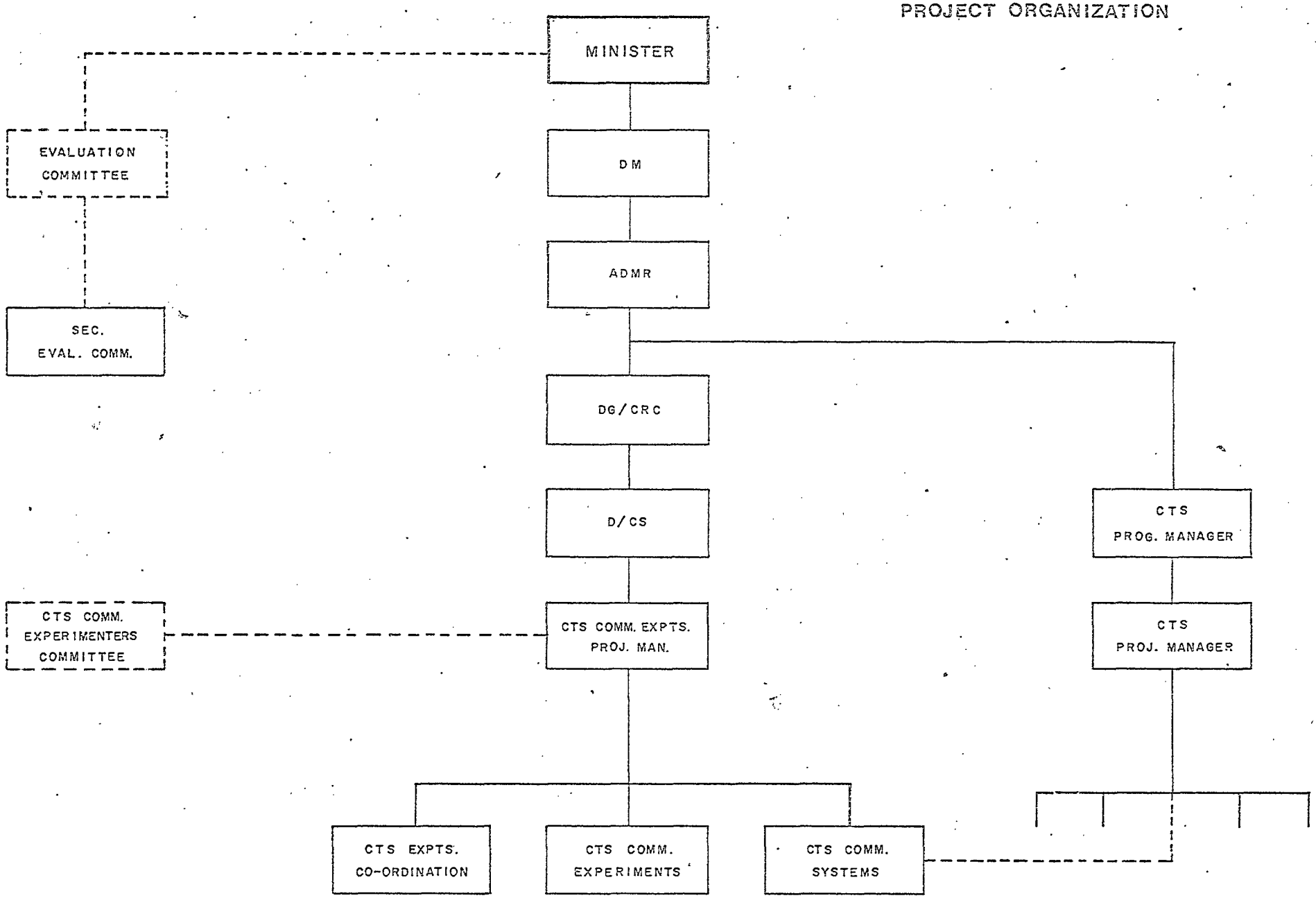
CO-ORDINATING STRUCTURE

The structure of relationships involved in co-ordination is illustrated in Figure 8 as currently envisaged.

The "CTS Communications Systems" and "CTS Communications Experiments" groups are responsible to the "CTS Communications Experiments Program Manager" as organizational components of CRC, and to the extent that their expertise in technical matters in that capacity enables them to offer advice, they are consultative resources aiding the process of co-ordination. Their more specific responsibility is to translate the technical implications of an experimental proposal permitting it to become an integral part of the operational system.

To their right in the illustration are the groups described as "DOC Special Interests". These are drawn from DOC's Planning Branch to which they are organizationally responsible and are so described because of their special interests in applications of the technology to processes of social development. Their expertise in these respects makes them, like their counterparts on the technical side, consultative resources; and the two wings in combination provide a body of knowledge available to would-be experimenters directly or through the services of the co-ordinator whose function is placed in the centre of the diagram and who is responsible to the "CTS Communications Experiments Program Manager" for the purposes of the project.

CTS COMMUNICATIONS EXPERIMENTS
PROJECT ORGANIZATION



Co-ordination extends in the two directions indicated below that function. One is toward DOC's Regional Offices and the other toward groups of experimenters as defined by the subject of their experimental interests. Since such groups are to be found across the country (the project being on a national scale), co-ordination can take place through the regional office closest to where an experimental group is located, obviating the need for co-ordination to be centralized in Ottawa and making the interface with experimenters wherever located more immediate and direct.

Not shown is the Experimenters Committee, chaired by the Program Manager who combines that responsibility (which is essentially one of co-ordination) with responsibility for project management. Without lessening the latter responsibility, the Committee nevertheless is a medium through which experimenters can actively participate in program planning and implementation in consultation with the body of expertise represented in the illustration taken as a whole. Equally, of course, the Committee is a means by which management can become responsive to "user" needs.

PROJECT ORGANIZATION AND MANAGEMENT SYSTEM

The CTS Communications Experiments Project can be likened, organizationally, to the point of a spear whose shaft is the organization responsible for the design and ultimate delivery of the satellite itself, a program and project in itself and a prime responsibility of the Communications Research Centre. As indicated in Figure 9, this is the organization headed by the CTS Program Manager, reporting to the Assistant Deputy Minister, Research, and responsible for the CTS Project through a Project Manager.

Responsibility for what may be referred to as the application of the technology (the point of the spear, small in some respects compared to the shaft) flows from the Director General of the Communications Research Centre through the Director of Communication Systems to the CTS Communications Experiments Project Manager to whom report the heads of the Experiments and Systems groups, the latter having a close relationship for system design with the CTS Project Manager indicated by the dotted line.

As an extraneous group, the CTS Communications Experimenters Committee, chaired as it is by the Experiments Project Manager, is shown having a "dotted-line" relationship. A similarly indicated relationship exists between the Evaluation Committee and the Minister of Communication for the same reason.

The Evaluation Committee

The function of the committee is to review experimental proposals for acceptance by the Minister.

A prominent academician has accepted the Department's invitation to chair the Committee. The Committee has two other members, both academicians, whose organizational affiliations, like the Chairman's assure complete objectivity of judgment. Although reliant on CRC resources for recommendations on questions of technical feasibility, the Committee functions as an independent body so that its decisions can be regarded as entirely impartial.

Procedure for Processing Experimental Proposals

An experimental proposal is described in a format the prospective experimenter would be given on advice of his interest

(see Annex 6 for sample format). The proposal comes to the Executive Secretary of the Evaluation Committee. He reviews it in terms of its completeness and conformance with guidelines. Assuming, at this point, that it satisfied these requirements and that it did not need to be re-negotiated with its proponent, he would refer it (with copies to the Project Co-ordinators) for review by the Experiments Program Manager to arrange for its technical feasibility to be established by CRC. The proposal is then returned for referral to the Evaluation Committee which, upon meeting and based on the recommendations they have received and their judgment of its acceptability in terms of content, relevance and other criteria, make their recommendation to the Minister (DOC) for his approval.

On the proposal's return from the Minister, the Co-ordinators have the responsibility of advising the proponent of its acceptance or rejection and co-ordinating either the implementation of the proposal as an experimental program or its modification for re-submission.

Management System

The Communications Systems Group, consisting of four professionals and two technologists, is responsible for reviewing experimental proposals referred to it from the Executive Secretary of the Evaluation Committee. It studies the proposals' feasibility in terms of their compatibility with the spacecraft system specifications and makes recommendations on these grounds to the Evaluation Committee. This group is responsible for the specification and procurement of earth stations to accommodate proposals which could ultimately be accepted.

The CTS Communications Experiments group, made up of five professionals and two technologists and working closely with the systems department, is concerned with the implementation of in-house (CRC) experiments and technical co-ordination with experimenters. It considers whether the facilities that can be put at the experimenter's disposal are suitable for what he proposed to apply them to. If so, the complicated question of delivery has to be answered: Can the ground station be delivered where and when he wants it? What is required for him to connect it? Under what terms can he use it - at what times? - in collaboration with whom? - for how long? Faced with questions like these, this group is essentially a programming office and its technically-based recommendations to the Evaluation Committee concern a proposal's feasibility in terms of its program implications.

With the Minister of Communication's acceptance of the experimental program as recommended by the Evaluation Committee, the Program Manager can expect to be able to proceed with the implementation phase prior to launch on the basis of preparations made well in advance by these two groups in collaboration with the two co-ordinators and the CTS program staff. These preparations, extending over some three years, would have provided for the design of the communications system to be used, and a detailed plan of all the arrangements needed to be made to put it in operation with the launching of the spacecraft. Through the Co-ordinator, supported by staff of DOC's Regional Offices, collaborative experimental relationships would have been negotiated in various parts of the country and the

logistics of delivering ground terminals to these several sites (to include their re-delivery as experimental sites changed during the progress of experimentation) would have been worked out.

By April of 1973, the critical path chart mapping the activities to be undertaken in preparation for launching and for conducting the program already occupied most of one wall of the Program Manager's office!

Criteria for Evaluation

Considerable thought has been given to determining the criteria against which experimental proposals are evaluated by the Committee. Following a meeting in April of 1973, it was agreed that such criteria fell into two categories: essential and desirable.

Essential criteria were all of a technical nature: an experiment would have to be technically feasible; it would have to be compatible with what the ground facilities could provide in terms both of their performance capabilities and their availability; it would have to be appropriate, lending itself to being conducted with this rather than another technology; it would have to be part of an on-going experimental program. It was essential, also, that the proposal satisfy a goal that enabled technological knowledge to be gained either in the use and application of high-power satellites or, more specifically, in the exploration of characteristics appropriate to the 12 and 14 GHz bands. Finally, the demands of scheduling require that an experiment be one that can be prepared in time.

Desirable criteria were categorized with reference to experimental content, its relevance, its context and its probability of success. Consideration of experimental content would be with respect to the experiment's usefulness or value in technological and socio-economic terms and to the clarity of its experimental goals and procedures. The substance and completeness of what is to be reported was also to be considered in this regard, as was the consideration of how innovative the experiment could be judged to be. Relevance and context are criteria taking account of the proposal's significance and priority - its potential contribution to the solution of socio-economic problems or to improving the quality of life. Its relevance to future communications growth was a major consideration. Under the heading "Probability of Success", the extent to which the organization proposing the experiment has the technical understanding, experience and resources (including sufficient, qualified manpower) to mount the experiment and conduct it successfully, needs to be judged.

In any or all of these respects, the Committee is to have recourse to advice from DOC, particularly on matters of technical feasibility. But in that regard, or on any other account, its terms of reference give it complete freedom to seek such further references as it may choose.

STATUS - APRIL, 1973

A status report published in April, 1973, gives an account of what has transpired over the twelve months to that date:

- Invitations to submit experimental proposals have been made to federal and provincial authorities and announcements placed in a limited number of publications inviting participation;

- When interest had been shown, arrangements were made to brief the prospective experimenter so as to give him a full appreciation of the system's capabilities (and limitations) and to give him the opportunity to discuss how his interests might be furthered;

- An initial deadline of mid-July, 1972 for submission of proposals had proved to be impractical because of a reluctance among would-be experimenters to commit themselves without better assurance as to the availability of funding and terminals than could be given up to that time. Such assurance was not provided until October, 1972;

- The Winnipeg meeting had resulted in a firmer basis of understanding being established with prospective experimenters and a new deadline of 15 January, 1973 for submission of proposals had been set;

- By the end of March 1973, 39 proposals had been received;

- A decision had been made to provide funds supporting university research participation and an "Ad Hoc" committee formed to recommend how these funds would be allocated in support of such proposals as the Evaluation Committee might recommend for acceptance;

- Appointments were made to the Evaluation Committee and its terms of reference had been agreed;

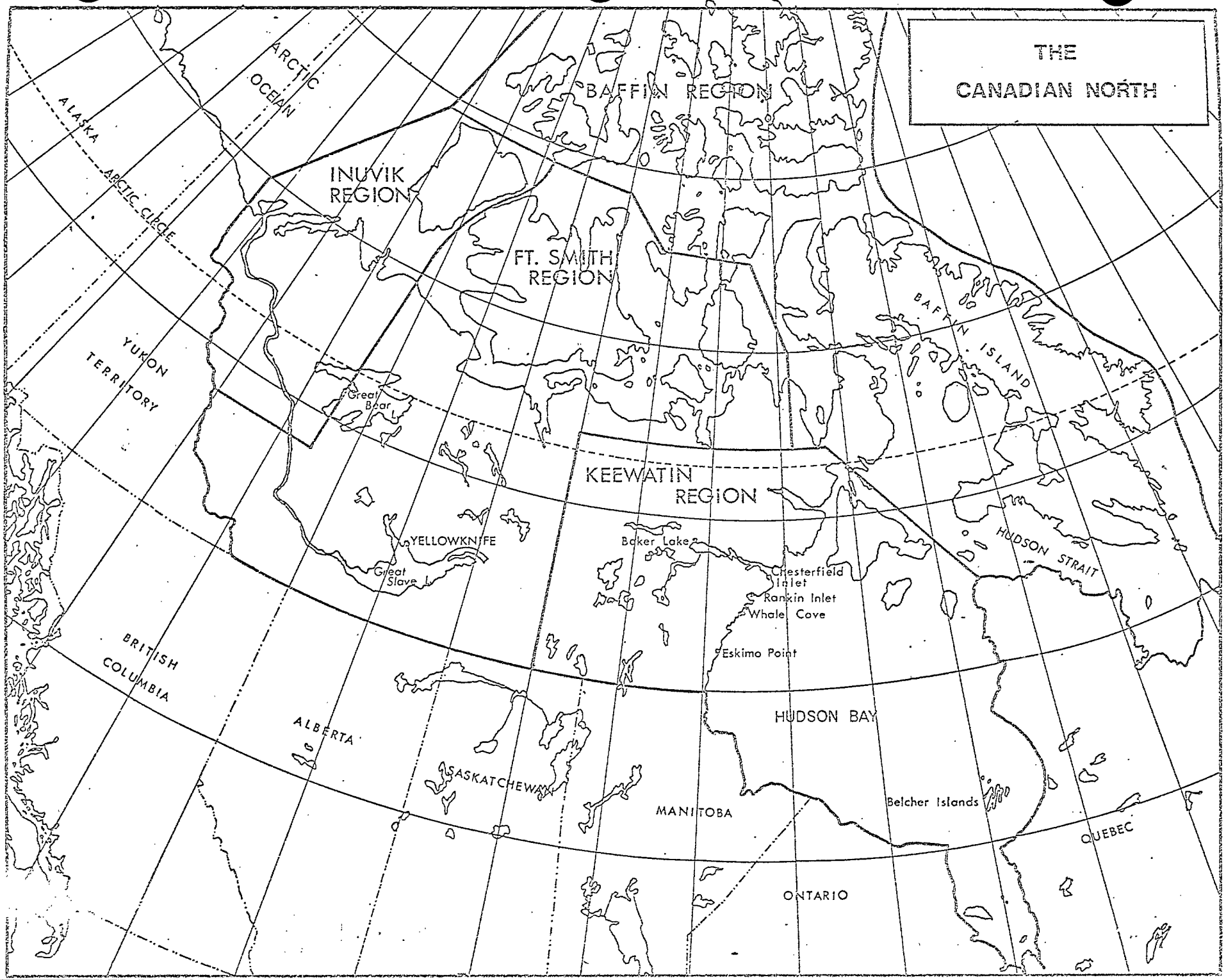
- The Evaluation Committee had had its first meeting and was assured by CRC officials that, on the basis of what appeared to be the bulk of proposals that were likely to be received, they could be scheduled, provided - and this was emphasized - experimenters were to integrate proposals that lent themselves to integration. The Committee had had an opportunity to make a review of the proposals on hand to assure itself that the selection criteria could be applied and was both appropriate and adequate.

FUTURE OUTLOOK

Arrangements for scheduling proposed experimental programs are expected to be complete by year-end (1973), but a number of issues remain to be resolved in the interim.

Chief among these is the approach to coordinating experimental proposals in the socio-economic area. It was suggested that consideration be given to the question of what help they could be given, recognizing that there was little precedent for deciding how best to mount and conduct experiments of this kind. This difficulty is reflected in the tendency for proposals in this area of interest to be ill-defined. It was the Coordinator's opinion "that these experimenters are not, in general, well-organized and it will require some considerable effort on behalf of DOC to work with them to develop their plans to take full advantage of the 1975-77 period."

The Evaluation Committee has made interim recommendations to the Minister and his acceptance was expected by the beginning of May 1973. This will enable the coordinators to make "field" visits to firm-up the proposals so that the Evaluation Committee can confirm its recommendations to the Minister by the end of July. The working groups formed at Winnipeg can then meet in the fall and the final decisions can be taken on questions of scheduling and funding. All planning should be complete and the initial experimental program schedule drawn up before the end of the current year. The way will then be clear to proceed with the procurement of the "hardware" and its delivery to the experimental sites ready for the August 1975 launching of the Communications Technology Satellite. With the launching will begin a two-year experimental program that it can be hoped will add much to the future of Canadian communications for the benefit of all Canadians throughout the land and in its remotest corners.


THE
CANADIAN NORTH
ARCTIC OCEAN
ALASKA
ARCTIC CIRCLE
BAFFIN REGION
INUVIK REGION
FT. SMITH REGION
BAFFIN ISLAND
YUKON TERRITORY
Great Bear
KEEWATIN REGION
YELLOWKNIFE
Great Slave
Baker Lake
Chesterfield Inlet
Rankin Inlet
Whale Cove
HUDSON STRAIT
Eskimo Point
BRITISH COLUMBIA
ALBERTA
HUDSON BAY
SASKATCHEWAN
MANITOBA
Belcher Islands
QUEBEC
ONTARIO

NOTES ON ORGANIZATIONS

Page 2, Note 1- Department of Indian Affairs and Northern Development: this is the federal department most directly responsible for the social, cultural and economic welfare of Indians and Eskimos throughout the country and is the political jurisdiction for the Yukon and Northwest Territories as administered by the respective territorial governments. The Keewatin is an electoral district of the Northwest Territories and is one of ten such districts represented by a legislative Council. The legislative powers of the Council of the Northwest Territories are similar to those of a provincial legislature, except that all natural resources, excluding game, remain the exclusive responsibility of the Federal government. Administration of Territorial government services and programmes is the responsibility of the District Commissioners for each district.

Page 2, Note 2- The Department of the Secretary of State: the purpose of this federal department's Citizenship Branch is, broadly, to ensure equality of rights among ethnic minority groups. To the extent that the Northern Pilot Project succeeds, by the introduction of communication media in assisting native communities to develop and express their social and political interests, it would be contributing to this purpose. Secondly, where the communication media are instrumental in fostering native culture, the Project supports the interests of the Arts and Culture Branch, the general objectives of which [1]"are to conserve Canada's national heritage and to encourage the cultural development of all Canadians." Thirdly, to the extent that the Project secures the cooperation of the Canadian Broadcasting Corporation, the National Film Board and the Canadian Radio and Television Commission, the Department of the Secretary of State is involved since these crown corporations, or agencies, are represented in the Canadian Parliament by the Secretary of State.

1. Source: "Canadian Government Programmes and Services" published by CCH Canadian Limited, July, 1972.

Page 2, Note 3- The Operations Branch of the Department of Communications includes among its responsibilities the regulation of radio broadcasting stations, whether publicly or privately operated, to ensure their compliance with technical operating standards. Its office of Northern Communications Development studies, plans and provides guidelines for [1] "improving communications in the North". These and other responsibilities for telecommunications systems development are discharged through Regional Offices. The Northern Pilot Project's operations in Ontario come within the regional jurisdiction of the Branch's Ontario Regional Office. Those in the Keewatin come within the jurisdiction of the Regional Director of the Branch's Central Region, headquartered in Winnipeg.

Page 7, Note 4- The Canadian Broadcasting Corporation provides national radio and television broadcasting services through a network of radio and T.V. stations which are CBC owned and operated or privately owned and affiliated. A major goal of the CBC is to increase Canadian program content in order to encourage the development and utilization of Canadian talents and preserve the Canadian identity. A special service is provided [2] "to meet the particular needs of the people living in the North.....with the aim of giving them a sense of identity with people living in the rest of Canada. The service also seeks to inform the rest of Canada about the North".

Page 9, Note 5- The Northwest Territories Government is a representative government having legislation powers and jurisdiction in the several districts of the Territories, among them the Keewatin. Should the Department of Communications withdraw the assistance provided there in the form of funding the operation and maintenance of broadcasting facilities, and should no other federal department assume the responsibility, the residents concerned would look for assistance to the N.W.T. government. Officials of that government expressed themselves as being apprehensive about being placed in that position by "default".

1. Source: "Canadian Government Programmes and Services, July, 1972 C.C.H. Canadian Limited.

2. Source: Canadian Broadcasting Corporation 1971-72 Annual Report

Page 12, Note 6- The Communications Research Centre (CRC) "contains the central research laboratories" of the Department of Communications Research Branch and provides technical information and services to include those required to specify and procure communications equipment from manufacturers.

Page 13, Note 7- The Canadian Radio and Television Commission (CRTC) "hears applications for all commercial radio and T.V. licenses, including those for the CBC. It is responsible for implementing the broadcasting policy....(calling)...for a comprehensive, co-ordinated national broadcast system, controlled and owned by Canadians, offering balanced commentaries and expressions of opinion on public issues, as well as programming which will appeal to the tastes of different age groups and regions." CRTC's relationship to other departments of government is in an advisory or consultative capacity.

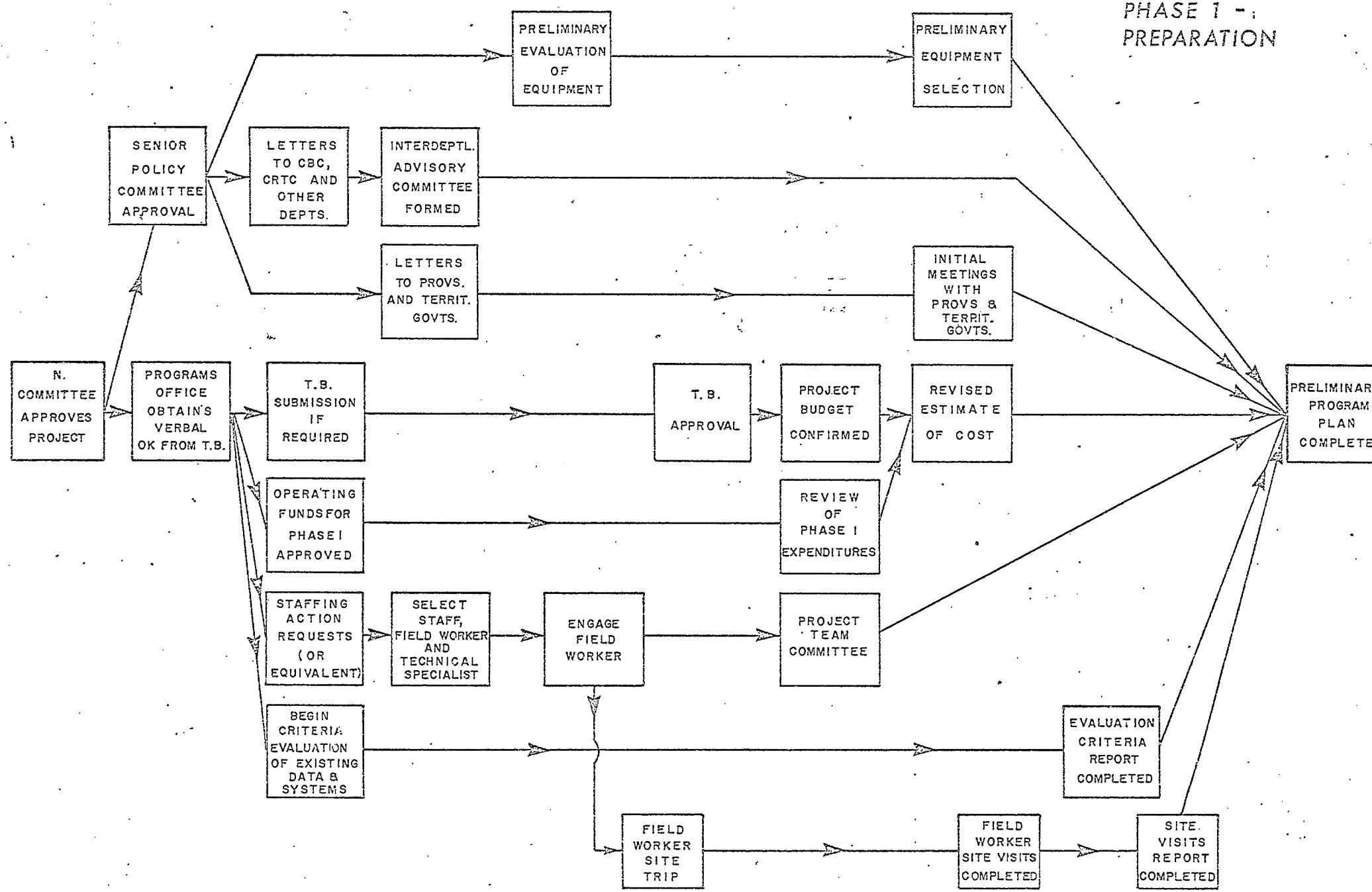
Page 16, Note 8- The Northern Communications Committee is a sub-committee of the Advisory Committee on Northern Development (ACND) and is responsible for recommending communications policy in the North.

Page 17, Note 9- The Senior Policy Committee is a committee of the executive of the Department of Communications meeting under the chairmanship of the Deputy Minister.

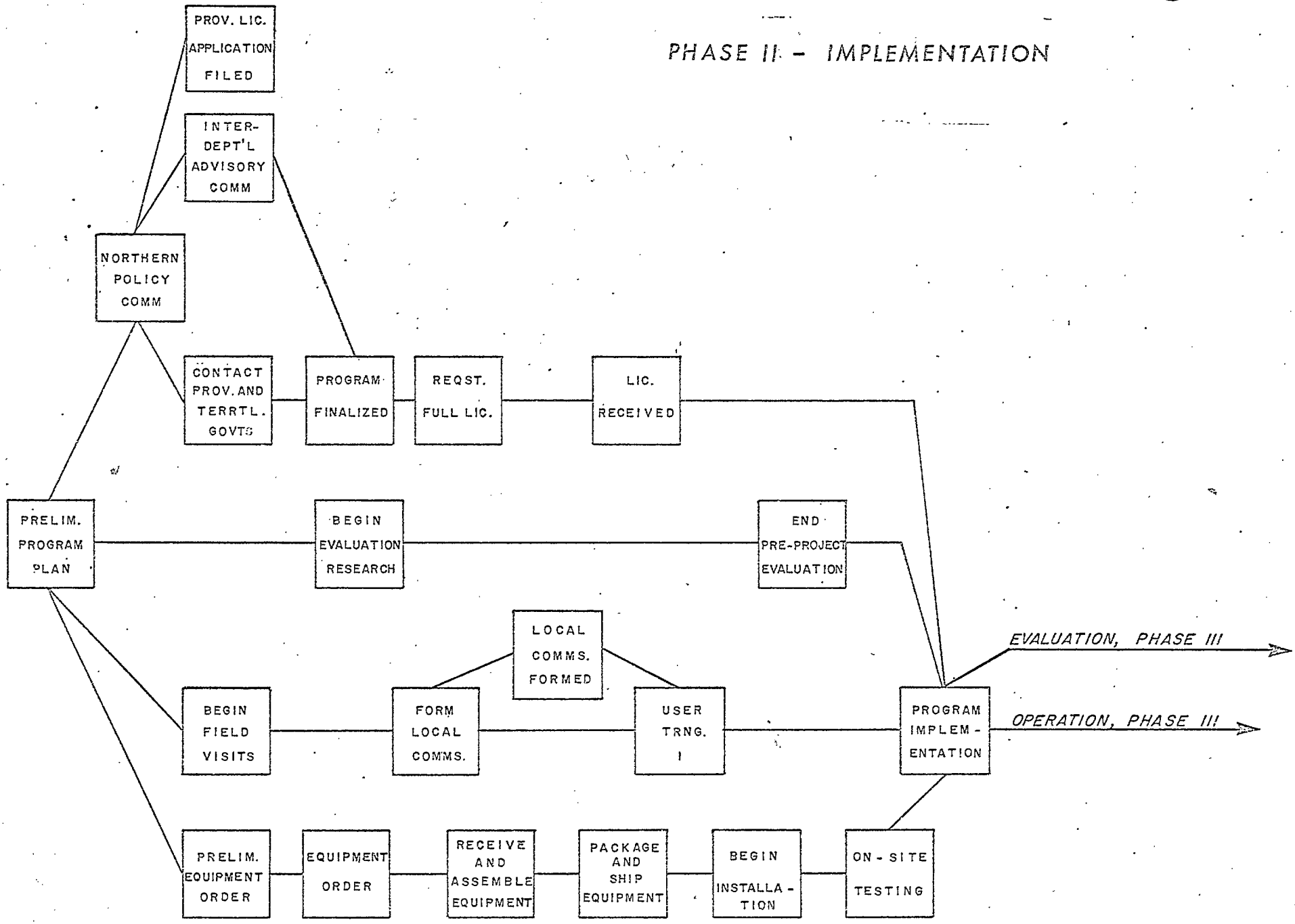
Page 17, Note 10- The Indian Community Branch is a branch of the Province of Ontario's Ministry of Community and Social Services with responsibility for the provision of social services for provincial Indian Communities.

1. Source: "Canadian Government Programmes and Services" July 1972- C.C.H. Canadian Limited.

PHASE 1 - PREPARATION



PHASE II - IMPLEMENTATION



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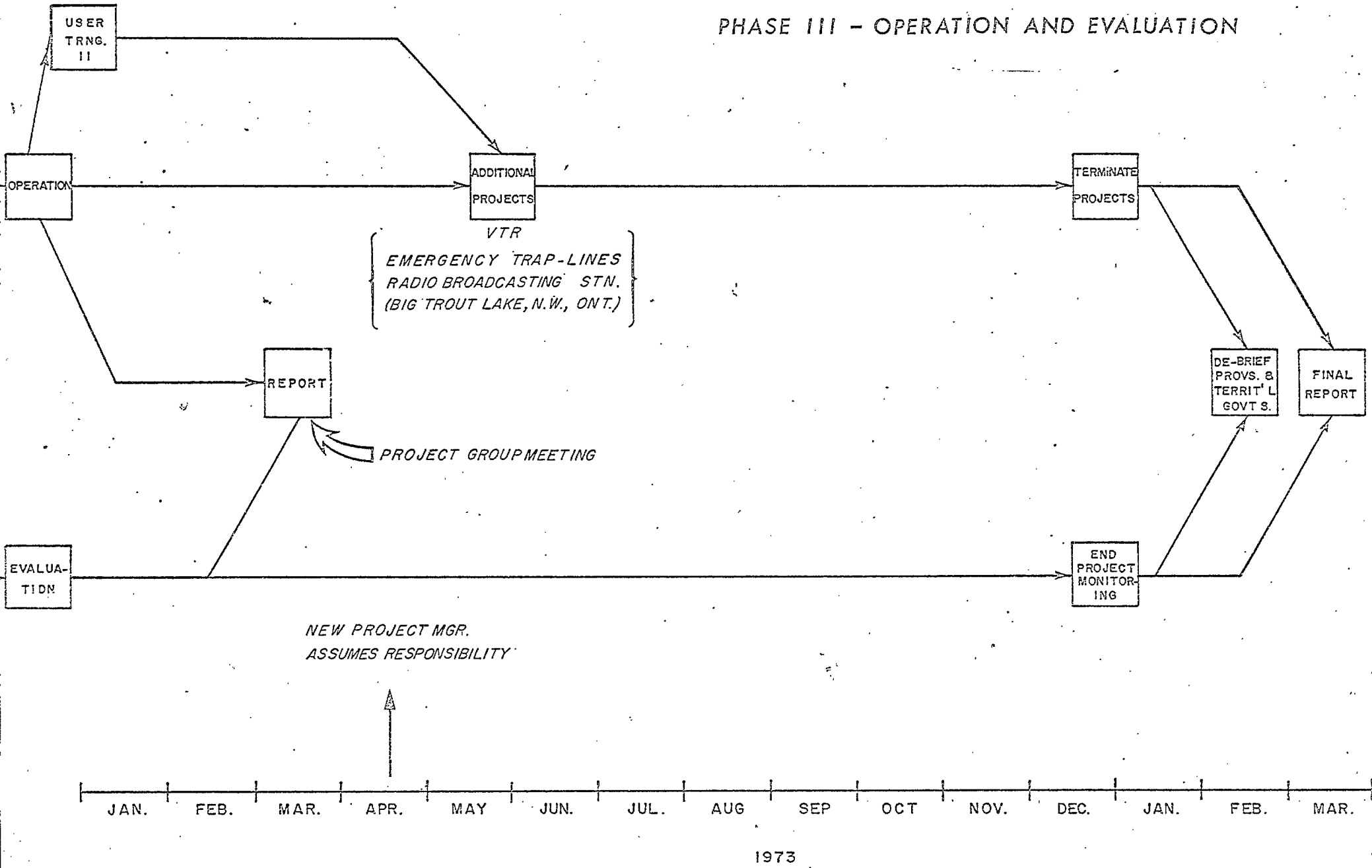
PHASE III – OPERATION AND EVALUATION



Annex 3C

PROJECT COST ESTIMATES

EXPENSES

		LOW	HIGH
SALARIES			
	SUPERVISOR	$ 17,000	$ 18,000
	FIELDWORKER	12,000	15,000
	SOCIAL RESEARCH *(EVALUATION)*	10,000	12,000
	TECHNICAL ASSISTANCE	2,000	3,000
	SECRETARY	5,000	6,000
	Sub-Total	$ 46,000	$ 54,000
INSTALLATION			
	AIR FREIGHT	$ 5,000	$ 6,000
	CONSTRUCTION	4,000	5,000
	Sub-Total	$ 9,000	$ 11,000
TRAVEL			
	TRANSPORTATION	$ 9,000	$ 11,000
	LIVING ALLOWANCES	6,000	8,000
	Sub-Total	$ 15,000	$ 19,000
PROFESSIONAL SERVICES		$ 18,000	$ 23,000
TRAINING		$ 5,500	$ 7,500
CONTINGENCIES (20%)		$ 27,000	$ 33,000
	Total Expense	$120,500	$147,500

CAPITAL EQUIPMENT

	VTR 3@ $2,500	$ 7,500	$ 7,500
	H. F. 6-8@ $2,500	15,000	20,000
	RADIO TRANSMITTERS AND RECEIVERS	13,000	15,000
	STUDIO EQUIPMENT FOR L PRT	6,000	6,000
	EMERGENCY TRAIL TRANSMITTER	5,000	7,000
	SPARE PARTS *(10%)*	4,500	5,000
	Total Capital Cost	$ 51,000	$ 60,500
	Total Estimated Cost	$171,500	$208,000

BRIEF EXPLANATION OF COMMUNICATION TERMS

High Frequency (HF) Radio Networks

These networks combine a number of HF stations located in different communities to provide a means of radio communication between settlements. Radio signals from HF stations reach their destination by reflection from the ionosphere. The advantage is that radio communications can be established between points without regard to the intervening terrain. Communications can be achieved over long distances in the North inexpensively by this means. Unfortunately, HF radio signals are subject to outages due to changing atmosphere conditions and the reliability needed for a high quality public telephone services cannot be obtained.

The use of HF systems by native associations or people is attractive because stations can be built inexpensively and easily. A typical HF station for this purpose would cost about $3,000 for capital and installation. Assuming that an adequate public telephone service is available by other means for emergency and business communications it is not necessary that the HF systems meet high reliability standards.

Low Power Broadcasting Stations

These are radio transmitters and antennas used to broadcast signals for reception by commercial AM or FM radio receivers. The power radiated confines reception to about 5 to 10 miles from the center of the community in the case of FM transmitters. Low power AM broadcasting transmitters provide the same confined coverage in the daytime but during the nighttime the signals can extend over much larger distances. A typical low power broadcasting installation could cost in the order of $20,000 per community.

Telesat Thin Route Service

This is a special service to the North to be carried over the Anik satellite system. A number of stations will be located in the Districts of Keewatin and Franklin to receive telephone, data, and radio program services. Each station is designed to handle a minimum of six telephone circuits with essentially the same quality of performance and reliability as expected in making southern telephone conversations. The full range of telecommunications services will be available including Telex, TWX, Teletype, facsimile, etc.

Annex 6
Revised
30 October, 1972.

COMMUNICATIONS TECHNOLOGY SATELLITE
COMMUNICATIONS EXPERIMENT PROPOSAL

TITLE: Brief descriptive title.

SPONSORING ORGANIZATION: Broad organization description. (i.e. Province of_____, Department of _____, University of_____.)

EXPERIMENT LEADER: Individual or group who will have prime responsibility for developing proposal through proposal stage and for ensuring that the program is carried out during program phase.

ASSOCIATED EXPERIMENT LEADERS: Other individuals or groups working co-operatively with proposal leader.

OBJECTIVES:

a. Outline of the purpose of the experiment what information will be sought

b. The relevance of the experiment in advancing satellite communications technology and/or exploring the social/cultural/economic aspects of satellite communications. (with particular reference to 12 GHz systems.)

c. Relevance to other CTS experiments and to other non-CTS on-going experimental programs.

EXPERIMENT PLAN:

a. Background

b. Detailed description of experiment

c. Description of experimental operational procedures.

d. Data gathering, analysis and reporting.

e. Communication system aspects related to satellite requirements, (i.e. link calculations).

REQUIRED TECHNICAL RESOURCES:

a. Types and numbers of ground terminals

b. Locations, characteristics, interfaces with other facilities, etc.

c. Indication of specific facilities, or instrumentation, data lines, etc. required. (user supplied)

CRC SUPPORT REQUIRED:

Outline of CRC support desired, if any, in terms of manpower for terminal operation, technical support.

SCHEDULE:

Desired operating schedule including:

a. Operating periods, length and number.

b. Need for specific time periods.

c. Operating intervals during time periods, e.g. hours/day or days/week, etc.

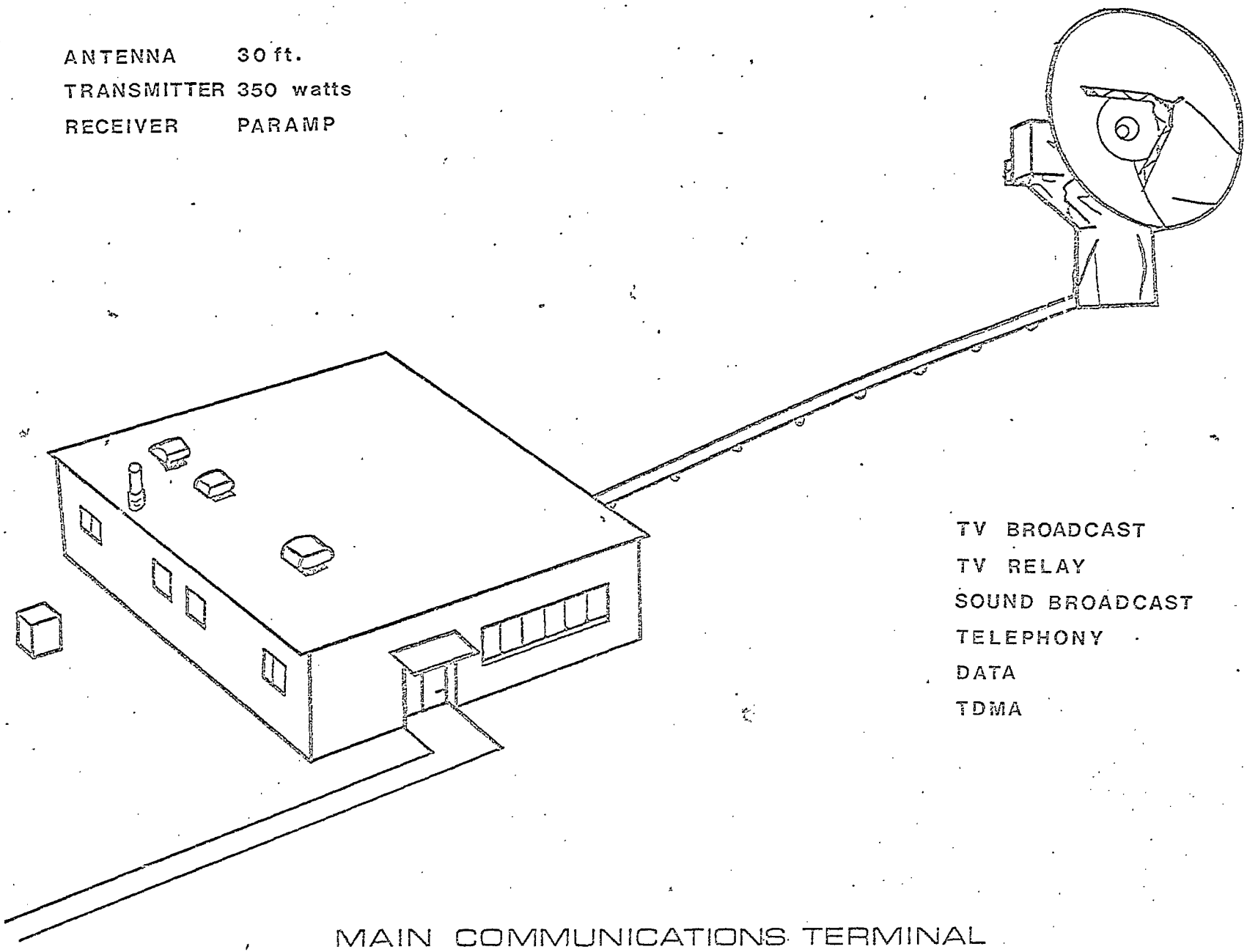
d. Need for specific time intervals, if any.

e. Effect, if any, of pre-emption.

AVAILABILITY OF RESULTS:

DOC will require reporting of all results achieved on the experiments. However, certain information, such as medical information, may not be made public depending upon the recommendation of the evaluation committee. Experimenters should indicate any restrictions that they would place on dissemination of their results.

ANTENNA 30 ft.
TRANSMITTER 350 watts
RECEIVER PARAMP

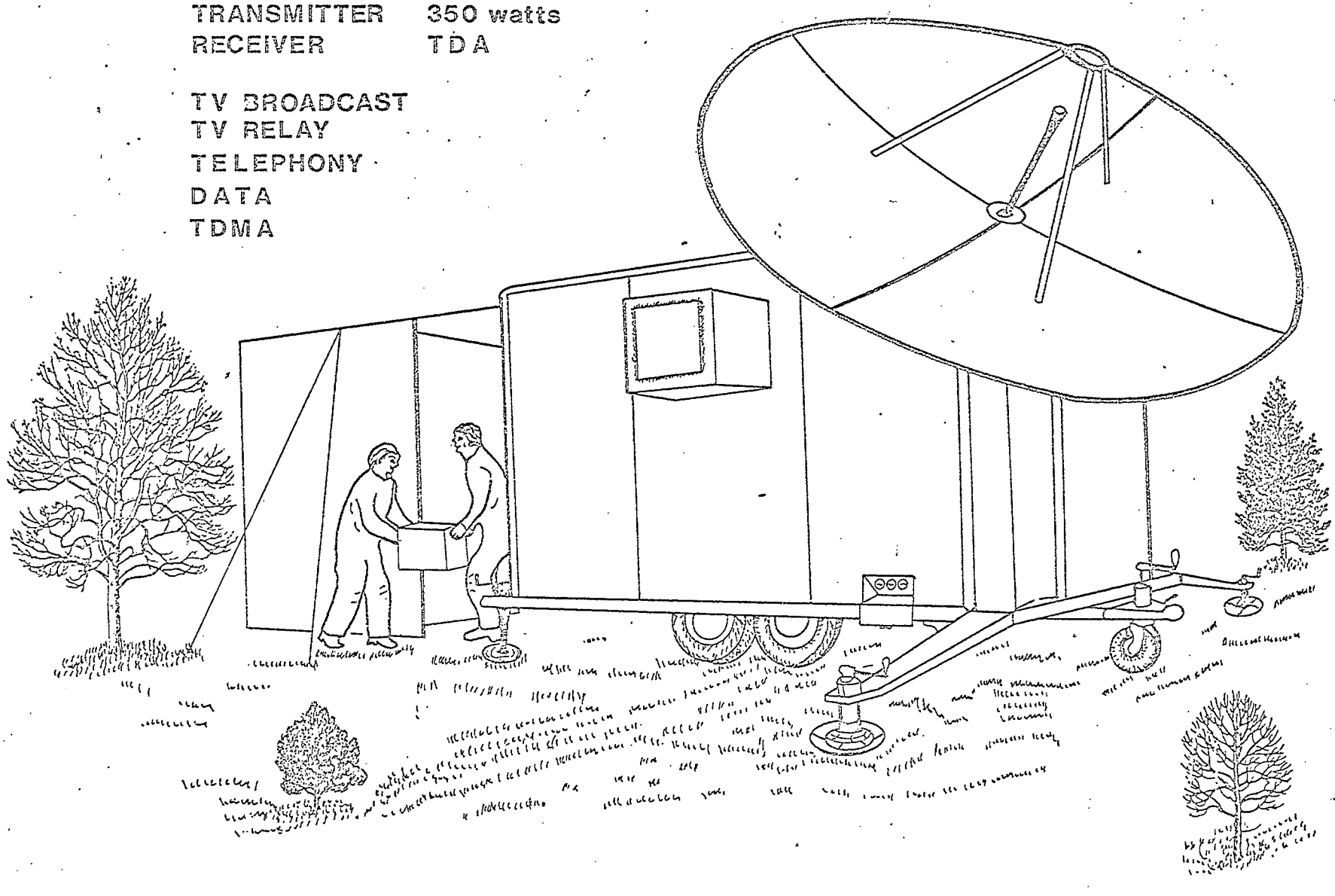


TV BROADCAST
TV RELAY
SOUND BROADCAST
TELEPHONY
DATA
TDMA

MAIN COMMUNICATIONS TERMINAL

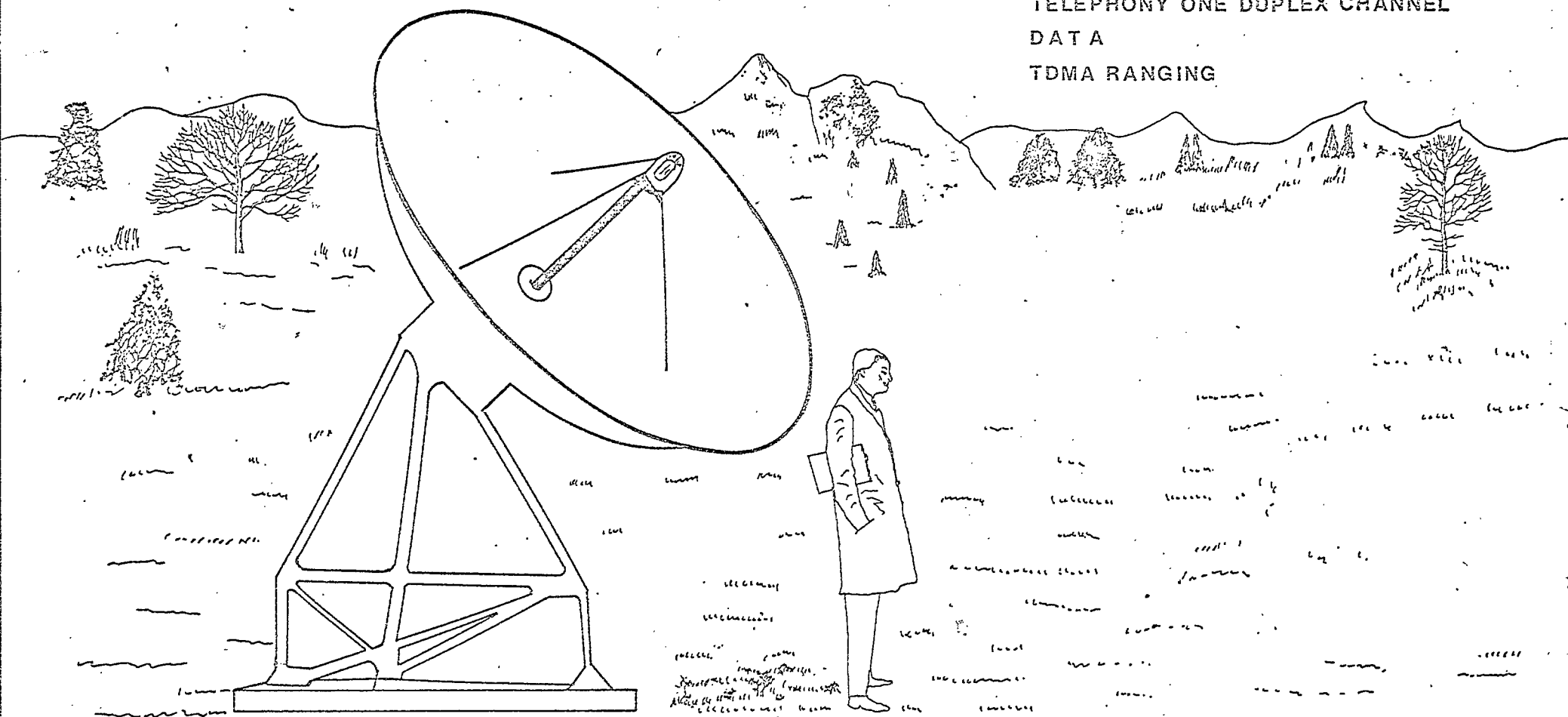
ANTENNA 10 ft.
TRANSMITTER 350 watts
RECEIVER TDA

TV BROADCAST
TV RELAY
TELEPHONY
DATA
TDMA



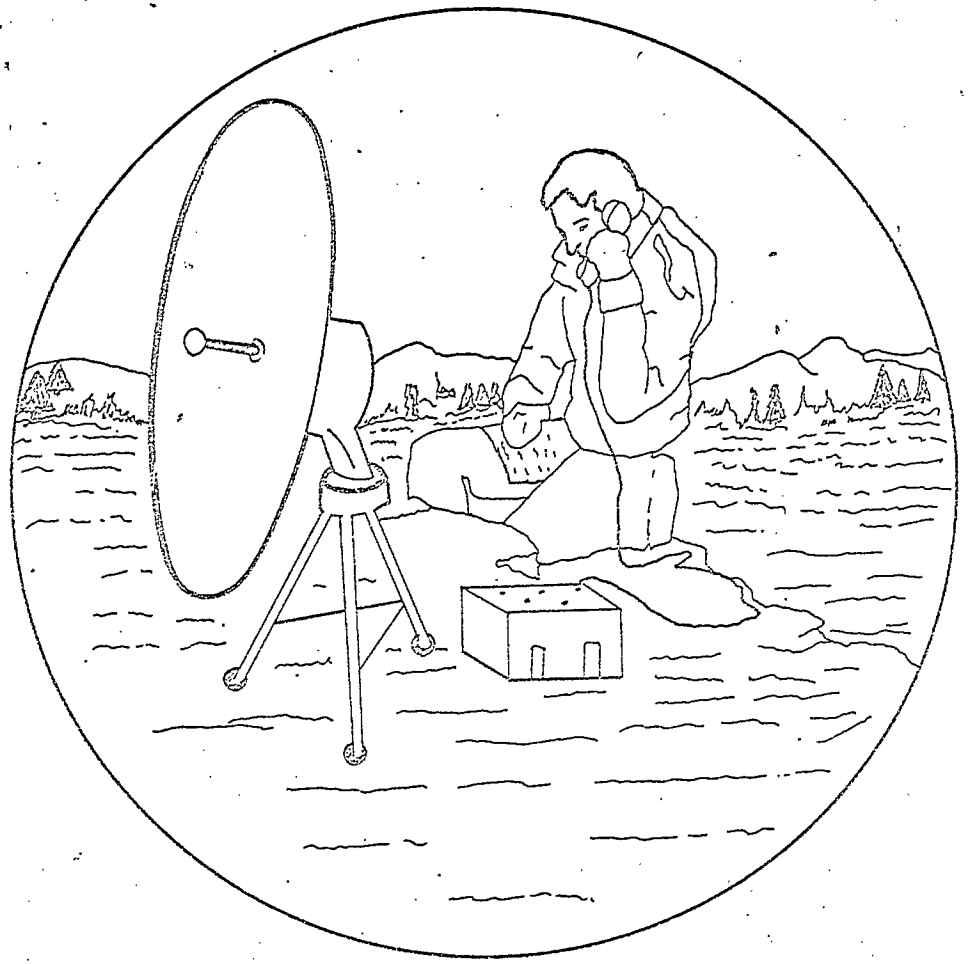
TRANSPORTABLE TRANSMISSION TERMINAL

ANTENNA 8 ft.
TRANSMITTER 1 watt
RECEIVER TDA
TV BROADCAST RECEIVER
TELEPHONY ONE DUPLEX CHANNEL
DATA
TDMA RANGING



STANDARD REMOTE TERMINAL

ANNEX 9



ANTENNA___	3 ft.
TRANSMITTER	1 watt
RECEIVER	mixer

TELEPHONY ONE DUPLEX CHANNEL
SOUND BROADCAST RECEIVE

SMALL TRANSPORTABLE TERMINAL

TYPICAL CTS EARTH - COVERAGE PATTERNS