DOCUMENT RESUME

ED 142 170 IR 004 835

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TITLE ATS-6 and State Telecommunications Policy for Rural Alaska: An Analysis of Recommendations.
INSTITUTION Alaska Univ., Fairbanks. Center for Northern Educational Research.
PUB DATE Dec 76
NOTE 33p.

EDRS PRICE MF-$0.83 HC-$2.06 Plus Postage.
DESCRIPTORS *Alaska Natives; Audience Participation; *Communication Satellites; Community Control; Community Involvement; Educational Television; English Instruction; Health Education; Public Affairs Education; *Public Policy; Relevance (Education); Rural Areas; *Rural Education; Teacher Education; Telecommunication; Telecourses
IDENTIFIERS Alaska; Applications Technology Satellite 6; Educational Satellite Communication Demonstration

ABSTRACT

This paper analyzes thirteen recommendations for media policy making in rural Alaska which were formulated as a product of a study of the educational television aspect of the ATS-6 (Applications Technology Satellite) project in 1974-75. The recommendations, which emphasize local media control, were based on information provided by village residents, consumer committee members, teachers, and program personnel. A brief description of the ESCD/AK (Educational Satellite Communication Demonstration/Alaska) project is provided, including a map of receiving sites and special features of the program such as interaction between program and viewer, capability of transmitting simultaneously in several languages with four different audio channels available, consumer committees, and local utilization aides. The bibliography contains sources of additional information relative to the ESCD/AK project as well as to related ATS-6 projects in Appalachia and the Rocky Mountains. (STS)

ATS-6 and State Telecommunications Policy for Rural Alaska:

An analysis of recommendations

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December 1976

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INTRODUCTION

Increasingly, professional educators and the general public alike look to technological advances in electronic media to ameliorate the assignment of delivering instruction in the contemporary world. As is the case with several current social and educational problems where solutions are proposed by the use of technological devices, the technological devices suggested as solutions for delivery are often the result of more advanced thinking than the program materials or policies that have been promulgated to implement such programs. Most of the theorists and practitioners who develop programs or policy recommendations admire the elegance of the technology and aspire to similar sophistication in scientific methodology, product and funding levels. This is not necessarily a negative reflection on program developers or policymakers to date, vis-a-vis technological development. Their efforts are commendable in light of the resources usually made available to them. It does reflect, however, the disproportionate amount of effort and financial support that has more often been allocated to advanced technology when compared to policy or program development.

Practical Concepts Incorporated (PCI) has contributed substantially toward narrowing the gap between technology and program development, the so-called hardware and software dimensions, with recommendations they formulated as a product of the study they were contracted to do by the National Institute of Education (NIE) in the Alaska Component of the Educational Satellite Communication Demonstration (ESCD). Likewise, the foresight shown by NIE through design and implementation of the national study as a whole, and their concern and willingness to generate funds to carry out work in the software domain are favorable turns of events.

PCI's reports, Implications of the Alaska Education Satellite Communications Demonstration for Telecommunications and Education Policymakers: Volume I, Analysis of the Demonstration; Volume II, Supporting Materials; and Executive Summary and Supplement were distributed in Alaska and nationally last year. It is hoped they are thought-provoking for policymakers and program developers concerned with educational delivery via satellite throughout Alaska. The recommendations formulated by PCI, while substantial and while they may safely be assumed to have advanced thinking in the field of satellite delivery of educational programs as a whole, were addressed to a more broadly constituted audience than Alaskan groups who are now into the specifics of policy formulation and program development. To meet the needs of these groups, the authors of this report have taken on the assignment of analyzing the recommendations from the PCI report, especially as they relate to Alaska's multi-cultural population.

The material in this report, therefore, is a further refinement of the joint CNER-PCI effort in which PCI published the above named reports under their contract with the National Institute of Education. The authors, affiliated with CNER, worked on a daily basis with the staff of PCI during the course of the initial study. Much of their thinking reported in this paper is a result of this association. In particular, material in

this paper reflects the contributions of Dr. Roger Popper, a member of the PCI staff at the time of the study. Dr. Popper was one of the primary authors of the initial PCI report to NIE. Although Dr. Popper was not directly involved in the preparation of this paper, his contributions in the PCI reports and through his association with CNER during the study are obvious and appreciated. It should be noted, however, that the authors are responsible for the analysis and recommendations in this work, and others associated with preparation of the earlier papers should not be held accountable for omissions or errors that may be identified in this paper.

CNER appreciated the opportunity of having been associated with PCI in the initial work leading to their reports. The staff looks forward to any opportunity to cooperatively advance programs that utilize satellite telecommunications to enhance public education and recommend policies that give direction to such programs.

Of utmost importance, it is hoped that the discussion and recommendations contained in this paper will prove to be of value to members of Alaska's multi-cultural, rural society who bear the brunt of the need for improved educational programs at all levels, delivered by whatever means, through more responsible decision making by all concerned.

Frank Darnell
Director,
Center for Northern
Educational Research

PREFACE

This paper proposes thirteen recommendations about television in rural Alaska's educational TV part of the ATS-6 satellite project in 1974-75. The study recommendations were based on information provided by village residents, utilization aides, consumer committee members, teachers, program designers, program producers, and managers of the project.

The Center for Northern Educational Research (CNER) is publishing this paper now to make the recommendations widely available and to discuss them in light of current efforts to provide TV to the bush. The 1976 Alaska Legislature passed House Committee Substitute for Senate Bill No. 696 which includes $1.5 million "... for a satellite transponder lease project to demonstrate the feasibility of satellite communications in Alaska, priority being given to satellite television." One-third of the money is expected to be used for equipment to receive television in 20 villages funded by the previous legislative session for satellite dishes to provide telephone and audio. Local, low-power broadcast or "mini-TV" is also included. Another third of the money is for a delay center, providing programming for five hours per day. The remaining third is for lease of a satellite channel. The Governor's Office of Telecommunications (GOT) has been meeting with an Alaska Federation of Natives Telecommunications Committee to work on program selection and site selection. The GOT is also working with the Alaska Department of Education (DOE) to develop a proposal for funding instructional television in the schools. The DOE project also includes a committee of parents, school board members and other potential users.

Although no organized research has been possible since the recommendations were written in the fall of 1975, an effort is made in this paper to point out some of the ways the current work in TV relates to issues raised by these recommendations. Practical Concepts, Inc. (PCI), under contract to the National Institute of Education, originally published the recommendations as part of the report[1] entitled, "Implications of the Alaska Education Satellite Communications Demonstration for Technological and Educational Policymakers: First Annual Report," Volumes I and II, November 1975. An "Executive Summary and Supplement" was issued in January 1976. CNER was the Alaska subcontractor and produced the Chronology of Critical Events (Dr. Kathryn A. Hecht) and much of the discussion raised by the study of the Alaska ATS-6 Education project (ESCD/AK).[2] Readers of the original publication will find extensive quotation and some repetition in order to make this paper self-contained. Those who want details of the research which resulted in these recommendations would do well to seek out the PCI documents. Volume I contains additional observations and findings which resulted from contact with many people involved in the project. It also contains first drafts of selected issue papers on subjects

[1]Available on request from PCI, 1730 Rhode Island Avenue, N.W., Suite #200, Washington, D. C. 20036.

[2]This report uses the terms ESCD/AK to distinguish the education part of the Alaska ATS-6 experiments from the Biomedical and WAMI experiments. The Education Satellite Communications Demonstration was part of the Health/Education Telecommunications (HET) experiments funded by the U. S. Department of Health, Education and Welfare and the National Aeronautics and Space Administration. GOT uses the term ALED (Alaska Education) in their report to refer to the ESCD/AK.

which appeared to merit further study. Volume II contains a description of the study plan, a summary of user reactions, and the Chronology and Documentation of Critical Events.

Some effort has been made to indicate how the thirteen recommendations are related to those in other Alaska ATS-1 reports which were not available at the time of original publication. The final section of this report is a list of such references. Where those reports contained information directly related to our own, they are quoted, but there appears to be additional valuable information. The fact that this paper does not address all the subjects raised by others does not necessarily indicate disagreement with or lack of concern for their conclusions.

The GOT report is the only one which also addresses cultural relevance with specific recommendations. Their comments on improved management, coordination, and installation are excellent. Those who believe that the stronger emphasis this paper puts on local control is indicative of a feeling that ESCD/AK had little merit in that regard are wrong. As the Chronology of the PCI report shows, ESCD/AK was a project with outrageous troubles beginning with too little time and money to do the planning that was necessary. For example, Alaska's ATS-6 education effort was continually hampered by funding uncertainties and management confusion at the federal level. Major elements of the initial Alaska plan were rejected by the funding sources; substantial changes in other parts of the plan were dictated at the last minute.

Site selection, a major issue in local options, was required by HEW and NASA long before the Alaskan management could ever have hoped to accomplish it in a manner more responsive to local wishes. A project intended to demonstrate superior communications technology was plagued by inadequate existing communications. Two-way interaction, which was expected to be the outstanding feature of the project, was undermined by the need to use an older, inferior satellite (ATS-1) for audiences to ask questions. The list could go on and on. It is a major accomplishment that original programs were produced with the review of consumer committees, that utilization aides were hired, and broadcast schedules met. As a result many Alaskans gained experience in using satellites and providing TV programs.

The origins of the forces causing Alaska to decide that satellites are a necessity, bringing about the first small earth stations for telephone and now the addition of television, are complex. ATS-6 was intended to teach Alaskans something practical about using such a capability. A major thrust of this paper is to encourage policymakers and system builders to take the specific lessons of ATS-6, expand upon them and extend their implications; to encourage a visionary approach to providing the most satisfactory operating system.

People who study projects such as ESCD/AK have the luxury of speculating on possible improvements; to act as probers and catalysts with suggestions that may not have occurred to those persons involved at the time. But these recommendations have not been perceived by their authors as final solutions. "How can we make it better?" is not an arrogant question, but a conviction that better ways are found only with extensive dialogue based on concrete experience. If this paper encourages dialogue it will have achieved its purpose.

The Authors

SECTION ONE: ESCD/AK

The following description of ESCD/AK is intended to provide enough background to help the reader understand how the project worked. For those interested in a complete description, GOT's final report to NIE is recommended.[1] Figure 1 summarizes the major features of the project.

Figure 1

Educational Satellite Communications Demonstration in Alaska[2]

Major Programming Efforts

"Amy and the Astros" (English for 5-7-year-olds)
"Right On!" (Health for 8-10-year-olds)
"Alaska Native Magazine" (Public Affairs for Adults)
Teacher Training
Experiments of Opportunity

Special Features:

Technological

Interaction
4-Language Channels
Inexpensive Receiving Equipment
Color Video

Village Involvement

Consumer Committees
Utilization Aides

15 Receiving Sites

Major Grantee

The Alaska Governor's Office of Telecommunications

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[1] "ATS-6 Health/Education Telecommunications Experiment: Alaska Education Experiment Summary. Final Report," Volumes I, II, III and "Executive Summary," September 30, 1975. The Office of Telecommunications, Office of the Governor of the State of Alaska, Juneau.

[2] Adapted from PCI, Executive Summary, p. I-2.

I. THE MAJOR PROGRAMMING EFFORTS

1. "Amy and the Astros" was a series of English language programs for 5-7-year-old Alaska Native children. It took place inside a spaceship containing two astro children puppets and a robot puppet. An English-speaking Alaskan woman (Caucasian) discovers the spaceship, enters it, and teaches the astro children English. Thirty-two programs were produced with each shown twice per week. The robot puppet could fly the spaceship to other parts of Alaska where things outside the ship were seen on a special viewing screen. Other objects which the puppet children wanted to know about were also shown on the screen. Amy drilled the children on proper English and invited the children viewing the program to help by repeating the answers (PCI, Vol. 1).[1]

2. "Right On!" was a health education series for 8-10-year-olds. The set was a typical village health aide's home/office and Millie, a Native health aide gave advice and aid to two animal puppets, a moose and a beaver. A germ puppet and several other minor character puppets were also used for short segments within the program. Each of 32 original productions covered one health problem and was aired on Mondays. On Fridays, one of 32 health films purchased from distributors was shown (PCI, Vol. 1).

3. "Alaska Native Magazine," a 60-minute public affairs program for adults, was aired on Tuesday evenings with news and current events of special interest to Alaska Natives. A newscast plus in-studio interviews were combined with on-location film footage and hosted by an Alaska Eskimo. Thirty-one programs were broadcast in this series which was categorized by GOT as "viewer-defined" programming. Two of the programs were 90-minute specials (PCI, Vol. 1).

While the PCI/CNER study was directed mainly toward "Amy and the Astros," "Right On!" and "Alaska Native Magazine," the following two efforts were also part of the ESCD/AK period.

4. "Tell and Show," a 30-minute program of Teacher In-Service Training (TIST) underwent considerable change after the start of the broadcasts. Originally planned as four programs to communicate with teachers about the project, it was expanded to 28 due to the time available on the satellite. The first broadcasts were a recorded lecture series titled "Motivating Children to Learn" by Dr. Rudolph Dreikurs, but were replaced after a few broadcasts by local production. Design and production was the responsibility of the Alaska Department of Education (PCI, Vol. 1).

5. GOT also coordinated additional programming which aired on ATS-6, labeled "Experiments of Opportunity," but funding was provided by sources other than ESCD/AK. Community Librarian Training was a project of the Alaska State Library funded by the Library Traineeship Program, Title 2 B of the Higher Education Act. It used a correspondence course and locally produced programs on specific library procedures. "Politalk" included news of the state legislature plus interviews and was funded by the Alaska Department of Community and Regional Affairs. Fish and game films, provided by the Alaska Department of Fish and Game, were shown regularly also. "Experiments of Opportunity" programs were produced at the GOT studio, reimbursed by the sponsoring agency.

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[1] Note References, p. 25 in this publication, for complete citation of sources.

II. SPECIAL FEATURES OF ESCD/AK[1]

1. Interaction

Interaction refers to the process and equipment provided for audiences to ask questions during the programs. The video part of the program came from a studio either in Juneau or Fairbanks. In addition to the usual audio from the studio, questions from the audience were relayed to the program host via an audio channel on the ATS-1 Satellite. The host and questioner could have a two-way audio conversation which was heard by the other sites viewing the program. For "Amy and the Astros" and "Right On!" a 15-20-minute taped program produced by KUAC-TV in Fairbanks was aired, concluding with a follow-up and question-answer session by a studio teacher in Juneau. "Alaska Native Magazine" was broadcast live from Fairbanks, and questions could be asked any time during the program, but usually occurred during interviews when the host invited viewers to ask questions or solicited their comments.

Interaction presented real technical problems for ESCD/AK. The use of ATS-1 to transmit audio from the villages was necessary because of a frequency conflict with the U. S. Department of Defense which meant GOT could not use the ATS-6 frequencies except to broadcast from Fairbanks or Juneau. ATS-1 proved to be a less than ideal solution because the transmitters provided each village were not powerful enough to provide the best possible signal; children's voices were difficult to understand over ATS-1. In addition, each site asking a question had to change the audio on their TV set in order to avoid feedback as they asked questions. Both of these were simple problems which could have been simply solved but were not apparent until the project was already operating.

2. Four Language Channels

ATS-6 provided the capability of four different audio channels to accompany the video with audiences choosing which they wished to hear. During portions of "Alaska Native Magazine," two of the channels were used for translations in Koyukon Athabaskan Indian and Yupik Eskimo.

3. Inexpensive Receiving Equipment for Color Video

The ATS-6 satellite is much more powerful than any previous satellites, making it possible to receive high-quality, color video using small, inexpensive receiving dishes on the ground. The receiving sites used ten-foot diameter dishes costing about $8,000 each; GOT's Final Report indicated that installation for the sites averaged another $5,500.

ATS-6 has a special high gain antenna which transmits the signal to the ground in a concentrated beam, creating a "footprint" pattern in the receiving area approximately 500 miles long and 300 miles wide. The footprint defines where receiving sites can be located. It can also be adjusted to move from one geographical area to another: this "repointing" effort took place several times a day to accommodate other ESCD experiments scheduled in Appalachia and the Rocky Mountain states.

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[1]The NASA Press Kit on Project ATS-F released May 21, 1974, has a comprehensive summary of the whole Applications Technology Satellite program from ATS-1 on, plus a technical explanation. National Aeronautics and Space Administration, Washington, D. C. 20546.

4. Consumer Committees

In an attempt to ensure that the programs would be appropriate for school children in rural Alaska, each receiving site was asked to send a representative to serve on a consumer committee. These committees met with program designers, producers, and GOT to oversee program design and production of "Right On!" and "Amy and the Astros." There was also a committee working on a series of Early Childhood Education programs. When NIE decided not to fund that series, the members of its committee continued working with the other two. "Alaska Native Magazine" had a consumer committee made up of representatives from regional Native corporations.

5. Utilization Aides

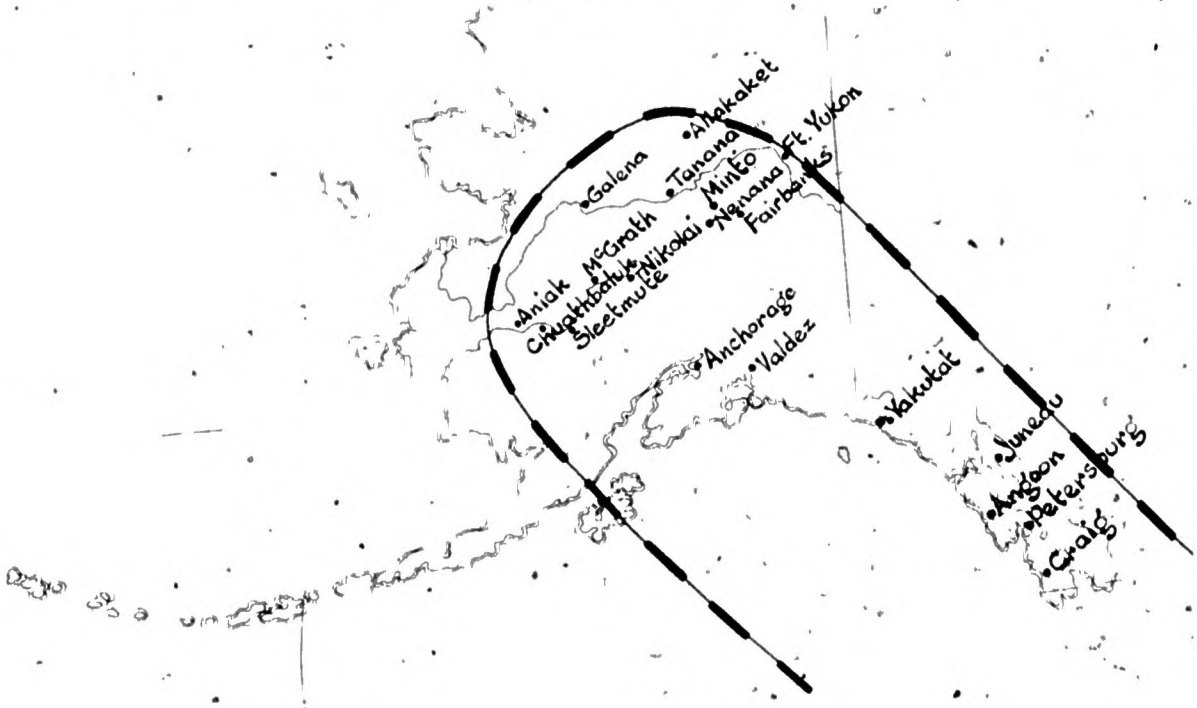
GOT hired a resident in each village site part time to take responsibility for technical operation of the equipment, to fill out a log on reception quality and audience size, and to encourage interaction during "Alaska Native Magazine."

III. RECEIVING SITES

Figure 2 is a map of the nineteen Alaska ATS-6 sites; fourteen of these were receiving sites for the education project. The Alaska ATS-6 Biomedical Project sites were Anchorage, Fairbanks, Tanana, Galena and Fort Yukon, but neither Fort Yukon nor Anchorage were part of the education project; Fairbanks and Juneau were transmission points for GOT.

Figure 2

Alaska ATS-6 Sites
(Educational & Biomedical)



The ATS-6 footprint and lack of funds caused severe restrictions on the number of sites available to the education project and on their location. Another difficulty in site selection was that NASA/HEW needed the site list early in 1973, when GOT had just assumed responsibility for the project, and well before the desired groundwork with residents of possible sites could be accomplished.

IV. PLANNING, MANAGEMENT AND EXECUTION

The Alaska Governor's Office of Telecommunications (GOT) received funding from HEW for programming, installation and maintenance.[1] The Corporation for Public Broadcasting provided additional funds for "Alaska Native Magazine." The terminals were provided by HEW with centralized purchasing for Alaska, Appalachia and the Rocky Mountain sites.

The Northwest Regional Educational Laboratory (NWREL) in Portland, Oregon, and KUAC-TV (University of Alaska public TV station) in Fairbanks were GOT's major subcontractors:

NWREL:	program design of "Right On!" and "Amy and the Astros";
KUAC-TV:	design of "Alaska Native Magazine," and production of all three series; installation and maintenance of equipment in Fairbanks, and transmission from Fairbanks.

[1]GOT produced the interactive segments of "Right On!," "Amy and the Astros," and "Tell and Show" in its Juneau studio. The Indian Health Service/Lister Hill National Center for Biomedical Communications demonstration on ATS-6 relied on GOT for some installation, some maintenance, and coordination with NASA, but was operated as a separate project. The WAMI interconnect between the University of Alaska at Fairbanks and the University of Washington School of Medicine was also an ATS-6 project operating in Alaska. Both WAMI and GOT used KUAC-TV for production and transmission of programs.

SECTION TWO: RECOMMENDATIONS

This portion of the paper begins with a list of the thirteen recommendations (PCI, Exec. Sum. p.I-6), followed by individual discussion of their implications.

1. Undertake telecommunications demonstrations in rural Alaska only when there are resources and commitment for putting aspects of the demonstrations which users deem successful directly into operations.

2. Undertake satellite television operations only when they can be justified on the basis of cost effective, timely access to programming.

3. Television sets must be placed in village community centers as well as village schools.

4. Television programming for rural Alaska must be accompanied by resources and explicit instructions for video taping and viewing at the villages' convenience.

5. As a complement to satellite communications, regional media networks must be developed to meet the demand for region-specific programming.

6. As soon as there is satellite telephone, audio interaction should be used without video programming.

7. To give Alaskan Natives direct participation in programming, the appropriate investments are in regional and local media networks and programming.

8. ESCD Consumer Committees (including Utilization Aides) should be given funds for buying programming on behalf of rural Alaskan villages. Purchase of programming should be made on the basis of samples submitted by potential programmers in competitive bid fashion. Teachers should participate in the Consumer Committee as advisors on children's programming.

9. Give each rural Alaska village funds for the hiring and training of a Media Manager. The Media Managers must be employees of the villages, not of the State Government.

10. Commitment to broadcast material and commitment of resources to new programming must be separate decisions. The commitment to new programming must be preceded by a survey of available programming.

11. If "culturally relevant" programming is the objective, then the appropriate investment is in training Alaskan Native media professionals.

12. Telecommunications in rural Alaska should take as its mandate: solution to the "high school problem." Three alternatives for augmenting village high school curriculum are: materials distribution of already existing programming, teacher-sharing via audio presentations and supervised interaction, and new programming on Alaska Native History.

13. Government officials and other people who affect the lives of rural Alaskans should be interviewed for television transmission in a village setting, in front of a village audience which asks questions and speaks up when they do not understand. (Media Managers must take a leadership role here.)

These thirteen recommendations are aimed at guiding policy, planning, and management for

telecommunication systems in rural Alaska. To help our discussion they are grouped in three broad categories:

I. Requirements of media services in rural Alaska (Recommendations 1-6, specifically related to satellite delivery systems);

II. Local control of media in rural Alaska (Recommendations 7-9, applicable to other forms of delivery as well);

III. Television programming for rural Alaska (Recommendations 10-13, with implications for virtually all modes of transmission).

I. REQUIREMENTS OF MEDIA SERVICES IN RURAL ALASKA

The first two recommendations offered are related to criteria for deciding whether to invest in satellite delivery of television for rural Alaska.

Recommendation No. 1

> Undertake telecommunications demonstrations in rural Alaska only when there are resources and commitment for putting aspects of the demonstrations which users deem successful directly into operations.

This recommendation emphasizes that demonstrations in telecommunications which are perceived as temporary by rural Alaskans are poor investments of public money. Residents of ESCD/AK sites say they want permanent services rather than short experiments. People know government needs information to make decisions about the best technical facilities and how to manage them; but after an experiment, once the data are collected and analyzed, results should be acted upon to implement services.

Rural Alaska may be poor in services but it is rich in projects. Health, education and social service projects are many; projects which come and go without a trace are not rare. All of them promise great things. Experience has made rural residents skeptical about the real benefits, but since effective demonstrations or experiments need enthusiastic participation, project managers find it hard to resist overselling possible merits and impact.

The distinction between experiment and demonstration may be a useful one. The point of an experiment is to test the validity of a given approach or hypothesis. Experiments are supposed to yield new information presumably needed to decide what to do next. But ESCD/AK was not an experiment in the scientific meaning of the word. The primary objective described by GOT ". . . was to install and operate an experimental satellite system to give the state technical experience from which to plan future statewide satellite communications systems" (GOT, Vol. I, p. 12). The word demonstration became popular during the life of the project to emphasize that no specific instructional objectives would be measured or were expected. For example, nine months was not enough time to test exactly how much better a child's English might have become.

Recommendation No. 1 (continued)

> The experiment was a model for gauging the appropriateness of using satellite communications for instructional purposes, and for developing programming content specifically designed to be relevant to the needs of rural Alaskan residents, both student and adult. It further demonstrated the potential importance of satellite television programming in supplementing and supporting the instructional resources of Alaska's rural classroom teachers (GOT, Vol. I, p. 234).

A demonstration implies something that is already known to be desirable by some and is being put on display to alert potential users to its existence. In undertaking a demonstration, the originator seems to be saying that if the consumers agree, operations can be expected to follow. To a large degree this is true in rural Alaska. The State has taken dramatic steps to assure that satellite technology will be available for telephone and audio services. Furthermore, money has been allocated by the 1976 legislature for satellite television. Though mostly by coincidence, rural Alaskans will soon be getting the satellite TV which appeared to be on the heels of that promised by the undertaking of the ATS-6 demonstration experiment. But the operating system may be hardly recognizable to those who thought they were getting a preview in ESCD/AK which emphasized culturally relevant programming approved by consumer committees.

The current appropriation allows $500,000 for a delay center and programming. The Alaska Federation of Natives, Inc. (AFN) Telecommunications committee has been reviewing network (NBC, CBS, ABC, PBS) programming and working on site selection. No doubt the liaison between GOT and AFN will benefit from the ATS-6 experience with consumer committees, but it doesn't seem to be taking the greatest advantage of the lessons learned directly by the village residents who participated in ATS-6 consumer committees. The GOT/DOE effort to develop proposals for instructional programming will probably benefit from prior experience, also, but it too seems to have started over with parents and school board members who had little prior experience; and the resulting educational telecommunication systems may bear even less resemblance to ATS-6 activities than does the forthcoming entertainment project mentioned earlier. The burden for carrying the lessons of ATS-6 into the immediate future appears to lie solely with personnel from GOT and the Department of Education. If members of the AFN and DOE consumer committees are residents of the new sites, that's an advantage.

However, although parts of rural Alaska are now seeing the operation following the demonstration, the residents of the ATS-6 television sites are not included in the current implementation stage. They may well wonder why. They expended time, energy and optimism in a demonstration which is not doing them any good now. The logical question for them is, "Where are we on the timetable; when do we get the services we worked so hard to help develop?" These questions have a pragmatic answer, of course. The first twenty TV sites include no ATS-6 sites because the initial investment in the operating system is being put into places with no existing telephone service. Other criteria were used for selecting ATS-6 sites.

The report of the Educational Policy Research Center (EPRC) at Syracuse University on Appala-

chian and Rocky Mountain ATS-6 experiments discusses other aspects of these demonstrations which violated the realities of the operation. In Appalachia, students were able to enroll in courses for University credit without paying a tuition fee; in probable violation of how an operating satellite delivery system would have to work. EPRC recommends that any new demonstration on ATS-6 for 76-77 should include a requirement that sites pay a pro rata share of costs of a potential system; that no free service be offered to clients who normally would have to pay; and that more specific objectives be defined for the demonstration, whether related to quality or economy (EPRC, p. I-18). EPRC contends that the validity of the information obtained is undermined by the artificial nature of the project conditions. A similar condition prevailed in ESCD/AK, making the demonstration costs less justified.

This is not to say that ESCD/AK had no merit. For example, there were substantial changes in institutions and institutional relations which resulted from ESCD as noted in the PCI report. But many questions remain as to whether the cost was justified by the results.

Another criterion for the investment in satellite delivery of television services is explored in the second recommendation.

Recommendation No. 2

Undertake satellite television operations only when they can be justified on the basis of cost-effective, timely access to programming.

The reason for using a satellite to deliver television programs to rural Alaska is mainly because of its ability to deliver programs to residents who can't receive timely service in any other way.

There are two viewpoints about whether something is delivered in a timely fashion. To the consumer, timeliness relates to how the programs fit into his daily life, whether the information is valid and relevant to his present concerns, and whether it needs to be "live" to have value. To the system operator, questions of timeliness tend to focus on logistic variables such as available technology, cost of live versus canned transmission, and simultaneous delivery to audiences in different time zones. Each viewpoint must be understood and considered by both parties when they try to discuss the merits of viewing a live transmission or live interaction. The real issue is whether to have a satellite or not. For live programming and interaction, satellite is clearly the only way, but that keeps getting confused with the issue of canned programming. The assumption is that to be cost effective, live programming would have to be statewide and hence homogenous in both content and scheduling. Given the homogenous nature of existing canned material, the only difference now between satellite-delivered and mailed programming is the flexibility of the schedule. Even in mail-out systems, flexibility is a seductive phrase because of the unreliability and frustration inherent in such a system.

Recommendation No. 2 (continued)

PCI offers an equation for attempting to decide the cost differences between satellite television and tape mailing which takes into account these cost variables: annualized cost of master tapes, annual redubbing cost, annual mailing, transmission channel cost, annualized recorder costs, annualized earth station costs and tape use cost (PCI, Vol. I, p. III-103). The equation can only provide a first approximation since assigning values to reliability, ease of access, and timeliness is difficult.

However, specifically regarding the question of interaction, this recommendation shares with GOT and others the opinion that ESCD/AK did not adequately test live interaction incorporated with video programs. "While two-way voice communication was a major program plan in the development of the ALED experiment, its effectiveness could not be known until implementation" (GOT, Vol. I, p. 92). EPRC concluded that live interaction was the least useful feature of the Appalachian and Rocky Mountain projects; that the primary advantage of a satellite-based system is its economy in serving large numbers of people, and that interaction requires students or consumers to be few in number for all to participate (EPRC, p. I-8).

The significance of interaction in ESCD was expected to be great; its actual significance was inhibited in Alaska by the disappointing performance of ATS-1 as a substitute for the audio channels which could not be used on ATS-6. In that respect it was the least adequately mounted feature of the ESCD/AK and the fact is we simply don't know, based on this project, how useful it will be in future operations.

However, there is a strong suggestion from conclusions of the WAMI report that under certain conditions interaction would be well-justified.

> Satellite technology is effective for teaching in the WAMI Program. The optimal use of this technology is achieved when subject matter content and instructional methodology capitalizes on interaction between the instructor and the students (WAMI, p. I-4).
>
> Students expressed consensus on the necessity of video versus audio only for the effectiveness of teaching, using this technology (WAMI, p. I-5).

There are two differences between WAMI interaction and that which occurred in ESCD/AK. WAMI students were at the university level talking directly to their teacher and their interaction was audio-visual. The extent to which these conditions will occur throughout rural Alaska should become a major consideration for whether the question of interaction needs any further discussion as a part of future systems.

In Alaska it may be appropriate to trade off economies of scale in favor of giving people information otherwise unavailable; but quantifying the values of such a policy will be extremely difficult. The crux of the recommendation is that any decision to undertake satellite television operations should be based on answers to this question, "Does satellite TV provide more cost-effective (cheaper) and more timely access to a wider variety of better programs than other distribution modes?" (PCI, Vol. I, p. III-103.)*

The third and fourth recommendations are related to satellite television and the media requirements of rural Alaska and address the issue of mandatory components of a satellite TV system.

Recommendation No. 3

Television sets must be placed in village community centers as well as village schools.

This is in accord with GOT's recommendation that "Close coordination with both local school authorities and village councils is vital to insure the most practical and useful placement of viewing monitors" (GOT, Vol. I, p. 222). Some adults who had to go into schools to view "Alaska Native Magazine" felt uncomfortable and found it difficult to participate in interaction even though they may have desired to do so. In many Alaska villages the schools are physically separated from the rest of the village and they are culturally, socially, and architecturally distinct as well. Placing TV sets solely in the schools can give the schools actual, if not legal, control over them. Since the sets are in the school building they are easily perceived as part of the educational establishment and not belonging to the village.

Even when the recent moves toward decentralization result in local school boards, it seems probable that the school will be a location where a specific group of people (children) participates in a specific activity (getting an education). Other residents may continue to use other buildings for their own activities, e.g., the village council meeting to acquire information to make decisions. If satellite TV has programming for adult audiences related to these activities, it should be available to them where they normally function, both to encourage use and to allow control over it. This situation could change rapidly. With local control of schools, perhaps the community centers and schools will be combined. Whatever happens, it is clear that attention must be paid to placing sets where they are available for the audiences.

The placement of monitors for general education and information programs to adults would appear to be less of a problem if mini-TV operations from the Alaska Public Broadcasting Commission and the Project Wales report bear out the theory that village residents will buy TV sets if programs are available.

If audio or video interaction is part of the programming strategy however, the use of interaction will continue to dictate the presence of the audience at some central location except possibly in villages where individual telephones are available.

With mini-TV distribution, one can foresee a possible clash between commercial or syndicated programming schedules and instructional programs for the school. The purpose and potential audience should dictate placements of sets and design of system, but if technical aspects are designed first (as is almost always the case) those aspects will dictate who can be reached.

Recommendation four details a secondary mandatory component of a satellite TV system for rural Alaska.

Recommendation No. 4

Television programming for rural Alaska must be accompanied by resources and explicit instructions for video-taping and viewing at the villages' convenience.

ESCD/AK has shown that both inside and outside of the formal school situation; the videotape mode, as opposed to the real-time viewing mode, is best suited to attracting high participation without disrupting village life.

In the classroom, the value of flexibility, such as provided by videotape players, far exceeds the value of real-time viewing and interaction such as provided by ESCD. In addition, placing a stationary TV set in one classroom, as required by the economics of ESCD/AK, created conflicts over that classroom use.

Outside of the formal school situation, viewership at adult programs is influenced more by village-specific activity schedules than by variations in programming. Consistently high attendance at the programs occurs only when the event is incorporated into the village activity schedule.

Television which attracts the highest participation and disrupts life the least in the villages must allow customized scheduling for each classroom and each village. The best way to allow for customized scheduling is to provide resources and instructions for videotaping. Resources include a videotape recorder and player and a supply of blank tapes. Most Alaska villages have videotape machines, but there is a shortage of blank tapes.

A village level management problem is how to decide which tapes to erase to make room for new programs, and which tapes to keep for repeated viewing (PCI, Vol. I, p. III-105, 106).

Similar comments are made by GOT and EPRC. "Maximum use of all fixed-time educational broadcasts could be made by rural teachers if VTR equipment was available at all sites for recording programs" (GOT, Vol. I, p. 226).

"The most promising way of using a satellite-based system for grades K-12 is to distribute catalog-listed film and tape materials to thousands of schools for videotape recording and replaying at the school's convenience" (EPRC, p. I-8).

The EPRC statement is clearly negative toward the kind of fixed-time (where the satellite sends a specific program only at a specific time) broadcast suggested by GOT and the statements should not be read as supporting the same kind of schedule. EPRC's emphasis on broadcasts to large numbers of users at the same time as the key to cost-effectiveness is probably not appropriate to Alaska's small but varied population, and the GOT recommendation is particularly important for dealing with the difficulties caused by fixed-time transmissions to schools in different time zones.

The fifth and sixth recommendations specify complements considered necessary to defining the requirements of media services for rural Alaska.

Recommendation No. 5

As a complement to satellite communications, regional media networks must be developed to meet the demand for region-specific programming.

ESCD/AK has shown in several ways that there is demand for region-specific programming.

First user reaction to ESCD programming shows that Alaskans from one part of Alaska do not necessarily enjoy programs about other parts. Alaskans, in general, enjoy programs about their own region more than they do programs about other regions. Planners of media networks must keep in mind that the rural Alaska population is heterogeneous, and varies culturally from one region to another more than do other areas of the United States.

Second, user reaction to ESCD shows that there are serious obstacles to satellite television Native language channels being used more than marginally. As the bilingual education movement grows in strength, the demand for Native language programming, especially within the schools, is likely to increase. However, there are in Alaska 20 distinct Native languages in five separate language groups representing widely varying levels of language viability. Clearly, Native language broadcasts are best handled regionally, on a language-group basis.

Third, user reaction to ESCD/AK has shown that there is a serious controversy among rural Alaskans on how much television programming is appropriate for rural Alaska. On this basis, it would seem that to the extent there are varying opinions about the value and desirability of television throughout the state, there should be varying, regionally tailored solutions.

A current development in Alaska seems likely to intensify the above-described demand for region-specific media service. On July 1, 1976 the Alaska State-Operated School System was divided into 21 Regional Education Attendance Areas which are administered locally. This local administration implies some degree of region-specific curriculum and programming needs (PCI, Vol. I, p. III-106).

The danger is that the potential value of the demonstration, which offered a "hands-on" opportunity to develop creative ideas about region-specific programming, may be lost. The Alaska sites offered no region-specific experience with what could happen, other than the use of multiple language channels. Thus, ESCD/AK demonstration results will not encourage region-specific programming as an alternative to centralized program content. Nevertheless, serious consideration must be given to preventing the pre-emption of region-specific programs by a prematurely centralized delivery system.

It would be difficult to argue with statements such as, "Planning should be solidly based on local needs" (AID, p. 50), "Software may have to be adapted to accommodate local and cultural differences" (AID, p. 64), and "Different audiences and subject matters require different approaches" (AID, p. 63), but interpretations of how best to accomplish such tasks are bound to differ.

The PCI study results concur with EPRC that "The effectiveness of satellite-based television (i.e., television broadcasts to schools and community centers, not directly to homes) in reaching its target audience is closely related to the amount of support it receives from local organizations" (EPRC, p. 1-10).

Recommendation No. 5 (continued)

A strong commitment to a region-specific system seems more likely to attract the support of local organizations and is desirable whether the broadcasts are received at home or not. If a recommendation such as GOT continues to be acted upon by agency personnel for a statewide audience, then the operating system will effectively prevent regional networks from developing.

> Coordination of the utilization of educational programming should be established between future project management and a central state educational agency (such as the Alaska Department of Education or the Alaska State-Operated Schools System). (GOT, Vol. I, p. 231.)

Although many of the GOT recommendations urge close coordination with program users, they clearly reflect the belief that if public money is being spent the person who pays (as represented by government agencies) will be the person who calls the tune. Allowing consumers who presently pay few taxes to make their own decisions may seem like a radical idea to fiscal conservatives, but it seems also to be fiscally responsible if it means that whatever funds are allocated result in effective programs with maximum utilization.

What constitutes necessary and sufficient specialized programming seems to depend upon how narrowly one defines "local." In the past, non-Native Alaskans have tended to feel that "Native Alaskans" constituted a comprehensive concept for determining the need for localization. Experience has shown that although some subjects may be of interest to all Alaskans, and others to all Native Alaskans, even more specialization may be needed. In addition to categorizing potential local audiences by language, one could categorize their interests on the basis of city-village size, municipal boundaries, borough boundaries, or school districts.

The creation of 12 regional Native corporations in response to the Alaska Native Claims Settlement Act has proven to be a very popular and convenient method for urban (non-Native) residents to differentiate among groups of Alaska Natives. But those boundaries were conceived for other reasons and should not be construed as definitive guides to differing program interests. Great attention will have to be paid to developing definitions of regions for the purpose of satellite TV. It may well be an issue that must be resolved by the consumers rather than the system builders. The role of the latter should be limited to that of intermediary among the recipients of the system, those responsible for designing technology, and those in control of future program production, whomever they may be.

The second recommended complement to a satellite TV system is described in the sixth recommendation.

Recommendation No. 6

As soon as there is satellite telephone, audio interaction should be used without video programming.

Recommendation No. 6 (continued)

Three methods follow: 1) Phone-in conversation radio programs like those found in most population centers in the lower 48; 2) conference calls to hold meetings among teachers, village councils, village corporations, etc.; 3) administration and management of media services and educational materials distribution.

As indicated in the discussion of Recommendation No. 2 (p. 18), ESCD/AK did not provide an adequate test of the potential for two-way audio interaction. Although the EPRC report says that live interaction was the least useful feature, clearly it has sufficient potential to cause GOT to recommend that "two-way audio interaction should remain an option of future systems" (GOT, Vol. I, p. 225).

The foregoing is consistent with the findings of the AID study,

> For large audiences of young students, two-way interaction with a studio teacher does not seem to contribute to educational goals (AID, p. 68);
>
> For adults, interaction for educational, medical or administrative purposes can be valuable if it is properly structured (AID, p. 69);
>
> A communication channel for interaction for project administration is imperative (AID, p. 71); and
>
> Interaction can have good and bad effects on student motivation and acceptance (AID, p. 71).

In addition GOT recommends that future satellite systems include "As many single channel per carrier voice channels as possible . . with at least one designated for system control and coordination" (GOT, Vol. I, p. 219).

The inadequacies of audio interaction experienced by ESCD/AK were caused by several factors including:

1) Poor signal quality; 2) necessity to change TV audio channel when asking questions; 3) insufficient number of audio channels to allow coordination of the next question while one is on the air; 4) difficulty in designing main video program to motivate interaction, and 5) inappropriate target audiences for interaction.

Studio teachers who handled interaction for ESCD/AK began to develop techniques for encouraging its use such as asking a specific site to respond to a question, using slides of children from the sites and pictures sent in by children, and developing their own on-camera activities apart from the taped program to stimulate interest in the interactive time segment. The results of those efforts plus prior experiments with ATS-1[1] support the potential of two-way audio.

Beginning in 1971, ATS-1 in Alaska was used in an educational experiment for two-way audio between several schools. By a trial and error method, ATS-1 programmers developed a variety of both

[1]For evaluations of the prior educational program experiments on ATS-1, see "Village Satellite I," July 1972; "Village Satellite II," July 1973; and "Village Satellite III," August 1974, by Walter B. Parker.

Recommendation No. 6 (continued)

instructional and general educational programs for children and adults. By the end of the project, several series had been developed and broadcast. Sometimes the program was aimed at a particular group of adults and offered the opportunity to ask questions of experts or agency personnel on a given subject. One of the most popular approaches was to take a subject such as whaling and produce programs from the appropriate location while the activity was taking place, with broadcasts to the schools. Another approach consisted of developing a kit of materials around a subject such as hearing, send kits to the school ahead of time, and broadcast programs which supplemented the material in the kits. Other programs consisted of interchanges between children in two different locations, talking about their similarities and differences.

Although the earlier ATS-1 education project was not an unqualified success, it does provide evidence that audio interaction works well for small groups with focused common interests. ESCD/AK users who contributed to the study offered many innovative ideas for using audio interaction and it will be available at low cost once there is statewide satellite telephone (RCI, Vol. I, p. III-108).

The comment by WAMI students that video interaction is necessary deserves analysis to determine the elements of their situation which motivated that belief. Perhaps because video was available they simply considered audio inferior or perhaps their studies required them to show work to their teachers; we don't know. The students of the Alaska State Library correspondence course found that the televised programs, "especially with interactive capability," appeared to be a good substitute for the travel required by frequent workshops (ASL, p. 25). Since the library students had no access to video interaction, they seemed to find merit in the audio version. The evaluation of that project (which was separate from GCT's programming) deserves additional study since it dealt with older students and used a combination of correspondence courses, television programs with interaction, and workshops.

II. LOCAL CONTROL OF MEDIA IN RURAL ALASKA

The second grouping of recommendations addresses the question, "How can control of Alaska rural media be delivered to the village?" Recommendations 7, 8, and 9 present investment strategies intended to move rural media toward being responsive to rural Alaska needs and desires for services. These recommendations are not specific to satellite television, but apply to other modes of distribution.

Recommendation No. 7

To give Alaska Natives direct participation in programming, the appropriate investments are in regional and local media networks and programming.

One sure way to give Alaska villages control over media service is to have Native participation in all levels of planning, programming, production, and broadcasting. (This does not mean an exclusively

Recommendation No. 7 (continued)

Alaska Native staff – there are non-Native residents of rural Alaska too – but it does mean Alaska Natives introduced at all levels.) But the development of Native media professionals is likely to be relatively inhibited rather than promoted by a statewide satellite TV system; regional and local networks and programs can provide more effective opportunities for training rural personnel (PCI, Vol. I, p. III-109). Statewide satellite TV would provide fewer such jobs than the same coverage using regional networks. More important, it would provide fewer low-level jobs useful for moving trainees in and up in the system. A statewide network would make higher initial demands on professionalism than regional networks because of larger audiences, higher per program costs, and more jaded audiences implied in urban coverage. Statewide programs will also need greater professionalism because the less intimate a program is to an audience's direct interests, the more professional it must be to be appreciated (PCI, Vol. I, p. III-48).

Rather than begin by investing exclusively in a statewide system demanding professional media expertise, currently in short supply among the rural population, the short-term investment in regional media would offer many benefits:

1) regional networks would provide pools of Alaska Native media experts for statewide programming personnel; 2) regional networks would provide the statewide systems with access to the best of the locally produced programs; 3) costs borne by statewide television would be lower due to less need for training and programming; 4) the two systems would provide viewing alternatives for users and healthy competition (PCI, Vol. I, p. III-50). One potential difficulty with this proposal is the probability that a single statewide network will short-circuit consideration of regional networks.

The twenty villages that received small earth stations for telephone in the spring of 1976 are expected to be able to receive television programs soon, possibly by the end of the year. The scattered nature of those sites will make region-specific programming very difficult. Presumably as other sites are added the potential will be increased, but whether the recommendation of regional programming before statewide can be implemented will depend on a policy commitment by builders of the system. GOT has indicated that villages without earth stations will receive television by other means (such as land lines, microwave or translators). One way to encourage regional networks would be to give priority to expanding the local capabilities.

The second recommendation relating to local control points out that a prime facet of control is the authority to govern funds.

Recommendation No. 8

ESCD Consumer Committees (including Utilization Aides) should be given funds for buying programming on behalf of rural Alaskan villages. Purchase of programming should be made on the basis of samples submitted by potential programmers in competitive bid fashion. Teachers should participate in the Consumer Committee as advisors on children's programming.

Recommendation No. 8 (continued)

Consumer Committees as they were set up for ESCD/AK (a purely advisory capacity) were rewarding for the members and generated enthusiasm. However, under that arrangement, members did not initiate programs, but merely approved them; and they were not always free – for logistical, expertise, and cultural reasons – to exercise veto/approval power. ESCD Consumer Committees, then, represented a valuable investment in consumer education, but they do not represent a model for villager control of rural media.

The only way to give villagers control over rural media is to give them real approval/veto power, which means purchasing power. They must be empowered to decide how much money is spent by whom on what media services for rural Alaska. It is, of course, too much to ask villagers to make purchasing judgments without some education about what is available, and how programming is accomplished. ESCD has provided the prerequisite consumer education for a nucleus of village residents.

The role of government subsidy should be to use incentives to stimulate programmers to compete against each other to please the consumers. A good way to stimulate competition is to put funds in the hands of the users, to subsidize the investment in programming. The way to inhibit innovative competition is to subsidize the programming itself, to put funds directly into the hands of programmers and producers.

Teacher participation in an advisory fashion is appropriate since the Consumer Committees represent the teacher's constituents. The Consumer Committees represent the parents of the students. Federal matching of Native organization monies donated for subsidization of village programming purchases may be the appropriate funding strategy (PCI, Vol. I, p. III-110).

Clearly Recommendation 8 raises questions about possible implementation for which there are no easy answers. For school programming, the consumer committee approach will have to be integrated with the management devised for the new local school boards. Does a school board constitute a large enough entity to engage in the purchases suggested? Probably not. Although they may not have experience, expertise, or interest in administering purchases, they have the responsibility for establishing policy regarding any implementation or future role of instructional television.

There's no reason to assume that each village will want entirely unique programming. Some centralized coordination will be needed between the purchasing units even if they are region-sized entities. If coordinated purchasing of such standard school supplies as paper and books takes place, it seems likely that preview and purchasing or contracting of video or other media materials and services might also become part of the structure that is developed.

It is important to note that this recommendation does not imply the design of specific programs by the consumer committees. Their function, as currently envisioned, is to state their programming needs and to judge whether a finished product meets those needs. Optimally, they will be able to choose from competing productions or reject all, if none is satisfactory. It would be desirable for competing programmers to include Native media professionals with village backgrounds, but Native participation in

the programming and production would not be the deciding factor in whether local village control existed. As long as the users have purchasing and policy-making power, they will be able to control the programming available to them regardless of who produces it.

Recommendation 9 (the final of three related to local control) suggests a strategy by which the villages can exercise their control over the daily operational aspects of the system. Such a strategy would provide the ongoing dialogue between programmers and audiences that can keep a programming effort on target.

Recommendation No. 9

Give each rural Alaska village funds for the hiring and training of a Media Manager. The Media Managers must be employees of the villages, not of the State Government.

ESCD/AK showed that if satellite TV programming is to function optimally and responsively, a number of duties must be performed at the village level. The duties are of the following types:

1) information management in two directions: Tell programmers what media services villagers like and do not like, and tell villagers what programs and services are available; 2) activities coordination: Fit adult programming into the social life of the villages, organize interaction, and provide activities for children during adult programming; 3) leadership, especially if the television sets are placed in the village schools; 4) media paraprofessional: Collect and report local news, and organize visits by film crews, et cetera.

The issues addressed by the above list are much larger than satellite television. They encompass all media service to rural Alaska.

For most of us, control of media services is at the knobs of our radio and television sets. For rural Alaska, however, whoever has media access has a virtual monopoly. Therefore, the analogue to our knobs must be for the whole village, and it is appropriate for Alaska villages each to have a media manager (PCI, Vol. I, p. III-112).

GOT emphasizes the need for all sites to make a conscious decision whether to participate. Presumably this means in the system as a whole. It does not seem to allow for the village actively to make smaller decisions in day-to-day or yearly matters. GOT's consumer committee would "... directly involve village users in program design and planning" (GOT, Vol. I, p. 224), but management of the system "... should include a communications advisory board consisting of Native leaders, educators from DOE, ASOSS and BIA" (GOT, Vol. I, p. 232). Those elements as proposed appear to be useful improvements on earlier means of management by educational institutions, and clearly could operate with greater or lesser benefit to the villages, depending on the individuals involved.

The recommendation proposed in this paper substitutes media managers for utilization aides and retains consumer committee representatives. The combination would result in more effective short-term responsiveness and long-range planning. As a paid employee of the village, media managers would be

Recommendation No. 9 (continued)

more responsive and could dedicate more time to making local demands known to the coordinators as well as the consumer committees.

Media managers would fulfill useful roles in soliciting the necessary support from local organizations which EPRC points out is important to the effectiveness of satellite TV in reaching target audiences. They would also provide valuable support in coordinating evaluation efforts which GOT points out must be approached with care. Their responsibilities would include these functions envisioned by GOT but responsible to their constituents.

A recent newspaper article points out that the need for someone to perform some of these functions at the village level already exists. Where the installation of small earth stations has occurred in villages (and there is no local company exchange), RCA has asked village councils to select the location for the one telephone and a person who will be responsible for seeing that the local bill ($35 per month for calls to other villages nearby) plus long distance tolls are paid. No procedure has been developed for generating revenue to pay the person who performs such a responsible function although some villages are paying their attendant.[1] As media services increase, it seems likely that additional responsibilities will develop beyond the point where individuals are willing to perform them as a public service.

GOT's payment of utilization aides was a significant step in the right direction; the earlier ATS-1 education programs had to rely on the willingness and enthusiasm of volunteer efforts of community health aides to publicize programs. Although some of them were enthusiastic about the programs and willing to promote them, it was a drain on time and clearly didn't provide enough local publicity. Perhaps state agencies should continue to offer some payment for local publicity of programs, but the heart of the recommendation is that villages should somehow pay their own media manager.

The revenue will probably have to come from a variety of sources, but some exploration of alternatives should begin immediately.

III. TELEVISION PROGRAMMING FOR RURAL ALASKA

This is the third major category of PCI/CNER recommendations. Two recommendations, No. 10 and 11, relate to strategies for allocating programming resources and two, No. 12 and 13, suggest specific topics and approaches for future programming. These recommendations are not specific to satellite television, but refer to all modes of programming distribution.

Recommendation No. 10

Commitment to broadcast material and commitment of resources to new programming must be separate decisions. The commitment to new programming must be preceded by a survey of available programming.

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[1] "Bush village prompt in paying phone bill," Tundra Times, June 30, 1976.

Recommendation No. 10 (continued)

Adult perceptions of the two children's programs – Basic Oral Language Development ("Amy and the Astros"), and the Health Program ("Right On!") were quite different. "Amy and the Astros" was often perceived and evaluated as a competitor to "Sesame Street," whereas "Right On!" was perceived, especially by teachers, as a significant new addition to village school curriculum. Obviously, there is no sense funding and producing new programming when satisfactory material is already available. The only justification for doing new programming where satisfactory material already exists is the need for 'culturally relevant' programming (PCI, Vol. I, p. III-113).

However, there would be a danger in always establishing the need for new programming based solely on the absence of existing material. If what exists is "barely adequate" by whatever criteria it is judged, and a large quantity of existing material that is only "adequate" is used, the system may become overwhelmed with mediocrity. As the GOT report suggests, "Future program planning for an operational Alaskan satellite network should be approached imaginatively, and not be limited to the standard concepts of television program presentation" (GOT, Vol. I, p. 228).

Recommendation No. 11

If "culturally relevant" programming is the objective, then the appropriate investment is in training Alaska Native media professionals.

Although cultural relevance was an objective of ESCD/AK programming, cultural relevance was not seen by users as a salient feature of the children's programs, especially "Amy and the Astros."

The reasons appear to be as follows: The important dimensions of Alaska Native cultures – and of all cultures – are not just material, but social and behavioral as well. Since the programming, production and broadcasting staff were overwhelmingly non-Native, cultural relevance of children's programming would tend to center only on the 'material' aspects of culture. The method of broadcast, and the invisible perspective from which the broadcaster speaks, may be more important than the obvious message.

It would seem easier to teach programming to people who know the subtleties of Alaska Native cultures than to teach these subtleties to people who know programming. Therefore, to obtain more than trivial cultural relevance, direct participation by Native professionals – not amateurs in an advisory capacity in scriptwriting, casting, acting and directing – is necessary (PCI, Vol. I, p. III-114).

This paper has already discussed the importance of local and regional networks as a means of training Alaska Native media professionals (Recommendation No. 7), but it may be well to offer a reminder that not all programming for rural Alaska must be produced by Natives. The phrase "Alaska Natives" is not a homogeneous concept; neither is all of rural Alaska homogeneously Native. There are many constituencies among this "public," non-Native as well as Native, and it is well to preserve the distinction between culturally relevant programming and locally relevant programming in order for all

Recommendation No. 11 (continued)

elements of this public to be served. The bulk of the foregoing recommendation does not address directly the problem of locally relevant programming beyond what would be interjected by non-Native rural consumer representation.

With sufficient funding for only three program series, ESCD/AK could not experiment with all the program areas in which they were interested. (For example, NIE terminated support for a fourth series in Early Childhood Education.)

The GOT Final Report suggests several future topics, including social studies, Alaska history from the Native viewpoint, adult basic education, vocational education, career development, bilingual broadcasts, high school curriculum, news, Alaskan sports and Alaskan entertainment (GOT, Vol. I, p. 229).

The high school programs seem a particularly important area to develop as the following recommendation points out.

Recommendation No. 12

Telecommunications in rural Alaska should take as its mandate: solution to the "high school problem." Three alternatives for augmenting the village high school curriculum are: materials distribution of already existing programming, teacher-sharing via audio presentations and supervised interaction, and new programming on Alaska Native history.

Sending rural Alaska students to boarding schools in the lower 48 or in population centers in Alaska has had some tragic consequences, and to alleviate the problem some village high schools are being built. However, villages have neither the expertise available nor the educational materials to deliver full quality high school education. Teachers perceive that the pressing need for curriculum augmentation in rural Alaska is at the Junior High and Senior High levels.

A good way to arrive at programming which is responsive to audience needs is to derive the programming in response to specific, serious problems. Therefore, telecommunications in rural Alaska should consider taking as its mandate solution to the 'High School Problem' (PCI, Vol. I, p. III-115).

The final recommendation is related to method of presentation rather than program content and is offered as an example of the way in which the production process must be locally oriented (regardless of the medium) if the product is to be effective.

Recommendation No. 13

Government officials, and other people who affect the lives of rural Alaskans should be interviewed for television transmission in a village setting, in front of a village audience which asks questions and speaks up when they do not understand. (Media Managers must take a leadership role here.)

Recommendation No. 13 (continued)

ESCD/AK has shown that using the current "Alaska Native Magazine" format, non-Native administrators and city Natives do not talk so village audiences can understand. However, it would be throwing the baby out with the bath water to opt for pure entertainment programs, and give up the idea of serious adult programming, such as interviewing of government officials for village viewing.

A solution to the problem of interviewees talking above the heads of village audiences might be to produce the interviews in the villages, using a live audience which asks questions and speaks up when they do not understand.

Live interaction with viewers in other villages would be sacrificed; however, it seems probable that the improvement in conversation would far offset the loss. Perhaps it is more important that the speaker see, hear and feel how the audience is reacting than it is for the entire audience to have the potential (as opposed to the reality) of access to the speaker.

In a cross-cultural situation, perhaps speaker access to a live audience like those he is addressing is more important to good interviews than their access to him (which is limited in any case by the fact that questions can be asked only one at a time) (PCI, Vol. I, p. III-115).

The scope of this recommendation is limited; it is intended merely to reflect a specific finding which comes out of the production process as implemented by ESCD/AK. If Alaska Natives and other rural residents are trained as media professionals, they will undoubtedly devise many other methods to cope with the problem of communicating. Certainly the individuals who participated in ESCD/AK as consumers, designers and producers have many additional tips to offer those who attempt to produce programming for rural residents. Some of that information is documented in the PCI report and is recommended for any future producer who lacks specific experience in producing programs for Alaskans.

FINAL NOTE

Although each project makes an effort to build upon the previous related work, there seems to be a kind of fatalism which says, "We're doing something entirely new and better; not much of the past will apply." In Alaska that view is often made more pessimistic by the belief that Alaska is so unique and its problems so complex, most experience from the lower 48 will not apply. Alaskans often feel more kinship with the less-developed countries than with the population centers of their own country. As is often the case, "The truth lies somewhere in between and not necessarily in the middle."

The list of references which follows is offered in hopes that those working on the development of telecommunications will be aware of how much information exists in printed form. Undoubtedly there is even more information inside the heads of the people who ran the projects, studied them, and wrote the reports. The reports listed are only those which are directly related to the various ATS-6 projects in Alaska. It may be that the project reports from Appalachia and the Rocky Mountains have more to offer. The early ATS-1 projects in Alaska also merit consideration by future planners. Although ESCD/AK clearly incorporated some of the lessons of the ATS-1 education project, the earlier information should not be lost simply because it has been superseded by a more recent effort of a different nature.

This paper does not provide a comprehensive view of all the conclusions and recommendations which have evolved out of ESCD/AK. Some of the recommendations we considered straightforward and noncontroversial, and required no further dialogue to be of value. Their implementation would be seldom disputed. Others, while perhaps needing further discussion, presuppose so strongly a particular kind of system that until further system specifics are known, little light could be shed in this paper. All recommendations, however, should be read critically prior to the conception and design of future systems if such systems are to have any hope of being responsive to the serious communication, education and social needs of rural Alaska.

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ACRONYMS

ALED	Alaska Education (GOT reference to ESCD/AK)
ATS-1	Applications Technology Satellite 1 project (ATS-1 education)
ATS-6	Applications Technology Satellite (Referred to as ATS-F prior to its becoming operational)
CNER	Center for Northern Educational Research
DOE	Department of Education, State of Alaska
ESCD/AK	Education Satellite Communications Demonstration/Alaska
GOT	Governor's Office of Telecommunications, State of Alaska
HET	Health/Education Telecommunications
HEW	Department of Health, Education and Welfare
KUAC-TV	University of Alaska public TV station
NASA	National Aeronautics and Space Administration
NIE	National Institute of Education
NWREL	Northwest Regional Educational Laboratory
PCI	Practical Concepts, Inc.
WAMI	Washington, Alaska, Montana and Idaho Medical Education Program