

ALASKA LEGISLATURE SPECIAL COMMITTEE / SUBJECT FILES 86/2

132 SCOMM 9: HOUSE SPEC. COMM. ON PERMANENT FUND 1977-78 132

CHART PREPARED BY THE SENATE COMMITTEE ON THE PERMANENT FUND
 BASED ON DATA FROM THE ALASKA PUBLIC FORUM MID-YEAR REPORT, MARCH 1977

*Question 1A. How should the Permanent Fund money be invested?
 (asked of Copper River, Southwest, Gulf Coast, Interior and Southcentral only)

Question 1 . How should the state use its new oil and gas money in the future?
 (asked of North and Southeast only)

	Save It	Loan to Communities	Loan for Industrial Dev.	Loans for Renewable Resource Ind.	Loans to Indiv.	Tax Cuts	Rev. Sharing Comm. Grants	State Services	Other
COPPER RIVER REGION	29%	16%	7%	33%	11%				4%
SOUTHWEST REGION	28%	25%	7%	28%	10%				2%
GULF COAST REGION	18%	17%	7%	48%	7%				3%
INTERIOR REGION	28%	11%	10%	36%	9%				6%
SOUTHEAST REGION	14%	6%	4%	32%	4%	17%	14%	4%	6%
NORTH REGION	15%	7%	7%	15%	2%	14%	27%	8%	6%
SOUTHCENTRAL REGION	24%	13%	13%	39%	9%				6%

* Although the North and Southeast Region were not specifically asked about Permanent Fund investments, the response to Question 1 followed the same lines as 1A and was considered worth noting.

Alaska Public Forum
Community Profiles, 1977
As relates to Permanent Fund

Copper River Region: Majority felt Permanent Fund money should be used for renewable resources, i.e. boosting forestry activities, agricultural, fisheries, and recreational use of land, possibly possibly through private enterprise stressing small businesses and the individual businessman. Agriculture was often mentioned as particularly valuable resource and it was suggested that mini-experimental farms be established in each region to demonstrate subsistence; how to grow fruits, etc; how to keep bees; how to repel insects; how to design a compost privy.

Improvements of sewer system roads, and communications surfaced repeatedly. Critical areas of human need focused on education and the elderly

(This meeting was held in Glennallen with representatives from Gakona, Copper Center, Nabesna, Tok, Gulkana and Kenny Lake)

Questionnaire results on Permanent Fund investments (140 respondents)

- 29% Save it
- 16% Loan it to communities
- 7% Loan it for industrial development
- 33% Loan it to develop renewable resource industries
- 11% Loan it to individuals
- 4% Other

Southwest Region: The very strong primary theme at the Public Forum meeting was preserving the subsistence lifestyle. They leaned heavily towards investing Permanent Fund monies into renewable resources and loans to communities - as a key to subsistence. In Aniak there seemed wide-spread agreement that loans should be made to agricultural projects as well as to small businesses in rural communities. Fishhatcheries, fish farming, reindeer herding, and agriculture seen as primary areas for investment. All the communities expressed a need for health care, construction or maintenance of sewer and water systems, reliable electric power, and subsistence life style.

(Meetings were held in Aniak, St. Mary's and Dillingham. Regional meeting held in Bethel with representation from Alakanuk, Eek, Pilot Station, Marshall, Russian Mission, Scammon Bay, Quinhagak, Chefornak, Napakiak, Goodnews Bay, Napaskiak, Tuluksak, Platinum, Manokotak, Emmonak and Tuntutuliak.)

Questionnaire results on Permanent Fund investments (209 respondents)

- 28% Save it
- 25% loan it to communities
- 7% Loan it for industrial development
- 28% Loan it to develop renewable resource industries
- 10% Loan it to individuals
- 2% Other

Gulf Coast Region: Overwhelming concern expressed for future of the fishing industry. There was a strong advocacy for development of renewable resource industries including the need to preserve the character of the untamed land - natural beauty, wildlife and recreational values. The specific areas of concern in the fishing industry included management, hatcheries, free port, bottom fish, employment, national control and cheap energy. A primary concern was for hydro-electric power and many were in favor of allocating substantial state funds

(Gulf Coast Region - continued)

drawn from the Permanent Fund and oil wealth for vigorous research program into the harnessing of solar, wind, tidal and hydro energy. The primary human needs mentioned were education and land for individual housing needs.

(Meetings were conducted in Seward and Kodiak (regional gathering with representatives from 5 villages were present.) Mailings were to Kodiak, Seward, Valdez, Cordova and Yakutat.)

Questionnaire results on Permanent Fund investments (174 respondents)

- 18% Save it
- 17% Loan it to communities
- 7% Loan it for industrial development
- 48% Loan it to develop renewable resource industries
- 7% Loan it to individuals
- 3% Other

Interior Region: The area of primary importance to the individuals in this area is development of renewable resources and as such supported Permanent Fund activity in loans to industries such as agriculture, forestry, fisheries and tourism. Substantial opinion advised saving Permanent Fund money and investing it in Alaskan banks. Seemed some doubt by some as to the loan concept of Fund designed with total repayment assured. (meeting held only in Fairbanks)

Questionnaire results on Permanent Fund investments (720 respondents)

- 28% Save it
- 11% Loan it to communities
- 10% Loan it for industrial development
- 36% Loan it to develop renewable resource industries
- 9% Loan it to individuals
- 6% Other

Southeast Regional Profile: Major concerns of participants were renewable resources, community services, land selections and transportation. The general concensus was to use Permanent Fund monies to develop renewable resource industries and to support community development through loans to communities. In Wrangell, Sitka, Petersburg and Skagway people supported loans for hydroelectric projects and small businesses. Primary needs were stated as education, alcoholism, employment and health. Transportation, fisheries rehabilitation, alternate energy sources and communications are problems that Southeast feels should be considered.

Questionnaire results on investment of oil and gas money (446 respondents)

- 14% Save it
- 6% Loan it to communities
- 4% Loan it for industrial development
- 32% Loan it to develop renewable resource industries
- 4% Loan it to individuals
- 17% Use it for tax cuts for Alaskans
- 14% Use it for revenue sharing and community grants
- 4% Use it for more state services and public facilities
- 6% Other

(Meetings were held in Ketchikan, Wrangell, Petersburg, Juneau, Sitka, Skagway, Haines, Craig, Klawock, Thorne Bay, Angoon, Metlakatla and Hoonah)

North Regional Profile: Primary concerns seemed to deal with their communities, renewable resources and the land. The needs felt to be most important are education, alcoholism, health and employment. Housing was also listed as an important need. Other state problems the participants felt should be addressed include renewable resources & subsistence living, oil and gas exploration, transportation, community development.

Questionnaire results on investment of oil and gas money (133 respondents)

- 15% Save it
- 7% Loan it to communities
- 7% Loan it for industrial development
- 15% Loan it for renewable resource industries
- 2% Loan it to individuals
- 14% Use it for tax cuts
- 27% Use it for revenue sharing and community grants
- 8% Use it for more state services and public facilities
- 6% Other

(Meetings held in Kotzebue, Barrow, Nome, Kivalina, Deering, Shungnak, Kobuk, Gambell, Stebbins, Saint Michael and Unalakleet)

Southcentral Regional Profile: The overall theme was the desire of the people to see more attention placed in the area of renewable resource development. Homer participants see Permanent Fund money used to rehabilitate the fishing industry and develop the areas farming potential. In the Mat-Su Valley primary focus was developing agriculture. Anchorage area respondents indicated fishing as their primary concern for Permanent Fund investment. Education, health care, employment and alcoholism cited as the human needs that need the most attention

Questionnaire results on Permanent Fund investments (1,633 respondents)

- 24% Save it
- 13% Loan it to communities
- 13% Loan it for industrial development
- 39% Loan it to develop renewable resource industries
- 9% Loan it to individuals
- 6% Other - combination of the above

(Meetings were held in Anchorage, Kenai-Soldotna, Homer, Palmer and Talkeetna)

STATEWIDE ANALYSIS

1A. How should the Permanent Fund money be invested? (Based on 5 regions.)

- 26% Save it
- 14% Loan it to communities
- 10% Loan it for industrial development
- 36% Loan it to develop renewable resource industries
- 9% Loan it to individuals
- 5% Other: Miscellaneous bonds and loans, or other methods of saving; health, education, welfare issues.

Number of Responses: 3237

1B. How should the state use its new oil and gas money? (All revenues except those invested in the Permanent Fund.) (Based on 5 regions.)

- 30% Use it for tax cuts for Alaskans
- 6% Use it for cash payments for Alaskans
- 12% Use it for more community revenue sharing and community grants
- 5% Use it for more state services
- 13% Save it by increasing the Permanent Fund
- 4% Loan it to communities
- 5% Loan it for industrial development
- 21% Loan it to develop renewable resource industries
- 3% Loan it to individuals

Number of Responses: 3187

2. What human needs do you think are most important? (Base on all 7 regions.)

- 12% Alcoholism
- 7% Care of Children
- 31% Education
- 7% Programs for the Elderly
- 23% Employment
- 9% Health Care
- 5% Housing
- 6% Other: Law enforcement; improvement of lifestyle; status of women.

Number of Responses: 3809

3. How should public school construction be financed in both organized and unorganized boroughs?
(Based on all 7 regions.)

- 15% 100% State funding through an increase in the State Income Tax
- 13% 100% State funding from a statewide sales tax
- 18% Local property taxes in all areas and supplemental funding where needed
- 34% Continue the present system which provides for property taxes plus supplemental state funding in organized areas, and 100% state funding in unorganized areas
- 20% Other: Sale of resources; local participation

Number of Responses: 3042

4. What should be the primary objective for managing Alaska's land?
(Based on all 7 regions.)

- 8% To raise revenues for the state
- 47% To provide land for people's needs
- 33% To promote renewable resource development
- 10% To promote industrial growth and development
- 2% Other: Land for homesites; homesteading; preserve natural environment.

Number of Responses: 3042

4. What should be the primary objective for managing Alaska's land?
(Based on 5 regions.)

- 6% To raise revenues for the state
- 38% To provide land for people's needs
- 25% To promote renewable resource development
- 8% To promote industrial growth and development
- *19% To preserve the natural environment
- 4% Other: Land for homes, homesteading; to preserve renewable resources.

Number of Responses: 3217

5. What should be the state's policy on future oil and gas lease sales?
(Based on all 7 regions.)

- 2% It should sell leases as fast as possible to bring in a lot of money.
- 58% It should sell leases at a constant pace to assure a steady flow of income for a long period of time.
- 8% It should lease when the state needs large sums of money to meet public needs.
- 18% It should do no further leasing and make the best use of present income.
- 14% Other: More research into environmental and social impacts.

Number of Respondents: 3618

6. What is the best use of Alaska's royalty oil and gas?
(Based on all 7 regions.)

- 16% The state should take its royalties in money or substance to sell for a financial gain.
- 21% The state should use its royalty oil and gas primarily for the purpose of promoting industrial development in the state.
- 45% The state should provide in-state residential use of the royalty oil and gas.
- 18% Other: Different combination of above options.

Number of Responses: 3569

1 Aug 77
D. J. R.

2.4.3

ROWAN GROUP INC.

Public Participation
in
The Surplus Wealth
Question

+

An Information Process

+

by Michael Rowan
1007 Melaleuca
Mill Valley California
94941

I. The Situation

The State Government must decide sometime in early 1978 how it wishes to use surplus wealth. As a matter of principle, the government wishes to stimulate a public dialogue on the issue, for the following purposes: | 6

°To maximize public participation in this monumental decision.

°To increase the information available to the public on the issue, so that their opinions are informed.

°To permit persons most likely to be affected by the government decision to play a significant role in its formulation.

°To discover a consensus if one exists.

°To enhance the power of the public in making government decisions, and to use modern communications techniques to do so.

II. Tools

There are only two major kinds of tools in a public dialogue process, tools for listening and tools for talking. With the exception of the telephone, no modern communications tool provides for equal control of listening and talking process; and the telephone is restrictive to a few people.

Therefore, it is necessary to develop a mix of tools to guarantee adequate listening and appropriate talking, over the period of the dialogue (April, 1977 to January, 1978).

The listening tools available are survey research, which has the feature of being representative; letters, mailgrams, telephone calls, and personal witness (hearings), which have the feature of being in-depth.

The talking tools available are television, radio, and newspaper; and combinations of these; and telephone in conjunction with the electronic media.

III. Sequencing

The nature of a dialogue is to swing from a listening mode to a talking mode to a listening mode, etcetera. As a function of the process, the purposes of the dialogue are accomplished.

It is impossible to predict the likely "content" of the communications, or the likely effect on public policy. It is absolutely indeterminate. The process is established to let as much information flow through as possible, at the convenience of the public.

The following tables indicate a potential plan to accomplish this.

Table one: A Time Chart for the Information Process

[illegible]

Table two: Explanation of each item

- (1) Management. Estimate the need for one manager and one secretarial person in a small office in Anchorage.
- (2) Survey Research. Two major surveys followed by a short summary; final report incorporates developments from all three surveys over time. All surveys are published.
- (3) 5-minute radio program, produced to describe the nature of the problem and what people can do about it; announces the dialogue and shows the public how to participate.
- (4) Two 60" TV spots and two 30" radio spots are provided to all TV and radio stations, for public service time, to run from September 1 to December 31. These spots are used to inform the public of the dialogue and stimulate their involvement and feedback.
- (5) 100,000 tabloids are produced, either 4-side or 8-side tabloid newspaper, describing the problems, alternatives, etc. This is produced over a four month period and then printed and distributed in September.
- (6) A radio news feed operation is established for three months, delivering a story to each radio station in the state, just about every day, for the 90-day period.
- (7) The TV phone-in film + "live" one-hour program, described in detail in the attachment. The show runs in Anchorage, Fairbanks and Juneau, successively, in the three months, "live"; all television stations are given dubs in areas appropriate.

(8) Mailgram feedback, an arrangement made with RCA for feedback on major questions raised in the TV program or in the hearings running in the same time period.

(9) Newspaper advertising is taken before and after the hearings and/or TV program, either to promote the program and build audience, or to stimulate mailgram feedback.

(10) A professional must be assigned the task of handling general press and feedback paperwork created by this dialogue; it's a full time job.

(11) Three sets of hearings are run in coordination (or by) the Public Forum, in September, October and November. The hearings in Anchorage, Fairbanks and Juneau coincide with the major TV program on the same subject.

(12) The hearings/TV program situation is filmed and two major stories for television are distributed to TV news statewide, datelined Anchorage, Fairbanks and then Juneau.

(13) Staff will coordinate guests on the live radio call-in shows in each major community during the September-December period.

(14) A TV town meeting, (described elsewhere) provides statewide maximum input at the end of the process.

+++.

Table three: Estimated budget

Based upon the previous descriptions, and using the same identification numbers, here is an estimate of the budget needed for each line item:

- (1) \$45,000
- (2) 21,000
- (3) 3,000 (production, dissemination)
- (4) 7,000 (production, duplication)
- (5) 5,500 (production, printing)
- (6) 5,500 (fee plus travel)
- (7) 12,000 Anchorage
8,000 Fairbanks (production)
8,000 Juneau
- (8) RCA arrangement (?)
- (9) 5,000 (production and space)
- (10) 16,000 (salary)
- (11) Public Forum contract
- (12) 9,000
- (13) No cost
- (14) 10,000 plus satellite hookup, if feasible
- 20,000 for contractual services not anticipated.
- 15,000 for overhead.

\$190,000 estimated total budget for information process, without Public Forum contract or RCA arrangement.

PROPOSAL

ROMAN GROUP INC.

Concept: To produce a model television journalism program for Alaska which utilizes the best in technology and the most creative news format possible in the state.

Purpose: To prove that modern, creative electronic journalism is possible and economic in Alaska; to bring significant longrange public problems to the attention of Alaskans; to create a dialogue between the government and the people on these problems; to demonstrate to Alaska commercial TV stations that such programs are needed by, useful to, and appreciated by, the public.

Program: The program will involve the use of film but will be aired in prime time on the public television station in Anchorage. Based upon for format of the AM-San Francisco show, the program will show some film clips and open a discussion with the governor of Alaska, who, after interviewing, will be open to calls from the viewing audience. Some long-distance calls will be planned and informed sources from out of state brought into the dialogue.

Impact: The program will be heavily advertised beforehand by newspaper and radio. After the program is aired, a telephone survey will be conducted to gauge citizen (viewer) response. The newspapers will run a short questionnaire for mail-feedback the day after the program, which results will be published. The strategy is to secure approximately half the viewing audience in prime-time (ideally), thus proving to the commercial stations that creatively produced news-format programs can achieve high ratings in prime-time.

Additional impact: The show will be offered to all public and commercial stations in Alaska and will thus achieve a statewide effect for the stated purposes.

Program subject: Alternative ideas on how Alaska should distribute its wealth to the people. The basic philosophic difference between the distribution of stock/cash versus the expansion of criteria programs will be revealed by statements filmed previously. The governor will then be interviewed by two on-camera hosts; then, film and phone-in comments will heat the dialogue. Finally, viewers will be encouraged to fill out the newspaper feedback ad in the following day's newspaper.

Time of program: Proposed for the first week of April, so that this feedback can inform the Legislature and the governor prior to the end of the 1977 session. Proposed also: 8pm on a Wednesday night -- one of the hardest prime time television slots to crack in the commercial market. Length, one hour.

Production team:

Producer, Michael Rowan
Director, Eli Bleich
Production crew, KAKM
Production Studio, KAKM
Studio design, Eli Bleich
Advertising, Phyllis Bradner
Survey design, W. Jack Peterson
Scripting, Michael Rowan
On-Camera Hosts, Francine Lastufka and
Michael Rowan.

Proposal, 3

ROTHMAN GROUP INC.

<u>Budget:</u>	Film material	\$5,000.00
	Producer (time)	1,500.00
	Director (time)	2,000.00
	Advertising time, space	1,300.00
	Radio production, graphics	1,000.00
	Telephone hookups	900.00
	Survey costs	1,000.00
	Miscellaneous production costs	1,500.00
	Travel, expenses in production	800.00
		\$15,000.00

<u>Contributions:</u>	KAKM crew time	
	KAKM studio	
	KAKM airtime	
	Total value (est.)	5,000.00

Background: Experience and background of the production team can be added to the proposal.

PLEASE NOTE: THE PRECEDING PAGES WERE TREATED
AS A UNIT IN THE ORIGINAL DOCUMENT.

PF:

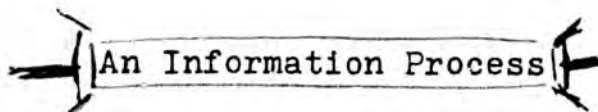
ROWAN GROUP INC.

consultant



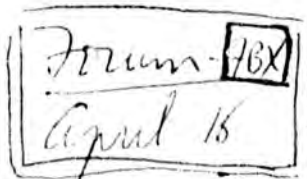
Public Participation
in
The Surplus Wealth
Question

+



+

by Michael Rowan
1007 Melaleuca
Mill Valley California
94941



Dave Kline
La Rosh

I. The Situation

The State Government must decide sometime in early 1978 how it wishes to use surplus wealth. As a matter of principle, the government wishes to stimulate a public dialogue on the issue, for the following purposes:

°To maximize public participation in this monumental decision.

°To increase the information available to the public on the issue, so that their opinions are informed.

°To permit persons most likely to be affected by the government decision to play a significant role in its formulation.

°To discover a consensus if one exists.

°To enhance the power of the public in making government decisions, and to use modern communications techniques to do so.

II. Tools

There are only two major kinds of tools in a public dialogue process, tools for listening and tools for talking. With the exception of the telephone, no modern communications tool provides for equal control of listening and talking process; and the telephone is restrictive to a few people.

Therefore, it is necessary to develop a mix of tools to guarantee adequate listening and appropriate talking, over the period of the dialogue (April, 1977 to January, 1978).

The listening tools available are survey research, which has the feature of being representative; letters, mailgrams, telephone calls, and personal witness (hearings), which have the feature of being in-depth.

The talking tools available are television, radio, and newspaper; and combinations of these; and telephone in conjunction with the electronic media.

III. Sequencing

The nature of a dialogue is to swing from a listening mode to a talking mode to a listening mode, etcetera. As a function of the process, the purposes of the dialogue are accomplished.

It is impossible to predict the likely "content" of the communications, or the likely effect on public policy. It is absolutely indeterminate. The process is established to let as much information flow through as possible, at the convenience of the public.

The following tables indicate a potential plan to accomplish this.

Table one: A Time Chart for the Information Process

ITEM	April	May	June	July	August	September	October	Novem	December	
(1) Management (recruit)										
(2) Survey research	Field.....Report				Field.....Report				Field..Report	
(3) 5 minute radio program			Produce	air						
(4) 2 TV spots 60" 2 radio, 30"			Produce	air						
(5) 100,000 tabloids	Produce.....		///Print,Distribute...							
(6) Radio news feed										
(7) TV/phone-in film +"live" 1-hr show				X		X		X		
(8) Mailgram feedback				x		x		x		
(9) Newspaper advertising				x		x		x		
(10) General press and feedback operation										
(11) Hearings process				X		X		X		
(12) Television news feed				x	x		x	x		
(13) Radio call-in shows				...		...		...		
(14) TV Town Meeting										X

Table two: Explanation of each item

- X (1) Management. Estimate the need for one manager and one secretarial person in a small office in Anchorage. 45,000
- Rowan (2) Survey Research. Two major surveys followed by a short summary; final report incorporates developments from all three surveys over time. All surveys are published. 21,000
- House + Senate staff (3) 5-minute radio program, produced to describe the nature of the problem and what people can do about it; announces the dialogue and shows the public how to participate. 3,000
- McGraw-Hill Alaska Review Rowan (time buy?) (4) Two 60" TV spots and two 30" radio spots are provided to all TV and radio stations, for public service time, to run from September 1 to December 31. These spots are used to inform the public of the dialogue and stimulate their involvement and feedback. 7,000
- House + Senate staff w/ graphics consultant (5) 100,000 tabloids are produced, either 4-side or 8-side tabloid newspaper, describing the problems, alternatives, etc. This is produced over a four month period and then printed and distributed in September. August 5,500
- House + Senate staff (6) A radio news feed operation is established for three months, delivering a story to each radio station in the state, just about every day, for the 90-day period. 5,500
- Rowan July, August, Sept? Aug/Sept/Oct? (7) The TV phone-in film + "live" one-hour program, described in detail in the attachment. The show runs in Anchorage, Fairbanks and Juneau, successively, in the three months, "live"; all television stations are given dubs in areas appropriate. 12,000 Anch 8,000 FBks 8,000 June 28,000

- (8) Mailgram feedback, an arrangement made with RCA for feedback on major questions raised in the TV program or in the hearings running in the same time period. ?
- (9) Newspaper advertising is taken before and after the hearings and/or TV program, either to promote the program and build audience, or to stimulate mailgram feedback. 5,000
- (10) A professional must be assigned the task of handling general press and feedback paperwork created by this dialogue; it's a full time job. 16,000
- (11) Three sets of hearings are run in coordination (or by) the Public Forum, in September, October and November. The hearings in Anchorage, Fairbanks and Juneau coincide with the major TV program on the same subject. Public Forum
- (12) The hearings/TV program situation is filmed and two major stories for television are distributed to TV news statewide, datelined Anchorage, Fairbanks and then Juneau. 9,000
- (13) Staff will coordinate guests on the live radio call-in shows in each major community during the September-December period.
- (14) A TV town meeting, (described elsewhere) provides statewide maximum input at the end of the process.

10,000 + satellite

+++

\$29,000 contractual
\$15,000 overhead

\$190,000 + AP Forum

graphics
+ space buy

House & Senate
staff

need some
more

ok.
Review - CCB
Rowan

House &
Senate staff

Table three: Estimated budget

Based upon the previous descriptions, and using the same identification numbers, here is an estimate of the budget needed for each line item:

- (1) \$45,000
- (2) 21,000
- (3) 3,000 (production, dissemination)
- (4) 7,000 (production, duplication)
- (5) 5,500 (production, printing)
- (6) 5,500 (fee plus travel)
- (7) 12,000 Anchorage
8,000 Fairbanks (production)
8,000 Juneau
- (8) RCA arrangement (?)
- (9) 5,000 (production and space)
- (10) 16,000 (salary)
- (11) Public Forum contract
- (12) 9,000
- (13) No cost
- (14) 10,000 plus satellite hookup, if feasible
- 20,000 for contractual services not anticipated.
- 15,000 for overhead.

\$190,000 estimated total budget for information process, without Public Forum contract or RCA arrangement.

PROPOSAL

ROWAN GROUP INC.

Concept: To produce a model television journalism program for Alaska which utilizes the best in technology and the most creative news format possible in the state.

Purpose: To prove that modern, creative electronic journalism is possible and economic in Alaska; to bring significant longrange public problems to the attention of Alaskans; to create a dialogue between the government and the people on these problems; to demonstrate to Alaska commercial TV stations that such programs are needed by, useful to, and appreciated by, the public.

Program: The program will involve the use of film but will be aired in prime time on the public television station in Anchorage. Based upon for format of the AM-San Francisco show, the program will show some film clips and open a discussion with the governor of Alaska, who, after interviewing, will be open to calls from the viewing audience. Some long-distance calls will be planned and informed sources from out of state brought into the dialogue.

now about legislature?

Impact: The program will be heavily advertised beforehand by newspaper and radio. After the program is aired, a telephone survey will be conducted to gauge citizen (viewer) response. The newspapers will run a short questionnaire for mail-feedback the day after the program, which results will be published. The strategy is to secure approximately half the viewing audience in prime-time (ideally), thus proving to the commercial stations that creatively produced news-format programs can achieve high ratings in prime-time.

Additional impact: The show will be offered to all public and commercial stations in Alaska and will thus achieve a statewide effect for the stated purposes.

Program subject: Alternative ideas on how Alaska should distribute its wealth to the people. The basic philosophic difference between the distribution of stock/cash versus the expansion of criteria programs will be revealed by statements filmed previously. *why only Governor?* The governor will then be interviewed by two on-camera hosts; then, film and phone-in comments will heat the dialogue. Finally, viewers will be encouraged to fill out the newspaper feedback ad in the following day's newspaper.

Time of program: Proposed for the first week of April, so that this feedback can inform the Legislature and the governor prior to the end of the 1977 session. Proposed also: 8pm on a Wednesday night -- one of the hardest prime time television slots to crack in the commercial market. Length, one hour. *best at beginning of session*

Production team:

Producer, Michael Rowan
Director, Eli Bleich
Production crew, KAKM
Production Studio, KAKM
Studio design, Eli Bleich
Advertising, Phyllis Bradner
Survey design, W. Jack Peterson
Scripting, Michael Rowan
On-Camera Hosts, Francine Lastufka and Michael Rowan.

Proposal, 3

ROMAN GROUP INC.

<u>Budget:</u>	Film material	\$5,000.00
	Producer (time)	1,500.00
	Director (time)	2,000.00
	Advertising time, space	1,300.00
	Radio production, graphics	1,000.00
	Telephone hookups	900.00
	Survey costs	1,000.00
	Miscellaneous production costs	1,500.00
	Travel, expenses in production	800.00
		\$15,000.00

<u>Contributions:</u>	KAKM crew time	
	KAKM studio	
	KAKM airtime	
	Total value (est.)	5,000.00

Background: Experience and background of the production team can be added to the proposal.

May 12th 1977

ROWAN GROUP INC.

Mr. Brian Rogers
% Rep. Clark Gruening
The Alaska Legislature
State Capitol
Juneau, Alaska

Dear Brian,

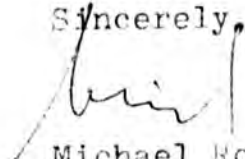
I have been out of state since we talked about the surplus funds information effort, and wonder what, if anything, has been done about it.

With proper planning, I believe the process could be coordinated so that it guarantees a meaningful effect with the Alaska public.

In the next ten days I will be preparing to come to Alaska (probably Anchorage and Juneau) and if it would serve any purpose, I could meet with you and Clark or others on the subject, if you think it is appropriate.

I am at 415 383 3160 in the meantime, where messages are taken 24 hours a day.

Sincerely,


Michael Rowan
1007 Melaleuca
Mill Valley, California 94941

Hello, I am _____, working with an independent research company (show i.d.) with a number of questions for Alaska residents. Your responses are gathered together with others and studied by those who run our state government.

Are you a resident of Alaska? (IF NO, TERMINATE INTERVIEW).

Let's begin with this (SHOW CARD 1) This is a list of possible goals or objectives for the state of Alaska. What do you think about them?

	<u>Very Much Favor</u>	<u>Favor Some</u>	<u>Dis- favor some</u>	<u>Dis- favor</u>	<u>Don't Know</u>
01. Full employment of Alaskan residents.	1	2	3	4	5
02. Low-cost energy distribution for individual and business use.	1	2	3	4	5
03. A statewide communications system serving all residents.	1	2	3	4	5
04. Maintenance of the frontier character of Alaska.	1	2	3	4	5
05. The best school system in the United States.	1	2	3	4	5
06. The lowest crime rate in the United States.	1	2	3	4	5
07. The highest family income in the United States.	1	2	3	4	5
08. Full profit from Alaska's public resources.	1	2	3	4	5
09. Efficient, integrated transportation system serving all regions of the state.	1	2	3	4	5

		<u>Very Much Favor</u>	<u>Favor Some</u>	<u>Dis- favor some</u>	<u>Dis- favor</u>	<u>Don't know</u>
10.	Strengthening the fishing and timber industries and lifestyles in the state.	1	2	3	4	5
11.	Sharing of Alaska's wealth with any Americans who wish to migrate and take up citizenship here.	1	2	3	4	5
12.	Protect the Alaskan environment.	1	2	3	4	5
13.	Eliminate poverty.	1	2	3	4	5
14.	Can you think of other objectives not named here which you feel very positive about, as a goal for the state of Alaska?					
15.	(And if so) What are they?					

16. Is the State pursuing the goals you have indicated or not?

- 1 State is pursuing goals as stated
- 2 State is not
- 3 Don't know

In some way the present state budget is a reflection of the goals and values of the State of Alaska (SHOW CARD 2). Here is the budget and how it's being spent. WITHOUT CONSIDERING HOW MUCH IS BEING SPENT, please tell me what percentage you would assign to each category, as if you were planning the budget. (Total must add to 100%)

ROWAN GROUP INC.

17.	EDUCATION (elementary and secondary schools, services, etc.)	37%	_____
18.	UNIVERSITY OF ALASKA	7%	_____
19.	SOCIAL SERVICES (manpower, alcoholism, drug abuse, pioneers, longevity bonus, etc.)	6%	_____
20.	HEALTH (mental health, public assistance, public health, welfare, etc.)	5%	_____
21.	RESOURCES (fish & game management, parks, environmental protection, etc.)	6%	_____
22.	PROTECTION (consumer protection, regulatory commissions, rescue, disaster, military, civil defense, etc.)	2%	_____
23.	JUSTICE (state police, courts, prisons, delinquency, victim compensation, etc.)	10%	_____
24.	DEVELOPMENT (Tourism, community aid, revenue sharing, Native claims payments)	6%	_____
25.	TRANSPORTATION (airports, highways, marine ferries, public works, etc.)	15%	_____
26.	GENERAL GOVERNMENT (administration, executive, legislative, legal, etc.)	6%	_____
TOTAL-----		100% =	100%
27.	Where would you specifically increase the state budget to meet new needs (if anywhere)?		
28.	_____		

29. Here are three state budgets (SHOW CARD #3) which are possible this year. One way or another, the state could probably come up with money for each of them. Tell me which budget you prefer and why.

(A) A SMALLER BUDGET

\$600 million budget, cuts back on virtually all services such as roads, schools, health care, and so on and also reduces the number of state employees.

(B) A MAINTENANCE BUDGET

\$800 million budget, retains the present level of state services and permits employee pay increases to meet inflation.

(C) AN EXPANDED BUDGET

\$1 billion budget, where government services expand at the same rate as the last four or five years (which is about 12% per year), and where normal accrued benefits and increases are permitted to state employees.

30. (IF "A" IS CHOSEN) Why do you choose that budget?

31. (IF "B" IS CHOSEN) Why do you choose that budget?

32. (IF "C" IS CHOSEN) Why do you choose that budget?

33. Do you think Alaska should continue to seek as much federal money as possible for programs such as highway building, fish and game management, etc., or should we make an effort to become less dependent on federal money?

- 1 Seek federal funds
- 2 Less dependent
- 3 Don't know

34. Who has the major responsibility for determining the size of the state budget as you see it -- the governor or the Legislature?
- 1 Governor
 - 2 Legislature
 - 3 Both equal
 - 4 Don't know
35. Representatives of public employees and the state have recently agreed to a 5% pay increase; what is your opinion of the agreement?
- 1 OK
 - 2 Too much of an increase
 - 3 Would give no increase
 - 4 Too low of an increase
 - 5 Other _____ (specify)
36. Obviously, payments to public employees make up a large portion of the state budget. Do you favor fixing the budget amount for employees to a maximum percentage part of the budget (And if "yes") What percentage level would you set?
- _____
37. Over the next ten years, the state government will receive billions of dollars in additional revenue from oil and gas taxes. Should the state consider this revenue as capital -- for investment only -- or as income -- for public spending (as in the present budget - Card #2)
- 1 Capital
 - 2 Income
 - 3 Don't know

38. Here are two ways involving Alaska resident participation in the taxation and spending questions in state government. Which one do you prefer? (SHOW CARD #4)

(A) The state receives revenue from all sources (income taxes, oil & gas taxes, earnings from the permanent fund, etc) and allocates the money through the Legislature.

(B) The state receives the same revenue from the same sources, but returns a portion of the earnings of the permanent fund to the people of Alaska, and, if more revenue is needed, must ask the public for an increase in the income tax or other taxes.

39. (IF "A") Why do you choose that method?

40. (IF "B") Why do you choose that method?

41. Soon after Alaska's permanent fund is established, it will have assets of billions of dollars from the oil revenue. What should be done with those assets?

42. Which goal is more important to you in the management of the permanent fund?

- 1 The permanent fund should be managed to assist Alaska directly through low-interest loans for such things community development, fisheries enhancement, etc.
- 2 The permanent fund should be managed to assist Alaska indirectly through making high-interest investments outside (like in the stockmarket); and the interest should then be used as loans or actual expenditures to meet Alaskan needs.
- 3 Don't know

43. How much money should go into the permanent fund, as you see it? Should the policy be: (SHOW CARD #5)
- 1 To put as little as possible in it
 - 2 To put as much as possible in it
 - 3 To put whatever amount is surplus after meeting the goals of increasingly larger annual budgets
 - 4 To put whatever amount is surplus after meeting the goal of reducing annual budgets to the lowest possible amount.
 - 5 Other _____ (please specify)
 - 6 Don't know
44. Those assets in the permanent fund should maintain significant annual earnings, running into the millions each year. What should be done with the earnings? (SHOW CARD #6).
- 1 Add to the permanent fund
 - 2 Put it into loan programs
 - 3 Increase state spending
 - 4 Give the money to Alaska residents
 - 5 Use it to pay off bond obligations
 - 6 Other _____ (specify)
45. One proposal is to make every citizen of Alaska a stockholder in a public corporation where the earnings from the permanent fund would be paid out as a dividend annually to each stockholder. What do you think of that proposal?
- _____
- _____
46. Do you agree or disagree with the idea that a portion of the earnings (only) from the permanent fund should be distributed as stock or money directly to the Alaska people?
- 1 Agree
 - 2 Disagree
 - 3 Unsure
47. How do you feel about the alternative idea that the earnings in the permanent fund should be added to the total used by the government in its annual budget process (as in Card #1).
- 1 Agree
 - 2 Disagree
 - 3 Unsure

48. Do you have any other ideas about how the earnings from the permanent fund could or should be used?
-
-

49. More and more people have been coming to Alaska in recent years. Do you view this as a trend the state should...

- 1 Actively encourage
- 2 Actively discourage or
- 3 Not get involved in
- 4 Don't know

50. How do you feel about offshore oil development here compared to other areas of Alaska:

- 1 Believes offshore development should be considered almost everywhere before it is considered for this area.
- 2 Believes that this area is equal to most others and if oil appears to be present, development here would be all right.
- 3 Believes that this area should be considered first or in an early priority for offshore development.

51. If a state facility such as an airport, ferry or museum, can earn money in its operation -- how should it initially be paid for? From...

- 1 New or additional taxes
- 2 Bonds
- 3 General fund
- 4 User fees
- 5 Other: _____ (specify)
- 6 Don't know

In terms of public participation and major problems in Alaska, let me raise two possible topics for evaluations of this type. Give me your reaction to each one.

52. A complete re-evaluation of the University of Alaska, its size, services, budget, what Alaskans want from it and what they are getting, new directions, policy, and so on.
- 1 High priority
 - 2 Moderate priority
 - 3 Evaluation should be done but other problems are more important for public participation
 - 4 Evaluation can be done by the University itself,
 - 5 ... or need not be done.
 - 6 Other reaction _____ (specify)
 - 7 Don't know
53. A complete re-evaluation of how the state police spend their budget and time, how they make decisions about what kinds of problems to investigate, and how all this relates to crime in Alaska and the public need.
- 1 High priority
 - 2 Moderate priority
 - 3 Evaluation should be done but other problems are more important for public participation
 - 4 Evaluation can be done by the police themselves,
 - 5 ... or need not be done
 - 6 Other reaction _____ (please specify)
 - 7 Don't know

"Now I would like to ask you some related questions exactly as they are being asked by the Public Forum, in town meetings around Alaska. (GIVE RESPONDENT THE PUBLIC FORUM QUESTIONNAIRE).

AFTER COMPLETION OF THE PUBLIC FORUM QUESTIONNAIRE, SAY:

"Now I have just a few questions about yourself, for statistical purposes:"

54. Are you...
- 1 Employed
 - 2 Unemployed
 - 3 A student
 - 4 A house/wife/husband/person
 - 5 Retired

55. How many years have you lived in Alaska?
- 1 All life
 - 2 Over 10 years
 - 3 5 - 10 years
 - 4 Less than five years
56. What is the last level of education you completed?
- 1 Incomplete high school
 - 2 High school graduate
 - 3 Incomplete college
 - 4 College graduate or beyond
57. Into which of the following categories does the total family income here fall?
- 1 Under \$6,000
 - 2 \$6,000 - \$13,000
 - 3 \$13,000 - \$25,000
 - 4 \$25,000 or more
 - 5 Refused (DO NOT VOLUNTEER THIS OPTION TO RESPONDENT)
58. How many people live in this household?
- 1 One
 - 2 Two, three, four
 - 3 Five or more
59. Are you a registered Alaska voter?
- 1 Yes
 - 2 No
 - 3 Not sure
60. Age
- 1 16 - 25
 - 2 26 - 39
 - 3 40 - 59
 - 4 60+
61. Sex
- 1 Male
 - 2 Female
66. Location
- 1 Anchorage
 - 2 Fairbanks
 - 3 Juneau, Ketchikan, Sitka, etc.
 - 4 Palmer, Wasilla, Kenai, Kodiak, etc.
 - 5 Dillingham, Bethel, Nome, etc.

V A L I D A T I O N

Respondent's Name

Address

Phone

Interviewer

Rowan Group Staff only:

Validated

date

SCOMM

#9:36

From: Dr.E.F.Schumacher, C.B.E.

HOLCOMBE
WEALD WAY
CATERHAM
SURREY

Tel. Caterham 42506

2nd April, 1977.

Mr. Brian Rogers,
Administrative Assistant,
Alaska Permanent Fund Committee,
Pouch V,
Juneau,
AK 99811.

Dear Mr. Rogers,

On my return from the United States, I found your letter of 3rd March. Thank you very much for writing to me.

Your searching for people, as well as organisations, to advise Alaska on investigating and determining the goals, objectives, and structure of the Alaska Permanent Fund: The first person I should suggest you to have a look at is Mr. Peter Gillingham, of Intermediate Technology, 556 Santa Cruz Avenue, Menlo Park, California 94025. I have just spent more than 6 weeks travelling with him through the US.

Although I am many thousands of miles away, I should be very happy to let you have my own views and ideas if they should be desired by you. But there is little I can suggest that is not perfectly well-known to Mr. Gillingham.

With best wishes,

Yours sincerely,



Alaska State Legislature

Representative
CLARK GRUENING
940 Tyonek Drive
Anchorage, Alaska
99501
907-274-2446



Chairman
SPECIAL COMMITTEE ON
THE ALASKA PERMANENT FUND
Chairman
WAYS and MEANS SUBCOMMITTEE
Member
FINANCE COMMITTEE
LEGISLATIVE COUNCIL

House of Representatives

March 8, 1977

POUCH V JUNEAU 99811

E.F. Schumacher
Holcombe, Weald Way
Chatterham, Surrey
CR36EP England

Dear Dr. Schumacher:

The Legislature of the State of Alaska is currently considering alternatives for the use of the resources and capital of the state, in an attempt to determine the course of future development of the state.

Alaska is similar, in many respects to the world's underdeveloped nations. The one urban center, Anchorage, comprises approximately one-half of the state's 400,000 population, and highest per capita income in the world. The remainder of the state could be characterized as rural, containing wide differences in climate, topography, race and regional economics.

Alaskan's economy has followed a very traditional American path--a highly technological, massive investment approach resulting in massive exportation of capital as well as natural resources. Your analysis in "Small is Beautiful" suggests that something other than the traditional approach may be appropriate for Alaska. In seeking advice on developing a better economic model for Alaska, I have asked my administrative assistant to contact you to see if you would be interested in working on alternatives for Alaska. (The March 3, 1977 letter from Brian Rogers.)

I will be sending you several maps and publications about Alaska, to give you a better view of the problems we face and the resources we have to solve the problems. Please feel free to contact us at any time, or to submit a proposal for consulting services to the Legislature.

Sincerely,


Rep. Clark Gruening

PLEASE NOTE: THE FOLLOWING PAGES WERE TREATED
AS A UNIT IN THE ORIGINAL DOCUMENT.

intermediate technology Development Group Ltd

9 King Street, London WC2E 8HN, U.K.

Telephone: 01-836 9434/39; 836 6379

Cables: IT/DEV, LONDON WC2

Company Reg. No. 871954

Vice Presidents: J. C. Cadbury, H. Hanning

Dr. Dudley Seers, Sir George Sinclair, CMG, OBE, MP.

3rd May, 1977

Mr. Brian Rogers,
Administrative Assistant
Alaska Permanent Fund Committee,
Alaska State Legislature House,
Juneau,
Alaska.

Dear Mr. Rogers,

Thank you for your letter dated 22nd March, which has only just reached this office. My colleagues and I are very interested in, and welcome proposals by the State of Alaska to invest in renewable resources and alternative energy development, with consideration being given to the application of intermediate technology concepts. We hope that we may be associated in some way with these plans.

I enclose some literature concerning the Intermediate Technology Development Group. From this you will see that we are a limited company registered as a charity in the United Kingdom. Our overall objective is to provide developing countries with information on available small-scale technology options which may be appropriate to their needs and, where requested, to help introduce these technologies through field projects and consultancies. We have a small core of professional staff in the UK, with project officers and consultants working overseas, as the need arises. We are advised and assisted by a number of voluntary technical panels consisting of some 250 professional engineers, economists and administrators who give their service freely to the Group because they are committed to the concept of intermediate technology. Most of our panel members, many of whom have had considerable experience of developing countries, come from professional or academic institutions concerned with technology and, through them, the Group is linked into and can often draw upon the resources of these institutions.

The Group undertakes a number of activities. It collects, analyses and publishes information about appropriate, small-scale technologies; it responds to specific technical enquiries through the panels and through links with industry in Britain and elsewhere; it undertakes programmes of research and

Cont....

development, to fill identified gaps in technology and carries these into production, either in the UK or - preferably - in developing countries themselves, through its field projects and consultancies. To assist in these activities, the Group has established three wholly-owned subsidiaries :

- (i) I.T. Publications Ltd., which prepares, publishes and distributes our literature, including a quarterly journal "Appropriate Technology" which acts as a practical forum for the exchange of ideas, principally among field workers;
- (ii) I.T. Services Ltd., which operates our consultancy service on a commercial basis;
- (iii) Development Techniques Ltd., which arranges for the manufacture and marketing of hardware developed or identified by the Group, or the procurement of appropriate hardware requested by overseas clients.

The Group has been commissioned by various international and national government and other organisations to give advice, conduct seminars or undertake projects on their behalf.

More recently, there has been a growing interest in the application of intermediate technology concepts to the problems of industrialised economies. As you will be aware, public opinion in Britain, the States and elsewhere is becoming increasingly concerned with the effects of large-scale, capital-intensive production systems which are based upon the cheap availability of - now rapidly dwindling - fossil fuel supplies; they are looking for alternatives which will ease the problems associated with the organisation of production, create new employment opportunities and give greater job satisfaction but which will reduce the present unacceptable levels of demand upon non-renewable resources.

Although the Group's main thrust continues to be towards the Third World, it has responded to increasing pressure from industrial nations to give advice and guidance. In North America, this has taken the form of visits, consultancies and services mounted on behalf of specialist government and non-government organisations. In Britain, the Group has established a special post with a senior consultant to stimulate and co-ordinate various initiatives leading towards the greater use of more appropriate technologies in the urban industrial environment. In doing so, we are trying to relate the experience gained in the Third World

Cont....

to the more intractable problems of industrial societies.

I enclose a short description of this project together with a recent paper prepared by the consultant, Mr. John Davis, because I believe that his background to the task will be of particular interest to you. His past experience in the petroleum industry has made him very aware of the need to foster the more economical use of material and energy resources, and to develop small enterprises which will utilise these resources more efficiently, create a more flexible system of employment and give greater job satisfaction. You may wish to consider whether Mr. Davis, together with one of our associates with direct experience of problems in rural communities would not form a useful team to assist you in planning later this year.

You have asked for information concerning the establishment of intermediate technology centres. In furtherance of our doctrine of self-help we seek to encourage developing countries to look increasingly to their own technological resources to tackle local problems at first hand, without necessarily having to rely upon foreign organisations such as ours, which are so far removed from the source of the problem. However, conventional academic and research institutes, particularly in these countries, are seldom geared to identifying problems and finding practical solutions to them, or to being able to translate the results of their work into production programmes. For this reason, we have advised and assisted developing countries to establish IT Centres to act as the focus for local technology development and application, using the resources of local institutions where appropriate.

A number of countries have already established IT Centres, including Ghana, India, Pakistan and Sri Lanka; others, in Colombia, the Caribbean and elsewhere are planning to do so. The organisation, staffing and specific objectives of these Centres varies according to local needs and perceptions but, generally, they are concerned with identifying local intermediate technology problems and applying appropriate solutions to them by :

- (i) collecting and making available information on appropriate technologies;
- (ii) initiating research and development to match the appropriate technologies to local needs; and
- (ii) helping to translate the results into practical programmes.

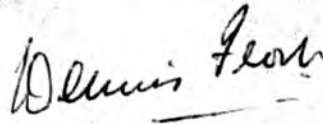
I hope that the foregoing, together with the enclosed

Cont...

- 4 -

literature, will give you the information you require but I will be pleased to elaborate on any points which need further clarification.

Yours sincerely,

A handwritten signature in cursive script, reading "Dennis Frost". The signature is written in dark ink and is positioned above the typed name.

Dennis H. Frost
Director - Operations.

DHF/MH

INTERMEDIATE TECHNOLOGY DEVELOPMENT GROUP LIMITED

DEVELOPMENT OF ALTERNATIVE SMALL-SCALE TECHNOLOGIES FOR BRITAIN

INTRODUCTION

ITDG Ltd. has appointed a consultant to liaise with Groups and organisations in Britain who are concerned to promote the development and application of small-scale employment generating technologies appropriate to the present day needs of an industrial economy.

THE NEED

Increasingly complex problems of mass production technology, of industrial management, of energy use, of environmental damage and resource depletion have in recent years stimulated the exploration of alternative technologies and systems of living in the industrialised countries. The onset of the energy crisis has reinforced misgivings about the human and resource-depleting consequences of large-scale technology.

Since the late 1960's a wide variety of people in the Western world have begun to rethink the goals and values of industrial society in the belief that new economic and technological criteria need to be applied if a minimum acceptable standard of living for the West is to be maintained. However, efforts in this direction have been isolated and sporadic, lacking in any degree of official recognition or popular support: consequently, the momentum of industrialised societies is still largely directed to the maximisation of economic growth to provide the surplus that a growth economy requires.

More recently, the onset of the energy crisis has given a new emphasis to the need to re-examine the basis of production in our industrial economy and the social organisations which accompany it. Increasing numbers of people are coming to believe that alternatives, energy-conserving, small-scale technologies are relevant to our own society.

THE ROLE OF ITDG

During last year and this, the ITDG has received many enquiries and requests for advice and assistance from individuals and organisations who view the Group as the resource base from which to develop the application of intermediate technology in the UK. The Group's experience

in initiating the concept and application of intermediate technology to developing countries enables it to play a useful part in advising and assisting the promotion of similar programmes for this country.

On the other hand, the Group's constitution and activities channel and mainstream of its effort towards the Third World, and it has neither the direct experience nor the resources to divert a part of its existing effort to the tasks of developing and applying self-help technologies to industrialised communities. It believes that, in practice, these tasks can only be carried through by local groups capable of mobilising the experience and expertise of industrial, commercial and academic organisations having close ties with the communities of which they form a part.

The most appropriate and useful role for the Group in the UK would be, therefore, to provide services for local groups which none can readily provide for itself, namely -

- to promote the formation and guide the activities of local or regional organisations whose aim is to introduce alternative small-scale technologies in their areas;
- to create an effective communications system among them, so that they can learn from each other;
- to act as a focal point which gives them ready access to technical and organisational information.

THE CONSULTANT

Thanks to a generous grant from the Gatsby Foundation, ITDG LTD. has been able to engage the services of Mr. John Davis as its consultant to liaise with groups and provide the services outlined above. More specifically, his main tasks will be:

- a. to identify groups and organisations whose aims are to promote the development of small-scale, employment generating technologies appropriate to the needs and changing circumstances of our industrialised society in Britain;
- b. to evaluate them in terms of objectives, resources and organisational capacity and, where requested, to assist them to define these factors;

- c. to encourage and stimulate the formation of new groups;
- d. to create an information data bank of groups and their activities and to develop inter-communication processes so as to avoid duplication and to relate resources to needs;
- e. to keep ITDG informed of developments, with special reference to the Group's own interests; to make recommendations on future action and liaison between the Group and UK-based organisations.

John Davis is a Chartered Engineer who worked for the Shell Group of companies between 1946 and 1974 in various capacities encompassing research, product and application development, marketing, personnel training and general management, including management consultancy. He is a Fellow of the Institute of Mechanical Engineers, a past Member of the Institute of Fuel and past Associate Fellow of the Royal Aeronautical Society as well as being Vice-President of the Institute of Petroleum. In the course of his career he has been increasingly involved with the problems of oil and natural gas utilisation and with air and sea pollution. John Davis is currently an independent consultant and free-lance writer on energy and management matters.

Intermediate Technology Development
Group Limited,
Parnell House,
25 Wilton Road,
London SW1V 1JJ.

telephone: 01-828 5791/4

John D. Davis,
Wilton Corner,
10 Grenfell Road,
Peaconsfield,
Bucks.

telephone:
Beaconsfield 3080

October, 1975

The relevance of alternative technologies to Britain

The concept of technological inappropriateness is as old as Adam Smith. His descriptions of the division of labour, of job fragmentation and specialisation in pinmaking are as good as any that have ever been written. What he saw as a triumph of civilisation troubled other thinkers like Ruskin and Morris, who saw the same process as one of degradation to workers and their work. The same theme was taken up after the first World War by Shaw and Ghandi. The dilemma was most succinctly summed up in Ghandi's phrase "Production for the masses - not mass production - is what is needed".

These early warning signals did not, however, influence those concerned with economic development of the Third World following World War II. The success of industrialisation, and the urbanisation that was associated with it, in reducing poverty and improving the material wellbeing of the people of North America and Europe was sufficient to persuade most of the authorities in both the developed and under-developed countries that a recipe of universal application had been discovered. For more than twenty years the best Western technology was transferred unquestioningly to the poor world and was almost totally useless in relieving the poverty of their teeming millions. By 1960 this disastrous failure of development became hard to ignore and it was in 1963 in his report to the Indian Planning Commission that E.F. Schumacher first highlighted the need for different technologies - ones of higher productivity that the primitive, but sufficiently small and cheap and simple to be accessible to the rural peasant population. Such technologies he termed 'intermediate technologies' - 'ones that lie so to speak somewhere between the sickle and the combine harvester'.

For countries in which 80% of the population was rural, to give priority to industrialisation was putting the cart before the horse - it was doomed to failure. Any relevant economic development must start where the people are and agricultural revolution must come first. Food production is the principal social service and food a primary requirement of all living things. Technologies are the means which we devise to enable use to satisfy needs. They are for

people to use and they are irrelevant if they do not serve this purpose.

The situation in Britain is different in almost every respect, but the same considerations apply. Appropriate technologies for Britain must be relevant to our needs and our problems - now and for the foreseeable future. In order to identify the character of appropriate technologies for Britain we must firstly be clear about our situation.

A profile of economic Britain

1. Population - 56 million, probably declining, more than 80% urban. Densely concentrated in the South East and Midlands. Increasing proportion of retired and economically dependent people.
2. Resources - $\frac{2}{3}$ raw materials imported. $\frac{1}{2}$ food imported. More than $\frac{1}{2}$ fossil fuel imported (North Sea oil and gas will be very short lived). More than $\frac{1}{2}$ manufactured goods imported. Excessively dependent on overseas resources.
 - Large land areas unused. (Little timber)
 - Long coastline and big sea area.
 - Highly educated and skilled population/High unemployment.
3. Agriculture - low employment (less than $\frac{1}{2}$ million)/high productivity.
 - highly mechanised/chemical dependent.
 - poor wages/low investment return (exploited).
4. Industry - declining in many traditional sectors.
 - increasingly concentrated in big firms and high technology.
 - small firms sector dying.
 - comparatively low added value, poor investment, poor design and quality, poor delivery, poor management, overmanning.
 - poor human relations in important sectors.
 - a national Cinderella.

5. Productive/Distributive system - highly fragmented and wasteful of resources
 - high volume production/"throw away" products
 - employs about $\frac{2}{3}$ of national work force
6. Economic system
 - depreciating currency/chronic over expenditure
 - 'stagflation'
 - highly developed welfare society system
 - comparatively high direct taxation (saturation)
 - traditional low growth rate
7. Distribution of Incomes & wealth
 - rapidly increasing proportion of private wealth in pension funds and housing
 - low span of net incomes (probably lowest in the world)
 - resistance to further redistribution

For present purposes it is not necessary to attempt an exhaustive analysis of the British situation but it is necessary to relate the above skeleton outline to the changing world economic situation. The combination of a high level of consumption and social services, high dependence on foreign raw materials and food, poor industrial performance, high inflation, high unemployment and poor motivation make Britain highly vulnerable in a world of exploding population and commodity prices. Under these circumstances a continuation of our past high consumption, highly wasteful, "throw-away" system would seem to guarantee a future of real impoverishment which could be most damaging to the poorest section of the community - including the old and infirm - and to the welfare society. It cannot make sense for a nation which is long in manpower and short of food and material resources to continue with a system that is prodigiously wasteful of all three. In order to sustain a good quality of life - material, cultural and spiritual - in Britain we must reduce our dependence on foreign resources and make much better use of those that are indigenous.

It is important to note that such a course of development for this

country would be beneficial to the Third World and would also, as will become clear, have great potential benefits for individual quality of life in these islands.

The character of appropriate technologies for Britain

The key to the creation of a more sustainable and less dependent pattern of economic life in Britain is to be found in reduction of waste. Such a course of development would also provide valuable bonuses which can contribute to a worthwhile improvement in some other aspects of quality of life - less pollution, better work and personal job satisfaction, a better mix and spread of employment and an enhanced sense of community and care. It was a wise old man that said "Love meant something when things was mended". There can be no real caring in a community that does not care what it makes nor bother about what happens to it thereafter.

By no means all waste is a consequence of our existing technological systems. Personal attitudes and habits play a considerable part. But there is no doubt that much of present day waste can be traced to inappropriate technologies. If more satisfactory alternatives are to be introduced in the form of products and production/distribution systems they will need to possess characteristics which will contribute to their success.

Computability

Some of the "alternative technology" to be found in the so called "self-sufficiency" movement is open to criticism in so far as computability with the economic and social environment is concerned. To be a significant influence it should be relevant to a primarily urban population. It must also be capable of survival in a competitive market situation. The conditions for survival are that its products must attract sufficient custom, and value must be added at a sufficient rate such that a surplus is created (in Britain this means desirably adding value per employee at double earnings level - i.e. £7,000 p.a. - and certainly at not less than 1.5 times earnings). Failure to

satisfy the second of these conditions as a result of insufficiently productive methods (amongst many other reasons) will lead to collapse and rejection by the system. The social provisions of our society require that about 50% of all value added by industry, agriculture and commerce is taken by the State; without these revenues the welfare society would collapse. If we are to continue to enjoy benefits of health, education and welfare a surplus of wealth must be created to support them. This requires a moderately productive type of technology.

Many people see this as an insurmountable barrier to "alternative technologies". It is not insurmountable simply because the present system is so incredibly inefficient and wasteful.

Employment

Appropriate new technologies should be designed to provide work which is as satisfying and congenial as ingenuity can make it; in quantity and in variety sufficient ~~efficient~~ to satisfy the needs of all sections of the population.

Much that is unsatisfactory in some kinds of present industrial employment is a consequence of systems of high volume production of 'throw-away' products in which labour costs have been sacrificed to material costs. Moving away from this type of system to age old formulae of producing durables which are durable will provide an opportunity - and no more than an opportunity - of better employment.

Size

In some measure the complexity and inefficiency of the present system is a result of an indiscriminate pursuit of bigness. Some things like large cargo carrying vessels and some chemical plants provide sufficient benefits to outweigh their disadvantages and are likely to be preferred so long as there is a need. But a very large part of manufacturing industry benefits little from

bigness of machinery or organisation and can suffer many disadvantages. An important feature, therefore, of alternative technologies will be a move towards smaller and more widely scattered production units of many kinds.

Beneficial consequences of such a trend will be communities with more varied employment opportunities and a diminution resulting from dispersal of some of the worst features of industrial pollution.

Resources

In most recent discussions of resource economy the main emphasis has been focussed on the replacement of non-renewable fossil fuels by renewable alternative energy sources. Little has been said, however, about the cost consequences of such a replacement in this country. Of course we do not know the costs of most alternative sources, but we can be reasonably certain that they will be more costly than fossil fuels and very likely three times as costly for most industrial applications. We must develop other applications of renewable energy which are sensible replacements for fossil fuels; but the most important aspect of energy strategy must be the replacement of the whole range of our existing wasteful energy use, technology by systems that are much less wasteful - that is a "low-energy technology". An attainable target within the next 30 to 50 years would be the halving of our per capita consumption of 6 tons coal equivalent per annum. This should obviate the need for anything more than a small proportion of solar energy (and nuclear plants would be redundant).

Economy of raw materials and energy go hand in hand, since nearly three quarters of all industrial energy consumption is involved in the processing of raw materials and only about one quarter in fabrication. Thus the consequences of long-life product policies, renovation for reuse, repair and materials component recycling (the 4 R's) are all profoundly important for materials, energy and environmental conservation.

Sensitisation

It is often assumed that alternative technologies must be less sophisticated and less scientifically complicated than conventional ones. This is part of a wish for technology to be of human scale - in this aspect, within the competence of anybody. The overthrow of division of labour and specialism to this extreme would inevitably mean regression to a pre-agricultural culture.

Scientific knowledge, skill of head and hand can inform appropriate future technologies as much as present high technology. For example, the development of electronic control systems can be invaluable in many applications, providing precision, reliability, energy and material economy at low cost. Similarly computer systems can greatly facilitate a decentralised operation.

The search for good technology is always a search for simple solutions but it is never shy of science and skill.

Capital

A critical feature of Third World Intermediate Technology is low capital investment. At the much higher earnings level in Britain it is of less importance (average investment per worker in industry is at present between two and three years average earnings). Good technology will always strive to obtain the required productivity at minimum capital cost whether it be for a big or a small plant.

In some cases of appropriate technology the capital investment per worker or per unit of product may be higher than at present (in others it may be lower), but the application of 4R's thinking (repair, renovation, recycling and reuse) to capital equipment can have a very profound effect of minimising the capital cost element, in some cases giving a two or three fold reduction.

The embodiment of these characteristics into future technology, particularly for use in small manufacturing firms, should contribute substantially to a healthy renewal of British industry in the following respects:

- a) Provide a high proportion of the productive new job opportunities which are required to absorb about 1 million from unemployment, 1 million from private and public sector industry overmanning and 1 million from the overexpanded public services (largely local authorities)
- b) to the extent economically viable and socially desirable, move towards a greater degree of regional self-sufficiency in basic manufactures.
- c) reduce the dependence nationally on imported manufactures and create a better trade balance in manufactured goods.
- d) reduce our national dependence on imported energy and raw materials.
- e) increase the utilisation of indigenous resources.
- f) substantially increase the efficient use of energy and other scarce material resources - whether indigenous or imported - and reduce per capita consumption by about 50%.
- g) improve industrial flexibility, responsiveness to change, standards of delivery and product quality/reliability.
- h) provide a better small-scale industry complement to the large scale industry mix.
- j) through redesigned technology and production organisation provide work in small units which is more satisfying and personally fulfilling.
- k) greatly increase the use of waste (waste energy/materials and used products of all sorts) through recycling, processing and product renovation.
- l) reduce wasteful distribution transportation of goods and promote the most effective modes of transport.
- m) improve environmental conditions.

- n) provide opportunities for a substantial proportion of working people to participate in the "ownership" of their firm.
- o) alleviate some of the problems of industrial relations through disintegration by reducing the size (in terms of numbers of employees) and the complexity of many of our over centralised/over concentrated production units.
- p) re-create a sense of significance, pride and independence amongst a large section of the producing population and an appreciation on the part of those they supply and serve.

Some categories of appropriate technology for Britain

The totality of technologies in an industrialised society such as our own is so great as to defy enumeration in a single paper. It is, however, helpful to categorise some of the more significant types of technological change which can contribute to the evolution of an alternative system that will be appropriate to the needs of post-industrial Britain. The list of categories given below, with illustrative examples only, is not intended to be exhaustive but it does embody a powerful set of changes which, if given a chance (i.e. appropriate environmental 'software'), could move us towards a better quality of life for all.

1. Energy Options

a) Low energy technologies

Insulation systems

Total-energy systems

Energy storage systems

District heating systems

Waste material processing (pyrolysis, incineration)
etc

Heat pumps

b) Alternative sources

Wind, wave, tidal, geothermal, hydrosystems

Solar walls, cells, panels

organic systems

2. Long-life durables

Consumer durables designed and made to last 30 to 50 years instead of 10.

3. Second-life durables

Products manufactured mainly from reconditioned used components of scrap machines, finished, presented and guaranteed under the same terms as similar products made from raw materials.

4. Waste material separation and reprocessing

Fertiliser manufacture from sewage

Animal feed processing from waste

Plastics, paper, textile, board and metal reprocessing

Articles manufactured from processed waste.

Industrial waste (fines) processing.

5. Small scale food and drink processing

Local bakeries

Local canneries

Local brewing and wine making

6. Craft and semi-craft manufacture

Furniture

Clothing and textiles

Pottery

Leather goods.

7. Natural materials processing and use

Timber

Natural fibres

Stone

Clay

8. Transport & communications

Motor/sailer cargo vessels

Electric delivery vehicles and buses

Electronic communication systems

9. Miniaturisation

Electronic systems

It is fair to say that there are not likely to be any insurmountable technical obstacles to the achievement of what is needed. Indeed considerable progress could be made on the basis of existing equipment to develop the small-scale manufacturing sector of the economy. Already with much higher wage levels France and Germany have six and five times as many firms employing between one and ten people as we do. In medium sized factories (less than 200 employees) Japan, France and Sweden employ more than half their manufacturing workers compared with little more than one quarter here.

But the change is unlikely to take place in Britain until both central and local government make some basic changes in the conditions under which small firms operate. The bottleneck is "software" not "hardware".

Conclusion

Britain was the first nation to industrialise; again we take the lead into a post-industrial age. The process of renewal is painful and uncertain. Thinking and planning must above all be exploratory, tentative and flexible, because nobody can know the outcome. We must at all costs avoid the arrogance of thinking we have solutions when we can barely perceive the problems. We must be careful not to abandon prematurely all the various courses of development that we have been following - perhaps the greatest disaster would be to try to

change too much too quickly.

A massive and complex (highly inefficient and wasteful) system has grown up. From much of it has come enormous benefit to many of our people. As the process of overall economic growth slows down we can start to create new small growth points to take the place of the old as they go into decline and die. We can concentrate much of our attention on new growth centres because it may well not be possible to transform the old. In this way, and in due time, much of the old will disappear to be replaced by a technology which, if we learn as we go, will be humane, small-scale, congenial, economical and harmonious with its environment. The best of what has been created during the industrial era will be retained and the worst will slip without regrets into history.

Schumacher subtitled his book "Small is beautiful" - A study of economics as if people mattered. The new technology - whether big or small - will only be beautiful if it is for people, who matter most.

John Davis

April 1977.



ISSN 0305-0920

APPROPRIATE TECHNOLOGY

published quarterly in February, May, August, November. 32 pages.

intermediate
+echnology Publications Limited
9 King Street, London, WC2E 8HN, England
Telephone 01836 6379

INTRODUCTION TO APPROPRIATE TECHNOLOGY

Unemployment in the developing countries is a massive and growing problem. Village industries that have supported whole communities for centuries are disappearing, made redundant by urban mass production. Primitive agriculture cannot support a constantly increasing population, and workless men and women flock to cities which can give them neither decent shelter nor productive work.

In the battle against world poverty, many hundreds of thousands of people, working for hundreds of different organisations, are involved in *helping poor communities help themselves*, which means *working within the constraints and limitations of poverty*.

While these workers and their groups have easy access to the technologies and equipment of the affluent societies, they find that much of this does not "fit" in conditions of poverty, where ample capital resources and an elaborate infrastructure are lacking, and markets are small because most of the people are very poor. They are forced to look for *appropriate technologies*, for know-how and equipment *designed to help the poor to help themselves*.

Solutions for genuine development exist all over the world, but are scattered, hidden, often poorly documented and inaccessible to those in need, *when they are most needed*. Countless men and women "in the field" are trying to solve problems which have already been solved elsewhere, or are embarking on experiments which others have already shown to be unfruitful; they are looking for methods and equipment which may be already available, but they do not know where. At this level of technology, there is a great need of effective *international communication*.

With this problem in mind, *Appropriate Technology* was launched with generous support from the Commonwealth Foundation. It is primarily a *reader's journal*, a forum and market place where those directly involved in the immense difficulties and numerous frustrations of development work can make known their needs and achievements, their successes and also their failures, so that we can all learn to cope better with what is undoubtedly one of the most challenging tasks man has ever faced.

E.F. Schumacher

The Aim of Appropriate Technology:

To provide a forum for the exchange of practical information between field workers concerned with the implementation of development projects.

Its contributors are in the main men and women already involved in developmental activities, people who are tackling and in some cases solving technical problems, the teachers and trainers, the research and development workers, administrators and technical officers of both official and voluntary agencies. The style and level of content are *not* those of the conventional scientific or learned journal, but more those of a world-wide house journal for field workers at all levels. The demand for such a publication has been voiced by many people from widely differing areas of the developing countries, who want to communicate with each other, to learn from each other and exchange practical information.

Titles of some of the articles from past issues of *Appropriate Technology*:

Portable Hand Planter for Grains

M. Toye Ige

Practical Fish Farming: Making A Start

Douglas Cross

A Maize Sheller for Every Household

Dr D.J. Hilton

Device for Using Sawdust as Economic Home Fuel

Eric Simon and Pedro Solis

A Simple Low Maintenance Water Filter

Suitable for Village Use

George Cansdale

Appropriate Technology in Sri Lanka

Ram K. Vepa

The Low-Cost Oil Palm Mill Project in Sierra Leone

A.M.W. Geddes

Hand Dug Water Wells Lined with Reinforced Concrete

S.B. Watt and W.E. Wood

Building Materials from Local Resources in the Sudan

John Parry

A Solar Oven from Yantra Vidyalaya

The Agro-Industrial Service Centre, Bardoli, India

Chinese Handcarts and Wheelbarrows

I.J. Barwell

Sethouse Horticulture in Botswana

Mochudi Farmers Brigade

Axial Flow Thresher

International Rice Research Institute

Simple Bacteriological Analysis of Drinking Water Supplies

Duncan Mara

A Low Cost Rice Storage Bin of Non-Reinforced

Cement Mortar for Rural Farmers

Simon Watt

A Simplified Approach to Aqua Privy Construction

P.A. Oluwande

Subscription Rates:
Airmail: £5.50
UK, Europe & Surface Mail: £4.00
(Prices for US & Canada available from
ISBS, address below.)

Residents of the USA & Canada wishing to subscribe to *Appropriate Technology* should order through our North American agents, International Scholarly Book Services Inc., PO Box 555, Forest Grove, Oregon 97116, USA.

To:

Intermediate Technology Publications Ltd.,
9 King Street,
Covent Garden,
London WC2E 8HN, U.K.
Tel: 01-836 9434

Please send me the next four issues of *Appropriate Technology* by airmail/surface mail*. I enclose £/\$*t.

Please pay by: t

- a. International Money Order in Sterling
- b. Sterling cheque drawn on a UK bank account
- c. US or Canadian dollar cheque drawn on a US or Canadian bank account using current rate of exchange
- d. UNESCO coupons

Name

Address

.....
.....

*Delete that which does not apply



philosophy

purpose

people

panels

programme

publications

philosophy and purpose

There is a growing realisation that the technology of the economically advanced nations is, in many cases, inappropriate for developing countries. Whereas the emphasis on technological development for industrialised economies has been on capital-intensive, labour-saving innovations, developing countries need low-cost, labour-intensive methods. Their major resource is an ever increasing pool of unskilled or semi-skilled but *unemployed* labour, which becomes an ever heavier burden upon the state in economic, political and moral terms. Yet these countries are short of the capital and skills required to utilise this major resource to the full. It follows that what capital and skills are available must be spread as widely as possible throughout the economy so as to generate the greatest degree of productive employment.

It is necessary to identify and develop levels of technology which will maximise labour inputs consistent with maintenance and improvement of production levels. This means that the technology required for each production process has to be examined and, if need be, adapted to increase the labour input and reduce the inputs of capital and scarce skills. Research into and development of appropriate technologies within the agricultural sector should be the first priority; but this, in turn, must lead to corresponding research and development into a wide range of activities, including water supplies, marketing, transportation, storage food processing, light industry, housing, construction materials, wind and solar power, health and sanitation.

The Intermediate Technology Development Group, London, was established in 1965 to investigate ways and means of utilising to the fullest extent the resources available to developing countries through the application of the appropriate technologies. Its main aims are:

- to compile inventories of existing technologies which can be used within the concept of low-cost, labour-intensive production;
- to identify gaps in the range of existing technologies;
- to research into and develop by invention or modification new or more appropriate processes;
- to test and demonstrate in the field the results of its investigations; and
- to publish and make known the results of its work as widely as possible, so as to facilitate the transfer and use of appropriate technology.

The Group is a company limited by guarantee and registered as a charity (Reg. No. 247257). The Operations Centre, which is essential to the success of all the individual projects, is funded mainly by grants and donations from charitable foundations. The centre works closely with governments of developing countries to assess the intermediate technology possibilities in the fields in which they are seeking assistance — making feasibility studies, supervising projects when they are agreed and, when completed, evaluating their impact on development.

It is important that all the knowledge and experience gained through research and practical work in the field is fully appraised, recorded and made available worldwide. This harvesting of experience is one of the Group's vital roles.

people

<i>Chairman</i>	E.F. Schumacher CBE
<i>Executive Directors</i>	Dennis Frost MBE George McRobie Julia Porter Peter Reid
<i>Administrators</i>	Warren Adams (Economic Adviser) Deborah Ainger (Technical Panels) Winifred Dalby (Appeals) Alan Doran (Finance) Mark Sinclair (Operations) Philip Winter (External Relations)
<i>Company Secretary</i>	Doreen Joiner
<i>Editor</i>	Frank Solomon MC

This team staffs the Operations Centre at 9 King Street, Covent Garden, London WC2E 8HN, UK. Tel: 01-836 6379. It coordinates the work of the Group, provides general information on ITDG and processes technical enquiries with the help of its UK-based project staff:

John Boyd (Agriculture)
Andrew Cowan (Industrial Liaison)
John Davis (Alternative Technology
in the UK)
Peter Fraenkel (Power)
Derek Miles (Building)
John Collett (Water)

panels

A number of voluntary panels brings together a wide range of people with a high level of professional expertise. They give advice to the Group; introduce new ideas and fields of activity; widen the Group's range of contacts and expertise; and lend authority to the concept of intermediate technology within governments, funding agencies and professional

organisations. The work of the panels includes the preparation of specifications of available equipment, teaching manuals and technical reports, and the promotion of new research and development with universities, technical colleges and professional associations.

The panels are as follows:

Agriculture	<i>Chairman:</i> Dr H.S. Darling, CBE Principal, Wye College
Building and Building Materials	<i>Chairman:</i> J.P.M. Parry, MBE J.P.M. Parry Associates
Chemistry and Chemical Engineering	<i>Chairman:</i> Ms Iris Pape
Co-operatives	<i>Chairman:</i> Lord Oram
Ferro-cement	<i>Chairman:</i> J.D. McIntosh Concrete Society Ltd
Forestry and Forest Products	<i>Chairman:</i> Dr Alistair Fraser International Forest Science Consultancy
Homestead Technology	<i>Chairman:</i> Mrs Joan Robins
Nutrition	<i>Chairman:</i> Dr J. Worgan National College of Food Technology
Power	<i>Chairman:</i> Professor P. Dunn, Dept. of Applied Physical Sciences, University of Reading
Rural Food Technology Advisory Group (RUFTAG) (jointly with the Tropical Products Institute)	<i>Chairman:</i> Dr P. Spensley Tropical Products Institute
Rural Health	<i>Chairman:</i> Dr Katherine Elliott Ciba Foundation
Simple Printing Techniques	<i>Chairman:</i> Rev. James Sutton "Feed the Minds"
Transportation	<i>Chairman:</i> Dr J.D. Lowe Alastair Dick & Associates
Water	<i>Chairman:</i> Professor D.J. Bradley London School of Hygiene and Tropical Medicine

programme

In addition to the work of its operations centre and the advisory work of its panels, the Group's programme is carried out by means of:

- a) *Research and Development Units.* U.K. based units staffed by the Group's own officers work in close collaboration with universities and colleges of technology, in the fields of agriculture, water, building, and power. The Industrial Liaison Unit collaborates with firms and colleges of technology to identify and advise on appropriate industrial machinery, equipment and techniques in response to specified overseas needs.
- b) *Overseas Consultancies and Projects.* The Group, through one of its subsidiary companies, maintains a panel of associate consultants who can advise on the identification of problems, or the planning and implementation of intermediate technology programmes overseas. Where necessary, project officers are assigned to test out and demonstrate innovations and to set up production processes within national development programmes.

Countries in which the Group has undertaken consultancies or has established projects during 1975-76 include: Bangladesh, Botswana, Caribbean, Cameroon, Ethiopia, Honduras, India, Kenya, Lesotho, Sri Lanka, Sudan, Tanzania, Tasmania, Turkey.

Three subsidiary companies have been established to assist the Group in carrying out its programme. These are:

- * *Development Techniques Ltd.*, formed in 1970 to design, develop and produce specialised equipment for developing countries.
- * *Intermediate Technology Services Ltd.*, which organises the Group's overseas consultancies and maintains a register of consultants qualified to undertake work in many branches of intermediate technology.
- * *Intermediate Technology Publications Ltd.* This company is the Group's publisher of the quarterly journal, reports and technical books, some of which are listed overleaf.

Further information on these subsidiaries is available from ITDG at 9 King Street, London WC2E 8HN, UK.

publications

The Group publishes an international quarterly journal entitled *Appropriate Technology*. It provides a focus for an exchange of information and ideas on intermediate technology throughout the world.

Main publications in the fields of agriculture, building, chemistry, rural health, cooperative accounting, industry, rural workshops and water are listed below. Details and price lists are available on request from Intermediate Technology Publications Ltd, 9 King Street, London WC2E 8HN, UK.

Economically Appropriate Technologies: An Annotated Bibliography
Tools for Agriculture: A Buyer's Guide to Low-Cost Agricultural Implements

Lime and Alternative Cements

Manual on Building Construction

A Manual on Building Maintenance — Vol. 1: Management
Vol. 2: Methods

Health Manpower and the Medical Auxiliary

The Training of Auxiliaries in Health Care: An Annotated Bibliography

Iron Foundry — An Industrial Profile

Simple Methods of Candle Manufacture

How to Make a Metal Bending Machine

Oil Drum Forges (two designs)

Carts

Water Treatment and Sanitation

Chinese Chain and Washer Pumps

Hand Dug Wells

A Bibliography of Low-Cost Water Technologies

A Manual on the Automatic Hydraulic Ram Pump

Report on Low-Cost Waterproof Membranes

Food from Windmills

Methane

Report on Farm Equipment Development Project, Daudawa, North Central State, Nigeria

Rural Africa Development Project: An Example of Farm Level Survey Techniques Using Local Resources

Publications are available in English only.

To: Intermediate Technology Publications Ltd
9 King Street, London WC2E 8HN
Telephone: 01-836 6379 or 240 2106

I wish to subscribe to *Appropriate Technology* (4 issues per year).

I enclose a *remittance of/*banker's order for (see note below)

Name: _____

Address: _____

* delete as necessary

Note: Subscribers in U.K. and Europe remit £3.00
(US \$7.00). Elsewhere for surface mail £3.00
(US \$7.00); for airmail £4.50 (US \$10.50).

*(Cheques etc. should be made payable to
Intermediate Technology Publications Ltd.)*

BANKER'S ORDER

To _____

Please pay to the account of Intermediate Technology Publications Ltd
at Barclays Bank Ltd., 5 Henrietta Street, London WC2E 8HN
and continue to make a similar payment on
in each year until further notice.

NAME _____

ADDRESS _____

Please return this form to the Secretary, Intermediate Technology Publications Ltd, 9 King Street, London WC2E 8HN, UK.

Intermediate Technology Publications Ltd.

9 King Street, London WC2E 8HN. U.K. Telephone: 01-836 9434

PUBLICATIONS LIST -- JANUARY 1977

To obtain our publications in the USA and Canada, please apply direct to our sole distributors: International Scholarly Book Services, Inc., PO Box 555, Forest Grove, Oregon, 97116, USA.

If you are in London, we hope that you will visit our bookshop at 9 King Street, London WC2, where we sell these and many other publications.

We hope to be able to maintain the prices quoted below, but reserve the right to vary both prices and postage charges if circumstances make this unavoidable.

QUARTERLY JOURNAL

Appropriate Technology Quarterly journal (annual subscription). A forum for the exchange of ideas among those directly involved in development work. Includes technical articles, book reviews, readers contributions. (IT Pubs Ltd) *

£4.00 surface & UK

£5.50 air

Sample copy by post £1.00

GENERAL

Aid and Self Help by Elizabeth O'Kelly. Distills a good part of the new wisdom in the field of development a.i.. 140pp, 1973. (Charles Knight & Co.)

£3.95 net

£4.50 surface & UK

£5.95 air

The Journal of the New Alchemists No.3 An annual describing the work of the New Alchemy Institute. This issue contains articles on windmill generators, enclosed ecosystem, compost, aquaculture, the role of women. 128pp. Illus. 1976 (New Alchemy Institute)

£3.50 net

£4.45 surface & UK

£6.40 air

The Preparation of Soap A 6-page leaflet dealing simply with the preparation of a variety of soaps. 1976 (TOOL)

£0.45 net

£0.65 surface & UK

£0.95 air

AGRICULTURE

Complete Technical Drawings for items of farm equipment designed for local construction. (print size varies up to 30" x 30") 1973/6 (IT Pubs Ltd)

18. Manual broadcast sower (UK)

£5.25 net

£5.80 surface & UK

£5.60 air

19. Welding jigs, three designs (UK)

£1.50

£1.80 surface & UK

£2.45 air

20. Treadle-operated peanut (groundnut) thresher (Malaya)

£3.25 net

£3.55 surface & UK

£4.20 air

21. 'Wanachi' ox-cart (Tanzania)		
£0.75 net	£0.95 surface & UK	£1.25 air
22. Donkey cart (Tanzania)		
£1.50 net	£1.90 surface & UK	£2.20 air
23. Polyrow peristaltic pump sprayer (UK)		
£2.25 net	£2.45 surface & UK	£2.75 air
24. Hand-pushed sod seeder (UK)		
£1.50 net	£1.80 surface & UK	£2.45 air
34. 'SATEC' multi-crop seeder (France)		
£3.75 net	£4.05 surface & UK	£4.45 air
36. 'Murreils' pack saddle (Tanzania)		
£0.75 net	£0.95 surface & UK	£1.25 air

Dimensional Drawings/Photoprints with text Agriculture Green Leaflets. 1973/6 (IT Pubs Ltd)

6. Prototype multi-purpose ox-drawn tool (Nigeria)
10. Two clod crushers (Malawi)
11. Ox-drawn tie-ridger/weeder implement (Nigeria)
12. IDC weeding attachment for Emcot plough (Nigeria)
13. Adjustable width 'V-drag' ditcher/bund former (USA)
14. Sied-type corrugator/irrigation furrow former (USA)
15. Single-row and 3-row rice seeders (Zambia) (Photoprints)
16. Rotary weeder for row-planted rice (Zambia) (Photoprints)
17. Multi-action paddy field puddling tool (Zambia) (Photoprints)
32. Hand-operated seed dressing drum (Malawi)

For each leaflet:

£0.30 net	£0.50 surface & UK	£0.80 air
-----------	--------------------	-----------

4. 'Kabanyolo' toolbar (Uganda)
7. IT expandable cultivator (Nigeria), Five-tine sweep cultivator
28. Rotary corn thresher (Nigeria)
29. IDC-BORU (groundnut) peanut lifter for Emcot plough; IT (groundnut) peanut lifter (Nigeria)
33. IT high-clearance rotary hoe (Nigeria)
37. Foot powered thresher
38. 'Rasulia' bladed roller thresher (India)
39. Rice transplanter platform (Israel)

For each leaflet:

£0.35 net	£0.55 surface & UK	£0.85 air
-----------	--------------------	-----------

5. Chitedze ridgemaister toolbar (Malawi)
27. Cassava grinder (Nigeria)
30. IT granule applicator (Nigeria)
35. Weeder mulcher (India)
41. Harrows - High clearance peg tooth (East Africa), Triangular spike tooth (India), Flexible peg tooth (Iran), Japanese harrow

For each leaflet:

£0.40 net	£0.60 surface & UK	£0.90 air
-----------	--------------------	-----------

40. Oil soaked wood bearings (Zambia)
44. Carts: a) Oxcart using old car wheels, b) Wanachi ox-cart, c) Cart for one draught animal

For each leaflet:

£0.45 net	£0.65 surface & UK	£0.95 air
-----------	--------------------	-----------

ORDERING PUBLICATIONS

So that we may deal quickly with your order, and keep the cost of producing and dispatching IT publication as low as possible, please:

1. Send correct money in advance.
2. The most convenient methods of payment, in order of preference are:
 - a. International money order or postal order
 - b. Sterling cheque drawn on a UK bank account
 - c. US\$ or Canadian \$ cheques drawn on a US or Canadian bank, using current rate of exchange.
 - d. Unesco coupons

All the above should be made payable to 'Intermediate Technology Publications Ltd'. Use of other methods of payment may make your order liable to delays and additional bank charges.

3. For those outside the UK, if you wish orders sent airmail, please specify. Otherwise orders will automatically be dispatched by surface mail. Orders within the UK will be sent second class mail.
4. Publications prices and other charges: we hope to be able to maintain these as quoted on this list, but reserve the right to vary both prices and charges if circumstances make this unavoidable.

If you are in the USA or Canada, please order direct from our distributors:
International Scholarly Book Services Inc., PO Box 555, Forest Grove, Oregon
97116, USA.

ORDER FORM

(N.B. Purchasers in USA and Canada, see overleaf.)

Please complete and return this form to: Intermediate Technology Publications Ltd., 9 King Street, Covent Garden, London WC2E 8HN, UK.

Please send me the following publications:

TITLE

*Price including
air/surface mail

**please delete as required*

Total £

Payment must be sent with your order

I enclose cheque/postal order/international money order/coupons for the amount of £.....
 (in block capitals please)

Name

Address

42. Eight simple surveying levels

£0.75 net **£1.00 surface & UK** **£1.55 air**

43. Oil drum forges a) Bellows operated b) Fan operated

£1.25 net **£1.55 surface & UK** **£2.20 air**

Forest Farming by J. Sholto Douglas and Robert A. de J. Hart. Suggests that food and raw material production may be increased by tree crops, and includes practical guidelines on tree farming. 197pp. 1976 (Watkins)

£3.85 net **£4.40 surface & UK** **£5.65 air**

Manual of Warm-water Fish Culture by Dean R. Yancey. A useful and practical booklet for development workers and volunteers initiating programmes for fish farming in tropical countries. Helpful hints from choice of site, to marketing the product. 56pp. illus. 1976 (Mennonite Central Committee)

£0.90 net **£1.25 surface & UK** **£1.60 air**

An Initial Course in Tropical Agriculture for the Staff of Co-operatives by Peter Yeo. A booklet designed to provide basic agricultural knowledge for the uninitiated. 54pp. 1976 (IT Pubs Ltd)

£1.25 net **£1.65 surface & UK** **£2.10 air**

Rural Africa Development Project: An Example of Farm Land Survey Technique Using Local Resources by R. D. Mann. This project report demonstrates an original survey technique using local resources for the identification of technological bottlenecks in African agriculture, with an example of its use in Zambia. Revised by John Boyd. 49pp. with 27 pages of tables including samples of questionnaires. 1974. (IT Pubs Ltd).

£3.50 net **£4.05 surface & UK** **£4.85 air**

Report on Farm Equipment Development Project, Nigeria by John Boyd and E. A. Ayok. A logical sequel to the report described above. This project was concerned with the design and development, in co-operation with local farmers, of equipment suitable for manufacture by village blacksmiths and artisans. Trial and testing procedures are described in detail, as are 15 items of equipment. 111pp. illus. 1974 (IT Pubs Ltd)

£4.00 net **£4.55 surface & UK** **£6.00 air**

Tools for Agriculture: A Buyer's Guide to Low-Cost Agricultural Implements Compiled by John Boyd. This directory identifies more than 300 manufacturers of various types of simple, low-cost agricultural implements all over the world. The 14 sections of the book are classified by type of farming operation; and in each case a few notes are provided outlining the types of equipment available. Contains essential information for farmers, smallholders, extension officers and agricultural departments. 173pp. illus. Fully revised 1976 edition. (IT Pubs Ltd)

£4.00 net **£4.75 surface & UK** **£6.25 air**

The Winnower Technical report with constructional drawings on a hand operated winnower. Produced by the IT Working Group at the Technische Hogeschool, Eindhoven. 35pp. 1974. (Technische Hogeschool)

£0.55 net **£0.85 surface & UK** **£1.50 air**

BUILDING

Information Papers Reports and case studies. 1973 (IT Pubs Ltd)

No.8 Kenyan Building Contractors: Practices, Problems and Needs

No.9 A Management Handbook for the Nigerian Building Contractor

For each book:

£2.00 net **£2.30 surface & UK** **£3.15 air**

Lime and Alternative Cements Compiled by Robin Spence. The proceedings of ITDG seminar on cementitious materials. 14 papers, discussion. 164pp. illus. 1974 (IT Pubs Ltd)

£4.00 net

£4.55 surface & UK

£6.25 air

Manual on Building Construction by the Rev. Harold K. Dancy. A practical illustrated handbook on the construction of small buildings using local materials, suitable for a great variety of ground and climatic conditions. New edition, including metric conversion tables. 352pp. illus. 1975 (IT Pubs Ltd)

£2.50 net

£3.05 surface & UK

£4.75 air

A Manual on Building Maintenance Vol. 1: Management

A practical illustrated manual on the administration and management of building maintenance, for managers of small building units in both the private and public sectors in developing countries. 78pp. illus. 1976 (IT Pubs Ltd)

£1.75 net

£2.05 surface & UK

£2.70 air

A Manual on Building Maintenance Vol. 2: Methods

A companion volume to the above, Volume 2 deals with the basic technology of building maintenance. The author describes some of the more common causes of deterioration of the building fabric and suggests methods for dealing with these problems. 61pp. illus. 1976 (IT Pubs Ltd)

£1.75 net

£2.05 surface & UK

£2.70 air

ENERGY

Energy Policy for the Rural Third World by Arjun Makhijani. A socio-economic study which explores the range of choices on energy supply in the rural areas of developing countries. 58pp. 1976 (IIED)

£0.80 net

£1.20 surface & UK

£1.55 air

Methane Compiled by Dr Leo Pyle and Peter Fraenkel. Proceedings of a recent ITDG seminar on methane. 12 papers, discussion, references. 51pp. illus. 1975 (IT Pubs Ltd)

£0.80 net

£1.10 surface & UK

£1.50 air

Methane Digesters — For Fuel Gas and Fertilizer (with complete instructions for two working models) by L. John Fry and Richard Merrill. A valuable treatment of methane systems and research. Includes designs for small and intermediate scale systems. 47pp. illus. 1973 (L. John Fry)

£1.50 net

£1.80 surface & UK

£2.45 air

Methane: Fuel of the Future by Bell, Boulter, Dunlop and Keiller. Surveys current use and future possibilities of methane gas generation; many useful references. 86pp. 1975 (Prism Press)

£1.25 net

£1.55 surface & UK

£2.20 air

Methane: Planning a Digester Comprehensive and practical account of the digestion process, its problems and advantages. Covers safety and planning (statutory) factors, and includes cost-benefit analysis for small digester construction and use in the UK. 150pp. 1976 (Prism Press and Conservation Tools and Technology)

£2.50 net

£3.05 surface & UK

£4.10 air

Practical Building of Methane Power Plants by L. John Fry, pioneer of the first displacement digester. A well written and illustrated paperback based on practical experience. 97pp. 1974 (D.A. Knox)

£3.75 net

£4.30 surface & UK

£5.35 air

HEALTH

Health Manpower and the Medical Auxiliary Articles, case studies and an annotated bibliography. 65pp. 1971 (IT Pubs Ltd)

£1.50 net

£1.80 surface & UK

£2.45 air

Nutrition for Developing Countries by King, Morley & Burgess. A comprehensive manual on improving child and family feeding, reducing community malnutrition, and teaching the practical aspects of nutrition in the maize millet and cassava areas of Africa. 245pp. Illus. 1972, reprinted with minor corrections 1975 (Oxford U.P.)

£4.50 net

£5.05 surface & UK

£6.45 air

Paediatric Priorities in the Developing World by Dr David Morley. A valuable addition to the medical literature on child care in developing countries. 470pp. 1973 (Butterworths)

£1.25 net

£2.15 surface & UK

£4.40 air

Simple Dental Care for Rural Hospitals A basic textbook on emergency dental treatment and hygiene for medical auxiliary workers. Text in simple English or French. Diagrams and photographs. 26pp. 1973 (The Medical Missionary Association)

£0.40 net

£0.70 surface & UK

£1.10 air

Simple Designs for Hospital Equipment The following leaflets are available in booklet form: 1973 (IT Pubs Ltd)

1. Invalid carriage with chain drive and brake
2. Hospital bedside table and locker
3. Hospital ward screen
4. Dressing and instrument trolley
5. Hospital wheelchair
6. Bush wheelchair
7. Bush ambulance
8. Hospital blood transfusion drip stand
9. Folding bed (wire spring)
10. Paraplegic turning frame
11. Hospital folding bed (metal place spring)
12. Hospital patient's trolley

For each leaflet:

£0.35 net

£0.55 surface & UK

£0.85 air

The Training of Auxiliaries in Health Care Compiled by Katherine Elliott. An annotated bibliography listing a wide variety of material used in training auxiliaries at different levels; includes textbooks, course descriptions and visual aids. 100pp. 1975 (IT Pubs Ltd)

£2.00 net

£2.30 surface & UK

£2.95 air

INDUSTRIAL

Iron Foundry — An Industrial Profile The first of a series designed to provide information on production equipment and costings for different areas of industrial technology. Also included are fuels, labour requirements and a bibliography. Aimed at those starting small scale foundry work. 20pp. Illus. (IT Pubs Ltd) 1975

£1.00 net

£1.30 surface & UK

£1.70 air

Simple Methods of Candle Manufacture Full information on four basic methods of candle manufacture, with designs of equipment suitable for local construction. 19pp. Illus. 1975 (IT Pubs Ltd)

£0.50 net

£0.70 surface & UK

£1.00 air

RURAL WORKSHOP

First steps in Village Mechanisation by George A. Macpherson. Gives step by step instructions on producing workshop equipment and tools, village transport, agricultural equipment, training of donkeys and oxen and managing of co-operative workshops. 232pp. 1975 (Tanzania Publishing House)

£3.50 net

£4.05 surface & UK

£5.50 air

How to Make a Metal Bending Machine Technical specifications with plans and drawings for a hand-operated metal bending machine, plus photographs. 17pp. 1973 (IT Pubs Ltd)

£0.50 net

£0.80 surface & UK

£1.45 air

SOCIAL ECONOMICS

Economically Appropriate Technologies for Developing Countries: An Annotated Bibliography by Dr Marilyn Carr. Of great use and interest to individuals, agencies and planners concerned with the choice of appropriate technologies. Compiled in response to many requests for reference material on the economic appropriateness of intermediate technologies for developing countries. 101pp. 1976 (IT Pubs Ltd)

£2.75 net

£3.05 surface & UK

£3.90 air

Energy and Agriculture in the Third World A report to the Energy Policy Project of the Ford Foundation by Arjun Makhijani in collaboration with Alan Poole. A carefully documented analysis for development planners and administrators on the complex but crucial relationship between energy and agriculture. 168pp. 1975 (Ballinger Publishing Co.)

£2.65 net

£3.20 surface & UK

£4.25 air

Lectures on Socially Appropriate Technology Collection of twelve lectures covering aspects of intermediate and appropriate technology originally given at the Universities of Eindhoven and Twente in 1974. 234pp. 1975 (Technische Hogeschool)

£3.50 net

£4.40 surface & UK

£6.15 air

Non-Agricultural Choice of Technique: An Annotated Bibliography of Empirical Studies by Gareth Jenkins. Case studies demonstrating the economic viability of intermediate technology, and a general assessment of the issues of conventional economics on this subject. 80pp. 1975 (The Institute of Commonwealth Studies, Oxford)

£2.75 net

£3.05 surface & UK

£3.70 air

Small is Beautiful: A Study of Economics As If People Mattered Dr E.F. Schumacher, Founder-Chairman of Intermediate Technology Development Group, shows how fragmentation of specialised competence, particularly that of economists, scientists and technologists, has led to confusion of the means and ends of modern life; he stresses the need for a return to wisdom in planning for the future. Hardback: 288pp. 1973 (Blond and Briggs) Paperback: 225pp. 1974 (Abacus)

Hardback:

£3.25 net

£4.15 surface & UK

£5.70 air

Paperback:

£1.50 net

£2.05 surface & UK

£3.30 air

Also by Dr E.F. Schumacher — three booklets:

The Age of Plenty — A Christian View 23pp. 1974 (The Saint Andrew Press)

£0.40 net

£0.60 surface & UK

£0.90 air

People's Power 16pp. 1975 (National Council of Social Service)

£0.20 net

£0.40 surface & UK

£0.70 air

Think About Land 10pp. 1973 (Catholic Housing Aid Society)

£0.10 net

£0.30 surface & UK

£0.60 air

SOURCEBOOKS

Appropriate Technology Sourcebook A guide to plans and methods for village and intermediate technology. 72pp. 1975 (Volunteers in Asia) Revised 1976 edit. ✓

£2.50 net

£3.15 surface and UK

£4.60 air

Energy Primer is a comprehensive, fairly technical book about renewable forms of energy – solar, wind, water and biofuels. Each section also includes a detailed series of book and publication reviews, plus a listing of organisations and manufacturers offering appropriate equipment or services. 200pp. Illus. 1974 (The Portola Institute) ✓

£3.00 net

£3.90 surface & UK

£5.90 air

Technology for Development Primarily for teachers, this handbook puts technology in the context of social, economic and political change. Issues are highlighted with facts, discussion and cartoon illustration. Sections on alternative technology for the developed world, and research and resources for further study. 100pp. 1975 (Voluntary Committee on Overseas Aid and Development)

£1.15 net

£1.70 surface & UK

£3.15 air

WATER

A Bibliography of Low-Cost Water Technologies A brief appraisal of reference material compiled by ITDG on low-cost, low-skill water technologies, with the emphasis on water supplies for domestic and agricultural use. 39pp. Third edition. 1974 (IT Pubs Ltd)

£1.00 net

£1.30 surface & UK

£1.95 air

Chinese Chain and Washer Pumps Compiled by Simon Watt. Contains a selection of 21 designs from 120 simple pumping devices displayed at the 1958 Peking Agricultural Exhibition. Includes technical information on design, construction and operation of chain and washer pumps. The appendix contains five examples of chain pumps from other countries. Two pages of photographs, 31 line drawings. 53pp. Illus. 1976 (IT Pubs Ltd)

£1.25 net

£1.55 surface & UK

£1.95 air

Hand Dug Wells and Their Construction by S. Watt and W.E. Wood. This definitive work provides practical step-by-step guidance in the technique of digging and constructing a well. It includes the principles of groundwater storage, the actual construction, the materials required and details of additional sources of information. 234pp. Illus. 1977 (IT Pubs Ltd)

£3.50 net

£4.05 surface & UK

£5.00 air

The Introduction of Rainwater Catchment Tanks and Micro-Irrigation to Botswana Report of a field project, illustrated. 74pp. 1969 (IT Pubs Ltd)

£1.50 net

£2.05 surface & UK

£3.30 air

A Manual on the Automatic Hydraulic Ram Pump by Simon Watt. Contains details of how to make and maintain a small hydraulic ram on a suitable site. The second part takes a more technical look at ram performances and design considerations and contains a useful annotated bibliography. 37pp. 1975 (IT Pubs Ltd)

£1.50 net

£1.80 surface & UK

£2.45 air

Report on Low-Cost Waterproof Membranes by David Maddocks. Presents the basic methods of construction of membranes to be used to line rainwater catchment areas or water storages and includes a bibliography and sample costings. 109pp. 1975 (IT Pubs Ltd)

£3.50 net

£4.05 surface & UK

£5.30 air

Salawepump A 7-page leaflet of step-by-step instructions on the building of a simple hand pump which can raise water from a maximum depth of 6 metres (20ft) from any existing pool. 7pp. 1975 (TOOL)

£0.65 net

£0.85 surface & UK

£1.15 air

Water Treatment and Sanitation A handbook of simple methods for rural areas in developing countries. 90pp. Revised edition. 1976 (IT Pubs Ltd)

£2.00 net

£2.30 surface & UK

£2.95 air

WIND

Food from Windmills by Peter Fränskel. A report on the Food from Wind project, Ethiopia, in which sail windmills are evaluated and improvements suggested for better irrigation. 56pp. 1975 (IT Pubs Ltd)

£3.00 net

£3.55 surface & UK

£4.35 air

Simplified Wind Power Systems for Experimenters by Jack Park. Details of many different types of windmill profusely illustrated with photographs and diagrams. 80pp. 1975 (Helion)

£3.50 net

£4.05 surface & UK

£5.10 air

Forthcoming Publications Include:

Consultancy for Small Businesses by Malcolm Harper

Business Calculations for Co-operatives by Trevor Bottomley

Building Construction Management for Developing Countries (IT Pubs Ltd)

Vol.1 Accounting and Book-keeping

Vol.2 Financial Planning and Cash Flow

Vol.3 Estimating and Tendering

Methane Generation by Anaerobic Fermentation: An Annotated Bibliography by P. J. Pyle and Christina Freeman

Self-Help Housing Through Co-operatives by A.C. Lewin

Omo River Windmill (Agricultural Green Leaflet series)

Profiles

1. Equipment for Rural Workshops
2. Fertilizer Manufacture using different levels of technology
3. Land clearance using different levels of equipment

INTERMEDIATE TECHNOLOGY DEVELOPMENT GROUP LIMITED

SUMMARY OF FIELD EXPERIENCE AND CAPABILITY

The Intermediate Technology Development Group Limited was established in 1965 to investigate and provide information on ways and means of maximising the use of local resources in developing countries through the application of appropriate, capital-saving, employment-generating technologies in the intermediate range.

One of the Group's major activities has been to advise and assist governments, development aid agencies and other organisations in the establishment of institutional and field programmes using intermediate technologies.

The Group is advised by a variety of technical panels and it has access to a wide range of associate consultants through its panel members, its specialist units and its subsidiary company, Intermediate Technology Services Ltd. who, in addition to their professional expertise, have special experience in the application of appropriate, small-scale technologies. Panel members, who serve in a voluntary capacity, number over 200 and are drawn from universities and colleges of technology, businesses consultancy companies and research institutions.

In addition to its technical panels the Group employs a nucleus of specialist staff in the fields of agricultural engineering, water development, construction and building materials, power and small industries. In addition to their normal programme, staff members are available for overseas consultancies and field projects.

Annexure I is a list of the panels currently operated by the Group and annexures II - VI give examples of services it has provided to overseas governments and agencies in the form of consultancies and field projects.

ITDG, MARCH 1977

INTERMEDIATE TECHNOLOGY DEVELOPMENT GROUP LIMITEDTECHNICAL PANELS

	<u>Chairman</u>	<u>Member- ship</u>
AGRICULTURE	Sir John Palmer	12
BUILDING & BUILDING MATERIALS	J.P.M. Parry, MBE J.P.M. Parry & Associates	21
CHEMISTRY & CHEMICAL ENGINEERING	Ms Iris Pape	37
CO-OPERATIVES	Lord Oram	15
FERRO-CEMENT	J.D. McIntosh Fire Insurers' Research & Testing Organisation	12
FORESTRY & FOREST PRODUCTS	Dr. Alastair Fraser International Forest Science Consultancy	25
HEALTH	Dr. Katherine Elliott Ciba Foundation	18
HOMESTEAD TECHNOLOGY	Miss Elizabeth O'Kelly, MBE	22
NUTRITION	Dr. J. Worgan National College of Food Technology	10
POWER	Professor P. Dunn, Dept. of Engineering and Cybernetics University of Reading	38
PRINTING	Rev. James Sutton "Feed the Minds"	7
RURAL FOOD TECHNOLOGY ADVISORY GROUP (RUFTAG) (jointly with the Tropical Products Instituto)	Dr. P. Spensley Tropical Products Institute	18
TRANSPORT	Dr. J.D. Howe Alastair Dick & Associates	21
WATER	J. Pickford, Esq., University of Technology Loughborough	19

AGRICULTURE

LIBERIA 1970

To advise the Department of Agriculture on the potential for developing small-scale rural food industries; undertaken on behalf of Christian Aid.

TURKEY 1970

To advise the Development Foundation of Turkey on the development of a poultry production scheme and to identify suitable equipment for the project.

NIGERIA 1971-74

Development of hand-operated and animal-drawn equipment and machinery within the context of local farming systems, with a view to reducing the constraints to improved production, undertaken at the request of the Institute of Agricultural Research, Ahmadu Bello University and financed by Christian Aid.

ZAMBIA 1971-74

Development of simple techniques for conducting farm level surveys, followed by a survey of farming patterns in the Plateau Tonga area of Zambia, the construction, testing and demonstration of appropriate animal drawn equipment and the training of local blacksmiths - undertaken in conjunction with the Government of Zambia and financed by the Freedom From Hunger Campaign.

TANZANIA 1972-74

Development of village food technology programmes and establishment of a Rural Food Technology Unit undertaken at the request of the Department of Agriculture and in association with the National College of Food Technology, Weybridge, England.

BOTSWANA 1973

An examination of the natural resources of specified areas with a view to producing an outline development plan; undertaken in conjunction with the Ministry of Overseas Development and Huntings Technical Services.

LESOTHO 1975

Advice to the Lesotho Government on the feasibility of establishing facilities for the local manufacture of ox-drawn agricultural equipment; undertaken on behalf of the Commonwealth Fund for Technical Cooperation.

S. SUDAN 1975

Advice on the appropriateness of plans to establish an ox-training centre and the manufacture of agricultural equipment; undertaken at the request of the Sudan Council of Churches.

TURKEY 1975

Advice to the Development Foundation of Turkey on processes for re-cycling poultry waste products for conversion into high-protein animal foodstuffs.

ETHIOPIA 1976

Advice to the Ministry of Agriculture on the coordination and proper utilisation of agricultural and trades training facilities in order to promote training in and production of animal drawn agricultural equipment and other rural activities.

HONDURAS 1976

Advice on the development of small farm technology, with reference to the feasibility of local manufacture of farm implements and the development of an extension programme to assist manufacturers and distributors; undertaken at the request of USAID.

SUDAN 1977

Advice on the feasibility of forestry development in four areas of South Sudan; undertaken on behalf of Lutheran World Relief.