



India Association of Minnesota:  
Association Records

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CHRISTMAS  
OFFERING  
1984



**PROJECT SOYA • PROJECT SOYA • PROJECT SOYA**



*It's hard to believe, but the little girl pictured on adoptive mother, are one and the same. Love,*

**T**housands upon thousands of people in India are too poor to buy food. Although they seldom starve to death, they are often physically and mentally impaired due to poor nutrition. These people have no land, capital or marketable skills. Because they are unable to fulfill a productive role in society, or to help their children escape the same fate, their lives are void of hope and self-esteem.

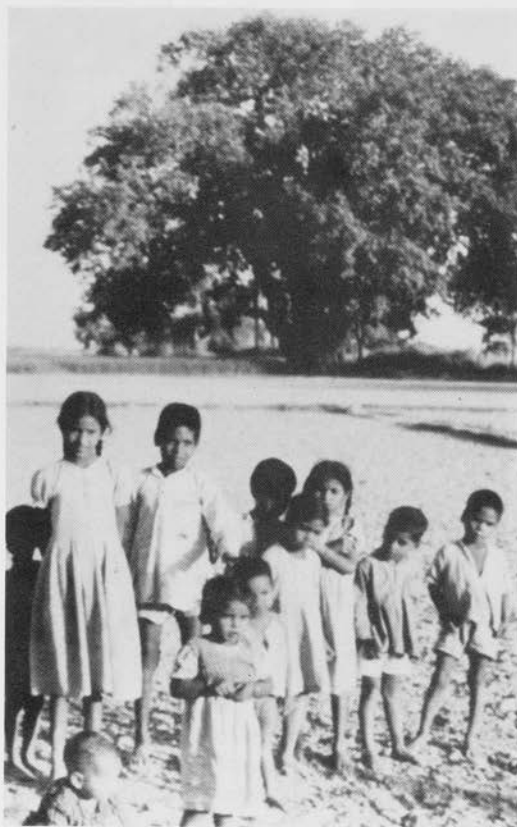
## How you can help

You can help by donating soybeans. Contact your local Project Soya representative to find out how:

Or contact Compatible Technology, Inc., 5835 Lyndale Ave. So. Minneapolis, MN 55419, (612) 861-6086.

You can also help by donating money. Make checks payable to Project Soya and mail to Compatible Technology, Inc., 5835 Lyndale Ave. So., Minneapolis, MN 55419. Or make your cash donation through your church for forwarding to Compatible Technology.

Remember, all donations of commodities and cash for commodities will be used for CTI projects in India.



**PROJECT SOYA • PROJECT SOYA • PROJECT SOYA**



*It's hard to believe, but the little girl pictured on the cover and this little girl, Esther, pictured here with her adoptive mother, are one and the same. Love, care and your gift of food can truly work miracles.*

**T**housands upon thousands of people in India are too poor to buy food. Although they seldom starve to death, they are often physically and mentally impaired due to poor nutrition. These people have no land, capital or marketable skills. Because they are unable to fulfill a productive role in society, or to help their children escape the same fate, their lives are void of hope and self-esteem.

Emergency food programs stifle the hunger pangs of these people temporarily, but do little to satisfy their yearnings for a better life. India's poor need meaningful employment so they can buy the wholesome food they need on a regular basis. Your gift through Project Soya can help them do this.

Project Soya, a self-help program, works to combat the vicious circle of malnutrition, poverty and hopelessness that plagues India's poor.

It is designed to provide long-term solutions through food-processing technology, business management and nutrition education.

## How Project Soya Works

Project Soya takes your soybeans given or purchased in the U.S.A. to India to support projects there. Potential entrepreneurs in small villages will be selected by Compatible Technology, Inc., from among India's poor. CTI will train these people in soybean processing, soy food manufacturing and other skills, including business management and sales.

The CTI systems approach is long-term in that these new Indian businesses will be sustained by local resources after outside inputs of money and consultancy cease.

A charitable, non-profit trust has been established in India for this purpose by the Indians themselves.

CTI also invites you to join in the sponsorship of several other projects in India, including:

- Food gifts to institutions such as hostels, hospitals and orphanages, which are home to many malnourished children.
- Special feeding programs and relief work.
- Solar potato drying, with dryers designed by CTI for specific use in India's local village industries.
- Assistance in leprosy villages, where victims of this disease learn and practice trades.
- Manufacturing of small soybean-processing extruders which were designed through CTI efforts.
- Franchising of small extruder food-processing units to economically deprived village people.
- Processing of high-protein, high-energy, low-cost foods from soybeans.
- Educating low-income people to the nutritional advantages of using soy foods, and providing special food and nutrition education programs for families and individuals.

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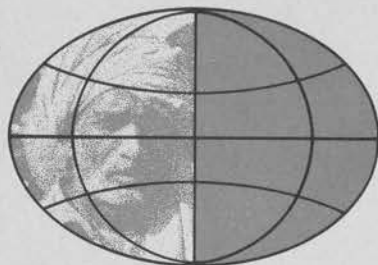
# **PROJECT SOYA**

**A self-help project sponsored by  
MINNESOTA CONFERENCE UMC  
and  
CTI**

**Compatible Technology, Inc.  
5835 Lyndale Ave. So. Mpls., MN 55419  
(612) 861-6086**

**CTI is a non-profit, charitable organization**





## Compatible Technology, Inc.

5835 Lyndale Avenue South, Minneapolis, MN 55419 (612)861-6086

Nov 2, 1984

Zeke Zdenek  
3510 Siems Court  
St Paul MN 55112

Dear Mr Zdenek,

The enclosed brochure introduces you to Compatible Technology, Inc. (CTI). Our goal is Self-Help Programs for people in India and other developing countries with emphasis on Economic Well-Being and Human Dignity.

When people have the opportunity to earn money, they will buy food and health services for themselves. This is the way that the relief and welfare needs of the world can be reduced.

We are anxious to present our ideas to you personally. Our concepts embody tried and true American ideals of self-help through free enterprise. You can help us with your expertise and your reaction. We know you have special insights on the problems and potential of India and most likely can share some mutual concerns and dreams.

In the next few days we will be contacting you to arrange, at your convenience, an appointment with our associate, Ron Cline. Bob Nave will accompany him--we have some time next Thursday and Friday (Nov8 and 9) If you have time then, we hope to meet with you, otherwise we will make a later date.

Sincerely yours,

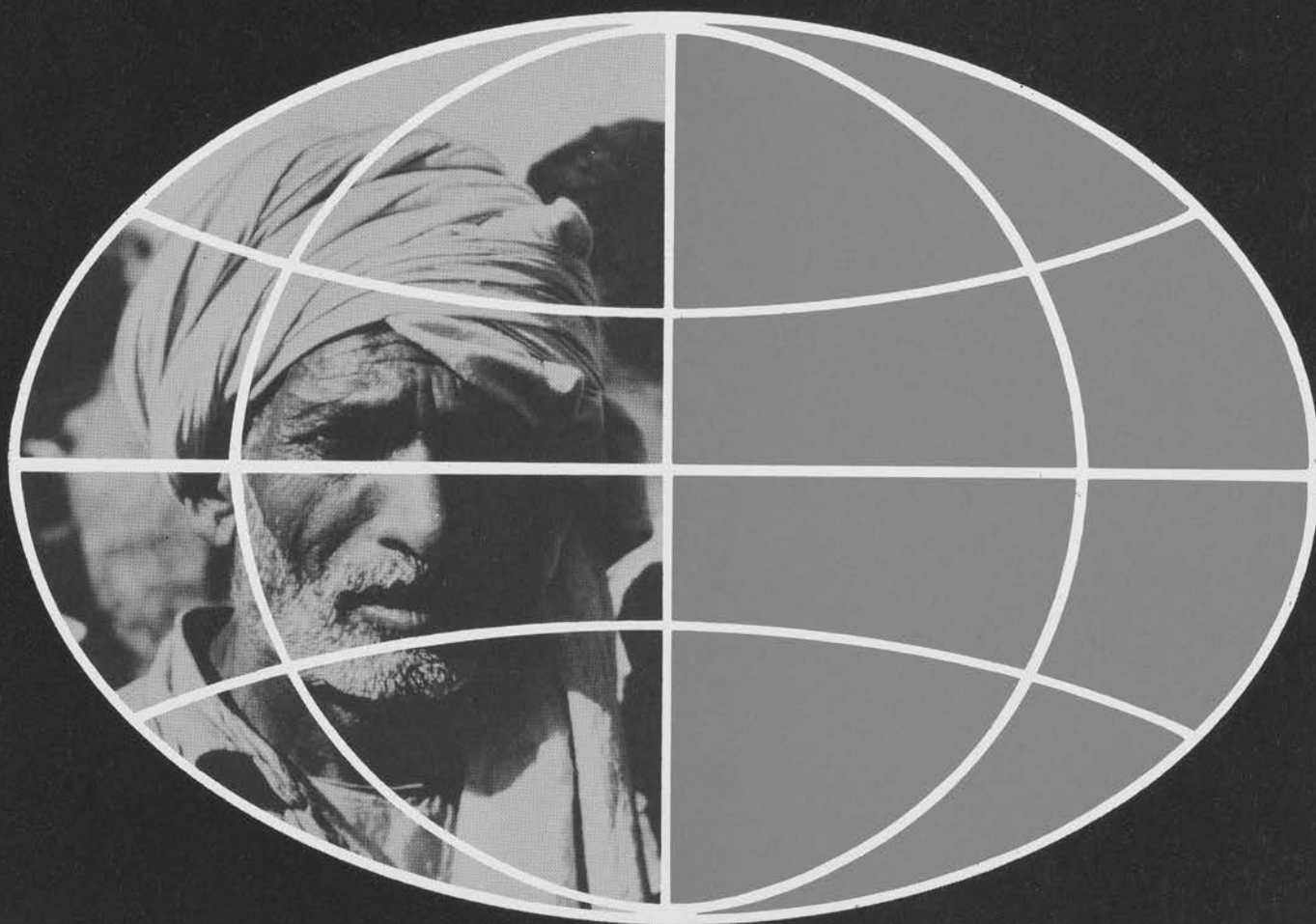
*Bob Nave*

Robert W. Nave  
Executive Director

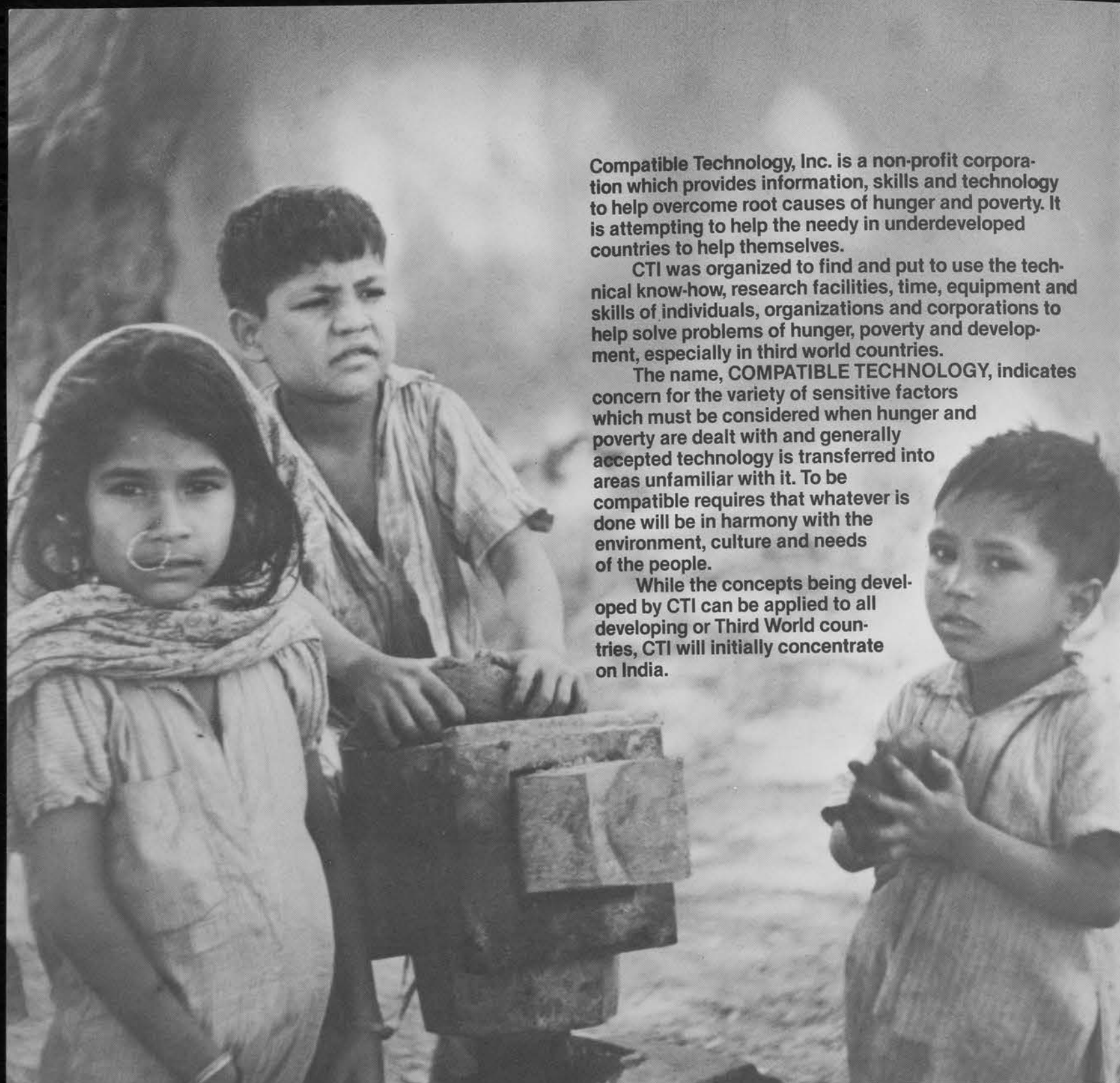
*It was good to talk with you  
on the phone. Tom Straker  
has been an old friend of  
mine for the past 12-15 years -  
Hope we can meet soon.*

*Bob.*

***What is Compatible Technology, Inc. (CTI)?***







Compatible Technology, Inc. is a non-profit corporation which provides information, skills and technology to help overcome root causes of hunger and poverty. It is attempting to help the needy in underdeveloped countries to help themselves.

CTI was organized to find and put to use the technical know-how, research facilities, time, equipment and skills of individuals, organizations and corporations to help solve problems of hunger, poverty and development, especially in third world countries.

The name, **COMPATIBLE TECHNOLOGY**, indicates concern for the variety of sensitive factors which must be considered when hunger and poverty are dealt with and generally accepted technology is transferred into areas unfamiliar with it. To be compatible requires that whatever is done will be in harmony with the environment, culture and needs of the people.

While the concepts being developed by CTI can be applied to all developing or Third World countries, CTI will initially concentrate on India.

## WHY CTI?

Many organizations are doing excellent work on hunger, poverty and development, but there are still needs which have been overlooked, approaches which have not been tried, and resources which have not been used.

CTI is developing techniques to consider a wide variety of concerns, to locate new resources and to meet needs in new ways.

**Hunger! • Poverty! • Development!**

- Hunger and poverty are the problems
- Development is the solution

The projects listed under each heading are typical of activities CTI is undertaking or plans to undertake. These may be modified, enlarged or deleted as circumstances change.

## PROGRAM AREAS

### Formulation of foods

- Making soybean fortified products such as breads (leavened or unleavened) and cookies with existing village-level technology and equipment.
- Using by-products of processed textured vegetable protein as food.
- Processing existing and new products with equipment being developed for village use such as a small extrusion cooker and a village batch texturizer.

### Process and processing equipment development

- A 5-10 horsepower extrusion cooker.
- Village batch texturizer.
- Fuel efficient methods for processing soybeans, lentils and cereal grains by new traditional processes.
- Drying potatoes, vegetables and fruit by solar and other locally available energy sources.
- New and modified village level food processing technology.
- Village level processing of cocoa beans.

### Energy sources and applications

- Develop and test briquettes made from cow dung and agricultural waste for use as cooking fuel.
- Develop and test briquettes made from low grade coal dust for use as cooking fuel.
- Develop solar energy use in driers, cookers, pumps, motors, refrigeration and water heaters.

### Refrigerated transport of perishable foods

- Continue to improve technology and manufacturing procedures for building refrigerated truck bodies and refrigeration units.

### Education and training programs

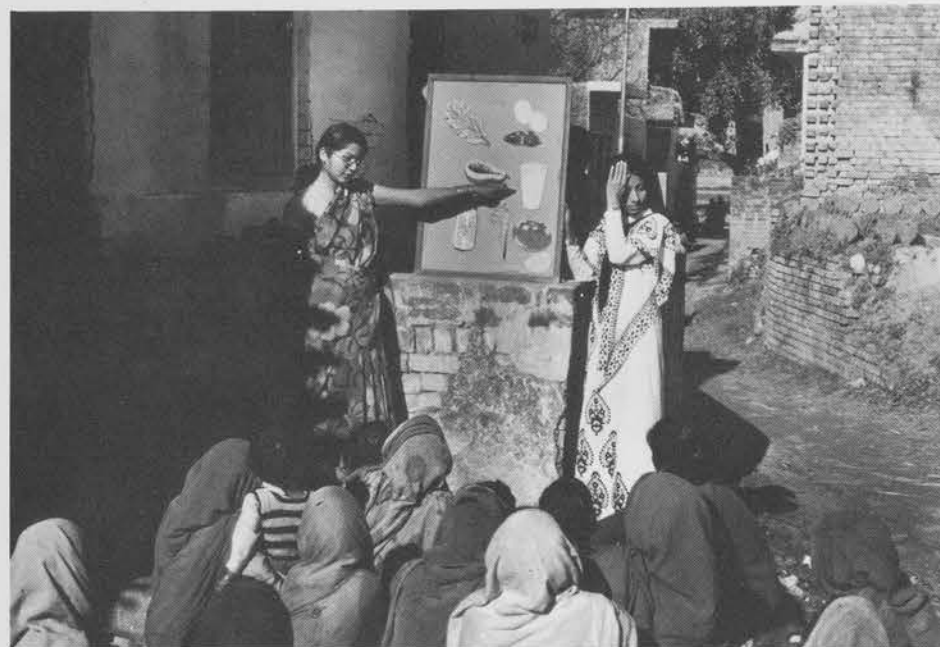
- Conduct workshops on curriculum development for school administrators and teachers of craftsmen-level technical trades.
- Establish workshops to aid technical schools to become more involved in



economic development in rural areas and urban slums.

- Initiate workshops to provide technical schools with skills and information necessary to establish experience-based entrepreneurship training programs.
- Undertake workshops to develop self support projects for technical schools.
- Provide lectures, discussions and special travel opportunities to make Americans more aware of needs and problems of world hunger.





#### Surveys and data collection

- Identify any food materials being under-utilized or wasted which could be processed into human food.
- Determine the need and viability for a consulting service to provide small food processors with food processing and packaging information and research facilities.
- Assist vocational-technical schools in making trade surveys to collect long range planning data.

#### Back-up support for development workers

- Serve as a resource center for development workers.
- Bring information and appropriate technology to the attention of development workers.

#### PERSONNEL

CTI has a Board of unsalaried Directors which includes a full-time salaried president. The Directors are:

**Emery Swanson**

Chairman, Swanson and Associates (Food Scientists), Cambridge, MN

**Philip Zietlow**

Research Engineer, General Mills, Inc., Minneapolis, MN

**Kenneth Parker**

Partner, Latham Parker Accounting, Willmar, MN

**Wally Green**

WCCO-TV, Minneapolis, MN

**Fremont Fletcher**

Partner, Moos, Flaherty, Clarkson & Fletcher Law Office, Minneapolis, MN

**Ralph Hofstad**

President, Land O'Lakes, Inc. Minneapolis, MN

**Thomas A. Thompson**

Vice-President, Minneapolis Star & Tribune Co., Minneapolis, MN

**George Ewing**

Food Scientist, General Mills, Inc., Minneapolis, MN

**Robert W. Nave**

President, Compatible Technology, Inc., Minneapolis, MN

The president of CTI, Robert W. Nave, was born and raised in India and worked there as a missionary for 27 years. His interest in improving the well-being and economic status of low income people led him to establish the Nave Technical Institute, Skills for Progress (SKIP) an all-India association of private technical schools, and Soya Production & Research Association (SPRA) which produces high-energy, high-protein foods from soybeans grown in India. He has been involved in establishing agricultural extension, nutrition education, rural health and rural development programs.

A substantial number of volunteers give of their skills, experience and time to work on various CTI sponsored projects. The number of volunteers vary according to project needs.



#### ORGANIZATION

Compatible Technology, Inc. was registered as a charitable corporation in the State of Minnesota in May 1981. It is classified as a charitable organization under Section 509 (a)(2) of the Internal Revenue Code. Gifts to Compatible Technology, Inc. are tax deductible.

#### PROJECT PROCEDURE

##### Criteria for the selection of projects

CTI was founded on the belief that development is more effective when undertaken jointly with those who benefit from it. Ten criteria are used to evaluate each project before it

is selected to help assure positive results:

1. Will it increase the food supply available to the poor?
2. Will it improve the quality of nutrition available?
3. Will it improve health and basic health services?
4. Will it create more jobs?
5. Will it improve the economic well-being of the poor?
6. Will it enable people to help themselves?
7. Will it be cost effective?
8. Will it adversely affect the environment?
9. Will it comply with local and national aspirations?

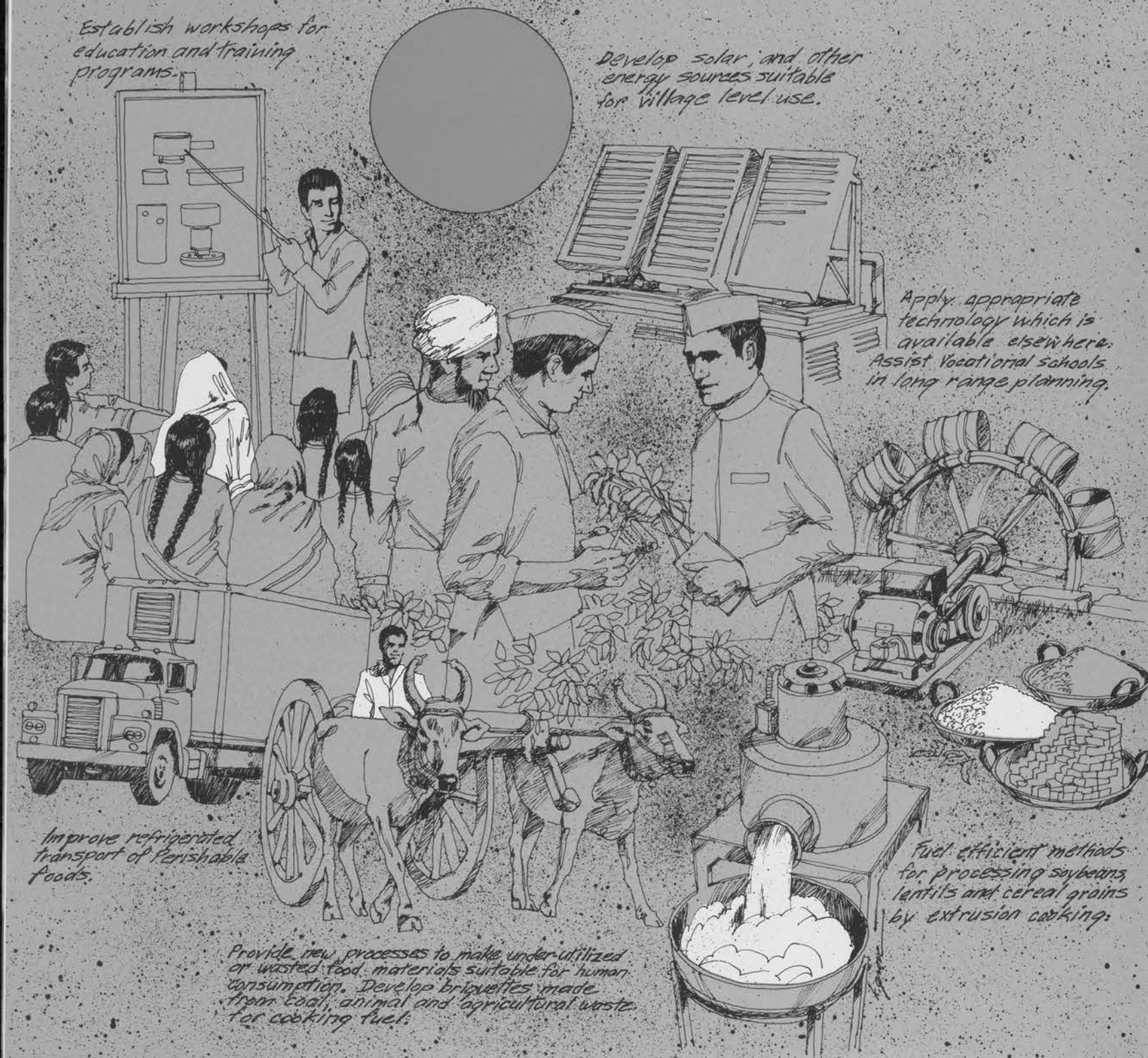
10. Will it express compassion, concern and love without being condescending or paternal?

##### Typical procedure

Typically each project will involve the following steps:

- **IDENTIFICATION:** CTI will receive requests from many contacts working with hunger and development. A statement describing the project and its special characteristics, constraints, opportunities and challenges will be prepared.
- **EVALUATION:** Each potential project will be evaluated to determine if it is appropriate for CTI and if it can be financed through CTI or other sources.





## FUTURE PLANS

The effectiveness of CTI programs will depend largely on two things:

- The ability to locate suitable volunteers and to challenge them to undertake responsibility for part or all of a CTI project. Developing techniques to attract volunteers and to build up a roster of volunteers will be a continuing activity of CTI.
- Encouraging a sufficient number of people in India working directly with hunger and development to bring their technical problems to CTI and to inspire them to act on the information which CTI is able to provide. These contacts will be made through visits by the CTI President and short-term assignments of volunteers in India.

The following projects will be developed and undertaken as suitable volunteers are found:

1. Conduct a pilot project to upgrade curricula, to improve the quality of teaching and to develop self-support projects for the 123 private craftsmen-level technical schools in India. Estimated project duration — one year.
2. Provide technology, contacts, manufacturing techniques, etc. to upgrade the quality of the insulated truck body and refrigeration unit now being produced by Nave Technical Institute in India. Estimated project duration — two to three years.
3. Develop a more efficient fuel briquette from cow dung and agricultural

waste to increase the cooking fuel available in villages. Estimated project duration — nine months to one year.

4. Develop packaging techniques for cooked full-fat soy flour in inexpensive packaging materials. Estimated project duration — one to two years.
5. Provide consultation and supervision for establishing a prototype oil extraction plant for soybeans. Estimated project duration — two years.
6. Investigate the food processing industries in India to determine which food materials are being underutilized or wasted, what potential human food materials are being used for animal feeds and to recommend ways to use these as human food. Estimated project duration — one year.
7. Determine whether a food technology consulting lab would improve small scale food processing in India. Estimated project duration — one year.

## PERSONNEL AND FACILITY NEEDS

### Personnel

Volunteers with a wide variety of skills, experiences, interests and talents are required by CTI. Following are general guidelines for persons needed as volunteers:

1. Persons experienced in the food industry.

For those projects dealing directly with hunger and food related problems, there is a great need for persons experienced in the food industry. This

includes food scientists, technicians, engineers, nutritionists, etc.

2. Persons with skills and experience in teaching technical trades, training the handicapped, establishing small businesses and promoting entrepreneurship, stimulating ideas for industry and trade, and providing basic mechanical and technical information.

Economic development is an integral part of the war on hunger. Economic development among the poor requires that training and education be provided, cottage and small scale industries be established, and processes be introduced to add value to agricultural products in the village.

3. Teams of volunteers in companies and universities to work on projects.
4. Volunteers (individuals) to work on projects in the United States.
5. Volunteers to undertake short term assignments abroad.
6. Volunteers to undertake some of the administrative and office work of CTI.

### Facilities and resources

Certain projects require special facilities for research and development. Specifically, these include:

1. Laboratory space and time for projects such as food formulation and processing.
2. Machine design facilities and shop time to make parts and prototypes.
3. Materials and supplies for specific projects.





Projects which pass the criteria will be brought to the Board of Directors for their decision.

Worthwhile projects which seem inappropriate for CTI will be forwarded to other organizations.

Priority will be given to projects which have application both in India and other Third World countries.

#### Project development in the United States

After a project has been accepted, these procedures will be followed:

- Preparation of a detailed plan.
- Application for financial support.
- Assignment of the project to an individual volunteer or group.
- Begin project by collecting data, designing and developing equipment, making plans and blue prints, developing operating procedures and formulating foods.
- Prepare information, and prototype equipment or product samples.

#### Implementation abroad

The responsibility for implementing a project abroad will be turned over to an individual or organization already involved in development work there. This will generally be the person or organization which initially identified the problem and referred it to CTI.

After information, samples and prototypes have been transferred, CTI will continue to follow each project to provide help with problems.

## PROGRESS TO DATE

Since its establishment in May 1981, CTI has made substantial progress organizing its operations and undertaking projects.

Two projects, formulation of a soybean cookie for feeding programs and a technique for applying flavoring to a protein snack food, are now being implemented in India. In addition, six projects are being developed and seven are being evaluated.

#### Case history of the soybean cookie

India has had a large number of feeding programs for many years. A product ideally suited for a feeding program should be nutritious, have acceptable taste, shape and texture, be easily processed by local equipment and in existing facilities, be made from local ingredients, be easy to transport and serve, have a reasonably long shelf life, and be inexpensive.

A Calcutta group is using a locally made cookie for its pre-school and school feeding programs. These cookies meet most of the requirements except the taste is unsatisfactory. When CTI learned this, it decided

Projects being undertaken	Estimated duration of project in U.S.
1. Five or ten horsepower extrusion cooker	18 months
2. Potato solar drier	20 months
3. Sprouted legumes	8 months
4. Village batch texturizer	12 months
5. Village process for grinding soybeans	20 months
6. Tempe processing suitable for India	8 months

to formulate a more satisfactory cookie.

After determining what ingredients are plentiful and inexpensive in India, a CTI volunteer started a series of trial formulations and techniques. About 100 trial batches were required to formulate a cookie which met all the specifications. After these were taste tested in the United States, several dozen cookies were taken to India for more taste trials. The

taste trials were highly successful.

The Soya Production & Research Association, which has pioneered production of soy based snack foods in India, is now introducing the cookie and processing techniques locally and in the feeding programs of relief agencies.

## FINANCIAL NEEDS

To fulfill its concept, CTI must be flexible in undertaking projects, able to make extensive use of volunteer time and donated facilities/materials, and be able to routinely provide new project identification and evaluation. CTI also plans thorough follow-up evaluations. The format and budget headings reflect these characteristics and functions.

Since the donation of time and facilities/materials is as important as the donation of funds, a separate column has been provided for each. Therefore, the first column in each year's budget represents the fund-raising goal; the second represents estimated value of donated time, facilities and materials necessary to implement projects already being undertaken; and the third column is the total of these two columns.

Budget Item 4, New Project Investigation and Evaluation, is intended to finance a continuous program of investigation and evaluation. This will result in new projects, some of which may be undertaken in the current year. When funds and current budget do not allow for the addition of a new project, special funding will be sought.

Certain projects, such as the Solar Irrigation Pump and the Stout-SKIP Project, will continue beyond 1983. Projects may be started earlier or later than stated in the brochure.

## BUDGET

Account Headings	1982			1983		
	Funding Goals	Contribution in kind*	Total	Funding Goals	Contribution in kind*	Total
1. Salaries, Administrative	21,700		21,700	30,300		30,300
2. Office Expenses	6,900	4,000	10,900	9,400	4,000	13,400
3. Local Travel	600		600	1,200		1,200
4. New Project Identification & Evaluation	6,300		6,300	16,500		16,500
5. Follow-Up & Evaluation of Completed Projects	1,500		1,500	4,500	2,000	6,500
6. Soy Cookie	3,700	1,800	5,500			
7. Village Grinder	900	6,000	6,900	6,800	2,600	9,400
8. 5-10 hp. Extrusion Cooker	16,000	22,000	38,000	23,400	14,500	37,900
9. Potato Drier	15,000	18,000	33,000	15,300	19,700	35,000
10. Legume Sprouting	2,800	800	3,600			
11. Village Texturizer	1,200	2,000	3,200			
12. Tempe Process	3,800	500	4,300	3,800	500	4,300
13. Stout-SKIP Project	5,000	2,700	7,700	49,000	1,900	50,900
14. Solar Irrigation Pump				18,000	17,000	35,000
15. Survey				9,500	5,300	14,800
TOTAL	85,400	57,800	143,200	187,700	67,500	255,200
*Time, facilities and materials						

### Designated and special funding:

1. Donors who wish to designate their gifts to a specific project within the budget may do so.
2. Project proposals of new projects which CTI has identified, evaluated and accepted will be presented for funding as needed.

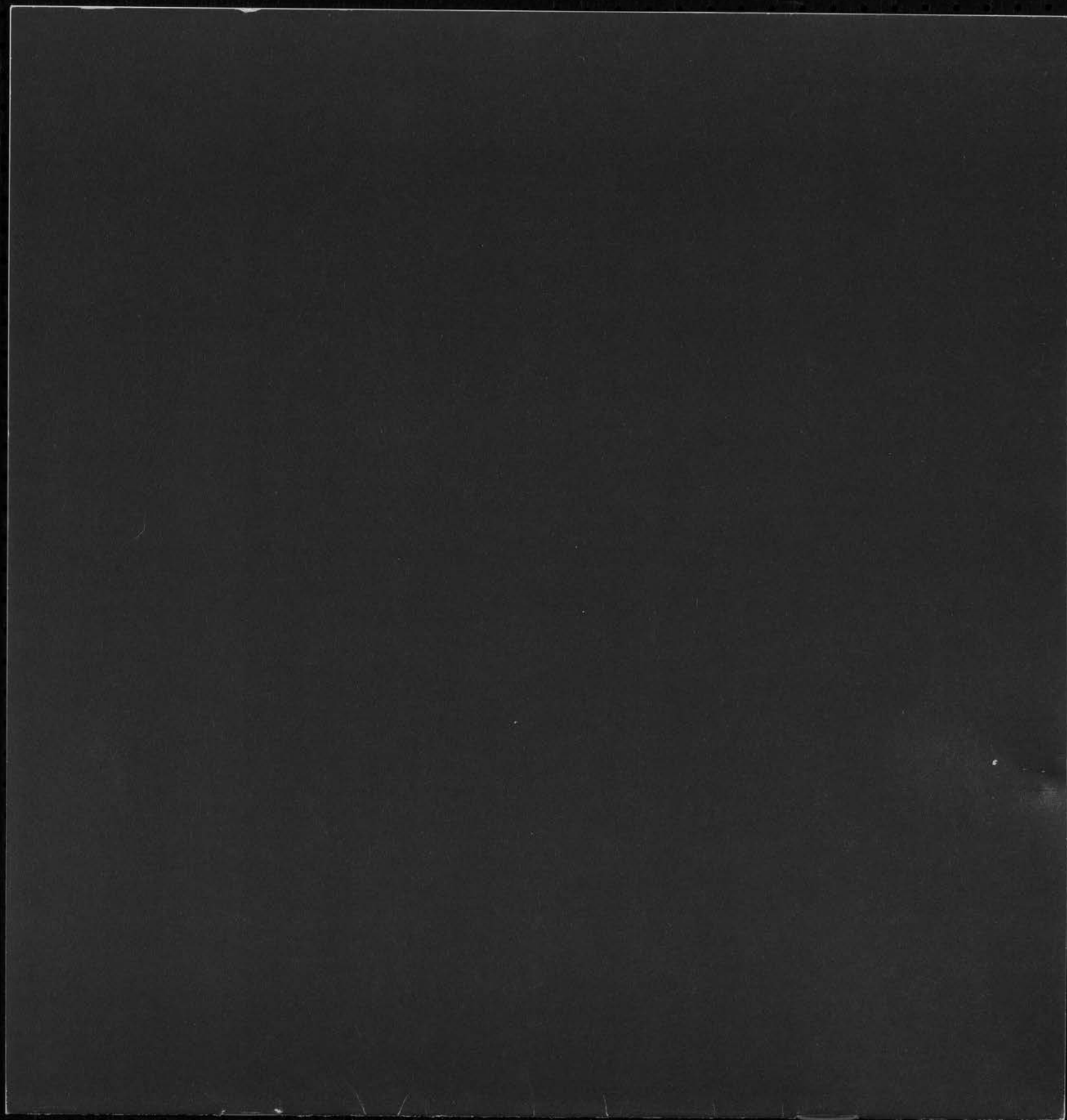
Information regarding projects and CTI financial needs may be obtained from the President, CTI, at the

address given below or by calling (612) 545-0378.

### Donations:

All gifts and grants should be made out to Compatible Technology, Inc., and sent to the President, Compatible Technology, Inc., 7600 Harold Avenue, Minneapolis, MN 55427. Gifts are tax deductible.





# Methodists back program for soybean cookie in India

*"They are too near the margin of poverty, starvation, and bondage to dare risk testing anything new. This we can do for them. We have watched men and women move cautiously and slowly from skepticism and fear to the beginnings of assurance and independence."*

*"Behind Mud Walls," William and Charlotte Wiser, 1951.*

By Kay Miller  
Staff Writer

The book that Robert Nave quotes is bettered and dated, but the reality of poverty in India that it describes remains true, he said. Though seriously malnourished and often without work, the people do not experiment to find brave solutions for fear that if they fail, they might loosen their already precarious hold on survival.

"We are trying to teach people ways in which they can earn a living and meet their own needs, and at the same time make nutritious foods available," said Nave, who for 27 years has worked through the United Methodist Church in India, where he was born and reared by missionary parents.

At 60, Nave believes he's found part of the solution in a chewy, ginger-flavored cookie that has a high-protein soybean flour as its base. Just two to four of the cookies added to the diet of an undernourished Indian child could give him adequate nutrition, Nave said.

It took Minneapolis volunteer George Ewing five months and about 100 test batches to develop the cookie from ingredients available in India. He is a research engineer and manager at General Mills, Inc., which with Land O'Lakes loaned food engineers and laboratories to Nave's nonprofit, Minneapolis-based organization, Compatible Technology, Inc. It has developed the cookies, solar-dried potatoes and a textured vegetable protein food.

The cookie is the most successful product to date. It is a simple combination of soy flour, whole wheat flour, oil, brown sugar and spices. It has become the basis of Project

Soya, a program sponsored by the Minnesota Conference of the United Methodist Church as part of its anti-hunger efforts.

The project's goal is to set up a variety of income-producing small business enterprises in India. The people would be taught how to make the cookies, establish means of distribution and ultimately sell them at the Indian equivalent of about \$1.10 per 2.2 pounds.

As Nave talked in his office at Richfield United Methodist Church, six women from the church baked dozens of batches of the cookies in the kitchen nearby. "We found it calls people's attention to the project," Nave said. "They're very interested in tasting them."

The cookies will be sold at the church on Sunday during a Project Soya Awareness Day, a combination fund-raiser and hunger education program. Other United Methodist churches will hold similar events in a conferencewide effort to raise about \$500,000 for the purchase of 1,200 bushels of soybeans to produce the cookies in India.

People here have found the cookie such a tasty form of protein that some are interested in making it themselves, Nave said. So he and Hank Garwick, the 61-year-old mechanical engineer who is coordinator for Project Soya, also decided to market a cookie mix.

As Garwick talked about the mix, he hauled out a poster with preliminary designs for its box. The outside is plastered with a happy face made of three cookies, rimmed with the slogan, "Project Soya Cookie Mix. The food that makes hungry children smile."

About a year ago Nave took samples of the cookies to Bareilly, an Indian city of about half a million people. Children loved them, but Nave ran into funny little problems in getting them produced in India.

For one thing, baking is not as common a form of cooking in India as it is in the United States, so people used the cheapest oil they could find

— mustard oil. Predictably, the cookies tasted terrible, so Nave specified peanut oil. "It's not enough to give them a technique without following it up," he said.

And without jobs, emergency feeding programs to help the chronically hungry usually makes starvation worse in the long run, Nave said. The food allows the population to grow without increasing food production to support it.

One of the myths about hunger is that it occurs because there is a shortage of food, he said. To the contrary, he said, "We've discovered people starve in the midst of plenty because they don't know how to utilize what's there."

That is true in India. Soybeans are grown for the oil, but the protein-containing meal is exported for cattle feed, Nave said. The Indians don't know how to use it.

So when three Indian relief agencies came to the Nave Technical Institute, Nave's namesake school developed under United Methodist auspices, asking for ideas on feeding hungry children in Calcutta, he turned to the soybean.

In Calcutta there are an estimated 10,000 to 15,000 "children of the dump," whose families literally "live on the dump, play on the dump and make their living on the dump," eating refuse from it and reprocessing rags for income, Garwick said. The relief agencies asked Nave to develop an easy-to-make, nutritious biscuit for these children.

The cookie could simply have been made by a big company and shipped to hungry people in India, Nave said. That would have taken care of the



Staff Photo by Tom Sweeney

Hank Garwick, left, and Robert Nave tasted soy cookies at Richfield United Methodist Church.

immediate hunger, but it wouldn't have done anything about the systemic problem: people's need for work and the income it provides.

The plan he and co-workers developed was for women of the *bustees*, or shanty towns, to make the cookies in a cooperative and sell them primarily to Calcutta feeding programs. Over time, production would be in-

creased and more of the cookies would be sold to the general public, making the small business increasingly self-sufficient, Nave said.

There are now three pilot programs for producing the cookie in India: in Calcutta, in a mission town of 150 and in the city of Bareilly. The target population is far vaster; an estimated 280 million people — 40 percent of

India's population — are malnourished.

"When you begin to train them and give them hope that someday they'll be able to get their kids out of this rut, you've given them a lot more than just a meal," Nave said.

Reprinted with permission of the Minneapolis Star and Tribune.

# Laymen put skills, faith to work for missions



MINNEAPOLIS — Soya Cookie Mix is "the food that makes hungry children smile," the face on the box says. Each package makes 36 cookies that are high in protein, iron and thiamin. Proceeds from sales of the cookie mix will go toward buying more soybeans for cookie mixes in India.

REPORTER STAFF PHOTO BY DEBRA ENNACO

## Christ's 'loaded command' leads food engineers into innovations

By SUSAN CARROLL

Staff Writer

MINNEAPOLIS — George Ewing, a United Methodist layman and food engineer with General Mills, has spent the last 26 years in the company's labs here developing foods that helped make America known as the Land of Plenty.

But outside the Land of Plenty, Mr. Ewing realized millions of people had never heard of chocolate chip cookies or dry sweetened cereal. They'd be happy to fill their bellies with almost anything.

Aware that he and his peers were sitting in one of the largest "think tanks" in the food industry Mr. Ewing and nine other General Mills scientists, engineers and executives — all United Methodist laymen — in 1981 organized Compatible Technology, Inc., a non-profit organization that researches and develops foods and equipment used in food production for hunger-stricken Third World countries.

"Jesus told us 'Feed my people,' and if you work in the food industry, that's a loaded command," Mr. Ewing said.

"We were all aware that we weren't using our talents to do anything about world hunger," he added. The 10 men had access to the know-how, the manpower and, most of all, the equipment needed to develop foods that would answer that ancient command, he said. But they weren't doing anything about it.

The 10 met with another United Methodist, Robert Nave, who had recently returned home here after 27 years as a missionary to India. With his guidance and an OK from the management at General Mills to use company labs, equipment and raw products at nights and on weekends, the 10 volunteers set out to design foods and cooking apparatuses for developing nations, particularly India.

They had one primary goal, Mr. Ewing said: to make the food and cooking tools compatible with the culture where they would be used. Thus the name of the company: Compatible Technology.

"We have to work with the needs of the people," he said. And that meant using food readily available there as well as equipment and know-how of the people.

"That's why we needed a contact person like Bob Nave," Mr. Ewing said. "We had the knowledge to develop the foods, but he had the knowledge of the culture and the people's needs."

The first project in 1981, Project Soya, was to develop a high-protein cookie that could be used as a supplement for deficient diets in India.

The group worked extensively over the past three years developing soybean-fortified products to be used with existing Indian village-level skills and tools. The food engineers and scientists are also working on by-products from food grown

in India that are otherwise going to waste.

One of their latest projects has been the development of small extrusion cookers that heat soybeans at such a high temperature that a puffed vegetable by-product is obtained, much like corn curls or puffed cereal, Mr. Ewing said. They are eaten as a snack food.

Other on-going projects of Compatible Technology include an eggless soy doughnut that's deep-fried and high in protein. The doughnut is "compatible" with the culture because it's eggless (the majority of Indians are vegetarians and consider eggs the same as meat), it's fried like much of their other food and thus acceptable, and it's high in the protein they desperately need, Mr. Nave explained.

Further information about Compatible Technology can be obtained by writing its offices at 5835 Lyndale Ave., South, Minneapolis, Minn. 55419.



# Cookie supplies high nutritional value

Reporter Staff Special

MINNEAPOLIS — A group of United Methodist laymen in Minnesota, led by a team of food engineers, is taking a stab at the problem of hunger in India. And the laymen think they can do it with cookies.

George Ewing, a food engineer with General Mills, went to Robert Nave, a former United Methodist missionary, for suggestions on how he might develop a high-protein supplement for diets of villagers in India, where Mr. Nave had worked as an agricultural engineer.

Mr. Nave's suggestion was a cookie-type food that would be easy to handle and high in protein and vitamins. Mr. Ewing went to work on a recipe that would use only food products available in India. That eliminated white flour, sugar, eggs and most flavorings.

Five months and 100 cookie batches later, Mr. Ewing found his solution: a soy-based cookie sweetened with gur (a sugar cane molasses) and made from soy flour and whole wheat.

Research on the cookie was done in the labs of General Mills and Land O'Lakes, which lent their food engineers and raw materials.

Two to four of the cookies could give an undernourished Indian adequate nutrition, Mr. Nave explained, because they are so high in protein, vitamin B and iron.

The cookies were the founding venture of Project Soya, an anti-hunger program sponsored by the United Methodist Minnesota Annual Conference.

Project Soya works to train Indians in their native environment about soybean

processing, soy food manufacturing and other skills, including business management and sales.

Because Project Soya is a self-help project of the Minnesota conferences, UM churches across the state are sponsoring Project Soya Awareness Day. Churches set up displays showing the work of Project Soya's parent company, hang posters and present slide presentations on how United Methodists in Minnesota are doing their part in battling chronic hunger. Mr. Nave said.

And of course, there are plenty of cookies on hand. Individual and church donations often follow the special days. The conference hopes to raise \$500,000 to buy 1,200 bushels of soybeans to produce the cookies in India.

In addition to developing the cookie mix for overseas uses, Project Soya packages the mix for sale in this country, with proceeds going toward mission projects. Boxes are sold to churches for \$1 each with a suggested retail price of \$1.75.

— SUSAN CARROLL



MINNEAPOLIS — George Ewing (left), developer of the cookie mix, loads a pickup truck full of boxes of the cookie mix to be distributed at Minnesota's United Methodist annual conference. Assisting him are Robert Nave (center), president of Compatible Technology and Hank Garwick, volunteer.

## Journalist bakes a batch

Reporter Staff Special

Have you ever bypassed a hamburger at lunch, eaten a salad instead, then felt proud about it all day long?

Then you know what it's like to bake a batch of Soya Cookies, the packaged cookie mix being distributed by Project Soya, a special hunger project of the Minnesota Annual Conference (see related stories on this page).

Even though you'd rather have had a plate full of chocolate chip cookies, there's something noble about eating a cookie that's good for you.

So what does a cookie taste like that's made from soy flour, whole wheat and gur (a sugar cane molasses)? As they say in the advertising industry, "It's a whole new taste sensation."

And it probably is for someone who has never baked with soybean by-products. Soy flour has a strong flavor akin to peanut butter. Combined with whole wheat flour that has a natural nutty flavor, the mix produces cookies that taste rich and full of flavor.

I made the cookies a couple of ways, even though the directions call for simply using  $\frac{1}{2}$  cup water and  $\frac{1}{2}$  cup vegetable oil to the basic mix. Made

plain and pressed with a fork, they tasted and looked similar to peanut butter cookies. When I added an egg, the cookies looked like the teacakes I grew accustomed to when I lived in Mississippi. And when I added chopped nuts, raisins and vanilla, the cookies tasted like a product you'd buy at a health food store.

The cookie mix comes in a plain 17 ounce box with the cartoon drawing of a smiling face on the front that says it's "The food that makes hungry children smile."

What kid wouldn't smile for a cookie? But I offer the following suggestions for best results:

- Use vegetable oil, not butter or solid shortening. And use a good quality of oil.
- Add a beaten egg, and the cookies will take on a lighter texture.
- Don't beat too long or the dough will get tough.
- And finally, remember that this cookie is designed to be eaten by hungry persons in the Third World. Their taste buds have not been as spoiled by refined sugars and expensive flavorings as ours have.

— SUSAN CARROLL



COMPATIBLE TECHNOLOGY, INC.

A Challenge to Combat  
Poverty and Hunger  
Through Self-Help

Compatible Technology, Inc.  
5835 Lyndale Avenue, South  
Minneapolis, Minnesota 55419

Telephone: 612-861-6086

## THE OBJECTIVE OF COMPATIBLE TECHNOLOGY, INC.

To find and put to use the technical know-how, research facilities, time, equipment and skills of individuals, organizations and corporations to help solve problems of hunger, poverty and development, especially in developing countries.

### THE PROBLEM

1. There are over 5,000,000,000 (five billion) people living on this globe called Earth. Of these human beings, 460,000,000 (four hundred and sixty million) are starving to death.

That is as many people as live in the United States, France, West Germany, Spain and Italy combined.

The Hunger Project Report #18 of May, 1984, states that 13 million people like us die each year from hunger-related causes. That is:

35,000 each day - or 24 each minute;  
18 of these are children.

2. Millions are suffering from malnutrition. They are being crippled: mentally -- socially -- spiritually -- physically.

Sally Urvina, in "Malnutrition in the Third World," (The Christian Century, May 23, 1984) tells us that:

500,000,000 people suffer from protein energy malnutrition  
6,000,000 people suffer from xerophthalmia (Vitamin A deficiency)  
150,000,000 people suffer from endemic goiter (iodine deficiency)  
350,000,000 people suffer from nutritional anemia

1,006,000,000 people suffer from malnutrition. That is one-fifth of the population of the world.

The World Bank Annual Development Report quoted in the news media in July, 1984, states that by the year 2050 the world population will have doubled to 10 billion. The number of poor and hungry may double or triple in the same period. New approaches to economic development are needed to stem the tide of hunger, poverty and population growth.

## INTRODUCTION

Since World War II, massive efforts have been made to eliminate hunger. The net results can be summarized as follows:

- There is now enough food in the world to feed everyone.
- There are more hungry people in the world now than there were 30 years ago.
- In India alone, nearly 280 million people are sufficiently malnourished to cause serious concern.
- Hungry people are those who do not have enough money to buy food.
- There are still huge food resources in some developing countries which are not used as human food due to the inability of people to process, store and handle them.

Why are all efforts failing to stem the tide of starvation and hunger?

Because the efforts of too many well-meaning people are geared to eliminating today's hunger by establishing emergency feeding programs -- short term solutions, band-aid approaches. These programs do not result in long-term benefits. These programs do not cure the disease of poverty. Emergency relief generally attracts more support than projects aimed at long-term solutions. New approaches are needed.

Poor people are hungry people. Part of the cure is found in helping to provide them a means of earning money with which to buy food.

Reports and literature regarding world hunger as well as personal experiences of individuals strongly support the need of attacking grass roots hunger through small, labor intensive enterprises based on sound technologies, introduced in understandable ways and nurtured by consultative services which are both accessible and affordable. A gap exists in development efforts as they relate to food preservation and processing and establishing these enterprises among poor people.

There are suitable technologies for adaption and expert volunteers in U.S. industry (especially food industries), who are willing to adapt these technologies for third world needs. Compatible Technology, Inc. (CTI) was organized as a response to these needs and to utilize the opportunities that are available.

## ORGANIZATION

Compatible Technology, Inc. was incorporated in accordance with provisions of the Minnesota Non-profit Corporation Act, Minnesota Statutes, Chapter 317. It is exempt from Federal Income Tax under Section 501 (a) (3) of the Internal Revenue Code. It is also exempt from Minnesota State income tax under Section 290.05, Subdivision 1 (i).

CTI provides a new approach through use of technical know-how, research facilities, time, equipment and skills of individuals, organizations and corporations to help solve problems of hunger, poverty and development, especially in developing countries. In most cases, (if not all), the application of technologies researched and adapted by CTI must strive to establish income earning opportunities among the poor in the form of small business enterprises.

This program will demonstrate that the concept which embodies the ideals of free enterprise can apply and directly meet the needs of the poor.

CTI is governed by a Board of Directors, consisting of professional people in the Twin Cities area. The offices are located at and provided by the Richfield United Methodist Church.

## TODAY'S PROJECTS

CTI devotes its energies and resources to help the hungry help themselves by concentrating on projects that create jobs -- projects that develop income-earning potential for the rural poor.

The hungry will not be hungry if they have money to buy food. The malnourished can escape prison of insufficient energy if they have money to buy calories, proteins and vitamins. If we want to rescue outcasts of our economic minded world, we must give them opportunities to earn their own livelihood.

1. Three projects are established or are in the initial stages of being established:

### A. SOLAR VEGETABLE (POTATO) DRYING INDUSTRY

The Need. Small farmers raise potatoes and cannot profitably dispose of them at the peak of the harvest season (March/April). Cold storage is the only means of storing the potato, but it is very expensive. Potatoes are often left in the field to rot.



The Solution. Introduce a high quality village process of drying potatoes for long-term cold storage . (India does not have a commercial potato drying industry.)

The Project Today. Two locations have built CTI designed solar vegetable dryers. Operators have used CTI manuals to process dried potatoes for long-term storage. At each site, 3-10 dryers can be built and made operable for \$130/dryer. Each site gives employment to 2-4 persons for three months. Each dryer will process approximately 1 1/2 tons of potatoes in a season.

#### B. SMALL EXTRUSION COOKER FOR VILLAGE USE

The Need. Textured protein foods made from soybeans are accepted in India as a common food substance. Commercially produced food items are presently too expensive for general village use.

The Solution. Design a small, low horsepower extruder capable of producing high protein foods with performance close to that of existing commercial models.

The Project Today. CTI has developed a village-sized extruder. Compare the following:

	Village Size	Commercial Size
Horsepower required	20-30 h.p.	75-250 h.p.
Cost	\$30,000 USA	\$80-500,000
Soybean capacity	1/3 ton/hour	1-5 tons/hour

We need \$100,000 to set up a pilot plant in India. Each plant will employ 8-10 persons per year. Estimated cost of an extruder produced in India is \$10,000.

#### C. COOKIE PROJECT

The Need. A highly nutritious supplementary food for feeding programs.

The Solution. CTI has produced a soybean cookie which meets all nutritional requirements.

The Project Today. The cookie has been market tested in India. Small business enterprises are being established to produce the cookie for feeding programs and for sale to the general public.

- Three institutions are making the cookie for their own feeding programs.
- One cookie entrepreneurship costs \$500.

## 2. Other projects and activities:

- Nutri-Meal, a research project, will provide a quick meal product for families where both spouses work. It will utilize the products from the small extruder and vegetable drying methods. Nutri-Meal is another small business opportunity.
- PROJECT SOYA has been put in motion through (but not limited to) the United Methodist Conference of Minnesota. This project collects soybeans or money to buy soybeans for shipment to India to provide raw materials and finances for CTI projects there.
- PROJECT SOYA Cookie Mix has been developed and is available to churches and individuals in the USA. This is the same formula developed for and being used in India. The sale of this mix provides income for administrative expenses, gives publicity to CTI programs, gives churches a fund raising tool, and enables people to evaluate for themselves the product being used in India.
- Five directors, at their own expense, have visited India on assignments ranging from survey to consultation and establishment of pilot projects.
- A feasibility funding audit of CTI was completed by a professional organization.

## STRATEGY AND GOALS

### 1. PROJECT IMPLEMENTATION

The Strategy. Organize CTI to efficiently screen all inquiries for assistance and select those opportunities which have the most apparent need and also have high assurance of accomplishment consistent with CTI's resources, both technical and financial.

Present Action. Committees have been formed to take responsibility for each of the following four phases:

<u>PHASE</u>	<u>IN USA</u>	<u>IN DEVELOPING COUNTRIES</u>
Discovery	Evaluate needs from developing countries.	Work with indigenous groups and persons to find needs.
Processing	<p>Locate technical experts.</p> <p>Establish budgets and funding sources.</p> <p>Adapt or create technologies.</p> <p>Develop technical transfer package.</p> <p>Install communications link.</p>	<p>Select and arrange for location and facilities.</p> <p>Select, train and set up enterprise groups.</p> <p>Set up management systems.</p> <p>Conduct marketing surveys.</p> <p>Locate reliable sources of materials, supplies and equipment.</p>
Implementation	<p>Be a source for information needed by established projects.</p> <p>Review periodic reports and act as necessary.</p> <p>Arrange volunteer visitation to projects.</p>	<p>Provide local, national or foreign national overview function.</p> <p>Create indigenous self-supporting structures to provide:</p> <ul style="list-style-type: none"> <li>- consultancy services</li> <li>- assured material success</li> <li>- quality controls</li> <li>- marketing help</li> </ul>
Completion	<p>Evaluate for spin-off.</p> <p>Evaluate for application to other situations.</p> <p>Publish final review.</p> <p>Phase out.</p>	<p>Full responsibilities assumed by local structures.</p> <p>Maintain contact with information sources in USA as needed.</p>

Action as of July 1, 1984, is as follows:

<u>PHASE</u>	<u>PROJECTS</u>
Discovery	
Processing	Nutri-Meal -- a quick food which can be produced on a village extruder
Implementation	Soya Cookie Village Extruder Vegetable Dryer
Completion	Initial stages of development

Future Goals: Add projects in India at a rate commensurate with funding, need and solutions.

Expand to other countries as funding permits:

Central America - 1985  
Africa - 1986



COMPATIBLE TECHNOLOGY, INC.

PROJECT FACT SHEET: SMALL EXTRUSION COOKER PROJECT

Description:

Extrusion cooking is a continuous cooking process using a machine which looks a lot like a large meat grinder. It can make textured soy proteins (which can be used as a meat substitute in terms of both protein content and texture), fortified snack foods, instant cereals, baby foods, cold cereals, pet and fish foods, etc.

In 1971, the Methodist Church in India set up an extrusion cooking project using USA commercial machinery. It was a great success and developed into a nationally distributed product. However, the full potential of extrusion cooking cannot be realized until overheads, transportation and distribution costs are substantially reduced. This can be done by introducing small extrusion cookers and establishing production units nearer the markets.

This project will establish one prototype small industrial unit using equipment especially designed by a USA manufacturer for the purpose. The project will train operators and management and set up marketing procedures and facilities. A parallel effort will make arrangements for the manufacture of additional extrusion cookers in India.

Justification:

These small units will enable plants to be established where they will bring maximum employment to the poor, cut the wholesale and retail costs of soy based foods and increase the amount of quality protein available to low income persons.

In addition, it will make it possible to convert thousands of tons of soy meal, (now being exported as cattle feed on international markets), into inexpensive, high-quality human food. From previous experience with the Methodist factory, we know there is a demand for these products.

Extrusion cooking also has the potential for other processes, such as rice bran stabilization. This could add 800,000 tons of rice oil and bring five million tons of rice bran in India in a form fit for human consumption.

Need:

The small extruder is ready and the plans for a small scale factory are well along. It will take one year, after ordering the extruder, to have the factory ready for trials in India. The cost of this first phase of the project is \$60,000. An additional \$40,000 is needed as working capital to cover the "shake down" period, buy raw materials, pay labor, undertake marketing and supply a cash-flow base for the overall operation. Like all CTI projects, this must be economically viable. It will pay back much of the capital outlay used to establish it. The monies returned will be used to establish other projects in India.

COMPATIBLE TECHNOLOGY, INC.

PROJECT FACT SHEET: POTATO DRYING PROJECT

Description:

The project establishes a small solar powered unit for drying one ton of potatoes per day in a farming village in India. The unit will be profitable and viable and serve as a model for similar village potato drying industries to be started elsewhere.

Justification:

Potatoes are an increasingly important crop in India. Because they are harvested at the beginning of the hot season, they cannot keep without being stored in a cold storage plant or being dehydrated.

No good quality dehydrated potatoes are currently produced in India. Research and trials by CTI have shown that a simple village method to dry one ton per day of potatoes is viable, and the dried product is high quality.

The only form of storage now available is Cold Storage. Due to lack of capacity, thousands of tons of potatoes spoil each year. The small farmers are often victimized by cold storage operators, also. The solar dehydration process provides a viable alternative to both of these problems.

Most of the poor and malnourished people live in rural areas. Potato drying, processing plants can bring jobs and income for the poor in rural areas.

Needs:

Estimated cost of the first model solar potato drying unit is \$30,000. This will include equipment for washing, peeling, slicing and blanching -- a solar dryer with a capacity of one ton per day, and a storage facility to store at least twelve tons of dried potatoes.

It will also include operating capital to purchase sixty tons of fresh potatoes and pay salaries and overheads until the product is sold during the off-season. A sum of \$3,000 has been included to market and distribute the potatoes as dried potato usage will be new to most customers.

Finally, the expenses of the Project Supervisor from CTI to spend six months in India, cost of documentation and reporting, will be met from the total.

COMPATIBLE TECHNOLOGY, INC.

PROJECT FACT SHEET: SOY COOKIE PROJECT

Description:

The soy cookie is a low cost, easy to make, high-protein, high-energy cookie suitable for supplementary feeding programs or sale to the general public.

The cookies will be produced by individuals selected from among the poor, trained to make and market the cookie and be established as small entrepreneurs. Whenever possible, existing feeding programs will be encouraged to buy from these small businesses in help them get started.

Justification:

There is a need for inexpensive, highly nutritious foods which are easy to distribute, and which have a long shelf life for use in various types of emergency and long-term feeding programs.

There is also a need for a low cost, high nutrient snack food for sale in the open market. Some target groups are school children, rickshaw pullers and customers at roadside tea houses.

The project has considerable potential for establishing new bakery units which can be owned and operated by people from among the poor and who are now unproductive.

Needs:

To establish the first project will cost \$18,500. This will include construction of an oven to produce 5,000 cookies per day, operating capital for a six-month period (purchase of raw materials and payment of wages), and marketing costs. Marketing will require a peddle-powered 3-wheel rickshaw with a flat-bed or built-up, van type body.

Results:

For each unit established, four or five jobs will be created among people chosen from out of those who have normally required relief help.

The product of one unit will provide supplementary protein and energy for 1,500 to 2,000 children per day.

The cookie also provides an efficient way to use soybeans suitable for wide use, both in third world countries and in the United States.