

BIBLIOGRAPHIC DATA SHEET

1. CONTROL NUMBER
PN-AAH-4932. SUBJECT CLASSIFICATION (695)
JE30-0000-0000

3. TITLE AND SUBTITLE (240)

Expatriate professionals as international consultants

4. PERSONAL AUTHORS (100)

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5. CORPORATE AUTHORS (101)

AID/TA/OST

6. DOCUMENT DATE (110)

1979

7. NUMBER OF PAGES (120)

72p.

8. ARC NUMBER (170)

301.328.S827

9. REFERENCE ORGANIZATION (130)

TA/OST

10. SUPPLEMENTARY NOTES (500)

11. ABSTRACT (950)

12. DESCRIPTORS (920)

Brain drain
Migrations
Professional personnel
Program planning
Consultants
Technology transfer

Technical assistance

13. PROJECT NUMBER (150)

14. CONTRACT NO.(140)

TA/OST

15. CONTRACT
TYPE (140)

16. TYPE OF DOCUMENT (160)

301,328
S 827

PN-AAH-493

EXPATRIATE PROFESSIONALS AS INTERNATIONAL CONSULTANTS

EPIC is an action program to address the problem of the brain drain through the transfer of U.S. technology appropriate to the needs of the less developed countries and of primary benefit to their poor majorities.

Office of Science and Technology
Agency for International Development

February, 1979

TABLE OF CONTENTS

Introduction	iii
Summary	vi
I. Problem of the Brain Drain	1
Review of Selected Studies	1
Experience of the Less Developed Countries	5
Experiment in Turkey	17
Current Actions by the United Nations	20
II. Companion Problems	22
Meeting Basic Human Needs	22
Improving Technical Assistance	25
Migration and Entrepreneurship	27
III. Potential for a New Response	29
Population of Expatriate Professionals	30
Associations of Expatriate Professionals	33
Administration in the Developing Country	36
Administration in the U.S.	40
Alternative U.S. Administrative Systems	41
Expatriate Professionals in Action	43
Cost Considerations	44
Problems to be Anticipated	46
Evaluating the Program	47
IV. Recommendations	50
Administration in the U.S.	50
Candidate Countries	51
Preparatory Operations	52
Phase One Operations	54
Phase Two Operations	54
Projecting Operations	55
Cost Sharing with the United Nations	58
References	60

Annex I	Country Experience	1
	Republic of Korea	1
	India	5
	Kenya	10
	Peru	13
Annex II	An Evaluation: Technical Assistance to Turkey by Expatriate Turkish Professionals Summary and Recommendations	1
Annex III	Questionnaires used in Turkey	1
	Evaluation by Consultant	1
	Evaluation by Host Organization	3
Annex IV	Summary of Pertinent Studies	1
	International Migration of Talent and Skills (1968)	1
	Brain Drain: A Study of Persistent Issues of International Scientific Mobility (1974)	3
	Brain Drain: Emigration and Return (1978)	7
	Manpower Policies for the Use of Science and Technology in Development (1978)	11

INTRODUCTION

The permanent migration of professionals to the more developed from the less developed regions of the world, in recent years referred to as the "brain drain", is a problem of growing concern to all countries. It is also a most complicated and controversial problem with no general agreement either on its causes or its cures.

While most voices have been raised in controversy, a few have brought reason to the problem. Among the latter the following represent the points of view of an official of the U.S. Department of State and the leader of a developing country.

"The brain drain is a contemporary manifestation of a phenomenon common to all modernization - the movement of people away from the poorer and more isolated places towards the metropolitan centers of the world. And the brain drain is an important problem because it raises, in most dramatic form, the question of the kind of world in which the United States wants to live a generation from now. Over the long run we cannot stand the burden of a world in which most peoples and most countries will have inadequate intellectual resources and leadership of their own."(2)

"Some of our citizens will have large amounts of money spent on their education while others have none. Those who receive the privilege therefore have a duty to repay the sacrifice which others have made. If any of the young men and women who are given education by the people of this Republic fail to use their knowledge to help the development of this country, they are betraying our Union."(5)

This report reviews the major findings of selected studies undertaken during the last decade on the brain drain in order to assist the design of an action program. However, the report does not attempt an analysis of the brain drain problem but rather concentrates on one practical way of addressing it through a program which facilitates the return of expatriate professionals, residing in the United States, for relatively short periods as volunteer consultants to their countries of origin. The expatriates may have retained the citizenship of their birth or have acquired U.S. citizenship.

A potential for the rapid global expansion of the program recommended in this report exists because of the strong interest already expressed by many developing countries and by the United Nations system.

The operational and financial implications of an expanding action program have been presented with suggestions for cost sharing so as to minimize the need for long term AID financing.

This study gained especially from the operating experience of the Government of Turkey/United Nations pioneering experiment, the International Executive Service Corps and the Volunteers in Technical Assistance.

The study has been undertaken by a consultant to the Office of Science and Technology, Joseph E. Stepanek, with the collaboration of a research assistant, Ming Ivory.

Washington, D.C.
March 1, 1979

SUMMARY

The brain drain problem arises when the professionally educated from the developing countries settle permanently in the more developed countries. It also arises when the educated are attracted to metropolitan centers within their own country.

Among the industrial countries the U.S. is now the home of approximately half the expatriate professionals from the developing countries. Most enter the U.S. first as students.

The number of professionals from the developing countries entering the U.S. for employment may be decreasing - except for medical professionals. Even so, there are at present in the U.S. at least 250,000 engineers, technologists, natural scientists and others who could contribute to economic growth in their home countries. Thus the U.S. has both a potential for and an obligation to consider additional approaches to this problem.

Over the past decade the developing countries have been expressing their growing concern in various United Nations bodies and will debate the subject again at the U.N. Conference on Science and Technology for Development. Their financial loss through the educational investment in individuals who migrate is substantial. Their loss in terms of managerial, entrepreneurial and decision making skill is even greater.

Representatives from twenty of the developing countries concerned with the brain drain problem met in Istanbul during June, 1978, to consider practical actions. Endorse-

ment was given to an experiment under way by the Government of Turkey and the U.N. Development Programme to attract expatriate professionals residing abroad back to Turkey for short periods as volunteers. Most who returned were residents of the U.S. including many who had taken U.S. citizenship. Surprisingly little difficulty was found in identifying expatriates wishing to volunteer. As a result of the Istanbul meeting, the U.N. will be financing similar projects in as many as a dozen additional developing countries.

Based on the experience of Turkey and of other developing countries this report recommends an action program through which expatriates residing in the U.S. would be encouraged and assisted in the transfer of technology appropriate to the needs of the developing countries.

The action program has a potential for achieving three important objectives. It provides:

- a practical approach to the problem of the brain drain.
- support for employment creating projects which address the problem of the poor majority and
- a more cost-effective substitute for traditional technical assistance.

The report recommends the procedures for initial implementation of the action program.

- (1) In each participating developing country autonomous, flexible and innovative organizations are established with links to the government, business and other groups and to host organizations wishing to use the services of volunteer expatriates for employment creating activities.

- (2) In the U.S. a private sector organization enters into operating agreements with developing country organizations, identifies candidate volunteer expatriates and assumes responsibility for initial administration.
- (3) The U.S. organization can best be formed through a joint agreement between two long established and well experienced non-profit corporations, the International Executive Service Corps and the Volunteers in Technical Assistance, without having to establish a new corporation.
- (4) Four developing countries are invited to participate initially from among the candidate countries most interested and best able to meet the conditions.
- (5) Encouragement is given to development oriented associations of expatriates in the U.S. willing to share responsibility for identifying qualified volunteers.

The U.S. organization, under contract with AID, would require a preparatory period of four to six months to verify the feasibility and to perfect the design of the linkage between the supply of volunteers and the demands of host organizations.

The program could expand during a three-year Phase One period during which special attention would be given to the strengthening and establishment of associations of expatriates.

During a Phase Two it may be possible to transfer administrative responsibility to a federation of expatriate associations.

As a guideline for longer term operations this report further recommends that:

- (1) Participating countries be limited to those 20-30 best able to cooperate toward all three objectives.

- (2) Priority be given to volunteers interested in long-term technical assistance to their home countries.
- (3) Costs be shared primarily among host organizations, developing country governments, expatriate associations in the U.S. and the AID/FITC.

The design of the program includes a built-in system of internal evaluation. For example, the continuation of the program will depend, regardless of the AID funds available, upon the willingness of developing countries to meet the conditions for participation and the desire of expatriates to volunteer. In addition periodic external evaluations are recommended for which terms of reference have been drafted.

Operations, the budget and sources of finance have been projected to illustrate the potential of the program. During the fifth year the program should operate in twenty countries with

600 volunteers making their first visit,
200 making a repeat visit and at least
500 volunteers providing VITA type assistance from the U.S.

The total budget of approximately \$7 million (1979 prices) for the fifth year should be shared equally between developing country and U.S. sources with AID/FITC contributing approximately \$3 million or \$3,000 per volunteer month.

In the program being recommended the developing countries could be receiving a package of benefits for the very low \$3,000 per volunteer-month investment by AID including repeated visits, continuing services from the U.S. and the chance that the expatriates will return permanently. Furthermore, through language skills and cultural affinity the expatriates can accomplish in four weeks what would require

six or longer from a typical foreign consultant.

The costs to AID/FITC could be reduced significantly through inclusion of the U.N. Development Programme in the cost sharing. On a country by country basis decisions would have to be made, based on many advantages and a few disadvantages, of cost sharing with the United Nations.

I. THE PROBLEM OF THE BRAIN DRAIN

The global debate on the problem of the brain drain intensified in 1967 when the U.S. Senate's Sub-Committee on Immigration and Nationalization held hearings and the General Assembly of the United Nations debated the subject for the first time.

The next decade witnessed continued, intense interest with the publication of over 230 books and articles on the subject (3) and continued debate and resolutions within the U.N. system.

This study has reviewed three major U.S. and one U.N. publication with summaries of the findings and tables included in the Annex. Conclusions based on these publications plus other material, pertinent to the action being recommended, are included in the next section of this chapter.

Similarly, case studies of actions now being taken by four of the less developed countries are presented in the Annex with the pertinent conclusions presented in this chapter.

Also included in this chapter is a review of current U.N. activities to mitigate the brain drain.

Review of Selected Studies

A review of over a dozen recent studies of the brain drain, including the four summarized in the Annex, makes possible a more effective design of an action program.

The first concern is the factors which influence the brain drain.

Positive Correlations. The country selected for a higher education, with few exceptions, becomes the country of residence if a return is delayed. There is thus a close correlation between student and expatriate populations. The U.S. is the leader in both categories.

The brain drain from a particular country varies from one professional group to another and is definitely related to an over supply of a profession. In this case the brain drain is an overflow. Thus the brain drain, in part, is influenced by the effectiveness of manpower planning in the less developed country. Related to the above correlation are data that business students tend to return, engineers and scientists tend to remain abroad. An inverse correlation is reported between a tendency to return and the university students per capita in the home country. Unfortunately, "the greater the expansion of university education and professional output in a developing country, the lower the rate of return from abroad." (3)

The opening or closing of immigration doors significantly influences the brain drain. Canada, for example, has attracted relatively more professionals from the developing countries in recent years than has the United States.

Men tend to return home more readily than do women students. Individuals in the U.S. who join associations of expatriate professionals are more likely to return home than those who do not retain such cultural links with their home country.

Negative Correlations. The UNITAR study provides evidence, contrary to the generally held opinion, that the return of expatriates is not related either to the standard of living or to the rate of economic growth of the home country. The

conclusion was that "the wealthier the country the greater its loss." (3)

No correlation was found between the level of professional specialization and a return home. Even the professionals who were overspecialized, in relation to the technological needs of the developing country, returned or remained in about the same proportions as the less specialized.

Gains and losses. Recent UNCTAD studies have emphasized the financial loss to the developing countries through the brain drain (billions of dollars a year) and has suggested that the recipient countries establish an international fund to compensate the developing countries for their loss of professionals.

The losses are significant though much lower than UNCTAD has estimated. For all developing countries the Congressional Research Service (12) has estimated, for engineers and scientists only:

	Fiscal Year	
	1971	1972
Educational cost lost to the developing countries	\$ 326,000,000	\$ 320,000,000
Educational cost gain to the U.S. (to provide an equal level of education)	\$ 402,000,000	\$ 346,000,000

Financial estimates exclude the value to a developing country of the lost skills in high level management, administration and in decision making.

There are financial gains to the developing countries through remittances. For example, during 1975 86% of Korean expatriate

professionals in the U.S. sent remittances home averaging \$1,080 each. (3)

Increasingly individuals, even in the developing countries, are taking an international view of the brain drain. The most highly qualified of the expatriate professionals are international citizens whose activities benefit all countries including their own.

Current Trends. Since the early 1970's the brain drain to the U.S. has slowed and possibly reversed. (Note previous table on reduced financial losses in 1972 compared to 1971)

Even more dramatic is the reduction in the number of engineers and scientists from the developing countries applying for U.S. immigrant status. (4)

1971	13,100
1975	6,900

Many indicators are available from recent studies (supported by the experience of the developing countries reported in the next section) that the brain drain is being reduced and can be reduced further.

Modifications in U.S. immigration laws plus an adequate supply of U.S. engineers and scientists (but not of medical personnel) has discouraged a prolonged stay in the U.S. and encouraged a return home. At present only some 8 to 10 percent of developing country students coming to the U.S. contribute to the brain drain. Of all expatriate professionals from the developing countries working in the U.S. 90 percent hope some time to return home - at least for retirement. (3)

The reinforcement of professional and cultural ties may be more important than financial considerations in influencing

a return.

Decisions are influenced by:

- professional satisfaction
- monetary rewards
- strength of personal and cultural ties
- appeals to patriotism.

To activate the above factors it appears important to:

- eliminate obstacles that impede return
- facilitate incorporation back into the cultural life of the home country
- guarantee a job.

An additional guide to the action plan under study was provided during the 1967 Senate hearings.

"We do need better facts, but in my judgement, we should not be immobilized because of the assumption that we have inadequate knowledge." (1f)

Experience of the Less Developed Countries

For over a decade a number of developing countries have been taking steps to reduce the number of professionals who migrate, to induce them to return for short periods or to achieve a permanent return.

The first United Nations meeting devoted to problem solving rather than to further study of the brain drain was held in Istanbul during June, 1978. The sponsors, UNDP, UNIDO and the Government of Turkey, had anticipated the participation of representatives from six of the less developed countries. Twenty actually came to Istanbul together with the officials from the UNDP, UNIDO and UNCTAD. Representatives from the industrial countries had not been invited.

The Report(10) of this meeting is important because the administrators responsible for attacking the brain drain problem were speaking professionally and not as political representatives.

Four country papers out of the ten submitted, after editing and the insertion of supplementary material, have been included in the Annex as case studies.

The summary of the country experience, approved by all participants in the Istanbul Report, is abstracted as follows in this section.

The India paper pointed out that by taking an international view of the flight of talent one might conclude that people, like physical resources entering international trade, were seeking the market providing them with the highest compensation. As a result, the world's economic growth would be accelerated in some ways and even the country of origin would gain. The national view, however, assumes human capital to be indispensable to economic and social development and the country suffers if the pool of human skills declines below a critical level. The participants adopted this latter view as being more realistic.

Peru reported the results of demand studies both by professional skill and by region.

- For many skills, both national and foreign demand for Peruvian professionals was high, making it impossible to supply the national demand, e.g. engineers and medical doctors.
- For other skills, the national demand has been met, making it possible to supply foreign demand, e.g. agricultural engineers and secondary school teachers.
- The national demand was concentrated in one region

- surrounding the capital, Lima, where 82% of the demand for managers and 71% for other professionals originated.
- Foreign consultants resident in Peru tended to fill positions, e.g. agricultural engineers, for which the demand for Peruvian professionals was low.

Return of Expatriates for Short Periods. Three countries, other than Turkey, reported programs under way for the short-term return of expatriates.

In 1973, India established a visiting professor plan to return eminent expatriate scientists and engineers for short periods. Offers are made by universities and funds provided by the University Grants Commission. Two years later, the program was broadened to include visiting scientists who return to research laboratories for periods of about two weeks. At present, 900 research institutions are eligible to participate.

In 1972 the Philippines Government initiated a "homecoming of scientists programme" under a presidential decree. The objectives included:

- augmenting the research capability of private and public institutions and agencies engaged in the research and development by attracting highly trained overseas Filipinos by origin of descent to return and work in the Philippines, and
- boosting and strengthening the scientific and technological manpower of private and public institutions and agencies including the academic staff of educational institutions directly or indirectly engaged in the production of goods and services.

Participants, under what has been termed the Phase One

Program are invited at government expense to return to the Philippines to:

- familiarize themselves with the progress made in the country;
- identify potential job opportunities,
- give lectures, and
- serve as short-term consultants.

The program is administered by the National Science Development Board assisted by the Department of Tourism and the Association of the Colleges of Agriculture. A coordinating staff from the three agencies evaluates the qualifications of each applicant. In making decisions, the Committee takes into account the following national priorities:

- self-sufficiency in food,
- industrialization and engineering
- health, nutrition and population,
- energy, housing, transportation and communication.

The initial program was limited to 16 expatriates. The incentives given for returning included:

- tax-exemption,
- allowance of \$20/day for two weeks,
- transportation allowance in the Philippines for two weeks,
- authority from the Program to give consultancy services to requesting agencies and/or firms.

This Phase One Program in the Philippines has grown and, over the last three years, the following 72 have returned:

Natural scientists	25
Applied scientists and engineers	29
Agriculturalists	9
Social scientists	9

The Peru paper reported that a private chamber of commerce (ANDINUSA) linking the Andean Pact countries has initiated a "talent bank". To date 428 Peruvian professionals residing in the region have been enrolled, including the following major groups:

Business administrators	120	Civil engineers	16
Lawyers	55	Other engineers	37
Industrialists	30	Bankers	18
Economists	25	Accountants	12
Industrial engineers	20	Scientists	3
		Miscellaneous	122

The objectives of the "talent bank" are:

- to establish a detailed record of Peruvian experts working abroad,
- to develop an intense effort to keep close contact with these experts, and
- to use their services as much as possible.

The results to date indicate that Peruvian professionals can often assist Peru without abandoning their residence in a foreign country.

Return of Expatriates for Long Periods. Six countries reported programs for the long-term return of expatriates.

The Indian Government took notice of the "brain drain" problem soon after independence and in 1955 began establishing a register of Indian scientists residing abroad. By early 1978 some 20,000 scientists and engineers had been registered by the Council of Scientific and Industrial Research - estimated at about half the total. As an inducement to return, those individuals with priority skills

required in India were offered initial two-year contracts. In general, salaries offered were at the prevailing levels. In certain cases, however, "superannuary" posts are created with higher compensation.

By early 1978, of those scientists residing abroad, approximately:

- 11,000 had been offered employment in India
- 7,000 had accepted employment in India, and
- 6,000 of the above decided to settle permanently in India.

During 1958, further action was initiated to induce the return of selected scientists through a Scientists Pool. Initially, 100 scientists were given employment contracts by the CSIR itself, even though permanent employment opportunities had not yet been identified. While in the 'pool' scientists are loaned for short periods to universities and research institutes. The 'pool' currently includes 500 individuals and will be expanded further.

Since 1975 special inducements have been given to Indian businessmen abroad through relaxed regulations for the import of machinery and of capital. Inducements are given also for investment even though the expatriate does not return permanently. The response to the inducements has been excellent, as is evident from an increase in the number of enquiries made and personal exploratory visits undertaken:

<u>Year</u>	<u>Responses of all types</u>
1974-75	1,740
1975-76	1,770
1976-77	2,099

The Philippines Phase One plan was designed as a preliminary to a permanent return under a Phase Two Program. Experience

has indicated, though, that of the 72 Phase One participants only 11% returned permanently. Even so, the Phase Two Program attracted 51 individuals who had not participated in Phase One.

The administrative costs for both Phase One and Two are currently about \$200,000 per year. The Phase Two individuals attracted directly included:

Natural scientists	10
Applied scientists and engineers	11
Agriculturalists	23
Social scientists	7

Egypt also has an established program for the permanent return of professionals. The specific inducements given are as follows:

- Priority for Government housing scheme,
- Provision of substantial customs exemptions on personal belongings,
- Provision of immediate employment,
- Rewarding those studying abroad for returning early by payment of the equivalent of overseas salary due for the remaining period of study,
- Limiting the duration of secondment to study abroad for Government officials to 4-5 years,
- Rationalization of the program of study abroad and limiting these missions to areas of specialization which are not available in the country,
- Lifting most penalties which normally should apply to non-returning members of official study missions,
- Giving opportunity to selected professionals in Egypt to go abroad on temporary assignments for career development,
- Lifting all restrictions on tourism abroad as part of the open door economic policy and
- Reduction of restrictions on Government officials to accept consultative positions or have private business related to their professions within the country.

Measures are currently being taken in Egypt to facilitate further the return of professionals. For example:

- an inventory of Egyptian professionals in selected developed countries is being completed,
- information on Egypt is being sent to professionals abroad,
- a number of professionals are being invited home for short periods as lecturers,
- a society has been established called Friends of Egyptian Scholars Abroad to maintain links with expatriate professionals and invite them to participate in biannual conferences in Egypt and
- some projects have been implemented through inter-institutional schemes in which expatriate professionals play key roles.

Similarly, the Republic of Korea has developed effective programs and established inducements for the return of scientists and engineers.

- The Korean Government has established 13 new industrial Research and Development institutions since 1966 to provide better job opportunities for expatriate scientists and engineers as well as to improve domestic Research and Development capacity,
- The new research institutes have been established as autonomous bodies to improve the research environment so that they are conducive to attracting needed manpower,
- The Korean Scientists and Engineers Association in America was established in 1971 as was the Korean Scientists and Engineers Association in Europe in 1973 for better communication between scientists and engineers in their home country and those abroad,
- Science Attache and Education Attache posts were established at the Korean Embassies in the USA, France,

Federal Republic of Germany and Japan to provide counselling and guidance services for expatriate scientists, engineers and students,

- The Korean Government has held bi-annual symposia bringing 200 participants including their dependents to Korea since 1974 to provide opportunities for expatriate scientists and engineers to observe the current development of their home country and to present their papers and
- The Korean Government has encouraged private industry to recruit expatriate scientists and engineers at its expense.

The following privileges and immunities are applicable for the repatriation of overseas scientists and engineers:

- dual nationality is allowed,
- no tax is charged for the import of their personal belongings and research equipment,
- high priority is given to securing housing facilities and
- special arrangements are made for the education of the children.

The Korean Government pays repatriation travel expenses with U.S.\$90,000 allocated for 1977.

From 1968 through 1977 the Korean program repatriated 357 professionals with 51 returning during 1977.

Peru recently took direct action to locate employment for individuals completing their study abroad through a contract between the National Institute of Scholarships and Educational Credit and a private consulting firm. To date 294 Peruvians expatriates have been registered, including those with the following professional skills:

Engineering	44	Science	21
Business	38	Economic & Planning	15
Medicine	32	Agriculture	10
Education	31	Architecture	5
		Other	98

They returned from:

U.S.A.	78
Argentina	39
Brazil	27
Mexico	20
Spain	18
Italy	15
Other	97

Iraq, through legislation adopted in 1974, initiated a major program for the return of professionals. Previous studies indicated that as many as 90,000 professionals from the Arab countries were residing abroad of which a significant number came from Iraq. The inducements provided professionals for their return included:

- higher compensation in assured positions,
- free import of automobile and personal goods,
- plot of land at nominal cost plus an interest-free loan for the construction of a residence and
- new school established for the children of returned expatriates.

Iraq reported that 772 professionals have returned under this program of which the larger numbers came from the U.K. and the U.S.A.

Other Actions. The India paper linked the brain drain problem to the nature of economic and social development by pointing

out that high economic growth rates do not necessarily generate high rates of employment. The recently adopted Sixth Five-Year Plan does take into account the need for additional employment opportunities and as a result may reduce the number of professionals seeking employment abroad.

Algeria reported a policy to the Seminar which rejects 'partial' solutions to the flight of talent problem and employs a global approach. The Algerian development process increases both the supply and the demand for professionals and has full employment as its objective.

In Mexico the brain drain remains a problem but is "not considered the most critical problem in Mexico." During recent years three broad measures have been used to reduce the problem:

- Scholarships granted by the National Council for Science and Technology for study abroad include provisions making payment mandatory unless the recipients return to priority positions in Mexico,
- A strong technological infrastructure has been established which provides employment opportunities and which eliminates the need for special financial inducements for the return of expatriates and
- Measures have been introduced for the control of technology, e.g. through the National Bureau for the Transfer of Technology, which has further increased employment opportunities within Mexico.

One country, Brazil, could report the elimination of the brain drain problem. Starting in the mid-1960's, the National Research Council of Brazil, assisted by other organizations, undertook both studies and direct measures to induce the return of expatriate professionals. The

Council, for example, financed the salary of expatriates employed by teaching and research institutions throughout Brazil.

In recent years the Government adopted measures to reduce the brain drain while continuing to induce the return of expatriates. The following are examples of the broad measures taken:

- grants for study abroad concentrated in priority professional areas with a high demand,
- grants accompanied by an agreement ensuring a return for a minimum period,
- reduction of the numbers of grants for advanced training abroad,
- conditions created for the fuller utilization of expatriates in industry,
- expansion of graduate professional education in Brazilian universities,
- strengthening and expansion of scientific research institutes,
- salary increases for professors and research scientists and
- adoption of a series of scientific and technological development plans.

The degree to which the brain drain has been solved can be noted from the following:

- Brazilian Ph.D. physicists living abroad	20
- Foreign Ph.D. physicists living in Brazil	150

In Brazil, measures to combat the brain drain problem were designed only after a study of the characteristics of the individual who studies abroad and does not return.

Experiment in Turkey

The Turkish experiment was initiated in 1976 by the Government of Turkey and the United Nations Development Programme but administered in an innovative manner as if it were in the private sector.

This experiment is so important to the action plan under consideration that the summary of an evaluation report published in February, 1978, is included in the Annex. This section abstracts and updates the report. (6)

Turkey is now in its third year of a project to Transfer Know-How through Expatriate Nationals (TOKTEN). Outstanding specialists of Turkish origin residing abroad are given an opportunity to return as volunteers to provide technical assistance over a wide range of sectors on projects given a priority under the national development plan.

The expatriates are provided travel for themselves only, a per diem while in Turkey and, depending upon the policy of the host organization, a small honorarium.

They remain in Turkey for one week up to three months with an average of about one month. Most expatriates continue technical assistance on returning to their countries of residence through correspondence and by arranging training opportunities for young Turkish professionals.

During the first year, 1977, twenty-eight expatriates volunteered and an additional forty-four during 1978. The largest group came from the United States where about half had taken United States citizenship and half had retained Turkish citizenship.

Already for 1979 thirty-two visits have been arranged.

The seventy-two expatriates returning during 1977 and 1978 had professional skills as follows:

Applied science and engineering	35
Natural sciences	28
Agriculture	4
Social sciences	1
Medical sciences	4

They were on leave from or worked in the following organizations:

	In the country of Residence	In Turkey
Academic	41	47
Private and public research and industry	20	33
Government	8	11
International organization	3	0
	<hr/> 72	<hr/> 91*

The Turkish project reverses traditional technical assistance procedures with its supply orientation. Through peers in Turkey and associations of expatriates abroad, individuals identified themselves as candidate volunteers. Their application forms were reviewed by a committee composed of two Government of Turkey and one U.N. official all serving in their personal capacities. If the skill available was pertinent to Turkey and if the candidate was otherwise acceptable, a curriculum was circulated among Turkish organizations which, in the opinion of the committee, could make effective use of the consulting services being offered.

The population of Turkish expatriates was found sufficiently large to ensure a rising flow of volunteers but not so large

* Many expatriates assisted more than one organization in Turkey.

that the committee could promise to fill all requests for technical assistance, that is, through a demand oriented project.

The costs of the project, shared equally by the U.N. and Turkish sources, were quite low per man-month of consultancy. The direct cost, exclusive of administration, averaged \$2,300 per man-month in 1977 dollars.

In addition to the supply orientation, the innovative elements of this project as compared to traditional technical assistance, included:

- use of individuals for technical assistance who had language skill and an affinity for the Turkish culture,
- ability to motivate professionals to serve as volunteers,
- improvement in the appropriateness of the technology transferred through the knowledge the expatriate had of two cultures and the ability to adapt technology and
- administrative system which is not tied to government procedures.

The conclusions which can be drawn from the Turkish project include:

- Turkish expatriate professionals are motivated strongly by a desire to help their homeland and not just by financial remuneration,
- a cultural affinity to Turkey improves their acceptance and effectiveness and
- the economic and social gains to Turkey are significantly higher than would be expected from traditional technical assistance provided at a much higher cost.

Current Actions by the United Nations

The Report of the Istanbul Seminar was discussed at the U. N. Conference on Technical Cooperation Among Developing Countries with the following being included in the Proceedings: (9)

"In view of the global nature of the problem of the migration of professionals and skilled manpower from developing countries and of such manpower's potential as an asset for TCDC, the organizations of the United Nations development system and the specialized international agencies which deal with migration should assist the developing countries, at their request, to formulate measures for strengthening their capacities to encourage patterns of voluntary migration in the interests of their development, including not only selective migration of skilled people between developing countries, but also the return of scientific, professional and technical personnel living outside their countries of origin, taking into account work already initiated on a bilateral and multilateral basis as well as relevant resolutions adopted in various United Nations forums."

Simultaneously with the preparation of papers for the Istanbul Seminar the developing countries were considering the brain drain problem in their papers being prepared for the U.N. Conference on Science and Technology for Development. A summary of these presentations, prepared by the U.N. Secretariat, included: (8)

"Many developing countries recommend that an overall strategy should be drawn up to halt the brain drain and also to repatriate their trained personnel. This problem has been particularly emphasized by the least developed countries.

Among other recommendations made in this regard by several countries are the following:

- (a) Examination of the possibility of introducing legal measures to prevent the exodus of certain categories of scientific and technological personnel;
- (b) Persuasion of developed countries not to employ nationals of less developed countries without the consent of the Government concerned;
- (c) Provision of incentives to technical and professional personnel in order to motivate and induce them to remain in their countries in their

chosen fields of specialization. Such incentives would include raising their salaries, improving their working conditions and environment, introduction of bonus system, merit-based promotion and in-service training."

"Some countries recommend that, as a compensatory measure for the brain drain, recipient developed and more affluent developing countries should establish an international fund under the United Nations auspices which would be used, inter alia, for strengthening the training and other infrastructures in the developing countries concerned."

Of more importance than resolutions are the actions taken recently by the U.N. in response to requests from the developing countries. UNIDO is making \$82,500 available to explore the potential among the expatriate professionals residing in the industrial countries to return as volunteers. A priority is being given to the "U.S., Canada, Western Europe and other developed countries."

The UNDP has appropriated funds and actively encouraged the developing countries to adapt the Turkish experience to their needs. To date U.N. assisted programs are operating or under consideration in the following twelve countries in addition to Turkey: Bangladesh, India, Pakistan, Sri Lanka, Ghana, Kenya, Nigeria, Egypt, Greece, Jamaica, Peru and Uruguay. Furthermore the UNDP Administrator is planning to strengthen administrative support from New York to the Resident Representatives stationed in the above countries. With a high priority being given this new program by both the developing and the industrial countries it is anticipated that sufficient funds will be made available.

II. COMPANION PROBLEMS

The primary objective of the action program under consideration is to address the brain drain problem by assisting expatriate professionals who are motivated to volunteer as consultants to organizations in their home countries. As the study progressed additional problems were identified which could also be addressed by expatriates in many of the developing countries.

Meeting Basic Human Needs

The mandate given AID by Congress, as well as related resolutions of U.N. assemblies, has turned attention to the global need for meeting basic human needs. The proposed action program can contribute to this objective by increasing employment opportunities through the more effective selection and use of technology reinforced by appropriate development strategies. With added income, the poor majority can purchase food to improve nutrition and acquire adequate housing, education and medical services.

Expatriate professionals are most effective consultants with an ability to assist problem solving and decision making in sensitive areas. Were expatriates used only to solve the same problems addressed by technical assistance in the past, it is likely that their actions would accelerate the formation of dual societies, the growing disparity in incomes between the poor majority and the rich minority and the likelihood of growing social tensions.

Officials in many of the developing countries agree with the above assessment and will request that expatriate professionals be used in an innovative manner to create employment for the poor majority.

The expatriate professional often has special advantages in the acceleration of employment in rural/non-metropolitan areas by having:

- a language ability and cultural ties allowing rapid and easy communication,
- come from a small city or village himself,
- a desire to assist his home country as a pioneer contributing to new programs,
- a willingness and ability to assist decision making for politically sensitive projects and
- an ability to assist attitude changes as well as affecting impersonal results.

The above considerations are irrelevant, however, unless the short term consultant can find points of entry for the use of his special qualifications. Here are examples:

Technology policy. Many governments are evolving technology policies for incorporation into national plans which address directly the problem of poverty.* The need is less for long term technical assistance, since the basic skills are available, than for the fine tuning of policies and an enhanced ability to make hard decisions based on facts already assembled. Such decisions could be facilitated by individuals with a knowledge of the culture and willingness to examine first hand the implications of policy changes in rural areas.

Research and consulting. Research institutes are now established in most developing countries and engineering design and consulting firms function in many metropolitan cities. The need now is not so much for additions to technical skills as for new orientations. For example, the U.S. orientation toward labor productivity in

* A minister of science and technology from an Asian country requested U.S. assistance in February, 1979, to "diminish poverty through the deployment of energy saving and employment generating technology."

engineering design has been copied, unthinkingly, in many developing countries. A shift to capital saving designs (which generate employment) is possible, with the same technological skills, if convincing advice can be given that the shift is essential to reduction of poverty.

Business organizations. The multitude of existing and potential small producers in the agriculture/industry sector can be assisted by short term volunteers working through a variety of business organizations. The contribution would be one of stimulating new approaches and of assisting the difficult and often controversial decisions regarding investment in capital saving/employment generating technology. Potential recipients of effective consulting advice include financial institutions, chambers of commerce and associations/cooperatives linking small scale producers.

The Fund for Multinational Management Education has suggested that the small scale producers can also be reached by the managers of large enterprises in the developing country serving as consultants. Reinforcement to such an innovation could be given by expatriates.

Private and voluntary organizations. A growing and potentially important mechanism for reaching out to the poor is provided by the private and voluntary organizations (or the non-governmental organizations cooperating with the U.N. system). These organizations, based in the developing countries or in the U.S., deploy large numbers of individuals into rural areas to assist the growth of agriculture and industry and to strengthen social services. The individuals who serve under p.v.o.'s in rural areas are universally highly motivated and innovative. Unfortunately, they often lack access to the high level technical skill now deemed desirable.* Experience indicates that in most cases the

* The Volunteers in Technical Assistance (VITA) has been addressing this problem for some years.

short term advice from expatriate professionals would be both welcome and effective.

The application of the proposed action program to the p.v.o.'s is appropriate because of the rapid growth, with U.S. Government support, of their work abroad. A 1975 study by the Overseas Development Council (7) identified 83 U.S. based p.v.o.'s, operating in developing countries with expenditures totalling \$450 million per year. Of this group 46 were receiving a total exceeding \$200 million a year from the U.S. Government.

Improving Technical Assistance

The action program being proposed is also, in effect, a new approach to technical assistance adding a dimension to the traditional one of the past three decades. Such a new approach is timely because of the questions being raised with increasing frequency in both developing and industrial countries as to the effectiveness of present government to government technical assistance.

Formal technical assistance has been the backbone of the U.S. effort to assist the developing countries. Recently formal government to government assistance has been discontinued for most of the middle income countries and this process is likely to continue except for the least developed countries.

"Informal" technical assistance carried out by the business sector and the p.v.o.'s is taking the place of formal systems. In fact, the most intensive technical assistance of this type is the trade in technology across the Atlantic. By being administered in the private sector, the proposed action program hastens the trend in the developing countries

toward the type of technical assistance prevailing among the industrial countries.

In U.N. meetings the developing countries have become increasingly critical of traditional technical assistance from the U.S. and other industrial countries and doubtful of their ability to use technical assistance effectively. An economist from Mexico suggests that the brain drain is encouraged by the "advisor saturation" of technical assistance in many developing countries. (1)

Other examples include:

- skills have so advanced in many developing countries that the long term use of foreign experts is no longer required,
- highly qualified experts from the U.S. are difficult to find and expensive to recruit,
- preference is being given by developing country organizations to consultants from other developing countries,
- technical assistance requests by the governments of developing countries may reflect the power structure more than priority needs and
- technical assistance may appear to be forced on to an unwilling government as an accompaniment to capital loans.

The U.N. Development Programme, whose main business has been traditional technical assistance, is making a critical evaluation of the present system as a contribution to UNCSTD.

The UNDP is considering various approaches including:

- to try to proceed as at present,
- to plan to terminate traditional technical assistance in a few years or
- to improve by introducing a variety of alternatives to the traditional system.

The proposed action program overcomes certain of the problems of the traditional system and while not providing a substitute does make available one viable alternative.

Migration and Entrepreneurship

This study has revealed as well a third companion problem to which insufficient attention has been given in the past. The brain drain may be the last act in a chain of events starting in a village. Being sent away to a market town for secondary education, the more enterprising village boy gravitates to the metropolitan center for higher education or employment. An easy further step is migration abroad. Thus the internal migration of talented individuals may be hindering the development of non-metropolitan regions.

While international attention has been given to migration out of rural areas from the point of view of urbanization, little has been done from the point of view of the brain drain. Even references to the problem are rare with the following exception.

"In many countries internal migration generates far more serious problems than does international migration" (Dr. Charles Kidd in 1967 testimony to a Senate Committee.) (2)

A high priority should be given in any AID assisted on-going studies to the relationship of the internal brain drain to efforts underway over the world to establish and to staff rural institutions.

A problem generally overlooked in examining either the internal or external brain drain is the possibility that the most important skill being lost is entrepreneurship.*

* Entrepreneurship refers to the skill found in relatively few individuals whose thoughts and actions are concerned with achieving a standard of excellence they have set for themselves even if calculated risks have to be taken. In fact, the need to succeed by accepting and overcoming a challenge provides them with their major source of satisfaction.

There is evidence that countries which have a high proportion of entrepreneurs tend to have a faster rate of economic growth.

The individual with risk taking, entrepreneurial skill is more likely to migrate into a city and then abroad seeking new challenges. Both the rural areas and the country as a whole could face a shortage of the risk taking decision makers essential to growth.

The formal evidence supporting the above remains meagre but may, with further study, suggest that the brain drain loss is even more damaging than is generally recognized at present.

Assuming the above hypothesis is applicable to expatriate professionals residing in the U.S., one would expect a high proportion with entrepreneurial skills. Are these then the ones who risk their reputations among their peers at home by volunteering as consultants? If so, at least a partial explanation is given for the exceptionally high effectiveness of the expatriates who returned to Turkey.

III. POTENTIAL FOR A NEW RESPONSE

That the brain drain problem can be mitigated has been demonstrated by a number of developing countries and by actions of the U.S. Government. Still, the brain drain problem has not been solved and new responses are essential. Few clues to additional innovative responses have come out of the published studies. However, one practical response already tested in Turkey, India, the Philippines and Peru does provide the basis for this report. A program is proposed through which expatriate professionals residing in the U.S. who are from the developing countries are assisted in their desire to give volunteer technical assistance to their home countries for short periods.

This new response reinforces trends already in evidence in the U.S. and in many developing countries. For example:

- (1) The desirability of language ability and cultural affinity in the provision of technical assistance especially in rural areas.
- (2) A growing awareness by many professionals from the developing countries residing in the U.S. of their ethnic backgrounds and a desire to contribute to the growth of their home countries.
- (3) A concern expressed in many developing countries that traditional technical assistance is losing its effectiveness.
- (4) A desire on the part of AID to increase the cost effectiveness of present technical assistance.
- (5) A shift in need from long to short periods of consultancy assistance as the skill of developing country professionals has increased.
- (6) The importance being attached to assistance which reaches out to the poor majority.

To be effective the new response requires the interaction of three elements - a population in the U.S. of expatriate professionals with a high proportion eager to volunteer, a placement mechanism in each participating developing country and a mechanism in the U.S. to relate the supply to the demand.

Population of Expatriate Professionals

Students who come to the U.S. to study and then remain to work provide the bulk of the present expatriate professionals. A smaller number enter first as visitors or to seek employment. Thus the student population from the developing residing in the industrial countries, based on the following UNESCO data, provide the first clue as to where expatriate professionals might be found.

Students from Selected Developing Countries in the OECD Industrial Countries: 1973

USA	47,480
Italy	13,125
France	10,374
Canada	6,002
United Kingdom	4,900
Federal Republic of Germany	4,302
Austria	2,199
Switzerland	1,102
Other	2,489

(Includes students from Algeria, Argentina, Brazil, Egypt, Ghana, Greece, India, Indonesia, Iran, Mexico, Nigeria, Pakistan, Peru, Philippines, Republic of Korea, Sudan and Turkey)

About half the students in the above sample studied in the U.S. For 1978 the number of students in the U.S. from all developing countries has been estimated at 200,000

with over half studying engineering, applied science and the natural sciences.

Over the years the students who remain plus other immigrants have built up a population of expatriate professionals in the OECD industrial countries estimated at 400,000 to 500,000 by the participants at the 1978 Istanbul Seminar. Many additional are now working in the OPEC countries.

Difficulties are encountered in estimating the expatriate professionals residing in the U.S. since they include those who are already U.S. citizens, have applied for U.S. citizenship or who work in the U.S. as citizens of their home country. Many return home retaining their U.S. citizenship. Only clues can be provided of which the following are examples:

During the five year period 1962 to 1967 the U.S. admitted as immigrants seeking U.S. citizenship the following professionals of which over one quarter were engineers or natural scientists. (5)

China (including Taiwan)	7,343
Phipippines	5,421
India	5,078
Argentina	4,226
Mexico	3,628
Greece	2,068
Republic of Korea	1,895
Iran	1,564
Brazil	1,539
Turkey	1,518
Peru	1,229
Egypt	1,181
Chile	912
Indonesia	680
Pakistan	546
Nigeria	131

Another clue (5) is also provided.

Year Engineers and Natural Scientists from the
Developing Countries Entering the U.S. for
Professional Work.

	Entering as Immigrants	Entering as Non-immigrants
1956	1,069	-
1962	1,282	-
1963	2,204	-
1964	1,916	-
1965	1,468	3,016
1966	2,776	2,581
1967	5,698	2,715
1968	-	2,855
1969	-	2,743
1970	-	3,162
1971	13,100	-
1975	6,900	-

The increase in immigration was accelerated as a result of the 1967 law but reversed by 1975 as a result of the 1972 law.

A best guess estimate of the accumulating population over a thirty-year period (1946 - 1975) of engineers and natural scientists from the developing countries resident in the U.S. is 200,000. The estimate allows for those who returned home but does not include at least 50,000 social scientists and other professionals whose skills could be of value. (Medical specialists are excluded.) Thus the conclusion that the proposed action program can draw on at least 250,000 individuals in the age group from about 30 to 65 years.

The estimate can be misleading in designing a program because the individuals come from 39 low income and 58 middle income countries (as identified by the World Bank) with no firm estimate possible as to their distribution. Furthermore, a large proportion ready to volunteer is more important than a large population. A small number

of highly skilled international authorities is more valuable than a large number of the inexperienced.

UNIDO is planning a one-year, \$82,500 study to determine more precisely the population of expatriate professionals in the industrial countries. A priority is being given to an examination of the population in the U.S.

Associations of Expatriate Professionals

The success of the action program depends upon its ability to identify highly qualified and highly motivated individuals willing to volunteer. For the Turkish project this identification was found, contrary to expectations, relatively easy. The visit of a Turkish scientist to the U.S. aroused interest among groups of expatriates. Then by word of mouth the news of an opportunity to serve Turkey (and to return home under the U.N. flag at no cost) spread rapidly. Over the last three years the number of volunteers has steadily increased.

An association of expatriate professionals for each developing country participating would be desirable to sustain the flow of volunteers but is not a prerequisite to the initiation of the program in a developing country meeting all other conditions. The existence of an association, however, does indicate a desire by expatriates to maintain their culture and, according to the UNITAR study, could keep alive a desire to return home.

The Turkish associations are the best known of a number of similar associations with a potential for identifying volunteers.

Turkey. The American Turkish Association in Washington, D.C.

is one of thirty autonomous groups spread across the U.S. Plans are underway to bring all the Turkish associations into a federation with a headquarters in Washington. Cooperation with the Maryland American Turkish Association has already begun.

The ATA was founded in 1965 and in 1975 was registered as a non-profit, non-political, tax exempt corporation. It had grown to 430 members by the end of 1978 paying annual dues of \$15 per family, \$10 per individual and \$5 per student. Those interested in Turkey even if not of Turkish origin are invited to join.

ATA is a cultural and social organization which maintains a library, publishes a monthly news magazine and a bi-monthly digest of articles on Turkey. A fund for Turkish studies has been established. All work is carried out by volunteers. ATA members have been helpful in launching the Turkish program and the organization itself is of potential assistance in administering the proposed action program.

India. Indian professionals in the U.S. have organized a number of associations.

Of interest to this study is the India Development Service, Chicago, which has as its sole objective the development of India. The IDS incorporated as a non-profit organization in 1974 and has 350 members spread over the U.S. each paying dues of \$15 per year. IDS chapters are active in New York and Washington, D.C., as well as in Chicago. Many of the members, of which Indian citizens predominate, hold high positions in U.S. industry.

In January, 1978, the IDS sponsored an International Conference on Rural Development and Appropriate Technology in New Delhi opened by the Prime Minister of India. The IDS is planning a rural development project in South India for which an initial \$13,000 had been raised in the U.S. by the end of 1978. The IDS has expressed its desire to cooperate with AID on any new program addressing the brain drain problem.

The International Program for Human Resource Development, Washington, D.C., also is starting to mobilize support from the Indian community in the U.S. for assistance to employment generating and other economic development activities in India. A broad program has been designed in some detail but financing has still to be secured. The I.P.H.R.D. suggests a counterpart organization in India made up of a consortium of p.v.o.'s.

Egypt. The Egyptian program to reduce the brain drain, described at the Istanbul Seminar, is administered in part by a government assisted private organization based in Cairo, the Friends of Egyptian Scholars Abroad.

Republic of Korea. The Korean Embassies have helped organize associations in a number of industrial countries including the Korean Scientists and Engineers Association in America.

China. Two associations have been identified:

- National Association of Chinese Americans, located at the State University of New York, Stonybrook
- Organization of Chinese Americans

Yemen Arab Republic. Most Yemen citizens in the U.S. are skilled workmen rather than professionals. They are linked by the American - Yemen Benevolent Society, Dearborn.

Administration in the Developing Country

An effective administrative system in each developing country, essential to the linking of volunteers to host organizations, is the key to the success of the action program. The Turkish program, which has been studied in depth in this report, offers guidelines for the design of an administrative system which can be replicated in those countries where similar innovative administrative skills can be found.

The Turkish program evolved from the initial effort of one individual who soon had the support of three others. They included the UNDP Resident Representative, the former chairman of the Scientific and Technical Research Council of Turkey, a director of the State Planning Organization and the UNIDO Senior Industrial Development Field Adviser. This committee was given authority to acquire funds and to make decisions by both the Government of Turkey and the U.N. outside the normal procedures of either. Calculated risks could be taken, decisions made and the implementation time reduced.

The experience of Turkey in administration can be adapted to other countries and to the objectives of the proposed action program. The following are suggested as guidelines for all countries participating.

Agreement on Objectives. All developing countries have either an economic plan or at least an annual budget which allocates development funds to various objectives. These objectives will include private and public sector investment targets in industry and agriculture; investment in infrastructure; rural and urban development plans; etc. Agreement would have to be reached between the appropriate arm of the government and representatives of the U.S.

organization on the priorities to be given to the various objectives. It is anticipated that a decision could be reached, agreeable to both parties, to address in varying degrees the problems of the poor majority and of the country as a whole. Failure to reach agreement, obviously, would exclude the country, for the present, as a participant.

The agreement on objectives would also include agreement as to principles of implementation and on cost sharing among the host organizations, the government and U.S. sources.

Executive Committee. The initiating parties, after reaching an agreement on objectives, could proceed to the selection of an executive committee composed of highly placed individuals willing to volunteer their services. The nucleus of the committee could be provided by an existing organization. For example:

- national chamber of commerce
- federation of business associations
- advisory council of a national academy of science and technology
- technical universities
- autonomous committees being established with the assistance of the U.N.
- steering committees of the International Executive Service Corps
- binational education foundations

Irrespective of the initiating organization, the committee would have to include individuals (all serving in their personal capacities) providing links to the government, industry, research institutes and to other organizations whose objectives coincide with those of the action program. The committee should establish rather than advise on policy. Otherwise the members may not fully engage themselves in the new activity.

At least six countries now have programs and many more are planning programs for the return of expatriates as short term volunteers. Each developing country has the ability to bring home expatriates from any country in which they reside. This flexibility should be encouraged by designing executive committees free to enter into agreements with organizations in, for example, Canada, the U.K., France or Germany.

Executive Director. The qualifications of the individual selected as administrator determine whether the new organization retains its flexibility and dynamism or becomes another bureaucracy. The initial administrator should be selected by the two founding partners simultaneously with the executive committee. The individual requires professional qualifications related to the objectives and close cultural ties to the country. The administrator could be a national of the country or an expatriate professional. The individual should be full time and given adequate compensation.

Host organizations. A major function of the committee and the executive would be to identify host organizations able to use short term volunteer consultants to attain previously agreed upon objectives.

Host organizations will generally react favorably to the opportunity of obtaining low-cost, high quality consulting advice and will be willing to share costs and administrative responsibilities.

In most countries staff members of host organizations will already know of highly qualified expatriates residing abroad. The host organization will advise the expatriate

of the new opportunity to assist his country thus becoming a supplementary recruiting agent.

The host organization would make the final decision on accepting the volunteer after the committee/executive had checked professional credentials and the acceptability of the individual to the government.

Host organizations will often request repeat visits and during the interval that the consultant is back in the U.S. would welcome continuing assistance by correspondence. If willing, the expatriate can serve as a VITA type volunteer by answering technical questions, providing documentation and arranging visits and identifying training opportunities in the U.S. for young professionals.

Both to simplify administration and to share costs the host organization should:

- contribute to the administrative and per diem costs of expatriates requested,
- meet all internal travel costs and
- reimburse expatriates for out-of-pocket expenses incurred at the request of the host organization when back in the U.S. (For such payments the organization in the developing country could provide an exchange service.)

The contributions from the host organization should vary with its ability to pay and the degree to which it was addressing priority national objectives. Larger government contributions could balance smaller host organization payments.

Administration in the U.S.

As part of this study a number of U.S. organizations were considered as possible implementers of the action program. They included:

American Association for the Advancement of Science, Washington, D.C.

The AAAS, established in 1848, has 127,000 members plus 280 affiliated organizations in the U.S. and abroad. Its office of International Science was interested in the proposed action program but could not offer administrative services.

American Society for Engineering Education, Washington, D.C.

The ASEE has an international committee. Interest is strong in designing and conducting studies on the brain drain.

Institute of International Education, New York City. The IIE has as its primary function assistance to students and scholars coming to the U.S. or similar individuals going abroad. Seven regional offices in the U.S. and four in the developing countries are maintained. The IIE has an understanding of the brain drain problem and expressed a willingness to administer the proposed program.

International Executive Service Corps, New York City. Since 1965 the IESC has been linking retired American business leaders and senior administrators to development problems in 64 countries. Over seven thousand assignments have been completed. Increasingly the needs of small scale producers are being met by IESC volunteers who serve for approximately three months each.

Engineers Joint Council, New York City. The EJC through its 14 member and 21 associate societies reaches out to most engineers and applied scientists in the U.S. It has close contact with regional and international societies and recently

has appointed a committee to assist preparations for UNCSTD. The EJC has an interest in the brain drain problem but primarily through the ASEE.

Expatriate Associations. Of the expatriate associations noted in the previous chapter one has the ability and has expressed an interest in implementing the proposed program. A number of additional associations, with improved administrations, could also undertake programs.

Society for International Development, Rome. The SID, established in 1952, has over 6,000 members in 131 countries. It publishes a journal, holds regional and international meetings and provides an employment service. It does not administer technical assistance projects.

Volunteers in Technical Assistance, Washington, D.C. VITA has successfully mobilized American engineers and scientists willing to volunteer time to answer questions and to solve technological problems of direct benefit to small scale activities in the developing countries - generally in industry or agriculture.

Alternative U.S. Administrative Systems

Expatriate professionals residing in the U.S. could be assisted in their desire to help their home countries by most of the organizations considered. AID could enter into contracts with those organizations agreeing to cooperate. Of special importance would be the associations of expatriates already organized or which could be established with AID assistance.

The above administrative system would be relatively low cost and could address the brain drain problem. However, it is not considered an effective approach.

AID is not particularly adept at administrative detail involving private sector organizations, especially for the creation of new organizations, and could proceed more rapidly by delegating responsibility to a single organization.

The multiple objectives proposed, involving the poor majority and a more cost effective type of technical assistance, require a new organization with these objectives built into the original design.

The effective transfer and application of technology appropriate to the needs of a developing country require flexibility in attracting skills beyond those of technologists and scientists.

The magnitude of the brain drain problem as seen by both the developing countries and the U.S. justifies a bold and coordinated package rather than a piecemeal approach.

The following characteristics are important in the implementing organization:

- ability to administer an international technical assistance program,
- understanding of volunteers and their mobilization,
- awareness of the complex policy and strategy problems involved in the transfer of technology appropriate to the needs of the poor majority and
- skill in working with business, government, non-profit and other organizations to increase employment opportunities.

The U.S. based organization would enter into agreements with the developing country organizations previously described. While not "branch offices", the latter would have to adhere to provisions covering objectives, administrative procedures, cost sharing, etc. Through a decentralized structure the action program as a whole could draw more fully on existing organizations in the developing countries, increase flexibility and facilitate later expansion to include the return

of expatriates from other industrial countries.

Expatriate Professionals in Action

With respect to operating details the action program will have as many variations as there are participating countries. One possible scenario follows:

- (1) Developing country organization keeps the U.S. organization informed, in broad outline, of the priority skills essential for meeting the agreed upon objectives.
- (2) Information on priority skill requirements (but not at the level of detail found in a job description) is circulated in the U.S. supplemented by the communication channels established by potential host organizations.
- (3) Applications, including personal history records, from volunteers are accepted, evaluated and sent to the developing country organization if the qualifications are found adequate.
- (4) After a second screening in the developing country, the personal history records of candidates are circulated among host organizations.
- (5) Candidates accepted by host organizations are given a letter contract by the developing country organization. The U.S. organization stands by to issue a transportation voucher once all arrangements for the visit have been completed between the volunteer and the host organization.
- (6) On arrival the volunteer is given an advance for living expenses by the developing country organization. Other administrative matters are the responsibility of the host organization.

- (7) The U.S. and developing country organizations receive evaluation reports by the expatriate and the host organization.

After having written a final report the typical consultant, under traditional technical assistance, flies to another country forgetting immediately the problems of the first. This appears not to happen among expatriate consultants whose tie to the home country has been further strengthened. Many will volunteer for repeat visits. Others will maintain contact after their return to the U.S. A few will establish one-man technical assistance organizations.

The host organization, after seeing the expatriate in action, may make an irresistible offer for a permanent return. Thus the first visit of the expatriate is not normally the end of the operation but the beginning.

Cost Considerations

Unit costs for supporting volunteer expatriates under the proposed program (EPIC) have been estimated in the table on the following page and compared with other technical assistance systems.

The unit cost estimates of the table do not take into account the enhanced effectiveness of expatriates as consultants revealed by the Turkish evaluation study. Interviews were held at host organizations experienced in the use of foreign and expatriate consultants. The latter had greater acceptability, language ability, skill at getting to the heart of problems and in giving practical advice. They could accomplish in four weeks what would require six or more by a typical foreign consultant.

Estimated Consultant Costs per Man - Month

(Adjusted to 1979 dollars)

	AID Senior Consultant	UNIDO Special Industrial Services	IESC Volunteers	UN Turkey Volunteers	EPIC Volunteers
Average consultancy period varies as follows:					
	1.0 months	2.8 months	2.4 months	0.8 months	1.0 months
Direct costs	\$6,800	\$4,400	\$3,400	\$3,000	\$3,000
Administration:					
In L.D.C.	n.a.	n.a.	1,600	n.a.	1,800
In U.S.	n.a.	n.a.	1,700	n.a.	2,000
			\$6,700		\$6,800

Notes:

- (1) AID direct costs would be higher were the consultant recruited through a university or consulting firm.
- (2) EPIC direct costs can be held at IESC levels even for the shorter average consultancy periods because of the lower per diem required and the payment of travel for the consultant alone.
- (3) EPIC administrative costs will be higher than for IESC because of the shorter average consultancy period anticipated.
- (4) Costs are estimated for EPIC operations at about 650 consultants per year which is the current IESC level.

Problems to be Anticipated

The optimistic tone of this study so far must now be balanced by a note on problems to be anticipated - not to mention those un-anticipated problems which are certain to be encountered.

The one outstanding problem to be solved is the matching of volunteers to problems identified in host organizations which are relevant to the needs of the poor majority. Traditional technical assistance, while it may draw criticism, remains so much a part of the public/private administrative system that to break out of the tradition will prove difficult. Individuals must be attracted to the committees and as executives, encouraged by the U.S. organization, who will be willing to take risks in introducing new approaches to development. While this report does not discuss development strategies, it would be advisable for all program personnel to be aware of strategy alternatives now available and the possible consequences of each.

Governments of certain of the developing countries may fear the return of political exiles assuming that EPIC is being used to facilitate their return. Some governments may prefer compensation in cash for investments lost through the brain drain rather than the return of expatriates.

Expatriates may fear that they will not be welcomed home by their peers and their advice not accepted. Or, if welcomed back too warmly, that the brain drain may be accelerated.

Certain governments may deride EPIC as tokenism not addressing the basic problems of the brain drain.

With respect to EPIC administration, both the LDC and the U.S. organizations may tend toward over-control. Fewer problems are likely to arise if most administrative details are settled between the volunteer and the host organization.

Volunteers will be reluctant to write evaluation reports. They must be persuaded to do so as a means of improving operations.

Most volunteers are willing to give a month but few are able to commit a longer period in the home country. Longer periods are highly desirable and might be induced by:

- offer to pay travel costs of the spouse,
- willingness of employer, e.g. the U.S. Government or an industrial enterprise, to give one week of leave with pay for every week of leave taken without,
- arrangements with universities to grant special sabbaticals and other leaves with full or partial pay and
- agreements on multiple visits over a period of a year or years.

Operational experience will answer most of the above problems. Where blocks continue which cannot be removed the country in question should not be encouraged to remain a participant.

Evaluating the Program

Any firm conclusion that the new response has a long term potential can be reached only through an evaluation. Two types of evaluation, internal and external, are suggested for the proposed action program.

The design of the program provides a built-in internal evaluation system. If, for example, countries fail to

meet the conditions for participation they automatically remove themselves from the program. Similarly, expatriates who do not wish to volunteer exclude themselves and perhaps even their home country.

The requirement that costs be shared widely also serves to evaluate the program. A danger signal would be the need to request a higher level of support from public sources.

Signals that the program is effective include:

- request by host organization for repeat visits,
- expatriates volunteering for second and third visits
or
- LDC government deciding to increase its contribution.

The design also permits periodic external evaluations in which results can be compared to objectives. It would be desirable to measure results through increases in production, employment and equitable incomes in the participating countries. Such macro indicators are meaningless, unfortunately, because of the multiplicity of development efforts which influence growth. It is possible, however, to record at the micro level the accomplishments of individual volunteers. The evaluation report for the Turkish project (6) notes that large capital sums were saved as the result of advice given and acted upon.

The projection of operations and budget, after refinement, can later be compared to the results achieved. Departures from the projections would require an explanation.

Close control can be maintained on the time required to initiate a visit after an expatriate has volunteered. Any lengthening in the administrative process can be a danger signal.

Simple questionnaires filled out by both the volunteer and the host organization after each visit allow an immediate identification of problems and an evaluation at a later date of the long term benefits resulting from the visit. The questionnaires also provide information for periodic progress reports to be sent the organizations contributing to the program. Forms used in Turkey are included in the Annex.

An external evaluation by an outside organization would be essential after the second year of full operations. The results would be available to assist the design of the Phase Two program recommended in the next chapter.

As a first draft for the terms of reference for the external evaluation the following is suggested:

- (1) The evaluation should be considered primarily as a tool of management in determining EPIC's effectiveness in achieving the stated objectives.
- (2) The evaluation should examine the original concept of the program so that a determination can be made if it is necessary to change the objectives.
- (3) The evaluation should provide information on the impact of the program as it contributes to the objectives of the government.
- (4) The evaluation should estimate the cost effectiveness of the program as compared to similar technical assistance programs.
- (5) The evaluation should provide information on the efficiency of the program's administrative system.
- (6) The evaluation should signal any need for corrective actions in the administration and design of the program.
- (7) The evaluation should serve as a basis for the planning and budgeting of future activities.

IV RECOMMENDATIONS

This chapter makes specific recommendations for implementing a new action program on the basis that:

- the brain drain remains a problem for most developing countries
- a significant number of countries have initiated or are interested in initiating programs for the short term return of expatriate professionals as one action towards a solution and
- the U.S., with half the world's population of expatriate professionals, has both the potential and an obligation to consider a new approach.

Administration in the U.S.

The characteristics desired in the U.S. based organization have been outlined and the conclusion reached that the new program requires a new organization for effective implementation.

A 'new organization' is possible, without actually establishing another corporation, through a broadening of the charter of existing private sector corporations. While none of the organizations considered in the previous chapter are fully endowed with all the desired characteristics, two together are amply qualified: the International Executive Service Corps and Volunteers in Technical Assistance.

IESC is best known for the utilization of retired executives from a roster of 6,000 potential volunteers for work in industrial concerns - large and small.

VITA provides opportunities for Americans to assist the poor majority in the developing countries while remaining in the U.S. Increasingly VITA volunteers, from a roster of 4,500, are going abroad.

The chief executives of both IESC and VITA have expressed a willingness to explore a joint effort for the implementation of the proposed action program.

Candidate Countries

To be considered for participation in the action program the following three conditions should be met by each developing country:

- significant number of expatriate professionals from the country reside in the U.S.,
- government expresses a desire to cooperate in the implementation and
- AID funds are available for the particular country.

AID funds are directly available for projects in those developing countries receiving U.S. development or security assistance.

AID projects are also undertaken in middle income countries, the AID graduates, with the cost reimbursed by the developing country.

Through private and voluntary organizations AID funds are being invested in most of the countries in the above three groups.

From the information currently available the following can

be suggested as candidates. Additions could be made as and when the conditions are met.

<u>Asia</u>	Bangladesh, India, Pakistan and Sri Lanka
<u>Africa</u>	Ghana, Kenya, Nigeria,* Tanzania, Sudan and Zambia
<u>Near East</u>	Egypt, Turkey,** Yemen Arab Republic and Jordan
<u>Latin America</u>	Chile,*** Jamaica and Peru

Preparatory Operations

On the assumption that the proposed joint implementing organizations will agree to a modus operandi acceptable to AID and form a 'new organization', a contract should be entered into covering the following preparatory operations.

Verifying Feasibility. More detailed evidence that supply and demand can be linked effectively is required before carrying the program further. Thus the recommendations that:

- (1) Volunteer consultants should be sent to at least eight of the candidate countries to determine which meet all the conditions for participation;
- (2) The number of potential volunteers among expatriates from countries meeting the conditions should be estimated;
- (3) The design recommended for an administrative system to provide the required link between supply and demand should be verified and
- (4) Projections of operations and costs should be refined.

* AID reimbursible assistance country.

** May soon become an AID assisted country.

*** Considered important even though AID assistance may soon be ending

Establish a 'New Organization'. Should the feasibility of the new program be verified, the joint implementors should establish a mechanism for operations by expanding the charters of their respective corporations. Essential actions might include:

- (1) Establish a joint committee to provide policy guidance and assistance to initial operations.
- (2) Appoint an executive with adequate remuneration.
- (3) Determine the location of an office, preferably detached from either of the joint implementors, located in Washington, D.C. or New York City.
- (4) Select four* of the most promising candidate countries, preferably one from each region, for initial operations and organize visits by IESC/VITA volunteers and/or the executive to assist the establishment of a viable organization in each country.
- (5) Appoint staff from among the expatriate professional population in the U.S. to meet anticipated work loads.

The above preparations should be completed within four to six months at a total cost of no more than \$90,000 as illustrated in the following draft budget:

Meetings of joint committee	\$ 3,000
Travel - U.S. and abroad by volunteers	15,000
Preparation of a report	2,000
Executive and staff compensation (about two months)	15,000
Administration	15,000
Miscellaneous	10,000
Overhead at 50%	<u>30,000</u>
	\$90,000

* Four countries are recommended in order to test as soon as possible a variety of opportunities and constraints and to guard against failure by actions outside the control of the program, a possibility if only one or two countries are selected.

Phase One Operations

Phase One operations, over a period of approximately three years, should establish EPIC as a viable international activity for which a continuation would be justified.

Operations should expand rapidly, as projected in a later section, and improve in cost effectiveness. Operating experience will provide the only reliable guide for the design of long term operations. The following represents one possibility.

Administration in the Developing Country. The developing country organization will have been established with a committee and executive tied to the U.S. organization through a contract. By continuing consultation the U.S. organization can contribute to the administrative effectiveness of the organization in the developing country.

Administration in the U.S. As operations expand over the first three years it is anticipated that the need for modifications in the administrative structure will become apparent.

The most significant change could come from the growth in the number of development oriented associations of expatriate professionals. The more active of the associations will want to provide representatives to the joint committee.

Phase Two Operations

During Phase Two it may be possible for policy control, initially vested in the joint implementing organizations,

to be shared with representatives of the associations of expatriates. In fact, a federation of associations, if found feasible, could assume both policy control and administrative responsibility. In this event, the 'new organization' would have to become in fact a new corporation. AID could enter into contracts with the federation and individually with the IESC and VITA to provide continuing support services during Phase Two.

Phase Two would be a period of tutelage during which the joint founders would prepare the federation to take full control.

It is anticipated that after Phase Two the founders would continue as board members both to give guidance and to provide liaison with the normal activities of the founding members.

Projecting Operations, the Budget and Sources of Finance

An illustrative projection of operations, the budget requirements and sources of finance have been presented on the next page based on the following assumptions:

Operations. EPIC should start in four countries, one from each region as previously suggested, during the first year of full operation. The program should level off with operations in only those 20 - 30 countries in which the highest potential can be realized. Similarly with expatriates, relatively small numbers with the highest qualifications and motivations should be encouraged to volunteer. More important than many one-time visits is a long term re-attachment to the home country, repeated visits and a continuation of technical services while in the U.S.

Illustrative Projection for Operations,
Budget and Sources of Finance
(\$1,000 at 1979 price levels)

OPERATIONS	Phase One			Phase Two	
	1	2	3	4	5
Year					
Countries participating	4	6	10	15	20
Initial visits by expatriates	40	120	300	450	600
Follow-up visits by expatriates	-	10	50	100	200
Total visits	40	130	350	550	800
Average visit in months	1.0	1.0	1.1	1.2	1.3
Total volunteer-months	40	130	385	660	1040
Expatriates providing various technical services from the U.S.	-	20	80	250	500
BUDGET					
Direct cost for visits	\$ 120	\$ 390	\$1,200	\$2,000	\$3,100
Administration - in LDC	100	290	760	1,200	1,900
- in U.S.	130	320	840	1,300	2,100
Total	\$ 350	\$1,000	\$2,800	\$4,500	\$7,100
Ratio of administration to total costs					
- as above	.66	.61	.57	.54	.56
- added value of volunteered services at \$4,000/month	.45	.40	.37	.35	.35
SOURCES					
L.D.C. sources:					
- Host organizations	\$ 60	\$ 200	\$ 600	\$1,000	\$1,700
- Government	60	200	600	1,000	1,700
- Other	-	-	-	100	200
U.S. sources:					
- Associations of expatriates	-	-	100	300	400
- AID and/or FITC	230	600	1,500	2,200	3,100
Totals	\$ 350	\$1,000	\$2,800	\$4,600	\$7,100
AID/FITC cost per volunteer-month	\$5,700	\$4,600	\$3,900	\$3,300	\$3,000

Expatriate volunteers will initially be able to leave the U.S. only for short periods. The visits may later be lengthened as EPIC gains experience. It has been assumed that many will volunteer for repeat visits, e.g. one month a year for five years.

At least half who volunteer as visiting consultants will also agree to serve as advisors from the U.S.

Budget. Unit costs previously arrived at based on IESC, AID and U.N. experience have been employed in the budget projections. They assume lean and efficient administrative systems in the LDC's and the U.S. The estimated unit costs can be attained only by close cooperation with host organizations who assume a portion of the administrative load.

Sources. EPIC should be based on a cost sharing principle which, by the fifth year, anticipates 50 percent of the budget met from LDC sources and 50 percent from the U.S.

In the LDC's the funds received from the government and from host organizations will vary as the government recognizes the value of the organization in reaching priority national objectives. Some organizations will be able to contribute more - as in the case of those cooperating with IESC.

The projection assumes that in time a variety of development and financial institutions in the developing countries will contribute.

Associations of expatriates in the U.S. may not make cash contributions but are likely to contribute services thus lowering the costs of administration.

EPIC should be financed from various budgets within AID including not only the Office of Science and Technology but also the Office of Private and Voluntary Cooperation and the regional bureaus. The latter will contribute to increase the cost effectiveness of the short term technical assistance being provided and to cooperate in reducing the brain drain.

Cost Sharing with the United Nations

The United Nations Development Programme, with a current annual budget now exceeding \$500 million, has agreed to finance projects on the Turkish model in other requesting countries. As noted earlier as many as a dozen countries may soon be participating. Each will endeavor to attract its expatriates residing in the U.S. and in other countries. In addition UNIDO is planning a support project in the industrial countries.

There are advantages to the developing country and to the U.S. in a multilateral approach involving the UNDP. For example:

- developing country can attract expatriates from other industrial countries,
- government is more likely to increase its financial contribution,
- certain governments would prefer a multilateral to a bilateral program,
- costs to the U.S. Government can be significantly reduced and
- UNDP field offices in 102 developing countries can provide access to governments on brain drain problems and on action programs beyond that easily available to the administrative organization in the U.S.

Decisions will have to be made by the U.S. joint implementing organization for each developing country as to the advantages and disadvantages of the multilateral approach. It is important that possible problems be kept in mind including:

- the program should not be wholly a responsibility of the government,
- the developing country organization should be fully autonomous and be able to cooperate with a variety of private and public organizations and
- the objective of reaching out to the poor majority must be given a priority.

Through cost sharing with the UNDP it would be possible to reduce substantially the AID contribution projected in the previous table.

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