Statements are varied on the need as distinct from those on employment opportunities for Agricultural Economists abroad. The more useful information on potentialities must recognize congressional as well as political, economic and military uncertainties associated with U. S. foreign policy. The following comments are directed at probable employment opportunities.

The central idea in these comments is that foreign economic development activities for U. S. Agricultural Economists over the next few years will most likely focus on cooperative research in areas of commercial agriculture and rural poverty. Hopefully, the extension type emphasis of the past and the role of the short term "expert" will be reduced. In most areas of the developing world, the direct attack at institutional development will and should change to one of focusing on significant problems of an applied nature that will spin off additional growth in indigenous institutional capacity. In general, the idea that a simple transfer of agricultural experience of the Western world is sufficient for development has been overcome. The era of joint efforts at adaptive or applied research is ahead of us.

Expanding on this central idea will include some comments on past areas of work, greater identity of near term opportunities and finally some implications to our U. S. graduate training efforts.

HISTORICALLY

Throughout the last 10 years, some 40 U. S. land-grant universities have been engaged in under 95 separate contracts in providing assistance to some 80 research and educational institutions in 45 countries [3]. In addition, there have been opportunities under contracts or grants with U. S. Foundations and multi-lateral international agencies. The efforts have been directed at the following goals, ranked by crude estimates of the numbers of professionals involved: (1) extension of agricultural technology developed in the Western world, (2) increasing the rate of institutional development, and (3) implementation of adaptive and more basic research activities.

The first category of an extension of existing knowledge included the short term "experts" under sponsorship of USAID, World and Regional Development Banks, FAO, U. S. Industry and Business as well as under private and public support to world trade organizations. Some productive results have emerged from this experience, particularly, in the training of U. S. agricultural economists to meet international educational needs within the U.S.

The extension of existing knowledge was necessary because most developing countries lacked a minimal core of indigenous administrators and scientists as well as adaptive knowledge. Perhaps, the most productive consequence of total U. S. efforts over the last 10 to 15 years has been to assist emerging countries to acquire human assets in the form of young agricultural scientists including economists as well as the beginning of an institutional capacity to meet future research and educational needs [5]. Greater institutional maturity has been achieved in many countries seeking to develop indigenous scientific and technological capabilities. The institutional development process has generally involved the identity and clarity of goals and purpose, improved curriculum or in-service training efforts, initiation of adaptive research programs, training of staff, improvements in organization and administration, as well as the development of physical facilities and equipment. The success of these efforts has provided the necessary assets for materially increasing educational and scien-

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tific capacity including adaptive research activities. Also, these assets are the foundation for increased future cooperation with U. S. agricultural scientists. In many countries, the immaturity of indigenous scientific talent and their desire to gain status by speaking to colleagues abroad can be resolved and redirected by joint research activities with U. S. scientists directed at applied research within the respective countries.

The third class of activities, namely, the adaptive and some basic research that has been underway since the mid-fifties, received minimal support. With the lack of local economists, instability in local institutions, tremendous data problems, short term contractual procedures, and few well prepared U. S. agricultural economists willing to work abroad, the level of involvement was near optimum.

NEAR TERM OPPORTUNITIES

Since the mid-fifties, some 2,000 U.S. agricultural scientists have been involved in long term activities abroad; perhaps a sixth of these have been agricultural economists. Over the next 10 years, the number of individuals are likely to remain near constant but the contractual arrangements, as well as the functions, should change.

Substantially less extension type activities and direct assistance at institutional development will be replaced by long term cooperative research activities. The efforts to generate knowledge, research in the less developed countries, will likely focus on the applied. The areas of such emphasis might be marketing, production and policy research projects relating to commercial agriculture; rural poverty or human resource development; development planning, including the economic analysis of investment alternatives and interregional competition; and among others, the economics of institutional development.

Over the next few years, the U. S. government is likely to concentrate its efforts on the development of long term problem oriented research programs. In all probability, a greater research effort will occur within the structure of an International Technical Assistance Corporation or Institute. Further, there is reason to believe that joint research grants are likely in areas of agriculture, population, education, and rural nonfarm development.

Such a shift in technical assistance under a contract or grant mechanism is timely for two significant reasons. First, to assist the rate that emerging physical as well as human research and educational assets abroad are directed at applied in-country problems and, in turn, on increased rates of economic growth. Also, to capitalize on the favorable supply price of U. S. human resources with capacity to assist in generating new knowledge as well as to prevent an excessive quantity of the U. S. agricultural scientific capacity from being diverted to other problem areas.

Under the sponsorship of U. S. Foundations, some modest expansion is expected in agricultural economics within commodity or regionally oriented research institutes. A much greater potentiality exists for increased linkage between personnel in such regional research institutes, U. S. university economists and economists within institutions in the less developed countries. Most U. S. Foundations have substantially reduced support for area study programs and have concentrated on problem areas within the less developed countries.

A limited number of additional opportunities for U. S. agricultural economists should emerge with multilateral agencies. The World Bank, as well as Regional Development Banks, have been structuring Agricultural Economic sections within their Economic Departments. Hopefully, agencies such as FAO, Special Fund projects, and support from other agencies will change both their emphasis on extending current knowledge to that of assistance in the creation of additional knowledge as well as alteration of contract terms, thereby increasing their competitive position.

Still another area of potential growth for U. S. economists relates to the expected increases in world trade. These increases in world trade are associated with increased rates of economic growth in countries such as Japan, South Korea, Mexico and others. The data indicate that agricultural imports from the U. S. have increased about 11 percent for each 10 percent increase per capita income in developing countries [4]. Some recent data on commercial agricultural exports from the U. S. further illustrate favorable changes, see Table 1.

<p>| Table 1. U.S. COMMERCIAL AGRICULTURAL EXPORTS TO SELECTED COUNTRIES |</p>
<table>
<thead>
<tr>
<th>Country</th>
<th>Average 1956-60</th>
<th>1966</th>
<th>1967</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chile</td>
<td>10</td>
<td>44</td>
<td>39</td>
</tr>
<tr>
<td>Japan</td>
<td>335</td>
<td>900</td>
<td>863</td>
</tr>
<tr>
<td>Mexico</td>
<td>69</td>
<td>79</td>
<td>70</td>
</tr>
<tr>
<td>Pakistan</td>
<td>5</td>
<td>9</td>
<td>13</td>
</tr>
<tr>
<td>South Korea</td>
<td>10</td>
<td>20</td>
<td>42</td>
</tr>
<tr>
<td>Taiwan</td>
<td>4</td>
<td>30</td>
<td>68</td>
</tr>
</tbody>
</table>

In relation to world trade, it is likely that more agricultural economists will be sought for research activities, particularly as questions of greater regional specialization, negotiated prices, and tariff and quota policies become more significant.

In summary, the near term opportunities for a greater research thrust by U. S. agricultural economists with colleagues abroad are related to: (1) greater political acceptance of the essentiality of increased rates of growth in the agricultural sector as a requisite to overall increases in economic growth rates, (2) the growing conviction that biological, physical and social science research in the agricultural sector is necessary for increased growth rates in the agricultural sector, (3) a greater awareness that increased maturity and participation in applied problems by indigenous scientists can be enhanced by joint efforts with U. S. scientists, and (4) within the U. S. a growing conviction that the present stage of institutional building abroad requires a greater focus on applied problems within indigenous areas.

U.S. TRAINING EFFORTS

Many U. S. agricultural economists have contributed to the training of foreign colleagues over the last 10 years. Even greater contributions in this area can be expected in the future.

As U. S. experiences in International Development of the last few years are translated into new or revised programs, some expectations in the training area are: (1) a greater emphasis on Ph.D. degree programs, (2) a greater opportunity to link thesis research to issues in indigenous countries, (3) a greater opportunity to develop continuing colleague relationships abroad related to maturing young agricultural economists, and (4) a greater opportunity to involve young U. S. agricultural economists in international development issues.

A majority of foreign students over the last 10 years have been trained at the M.S. level. In N.C.S.U.'s program in Peru, that has averaged fifty graduate students per year since 1963, only five had studied at the Ph.D. level through 1967 [1]. In January, 1969, there were 15 graduate students from Peru studying at the Ph.D. level and 32 at the M.S. level located at 18 U. S. universities. This trend is evident in other university AID contracts.

Principal reasons for the future Ph.D. emphasis include the development of acceptable M.S. programs in developing regions, indigenous institutional growth permitting greater specialization, and a continued emphasis on staff development.

The opportunities are increasing to combine advanced study in the U. S. with a thesis topic on indigenous country issues, particularly as more cooperative research activities are programmed. This desirable characteristic of advanced study by foreign students is also enhanced by the increased number of U. S. agricultural economists with less provincial attitudes.

The prospects for joint research with colleagues abroad have many implications to U. S. university graduate programs. A most significant implication will be to dispel the belief that a rigorous economic theory and quantitative orientation in agricultural economics is not applicable to foreign students. This attitude has flourished because the foreign student returns home and strives for recognition by writing for his U. S. colleagues. With joint research activities, the opportunity to help guide indigenous professional talent to applied issues within a developing country can substantially alter this tendency.

Further joint international research efforts may encourage increased emphasis on rural poverty and/or human resource development issues that U. S. agricultural economists have until recently largely ignored [2]. The overpowering need for this work in foreign countries can have broad implications by bringing together a problem orientation, recent methodologies, and interactions with colleagues in other disciplines.

Another implication of increased joint research activities abroad would be an increasing number of trained U. S. agricultural economists internationally oriented.

SUMMARY

Because of past efforts to assist indigenous institutions towards a greater scientific and technological capacity, recognition of the need for more applied research in foreign economic development, and a possible reorientation of U. S. efforts at foreign technical assistance, the opportunities for increasing long term joint research activities with colleagues abroad are encouraging. The principal consequence would be to reorient the international development efforts of U. S. agricultural economists from an extension bias as well as a direct institutional development effort to one involving joint research. The necessity to adapt existing knowledge to indigenous developmental problems as well as the pressing need to innovate with respect to commercial agriculture and rural poverty should provide the well prepared U. S. agricultural economist with challenging opportunities.
REFERENCES


