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A Guide to Improved Higher Education Partnerships for Economic and Social Development

Proceedings of the USAID University Development Linkage Programs Higher Education Conference for Asia Near East, Russia and Northern Africa

A Working Conference in Amman, Jordan
April 18-20, 1999

Hosted by

The University of Jordan
Washington State University
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Guide to Improved Higher Education Partnerships for Social and Economic Development

Proceedings of the University Development Linkage Program
Higher Education Conference
Entitled

Results Of Higher Education Partnerships For Economic And Social Development (Asia/Near East, Russia and Northern Africa)

A Conference In Amman, Jordan

Jerusalem Hotel, 18 – 20 April, 1999

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Washington State University
June, 1999

Website Address· Conference Proceedings and Post-conference postings
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ACRONYMS

AACC	American Association of Community Colleges
ALO	Association Liaison Office
ANE	Asia and Near East
BHA	Bachelor of Hospital Administration
BU	Boston University
CERID	Research Centre for Educational Innovation and Development
CHRD	Center for Human Resource Development
CIDA	Canadian International Development Agency
CIE	Center for International Education
CIUM	Center for Urban Management
CPD	Continuing Professional Development
CU	Chulalongkom University
CVE	Center for Vocational Education
CWIN	Child Workers in Nepal
CWRU	Case Western Reserve University
DHHS	Department of Health and Human Services
EI	Eastern Iowa Community College District
EPDC	Executive Program in Health and Population for Development Countries
ESP	Essential Services Package
FAO	Food and Agriculture Organization
GDP	Gross Domestic Product
GOB	Government of Bangladesh
GPRA	Government Performance & Results Act
HBCU	Historically Black Colleges and Universities
HCFA	Health Care Financing Administration
HCD	Human Capacity Development
HCST	Higher Council of Science and Technology
HE	Higher Education
HPAA	Department of Higher Policy and Administration
HSMRC	Center for Hazardous Substance Management
IAV	Institute of Agronomy and Veterinary Science
IHEL	International Higher Education Linkages
IIHMR	Indian Institute of Health Management Research
IPB	Institut Pertanian Bogor
IPM	Integrated Pest Management
IPMTP	Integrated Pest Management Training Program
IT	Information Technology
ITB	Institute of Technology Bandung
IUCRC	University-Industry Cooperative Research Center
JNU	Jahangirnagar University
KKU	Khon Kaen University
M&E	Monitoring and Evaluation
MHA	Master's of Health Administration
MIS	Management Information Systems

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MPH	Master's of Public Health
MSU	Morgan State University
NGO	Non-governmental Organization
NJIT	New Jersey Institute of Technology
ORT	Oral Rehydration Therapy
PMK	Palli Mangal Kendra
PSU	Pushchino State University
PVO	Private-voluntary Organization
QA/QC	Quality Assessment/Quality Control
RTG	Royal Thai Government
SCC	Sinclair Community College
TRF	Thailand Research Fund
TU	Tribhuvan University
UDLP	University Development Linkage Project
UNC	University of North Carolina
UNHAS	Hasanuddin University
UOJ	University of Jordan
URGE	University Research for Graduate Education Award
USAID	United States Agency for International Development
USIA	United States Information Agency
USU	Utah State University
VCU	Virginia Commonwealth University
WERSC	Water and Environment Research and Study Center
WSU	Washington State University

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CONFERENCE AGENDA

Day 1 – Sunday, April 18

AM

- Welcome – Moderator Dr Muhammad Shatanawi, Director, WERSC, University of Jordan
  Dr Walid S Almaani, President, University of Jordan
  Mr Robert Randolph, Assistant Administrator for Asia/Near East, USAID
  Mr Lewis W Lucke, Director, USAID/Jordan
  Dr James B Henson, Washington State University

- University Development Linkage Program and Workshop Overview Objectives and Processes
  Mr Gary Bittner and Dr Jan Noel

- Emerging Needs and Paradigms for Global Development and Implications for Higher Education – Plenary working session - Moderators Dr J Noel and Dr Manar Fayyad

- Higher Education Development Partnerships Selected Success Stories University Development Linkage Program Moderator Dr M Shatanawi
  Case 1 Health Systems Management and Education – India
  Case 2 Family Health, Family Planning and Poverty Alleviation - Bangladesh
  Case 3 Natural Resources, Agribusiness and Telecommunications – Morocco

PM

- Luncheon Keynote Speaker – Dr Issam Za'balawi, Vice-President, University of Jordan

- Selected Success Stories – Part 2 - UDLP Program and Others Moderator Dr Sandra Russo
  Case 4 Science, Education & Economic Development Consortium – Russia
  Case 5 Integrated Pest Management and Secondary Food Crops – Indonesia
  Case 6 Water and Environmental Research, Education and Outreach – Jordan

- Lessons Learned Factors Influencing Success of Higher Education Development Partnerships Working Groups Moderator Dr James Henson

- Lessons Learned Working Groups Reports and Synthesis

Day 2 – Monday, April 19

AM

- Yesterday in Review and Overview of Today Replicating and Expanding Success

- Development Results – Panel Discussion on Identifying, Achieving, Measuring, and Sustaining Results For Whom, by Whom, by When and at What Cost –Partners and Client Perspectives
  Panelists Dr Jim Burns , Ms Beverly Lingle, Mr Gary Bittner
  Moderator Dr Alexander Boronin

- Identification of "Best Practices" for Achieving and Sustaining Results Part I
  Planning, Implementing, and Funding Partnership Development Efforts Working Groups
  Moderators Dr Jan Noel, Dr James Henson

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CONFERENCE AGENDA (Continued)

Day 2 - Monday, April 19 (Continued)

Day 2 PM

- Special topic discussions at lunch, including a presentation by Dr Weldon Sleight on distance education from the Morocco–Utah State University partnership

- Identification of "Best Practices" for Achieving and Sustaining Results Part II – Monitoring, Evaluating and Sustaining Results and Priority Actions Needed to Put Best Practices into Use (Working Groups)

- Group Reports – Best Practices & Priority Actions

- Next Steps for Expanding and Enhancing Higher Education Development Partnerships Recommended Conference Follow-up

- Review of Workshop Results with Higher Education, Donors and Other Clients
  Plenary with Panel and Discussion
  Mr Robert Randolph
  Mr Jonathan Addleton, Program Officer USAID, Amman
  Mr Muhammad Ali, Chief Advisor/Head of Management Change Unit, Bangladesh
  Dr Issam Za'balawi, Vice-President, University of Jordan
  Dr James Henson, Professor and Director IP, WSU

- Wrap up and Closure, USAID/Jordan

- Workshop Evaluations

- Banquet
  Speaker Dr Mohammad Hamdan, Secretary General, Higher Council of Science and Technology

Day 3 – Tuesday, April 20

- Visits to Jordan sites of interest to participants in higher education partnerships (Petra, Jerash, University of Jordan, Jordan Valley)

Individual meetings or visits for follow-up with present and potential future partners

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Executive Summary

The working conference entitled *Results of Higher Education Partnerships for Economic and Social Development* was carried out in Amman, Jordan 18-20 April 1999 Seventy-six registered conference participants from a dozen countries gathered to exchange information on higher education development partnerships involving U S and Asia/Near East, Russian and Northern African institutions Issues addressed included an examination of higher education's past, present and future role in development, and factors that influence the success of development partnerships The conference developed a set of "best practices" gleaned from partner experience, and identified actions that members from the higher education community can take to participate more effectively in social and economic development Participants also developed a draft Action Plan for follow-up activities

These Proceedings summarize the conference content and results This information can serve as a Guide to assist institutions presently or planning to engage in development partnerships to better plan and implement collaborative development programs and activities This information should be considered as a work in progress Combined with results and follow-up actions of two companion workshops in Latin America and Sub-Saharan Africa, this information can be updated to reflect emerging successes and lessons learned

Introduction

The United States Agency for International Development (USAID) and its Center for Human Capacity Development have sponsored since 1992 an innovative program entitled *the University Development Linkage Program (UDLP)*[1] This competitive grants program enabled universities in the United States to collaborate with those in developing countries to conduct educational, research and outreach programs These programs were designed to produce important development results during the life of the grant, while also establishing or expanding long-term inter-institutional partnerships The latter were to continue to generate development results on a sustainable basis The UDLP program was a pioneer in the area of development partnerships, now widely recognized as an important mechanism for supporting mutually beneficial development cooperation In order to share the successes of the program, as well as the important lessons learned from some eight years of experience, the UDLP program sponsored three regional conferences in 1999 -- in Ghana, Honduras and Jordan -- to bring together collaborators in completed or ongoing university partnership programs

This Guide is a result and serves as the Proceedings of the third conference, held in Amman, Jordan, from, April 18-20, 1999 The conference, entitled *Results of Higher Education Partnerships for Economic and Social Development,* was organized by Washington State University (WSU) and the University of Jordan (UOJ), in close collaboration with USAID's Center for Human Capacity Development (HCD) and USAID/Amman Originally scheduled for February 1999, the conference was postponed days before its commencement due to the death of Jordan's revered King Hussein

Despite this change in scheduling, 76 registered participants from 12 countries took part in the workshop A list of conference participants, including presenters and panelists, is included as *Annex I* These included leaders of higher education development partnerships, senior stakeholders and decision-makers in the higher education, donor, governmental, non-governmental sectors, and private sectors and representatives of these communities interested in new partnerships The notable breadth and depth of experience of the participants contributed to the quality of the information produced during the conference and summarized in these Proceedings The editor apologizes for any omissions or interpretive alterations in the content presented herein

[1] University Development Linkage Program (UDLP), Center for Human Capacity Development, Bureau for Global Programs, Field Support and Research, United States Agency for International Development. Project Director, Mr Gary Bittner

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Conference Overview and Objectives

Conference Overview

Higher education institutions are rising to meet the demands of their clients to support more effectively the goals of economic and social development International alliances and partnerships between universities in the U S and other countries are helping us meet this challenge in a variety of innovative ways This conference was designed to tap into the expertise of participants, including panelists and speakers, to better understand how such relationships can be planned, funded and implemented in ways that optimize their development results and impact upon the partners and their constituencies The conference also addressed how these relationships can be sustained for mutual benefits over the long-term

Higher education institutions have significant and growing capacity to facilitate and support economic development and social and democratic reform on a sustainable basis These capabilities must be better utilized and enhanced to support the global development process Development cooperation must create "win-win" scenarios for countries at differing levels of economic development and for peoples of varying income levels within those countries

Higher education institutions, especially those with a strong orientation toward serving their external clients, are uniquely qualified to address these issues Such institutions are linked to private sector constituencies, inter-governmental organizations, the citizenry, and funding agencies, without owing allegiance to any single set of stakeholders They are working on the frontiers of science and technology, while also adapting science to practical problem solving and problem prevention They specialize in teaching and learning, for traditional and continuing education students They increasingly work and teach others to work in inter-disciplinary teams and across institutional and international boundaries to understand complex causal relationships that present constraints to social and economic development These are all skills at the core of successful development cooperation Despite this congruity of interests and skills, funding and significant opportunities for higher education to contribute in a systematic way to this development process remain limited

To address this paradox, this conference therefore focused on identifying successes in higher education development partnerships and on identifying those factors that facilitate and constrain higher education's contributions to and participation in development cooperation Five USAID University Development Linkage Program (UDLP) partnerships and one non-UDLP partnership presented brief case studies highlighting both results and lessons learned Participants used this information and their own experience to look to the future, identifying needs and opportunities for enhancing higher education's role in development

Participants explored these topics through both formal and informal conference sessions Modes of work included selected presentations and panels, but more importantly, small working groups, plenary discussions and informal discussions Input from senior stakeholders and decision-makers and practitioners with experience in government, non-governmental organizations, donor agencies and the private sector, as well as higher education, greatly enriched the dialogue

This Proceedings includes a summary of these activities and includes a check-list of "best practices", which reflect the reported needs, successes and lessons learned It also includes recommendations for future actions to improve higher education partnerships for development

Following the formal conference sessions, many participants traveled to field sites in Jordan, visiting the Roman city of Jerash, the Nabathean city of Petra, the Jordan Valley, Amman and/or the University of Jordan These visits helped to illustrate development progress, issues and challenges discussed during the workshop, especially as these relate to the Middle East region A number of participants also stayed on in Jordan for an additional period to further plan collaborative activities, capitalizing on contacts made or renewed during the conference

Specific Conference Objectives

Conference objectives as set forth by the UDLP were as follows

1 Share the results of selected higher education partnerships in the Asia/Near East (including North Africa) and the Newly Independent States regions

2 Identify benefits, results and impacts, planned and unanticipated, to the host country and U S universities and their partners and clients

3 Identify lessons learned and "best practices" of higher education partnerships

4 Identify factors that make partnerships sustainable beyond the initial funding period

5 Quantify and qualify partnership leveraging of resources

6 Generate from and share with stakeholders, including USAID and other donors, an action plan to expand and extend effective development partnerships

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Conference Day 1
Summary of Conference Content and Results

Welcoming remarks by conference hosts and senior representatives of their organizations set the stage for conference discussions and deliberations Speakers were Dr Walid S Almaani, President, University of Jordan, Mr Robert Randolph, Assistant Administrator for Asia/Near East, United States Agency for International Development (USAID), Mr Lewis W Lucke, Director, USAID/Jordan, and Dr James B Henson, Washington State University Each offered his perspective of higher education's role in social and economic development and challenged conference participants to use the workshop as an opportunity to explore how this role can be enhanced The welcoming remarks of these individuals are included as *Annex II* Selected comments follows

> *Cooperation, exchange of information, and sharing of resources, at both the individual and institutional level, are now considered the only rational approach to a sustainable future We very much hope to learn from participants' experiences in terms of linkage programs between their respective universities and U S universities in the sustainable economic and social development at the global scale* (W S Almaani, University of Jordan)

> *The world is changing and the face of development is changing The global marketplace, environmental interdependence, new political concerns, the information age, the importance of private sector trade and investment--as different as our countries may be, these are themes that are common to all of us And, working in a policy-related government position, I know I speak for many others when I emphasize that we look to universities and the broader education sector for assistance as we deal with rapid change and confront a very different development environment Whether it is a matter of education, training, research or information, institutions of higher learning have an essential role to play* (R. Randolph, USAID, Washington D C)

> *One of the biggest challenges, both in this conference and when you return to your home countries, is to ensure that higher education partnerships and linkages, once established, are not only maintained but are allowed to flourish, extending and applying technology, research, teaching and services for the benefit of society as a whole* (L Lucke, USAID, Amman, Jordan)

> *The topic of this conference--Higher Education Development Partnership is as relevant domestically as it is internationally To support social and economic development, universities must reach out to access and share information, education, and technologies wherever they are,*

across town or around the globe The global nature of education, economics, the environment and other topics makes this extremely important (J B Henson, Washington State University)

Definitions

Terms like "development" and "partnerships" can mean many different things to different audiences To establish a common basis for the discussions that followed, participants agreed upon the following definitions

International Development *A cooperative, evolving process whereby nations and their peoples are better meeting today's needs while building capacity to meet the needs of tomorrow*

Partner *A person or organization which takes part in some activity or enterprise in common with another or others* (Webster's Dictionary)

Partnership *An association of two or more partners engaged in the same enterprise that share profits and risks* (Webster's Dictionary)

A Changing World and Changing Higher Education

Within the dynamic global environment in which we operate, new paradigms are emerging for development and for higher education In the plenary session, participants identified changes in both the development environment and in higher education itself that are affecting university participation in development These reflected generic changes and those of particular importance in the geographic regions represented in the conference Results are summarized in the following *Table 1*

Table 1 ***Changes and Trends that are Affecting Social and Economic Development & Higher Education's Role in Supporting Such Development***
Changes in the Local, National, Regional or Global Environment
• *Unsustainable use of water and natural resources* - Severe water shortages, declining quality, increasing competition for use, increasing awareness of water's importance in achieving and sustaining peace and stability, soil erosion, declining soil fertility and quality, increasing water, soil and air pollution, declining biodiversity
• *Increasing population* - Increases are accelerating water/natural resources degradation, increased understanding education's role in reducing population growth
• *Economic changes* – Increasing unemployment, poverty, widening gap between "haves" and "have- nots", economic stratification
• *Trade liberalization and the global marketplace* - Need to meet international standards, but inconsistencies in standards, unstable marketplace and market policies, negative impact on small rural farmers and communities, changing market and trade alliances and coalitions
• *Information and telecommunication revolution* – E-mail, internet, distance education and others, increased competence and use by educational institutions and clients, increasing understanding of strengths but also of limitations of information technologies, increasing communication between and among countries at different stages of development
• *Democratic reform, decentralization and participatory development* – Emphasis on civil societies and citizen participation in decision-making, gaps in literacy, technical and decision-making skills and understandings needed to make these new concepts work, tensions between old centralized, top-down and new decentralized ways of doing things
• *Globalization and regionalization, global interdependence* – Interdependent markets, information and communications, finance/economics, environment, education, increasing cooperation (Asian economic crisis) Increased recognition of the need to "think globally, act

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Table 1 *Changes and Trends that are Affecting Social and Economic Development & Higher Education's Role in Supporting Such Development*
locally" • *Political and social transitions and threats of instability (regional and global)* – Middle East peace process, increased crime and illiteracy, increasing social partition and stratification, increasing racial, ethnic and cultural conflicts (e g former Yugoslavia) and lack of effective responses
Changes in Higher Education Itself
• *Increased demand for higher education* - By traditional (18-24 year old) students where population growth is high and by non-traditional students (continuing education) • *Increasing competition and increasing costs of education* - Private sector provision of education, rising costs, increasing decentralization and increasing numbers of universities • *Decreasing resources for higher education* – Public education competes with other social services and with universal primary education goals • *Globalization and regionalization of education* – "Virtual courses", "virtual universities", sharing of materials and resources (faculty, etc) • *Aging of faculty* – Need for fresh thoughts and perspectives and new skills and disciplinary expertise, limited number of positions available for young faculty • *Recognized need for more strategic thinking and educational policy reform* – Changes in strategies, reward structures, and other policies needed to better support social and economic development • *Increasing speed of information generation & information dissemination* – Difficulty in coping with information explosion, information and technology property rights, potential for wide dissemination of inaccurate or destructive information, privacy • *Demand for practical skills targeted to the private sector* – Drop in number of public sector jobs, demand for skills in business, entrepreneur skills and technical areas with high employment potential • *Changes in economic and career opportunities are changing technical or disciplinary needs* – e g fruit trees replacing field crops, need to prepare students for multiple career changes in their lifetimes • *Need for higher education to manage in a more business-like manner* - Increased focus on effective resource and personnel management, increased efficiency, managing for results "Products" of teaching research and outreach • *Increasing demand by students for a voice in educational affairs* – Student governance, input into university governance, faculty assessment, and others

With this information in hand, participants developed a set of actions that higher education is making or should make to respond to these changes These included identification of issues or topics of particular importance to the represented regions, as well as actions that could apply globally Results are summarized in the following *Table 2*

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Table 2 *Priority Actions Higher Education is Making or Needs to Make in Response to Identified Changes*
• More effectively generate and use information and knowledge - Research and extension/outreach and training - Develop or access, analysis, and synthesize information, transform and transfer for use in support of economic and social development and solving of priority problems ➢ Water and natural resources (most frequently cited) ➢ Family planning and population ➢ Food security, food safety, food trade policy, agribusiness, etc ➢ Democratic reform and participatory governance ➢ Conflict prevention and resolution • Strengthen linkages between education and clients - Business and industry, society, students, government, better links to national development needs and goals and to global marketplace • Develop/strengthen national, regional and global education linkages and networks – Identify and capitalize on comparative advantages, improve collaboration, increase efficiency and decrease ineffective competition, develop and implement regional vision for higher education, increase cooperation in education within the region and with other regions (more and less developed) • Further develop and more effectively use information and educational technologies and methodologies – use to better meet needs of diverse clients and to deliver programs more cost effectively • Increase relevance and quality of education – Improve strategic planning, vision, skills, quality, assessment – better link to needs in marketplace, sound environmental use, and societal needs • Support a more effective "global community" – Develop means to "operationalize" or put into use international concepts, values, standards and common ethos, improve conflict management and resolution, encourage equitable and sustainable use of natural resources, improve local, regional, international problem solving, promote and support international law • Rebuild and improve educational programs to meet global standards (products, goods, and services) • Develop improved capacity at universities for strategic planning, prioritization, business management and policy reform, use this to improve efficiency and better meet present and emerging needs, be more proactive and less reactive • Encourage and support standardization of skills, tools and products (international standards) • Help others follow-through – do not stop with identification of problem or development of plan (academic assessment), be proactive in developing partnerships and helping to solve, implement, etc • Better market higher education's ability to contribute to development, document and publicize results of higher education's contributions to development

Higher Education Development Partnerships - Selected Success Stories from the University Development Linkage Program and Related Partnership Programs

Leaders of what were identified as successful higher education partnerships presented six brief case studies of these projects Five were members of the UDLP portfolio, and one was supported in part by a related USAID higher education partnership program in Eastern Europe and Newly Independent States These

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cases represented multiple and diverse geographic locations (India, Bangladesh, Indonesia, Morocco, Jordan and Russia) and sectors (natural resources, health and population, education, food and agriculture and economic development)

The case studies focused on what they considered their most important successes and how they were achieved and on some of the lessons learned from planning and implementing these partnerships These case studies then served as examples for further deliberations to identify and characterize factors that affected the success of such programs and to develop a summary of "Best Practices" for the future

Selected highlights from the six presentations are briefly summarized below These case studies are further documented in Annex III, which includes the summary case study presentation materials and UDLP Project Profiles

Case 1 Strengthening Health Systems Management and Education Models in India - Tulane University and Devi Ahilya University

Presented by Dr Vinod Thukral, Tulane University and Dr P N Mishra, Director, Institute of Management Studies, Devi Ahilya University

Setting

India is one of the world's oldest surviving civilizations, with a population of about one billion, up from 300 million only 70 years ago It has made great strides in social and economic development in the 20th century, but faces significant challenges in such sectors as health, education, transport, and communication Health care systems have been an integral part of India's development for centuries and today feature both traditional and modern western medicine Fundamental issues facing this system include the sheer size of the client population, health care costs, stratified access that favors urban and wealthy populations, the focus on curative care rather than primary health care, lack of community participation, and the absence of a sound referral system With private health care now emerging as an important part of the health care system, and with the need for increased efficiency throughout the sector, there is a recognized need for improved health care management and administration A consortium of Indian institutions led by Devi Ahilya University's Institute of Management Studies is meeting this challenge though a Hospital Administrator's Programme Building on its own global interests, Tulane University's Department of Health Systems Management is collaborating in this ongoing effort

Objectives

1 To expand and strengthen health systems management training and research in India through
   - developing teaching materials and case studies,
   - expanding course offerings,
   - developing short-courses for working professionals,
   - conducting and publishing the results of joint research, and
   - exchanging faculty and students
2 To create a cadre of health professionals in India and the U S with understandings of cross-cultural problems and global perspectives
3 Achieve program self-sustainability

Selected Results and Impact to Date

1 Created a consortium of three institutions of higher learning to promote health management education in India
2 Introduced Master of Philosophy degree in Health and Hospital System Management training for the working health care professionals We have awarded nearly 200 degrees so far Currently, 40 students are enrolled This is the first of its kind training in India Many other universities have now adopted our model The program has achieved distinction and is accepted as the leader in the field We often receive requests to assist other schools for introducing such programs

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3 The Institute of Management Studies has restructured its previous programs to have a healthcare focus more relevant to sector needs It now offers a three-year Bachelor of Hospital Administration (BHA) program at the undergraduate level and a two-year Master of Hospital Administration (MHA) postgraduate program
4 Based upon the success, the USAID Mission Office invited and funded the expansion of this program to the largest state in India We selected two universities from this state to include in our consortium One of these universities has already introduced an updated Master of Health Administration for 50 students per year
5 Completed over 25 faculty exchanges An additional 10 faculty exchanges are planned before the present project ends in Sept 2000
6 Over 100 master's theses have been written on various topics of importance
7 All programs are financially self-sustaining

Lessons Learned

- Carefully assess the needs of the cooperating institutions before initiating the partnership program Align the expectations of all participants with the available resources There were some significant differences among the members of the consortium in India with respect to these factors
- Obtain the blessings of the head of each linking institution as early as possible, make them a champion for the partnership vision This also gets the attention of other senior administrators Institutions in most host countries are more centrally administered than those in the U S
- Learn the culture of the host county before making any deals
- Look beyond the hospitality and politeness to identify real interests, commitment and ability to work in partnership
- Learn and use patience, be persistent Infrastructure support systems (e g telephone and transport) will test these skills

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Case 2 ***Promoting Research and Action Studies in Health, Family Planning, Poverty Alleviation and Female Empowerment in Rural Bangladesh Morgan State University and Jahangirnagar University***

Presented by Dr Ruhul Amin (Morgan State University) and Mr Muhammed Ali, Chief Advisor and Head of Management Change Unit, Ministry of Health and Family Welfare, Bangladesh

Setting

Bangladesh, with 117 million people and a 2 6% population growth rate, faces a broad range of development problems These range from poverty, malnutrition and disease to frequent natural disasters Women and poor rural dwellers are especially vulnerable to these threats The government seeks to support more equitable economic development and to improve the quality of life for its citizens Economic performance is linked to health, as well as to the marketplace Decreases in population growth are associated with improved family health and female education, as well as to economic growth In this setting, innovative approaches are needed that encourage synergistic improvements among these inter-related development elements

Objectives

1 Demonstrate the use of informal women's groups and self-sustaining income-generating projects to help solve socioeconomic problems in multiple sectors (health, population, gender inequality, poverty, etc)
2 Carry out research affecting women's health
3 Establish sustainable research and outreach institutions focusing on the above problems faced by women
4 Contribute to USAID/Bangladesh's strategic objectives, through research and dissemination

Selected Results and Impact

1 A Center for Human Resource Development (CHRD) is in place at Jahangirnagar University and is conducting research on Bangladesh's priority development problems
2 A local NGO, Palli Mangal Kendra, was created and is serving as a model for governmental NGO partnerships in health and family planning services
3 The local NGO, Jahangirnagar University and Morgan State have received $1 5 million from the Government of Bangladesh for collaborative research and pilot testing on health and population issues
4 More than 2,000 female volunteers have been trained in technical and organizational leadership and are providing family planning and primary health care services Fertility declines from 4 61 to 3 66 are reported in the project area
5 Income generation projects for 2,000 women resulted in increased revenues with a 99 9% loan repayment rate
6 New funding has been received for continuation of selected collaborative activities, including oral rehydration, child immunization and two national seminars Leveraging resources from many sources during and after the UDLP term, some of the development activities are continuing
7 Benefits to Morgan State University and the U S have included internationalization of their research and teaching programs and replication of some low-cost, user-friendly health delivery methods in inner-city Baltimore and with application elsewhere

Lessons Learned

- Decentralization and local empowerment played key roles in the success of the program
- The host government was an important partner during the project itself and in sustaining activities beyond UDLP funding
- Leveraging resources from multiple partners and sources was important
- Research activities, while acknowledged by partners as important, have not been funded beyond the UDLP program

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Case 3 Collaborative Program for Research, Education and Extension (Natural Resources and Telecommunications) – Morocco Institute of Agronomy and Veterinary Sciences (IAV) and Utah State University (USU)

Presented by Dr Hamid Narjisse, IAV Hassan II University and Dr Weldon Sleight, Utah State University

Setting

Morocco has 29 million people (35% are under 15 years), and the population growth rate is 2 1% Economic development in urban areas greatly exceeds that in rural areas Improving access to information and education by rural dwellers is an important part of the national strategy to close the urban-rural income gap The agricultural sector is of a critical social and economic importance, employing over half (53%) of the overall active population and 80% of the rural population The land is classified as 93% arid to semi-arid, and degradation of soil, water and other natural resources is a critical threat to food security and economic growth

Objectives

1 To conduct research on natural resource management in Morocco
2 To improve the quality of teaching at IAV and USU
3 To develop a joint outreach program to assist the private and public sectors in Morocco and Francophone Africa in developing a sound management plan for their natural resources

Selected Results and Impact

1 A telecommunication link through telephone lines between Utah State University (USU) and IAV is providing a live interactive environment between the two institutions Joint courses and seminars were conducted via this link

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2 Plans are in process to use the above telecommunication linkage to extend information to remote rural areas via a network of extension centers
3 Collaborative research was completed on the effect on productivity of livestock watering practices under varying conditions and on comparison of perceptions of pastoralists, land mangers and ecologists with respect to rangeland development and conservation Results of these research programs are being used to introduce improved land use systems and livestock management systems in their respective target areas
4 IAV and USU irrigation engineers revised software on systems-scale water management computer models and conducted field verification of these models This software was upgraded and is currently in use by regional agencies managing large-scale collective irrigation systems in Morocco and Egypt
5 Eight USU and four IAV students participated in a student exchange program and 31 additional students from the two institutions took a joint IAV-USU telecommunications course Students reported positive impact in terms of increased international understandings as well as broader exposure to different aspects of their discipline
6 Exchange visits of 27 USU and 16 IAV faculty and staff resulted in professional development as well as new or enriched courses, seminars, research proposals and other positive outcomes

Lessons Learned

- Shared decision-making and equitable resource distribution are important mechanisms to achieve such shared management must be built into the planning and evaluation processes
- Multiple administrators and cumbersome administrative processes can slow and even force cancellation of activities needed to produce results
- Sustaining activities after project funding ceases is difficult U S funding sources for universities to participate in international development programs are scarce
- Improved monitoring and evaluation systems, including a mid-term review and evaluation of achievements in both U S and developing country's institutions, can assist in making necessary mid-course corrections
- Proceeding with selective development and testing of emerging information technology methods, even if they initially appear too costly for wide use, is a good strategy and this allows for rapid adoption as the costs decline, as is generally the case for such technologies

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Case 4 The Russian U S Science, Education & Economic Development Consortium – Biological Research Center and Pushchino State University, with Washington State University, University if California (Berkeley, Davis and Riverside), Texas A&M University and University of Tennessee

Presented by Dr Alexander Boronin, Rector, Pushchino State University and Director, Institute for Biochemistry and Physiology of Microorganisms, Biological Research Center and Dr James B Henson, Executive Director, International Programs, WSU

Setting

Russia is undergoing massive and simultaneous political, economic and social transformation It faces a legacy of central planning, an economy poorly linked to the global marketplace, severe environmental degradation and a citizenry that has been accustomed to a socialist system where government supplied the means to meet basic needs To face these challenges, Russia's formidable human capital – scientists and a highly educated population - must reorient their institutions and learn and apply new skills that will enable them to solve development problems and capitalize on development opportunities While the U S has a strong political and economic stake in Russia's successful transformation to a stable, market-oriented democracy, the U S development strategy and timeframe for Russia is short Experience of the past decade has demonstrated that while progress is underway, the transition will take more time than anticipated

Objectives

1 Develop and test a model for development cooperation in Russia that includes mutually beneficial partnerships between U S and Russian higher education institutions and effective linking of education, research and outreach services, in support of economic development The latter approach will be adapted from the U S land-grant university model and will link Russia's scientific institutions with educational institutions, while adding outreach to the missions of both
2 Demonstrate the utility of this model through producing selected results in the target areas of environment and natural resources, agriculture and economic development
3 Promote and contribute to democratic development, decentralization and improved civil society through community participation in the Consortium's programs, linking local programs with regional (oblast) and national programs and establishing linkages with the global community –scientists and citizens

Selected Results and Impact

1 The Russian U S Science, Education and Economic Development Consortium is established and its programs are continuing two years after the cessation of USAID funding In addition to the participating universities and scientific institutes, more than 20 other governmental organizations, non-governmental organizations, and private sector businesses in the U S and Russia have also participated
2 Pushchino State University (PSU) was established as the first university in Russia to be integrated with a science center and its institutes It now conducts over 19 undergraduate and graduate degree programs, as well as research and outreach/continuing education programs Enrollment has increased annually since its establishment, in some years nearly doubling
3 PSU established Russia's first master's program in environmental science
4 Research and outreach programs are generating results that are being used to address priority problems, such as
   - Biopesticides to control root pathogens of wheat, barley, grapes, fruit crops and vegetables were developed and tested and are in the process of registration These produced significant yield increases in these crops and have utility in both the U S and Russia
   - Technologies for bioremediation of soils contaminated by crude oils developed, tested, registered and widely in use in Russia's oil-contaminated regions
   - A Master Farmer program is in place in Pushchino and is increasing production in home gardens, the primary food sources for consumption and markets in the area
   - Virus free potato stock is being made available to agro-industries and farmers
5 Working in concert with the Serpukhov community, as well as district, regional and national agencies, a Consortium team identified a link between a public health problem (high cancer incidence) and former industrial pollution of soils now used for gardens The teams are now working together to remediate the problem
6 Skills of 1,525 people were upgraded under the program (673 men and 852 women) The improved managerial and technical skills have resulted in increased revenues for the programs from grants, contracts, commercialization of technologies, the private sector and training fees
7 A model distance education system was put in place and a pilot course offered with University of California, Riverside in hazardous materials handling

Lessons Learned

- Faculty to faculty or scientist to scientist interaction and participation are necessary for success Mutual benefits are essential, along with incentives for participation
- Champions are needed at multiple levels within the participating institutions
- Adequate resources are a requirement, "core" resources for the partnership are needed, as well as resources for the individual activities
- Good communication is essential, but difficult, including both cultural and technical challenges

Case 5 – Collaborative Development of Integrated Pest Management Methods for Secondary Food Crops in Indonesia - Clemson University, South Carolina and Institut Pertanian Bogor, Indonesia

Presented by Dr Michael Hamming, Clemson University (co-prepared by Dr Aunu Rauf, Institut Pertanian Bogor)

Setting

In the late 1980s, Indonesia's staple food, rice, was threatened by a series of serious insect pest outbreaks These outbreaks were caused by excessive chemical pesticide applications to control pests The pests developed resistance while natural enemy populations were devastated, leaving an ecological imbalance that caused the loss of thousands of hectares of rice In 1987, the Government of Indonesia introduced a program of integrated pest management (IPM) training in the major growing regions of the country to address this serious problem Farmers in South Carolina, and the Southeast in general, face many of the same pest problems as those encountered in Indonesia Scientists at Clemson University joined forces with those of the major agricultural university in Indonesia, Institut Pertanian Bogor (IPB), to establish an IPM Training Program (IPMTP) Its purpose was to develop a network of field-oriented, season-long training experiences to empower farmers as the primary decision-makers for pest control in their fields

Objectives

1 Create a Center of Excellence in IPM training at IPB
2 Conduct workshops and collaborative research at Clemson University with Indonesian scientists and students on the current scientific approaches to biological control
3 Strengthen the teaching and extension programs at IPB in the areas of plant protection and biological pest control to ensure that these programs meet top world standards and adequately serve the needs of the Indonesian government institutions serving the agricultural sector
4 Conduct collaborative research programs focused on the biological control of pests affecting food crops important to Indonesia and the Southeast U S

Selected Results and Impact

1 IPB is recognized as a center for IPM expertise in Indonesia, has increased its scientific capacity and is engaged in a wide range of activities
   - Over 30 IPM research projects were completed in Indonesia Collaborative research continues involving scientists at both universities, on pest problems of mutual interest
   - IPB scientists are completing a national survey of impact and incidence of disease and/or predation of the new leaf miner fly pest that is rapidly spreading across Indonesia
   - Three IPB faculty members are pursuing Ph D studies at Clemson University, funded from non-UDLP resources (Japan and Indonesia's Ministry of Education)
2 The M S program in IPM program established at IPB has graduated five students so far Seventeen graduate students at IPB were involved in the UDLP project, seven in Ph D and ten in M S programs Of these one Ph D and eight M S students have graduated Two Clemson University students also conducted research under the program
3 IPMTP personnel have established a network of local centers in farmers' homes to provide natural pest control agents in West Sumatra They propagate and store microbial agents and provide a source for neighboring farmers to obtain them at low or no cost Six centers are currently operating, and 30 are planned
4 Economic studies indicate that for one crop, shallots, at a capitalization rate of 10 percent, the value of the new IPM technologies that farmers are now using is on the order of $10 million
5 USAID, Jakarta's strategic objectives have been supported
   - Liberalization of trade and domestic competition, through improving West and North Sumatra's ability to export vegetables to Singapore and Malaysia where chemical residue restrictions are strict
   - Sustained improvements in health, through IPM systems that reduce the pesticide contamination of food and rural water supplies

- Strengthened natural resource management, through reduced chemical runoff and environmental damage from agricultural activity, with biodiversity also being protected
- Promotion of democracy, through bottom-up programs of agricultural technology transfer

Lessons Learned

- Funds from U S sources to support higher education's participation in development are limited Likewise, little U S development funding is programmed for agricultural research and extension activities abroad
- Despite the fact that IPM technologies to combat emerging pests in Indonesia are available and could potentially be used there, the partners have not been able at present to obtain the necessary financial resources to follow-up on these opportunities

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Case 6 ***Strengthening Water and Environmental Research, Education and Outreach in Jordan and Washington State – University of Jordan and Washington State University***

Presented by Dr Muhammad Shatanawi, Director, Water and Environment Research and Study Center, University of Jordan and Dr Jan Noel, Director Development Cooperation, Washington State University

Setting

The Hashemite Kingdom of Jordan is a country of 89,500 km^2 and 4 8 million people, the latter increasing at a rapid rate Jordan is environmentally diverse, featuring mountains, desert, fertile highlands and valleys, a small seacoast, semi-arid rangelands, and steep gorges It shares important regional rivers, the Yarmouk and Jordan, with neighboring nations, and water scarcity threatens regional peace Washington State's 4 9 million people populate a larger area of 182,950 km^2, but it shares with Jordan similar agroecological diversity and similar agricultural production systems, as well as a rapid population growth Both are facing serious natural resource issues, especially limited water supplies, declining water quality and increased competition for water resources, internal and external to their borders Soil erosion and declining soil fertility are important problems, and both are experiencing the effects of global climate change In these similar, but distant settings, Jordan and Washington must better balance needs of economic development and environmental quality to sustain both into the future

Objectives

1 To strengthen the capacity of the University of Jordan (UOJ) and its Water and Environment Research and Study Center (WERSC) to plan and manage research, technology transfer and human resource development in support of societal needs in the environment and natural resources
2 To use the joint capacities of UOJ/WERSC and WSU to plan and conduct collaborative educational, applied research and technology transfer activities targeted to meet priority needs and solve priority problems in environment and natural resources
3 To support shared Jordan and USAID objectives for the water sector· a) stronger water institutions, b) increased water use efficiency, c) improved wastewater quality and use, and d) address water-related issues that affect stability and peace in region

Selected Results and Impact

1 UOJ/WERSC capacity to deliver high quality programs was further strengthened though multiple improvements
   - New WERSC facilities at UOJ were planned, constructed and installed and have been in use for two years, including laboratories, research and training equipment, a library and training facilities
   - WERSC pioneered the use of information technology at UOJ, including e-mail and the internet
   - Faculty at WERSC, in other UOJ departments and collaborating universities received training in proposal preparation and grantsmanship Numerous successful proposals were subsequently funded
   - WERSC adopted quality assessment quality control (QA/QC) standards and is now providing training on these standards

- One WERSC faculty member completed a Ph D program at WSU (defending his thesis by remote computer conferencing)

2 A UOJ interdisciplinary master's program in Environmental Management was established, with 15 graduates and 45 additional students enrolled to date Graduates are serving in key posts in industry, government, regional institutions, and primary, secondary and higher education

3 Two new Ph D programs emphasizing water and the environment were established at UOJ, one in chemistry and one in agriculture (resources and the environment)

4 Training and cooperative research programs were completed or are ongoing with the Ministry of Water and Irrigation, the National Center for Research and Technology Transfer, industry, non-governmental groups and cooperators in the Region Results have led to improvements in irrigation efficiency (30% in target groups), use of Environment Impact Assessments (EIA), industrial water quality assessment and subsequent water quality improvements, national water policies, wastewater treatment and others

5 Expanded linkages and cooperation within Jordan and the region and with U S and other global networks

6 Improved interdisciplinary education, research and outreach, with greater global perspectives (over 20 UOJ and WSU departments, colleges and units participated)

7 Resources leveraged internal and external to the partnership included $3 00 U S for every USAID dollar

Lessons Learned

- The long-term WSU-UOJ relationship, more than 25 years, increased efficiency and effectiveness Mutual trust, long-established working relationships, good knowledge of one another's capabilities and comparative advantages, and other preconditions for success were already in place
- Mutual benefits to both institutions and their clients are needed, but these do not have to be the same benefits for each partner
- Progress is best when effective "champions" and leaders are in place at leadership levels and at implementation levels
- It is necessary to leverage resources from multiple sources, and opportunity cost issues are a problem for grants of this size WSU and UOJ each received an average of only about $36,000/year from the UDLP grant Personnel must not only conduct the project activities *per se,* but also carry out activities to generate the additional resources needed to produce the linkage results This can divert attention from the achievement of results
- The more compatible the interests, goals, and approaches, the more rapid the progress
- Changes in USAID and other partner organizations (e g re-engineering, personnel turnover) can create gaps and diversions and impede effective communication Such communication is essential for effective programs
- Funding reductions in core funding available to the partners, coupled with increased demands for services by clients increase the need to generate external resources "Doing more with less" has its limitations Long-term university partnerships with funding agencies are needed, such as those in the U S with the National Science Foundation, U S Department of Agriculture and others

Lunch Key Note Speaker – Dr Issam Za'balawi

Dr Issam Za'balawi, Vice-President, University of Jordan presented the luncheon Keynote Address Lunch followed the third case study The presentation is summarized here to avoid discontinuity between the case studies Building on the morning themes of changes in the world and the clientele higher education serves and what the education community can do to respond to this dynamic environment, he addressed the topic of "Reforming Higher Education in Jordan" This was an in-depth look at how one country is instituting significant reforms, including identified needs for change and actions underway Prominent features included the following a strong client orientation, with a diversity of clients, globalization, regional and international cooperation, increased relevance, an emphasis on quality, and attention to finance He stressed the importance of information technology and its multiple roles in higher education He also addressed higher education as an "export" and the "business" of higher education

Participants noted that the issues facing the University of Jordan are universal, and the strategy and approaches that Dr Za'balawi presented are equally applicable to the U S and other higher education institutions around the world A detailed summary of this useful presentation is included in *Annex IV* and can serve as a guide to others interested in similar reforms

Higher Education Development Partnerships – Lessons Learned

Working in small groups, participants drew upon the six case studies presented and their own experiences to identify those factors that contribute to and constrain the success of higher education development partnerships Because different stakeholders see such factors through different filters, groups were asked to address these from three perspective 1) higher education institutions, 2) donor or sponsoring agencies, and 3) partner or client groups in the host country

Findings are summarized in ***Tables 3a-3c.***

Table 3a.
Factors that Enhance or Impede Performance and Impact of Higher Education (HE) Development Partnerships

Higher Education's Experience and Perspectives

Positive Factors:

- Strong congruence of partner vision, objectives, programs, philosophies and approaches
- Development problems that are shared by the partners (mutual issues and problems)
- Mutual trust, respect
- Mutual benefits to partners from participation, trade-offs understood and agreed upon
- Effective communication (within and between partners)
- Strong institutions with sufficient autonomy for effective participation
- Human capital audit - faculty that are qualified, committed, available, supported and rewarded for participation
- Clearly defined development programs/activities with measurable outcomes
- Comparative advantages, areas of complementary strengths
- Collaborative, participatory management and decision-making and good management (design and planning, implementation, monitoring and evaluation)
- Resource allocation understood and agreed to

Table 3a. *Factors that Enhance or Impede Performance and Impact of Higher Education (HE) Development Partnerships* *Higher Education's Experience and Perspectives*
Positive Factors (continued) • Effective links to clients (industry, government, students, etc) • "Champions" – high level decision-makers and at operational levels – good marketing • Effective linkages with donor/sponsor, latter supportive of program and partners • Collaboration via multiple mechanisms (student involvement, research, faculty exchanges) – synergy • Resources – time, funds, personnel consistent with objectives *Negative Factors* • Lack of real commitment of top management among HE to the program and partnerships • Frequent turnover of key management personnel – among HE partners, host country, donor or sponsor organizations • Lack of achievement of measurable results and/or ineffective marketing of results packages • Limited staff experience and training, failure to focus on human capacity development • Political instability • Failure of U S or developing country legislators or citizens to understand importance of international partnerships • Changes in strategies or priorities in host or donor organizations • Cultural insensitivity or failure to achieve mutual respect and collegial working relationships • Lack of clear strategic objectives and policies for higher education that encourages relevance to social and economic development • Top-down decision-making, lack of collaborative management, micro-management by senior management or donor/sponsor • Lack of good planning, monitoring and evaluation or failure to adjust in response to changes in the environment or lessons learned • Lack of collaboration and equitable or reasonable sharing of resources

Table 3b *Factors that Enhance or Impede Performance and Impact of Higher Education (HE) Development Partnerships* *Donors/Lenders Funding Agencies' Experience and Perspective*
Positive Factors (in addition to several of those identified by HE) • Performance based instruments – grants, contracts, and loans • Good (appropriate, accurate, realistic) performance and impact indicators identified and used • Expectations understood and adhered to (proposal guidelines, procurement mechanisms) • Cost efficiency and good leveraging of resources – adequate flexibility in resource use • Priorities of donor and HE partners match, priority setting process includes all key players • Funding available at planned levels • Sustainability is considered from the onset • Strong trust and strong personal relationships • Good, consistent communication internal to donor (headquarters and field), with HE partners, with clients and extended partners

Table 3b *Factors that Enhance or Impede Performance and Impact of Higher Education (HE) Development Partnerships* *Donors/Lenders Funding Agencies' Experience and Perspective*
Positive Factors (cont) • Clear plans to get results disseminated and used • Effective coordination with other donor/implementers working in related sector programs and activities *Negative Factors.* Levels of funding not secure from year to year • Strong restrictions placed on use of funds • Long complicated procurement processes • Communication confusion among different units of the donor or other donors/implementers or key host organizations • Excess bureaucracy (red tape) • Turnover in staff (donor agency, partner, other) • Government interference in funding allocation and/or project implementation • Short-term timeframes detract from long-term results and impacts, • Political factors (host country, donor, and partner institution) can play an important role in either a factor for success or detracting from success

Table 3c. *Factors that Enhance or Impede Performance and Impact of Higher Education (HE) Development Partnerships* *Host Country Clients' Experience and Perspective*
Positive Factors • Processes used were truly democratic, collaborative and participatory • Empowerment, appropriate delegation of decision-making to local client groups • Effective, frequent communication This was considered so critical that the group further identified a list of preconditions, technical and cultural, for effective communications These are as follows ➢ Democratic participation ➢ Commitment and preparation for communication (including technical, cultural, and other preparation for effective communication) ➢ Communication needs to flow effectively in all directions (up, down, across) between and among partners ➢ Good listening skills ➢ Mutual trust and respect ➢ Good understanding of cultural conditions in which the program operates ➢ Solidarity and team spirit • Good feedback mechanisms • Opportunities for spin-offs, extension and achieving sustainability are pro-actively sought and built upon • Strong training-of-trainers elements, focus on transfer of capacity to host country personnel • Effective bridging achieved between funding sources or specific projects and programs

Table 3c. *Factors that Enhance or Impede Performance and Impact of Higher Education (HE) Development Partnerships* *Host Country Clients' Experience and Perspective*
Negative Factors In general, the lack of the positive factors, plus • Paternalism (partners did not operate as equals) • Top down decision-making, especially with respect to resources • Imbalance between resources, benefits, etc among the partner groups, especially with respect to host country participation, resources, and benefits • Ineffective listening by donors or non-host country partners • Poor government policies, including ➢ Lack of coordinated vision ➢ Inflexibility ➢ Resistance to change ➢ Ineffective strategic planning (restrictive, slow to change, inflexible) • Too much emphasis on theory, failure to develop skills that meet local marketplace, failure to ensure program relevance to development needs

Conference Day 2

The second day of the conference focused on applying lessons learned from past higher education partnerships to the planning and successful conduct of future development partnerships After briefly reviewing the activities and finding of the previous day, the group addressed the topic of identifying development results and then developed a set of Best Practices needed to achieve them Workshop results were then shared with leaders in the educational, host country and donor community and their feedback solicited

Development Results – Panel Discussion on Identifying, Achieving, Measuring, and Sustaining Results

Achieving development results was an important focus of the conference There is consensus that results are important, but different stakeholders define successful development results or recognize the success of development efforts in different ways Dr Alexander Boronin (Biological Research Center and Pushchino State University, Russia) moderated and participated in a panel of experts representing several different perspectives regarding what should be achieved, by when, for and by whom and at what cost Panelists included Ms Beverly Lingle, Assistant to the President (Federal Government Relations), WSU, Mr Gary Bittner, UDLP Program Director; and Jim Burns, Association Liaison Office for University Cooperation in Development Additional details provided by Dr Burns are included as *Annex V*

1 Beverly Lingle's target constituency is the U S Congress She works on funding for specific projects and overall funding to federal agencies that in turn work with or provide funding to higher education A major role of stakeholders at high levels of government (e g , U S Congress or host country governments) is to provide development funding Their perspectives have the following characteristics

Example The U S Congress - 100 Senators, 435 Members of the House of Representatives

- These are very busy people, development is often a very small part of what they do
- The U S electorate and the U S Congress are increasingly isolationist at present

- U S efforts in international development are located in numerous federal government departments, e g , USAID, U S Department of Agriculture, U S Dept of Energy, and others These various efforts and the funding for them are not necessarily linked or coordinated
- Timeline perspectives are in conflict
  - U S Congress operates on a short time line
  - Universities and international development activities operate on longer timelines
- Members of Congress are interested in serving their clients, i e , emphasize short-term results that the clients that elected them will value
- The vast majority of USAID funds are contracted to entities in the Washington D C "Beltway" area Most universities are not located there Other development partners and organizations (federal agencies, private contractors, NGOs) may be more effective than higher education at marketing their capabilities and representing their interests in Washington
- Results and benefits must be tangible and well-packaged (brief, vivid and compelling)
- They may have little understanding of higher education, development or both
- They are interested in efficient resource use and strict accountability
- In an age of increasing legislative oversight, there is a need to educate these stakeholders Repeated, brief exposure is more effective than one-time, in-depth exposure

One state's perspective as a case study the State of Washington

- Washington State Congressional delegation has two Senators and nine Members of the House, (including four appropriators)
- The saying, "*Think globally, act locally*" translates in this environment into *"Fund nationally, elect locally*"
- Washington State has the largest positive balance of trade of any state in the U S (based primarily on airplanes, agriculture, and software)
- Example 1 the fifth Congressional District of Washington (Congressman George Nethercutt) serves a rural, largely agricultural constituency WSU is the largest employer in the District Agriculture exports are of paramount importance, so Congressman Nethercutt works on legislation to remove embargoes from agriculture export products
- Example 2 the first Congressional District of Washington (Congressman Jay Inslee) is a district impacted by the 1990 census Since 1992, this district has had three different Congressmen It is increasingly suburban Its issues are transportation, the environment (since part of the district is on islands), and land use planning The software giant company, Microsoft, is based in the district, with priorities of intellectual property, etc International issues are less important than other, local issues This is more typical of most Congressional districts, than the first example

Conclusions

- Even though the USA is a large donor partnership supporter, democracy is a messy process! ("One should never watch laws or sausages made")
  - It is a disjointed agency process
  - It is a fundamentally political process
- "*All politics are local*" (former Speaker of the House, Tip O'Neill), USAID and other federal departments have international development funds only if Congress sees a compelling need and local benefit
- Therefore, results from international development must be apparent in local U S Congressional districts

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2 UDLP Coordinator Mr Gary Bittner offers the perspectives of USAID, with particular emphasis on centrally managed programs that support field efforts Donor agencies, like USAID, are mandated to produce development results that meet development needs, as they perceive them, while also pleasing those that provide the resources Programs of the U S Agency for International Development's

Human Capacity Development Center in the Global Bureau support Agency objectives throughout the world Increasingly, attention is focuses on the following

What results?

- USAID has six strategic goals, and each USAID Mission has from two to five strategic objectives based on these larger goals Results of Agency investments must directly contribute to one or more of these strategic objectives
- The Human Capacity Development Center's strategic objective is "to increase the contributions of host-country higher education institutions to sustainable development"
- Development results that support the strategic objectives must include quantity and quality factors
- Development results occur at different times and at different levels of a hierarchy of development objectives Results may include the number of degree programs, short courses, seminars and technologies developed, how the students/participants who completed such training applied the new knowledge and technology, and how this application affected achievement of specific local, regional or national development objectives

Results for whom?

- The US Congress is the primary stakeholder for USAID partnership results Results are reported annually to Congress in performance plans and results
- Universities and their extended partners--both in the U S and overseas-- are major stakeholders
- End users of the products and services of partnerships are another set of major stakeholders

Results by whom and when?

- Semi-annual reports on the progress or results of partnerships are needed to prepare the performance report to Congress
- The semi-annual reports are (or should be) *jointly* prepared by the university partners in developing country and U S
- Sustainability is recognized as important, but may be overshadowed by need to show short-term results

What are the costs for measuring results?

- Costs for measuring results should be built into program planning, e g regular implementation plans, meetings, conferences, research, teaching, course, program, degree and technology development
- Consider low-cost ways to collect results data using students, interns, and extended partners
- Determine who are the key providers of products and services and engage them in cost-effective ways to measure results--they should have a stake in measuring demand for these products and services

Issues in measuring results

- Partners must identify targeted results for the short, medium and long-term activities (short--6 months to a year, medium 1-5 years, long-10 years)
- It is desirable, but often difficult, to engage key stakeholders in measuring results (key congressional staffers, partners, extended partners and USAID) At minimum, partners should determine the key stakeholders' interests and priorities and try to measure those results that are considered most important
- Accountability, fiscal prudence, cost efficiency (shrinking budgets) are important elements to consider in measuring results

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3 Dr James Burns represented the perspective of a wide variety of U S higher educational institutions Universities serve as a nexus where the demands and mandates arising in both the public and private sectors meet As such, universities play an increasingly pivotal role in building broad-based partnerships for development A few observations on the future of development cooperation from the

vantage point of U S Higher Education follow (For a more detailed overview of this topic, see Dr Burns' presentation in *Annex V*)

- In a day and age of public-sector budget shortfalls and tighter accountability by public and private sector stakeholders, U S higher education institutions are strategically positioned to contribute to the development equation
- Our institutions have expertise in research, teaching, and technological innovation and transfer, they are cost-effective, flexible and responsive entities capable of lending significant help to collaborating institutions abroad
- Higher education is increasingly aware that the partnerships must be accountable, must focus on results, must be mutually owned, and must build long-term capacity (domestically and internationally) When one assesses the two elements, results and capacity created for future results, U S higher education can outperform contractors and be more cost-effective
- From a broad vantage point, it is clear that tangible benefits must result from partnerships and must be vividly described to satisfy the requirements and interests of all stakeholders involved (e g , USAID, legislative bodies, the participating education institutions, and the communities they serve)
- While quick results are highly prized, long-term capacity building and sustainability issues must not be sacrificed Universities create focal points around which systemic change and improvement may develop to the benefit both of participating institutions and communities
- Higher educational institutions need a diversified development funding portfolio Universities must avoid too great a reliance on governmental support, which is declining and shows no promise of growing even close to the levels previously seen Greater efforts are needed to bring strong private sector support and more broadly-based arrangements for development cooperation Multiparty collaboration holds the promise of sustainability

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4 Dr Alexander Boronin serves as rector of Pushchino State University, Director of a scientific research institute, the Institute for Biochemistry and Physiology of Microorganisms and as Chairman of the Russia-U S Science, Education and Economic Development Consortium in Russia Each of these entities works with multiple governmental organizations, the private sector and NGOs Dr Boronin concurred with many of the concepts and approaches contributed by the other panelists and participants He offered these additional observations

- Host country institutions involved in development partnerships are often seeking to ensure their own survival in an environment of shrinking resources They are also often isolated from the other stakeholders directly involved in planning and funding development programs As a result, they may not know the strategies, priorities and associated expected results of development decision-makers
- Individual institutions vary greatly in terms of personnel, resources, and internal and external environments They are generally operating under conditions of scarce or overburdened financial and personnel resources These factors must be taken into account in order to appropriately target and then achieve results
- Host country institutions are interested in building capacity and sustainability, as well as short-term results It is important not to let the latter compromise the former
- Diversifying funding sources is necessary, but this is difficult to achieve in an environment of scarce resources and with limited experience in locating and accessing such resources Institutions are called upon to serve the interests of many stakeholders, often with conflicting priorities Likewise, organizational changes are needed that reward performance and allow change, but this too is difficult
- Partnerships can facilitate and assist in positive organizational change, as well as in accessing new resources These include private sector partnerships Given Russia's scientific strengths, such partnerships can readily benefit all partners

- Higher education and scientists place a higher value on scientific method, precision, and peer review Members of these communities may be reluctant to market results until well proven by academic standards This can result in longer-term timeframes and sometimes requires more resources, but can also prevent costly mistakes
- Sustaining and reorienting scientific capacity to support development is a priority in Russia Institutional change (policies, organization, etc), globalization and communication are especially important to this process Partnerships can assist in this transformation

"Best Practices"- A Guide to Better Development Partnerships

Using the information generated during the conference, as well as their own experience, participants worked in small groups to develop specific guidance for the planning and implementation of future higher education development partnerships The following "Best Practices" are recommended as a guide for incorporation into such future development efforts Their use should enhance the quality, quantity and rate of development results achieved, promote cost efficiency and contribute to sustaining long-term partnerships and the resulting long-term benefit flows These are presented in five categories 1) collaborative planning, 2) program implementation, 3) monitoring and evaluation, 4) sustainability, and 5) resources or funding Since these are overlapping processes and topics, there is some overlap among the following recommendations

Best Practices for Collaborative Planning

Continuous as well as periodic collaborative planning is key to success In conducting such, the following Best Practices were identified

- ✓ Clarify expectations from the onset with respect to objectives, timelines, numerical and qualitative targets, and stakeholder or beneficiary groups involved and affected These must reflect problems and common interests of the partners and the stakeholder groups they are addressing, as well as the capabilities of the partners to address these problems Plan to ensure that partners and stakeholders receive benefits from participation
- ✓ Identify and articulate steps in the planning process, be systematic about planning
- ✓ Identify specific sub-objectives or short-term results necessary to achieve the objectives of the partnership and partnership program
- ✓ Identify the activities necessary to achieve the objectives (necessary and sufficient to achieve the desired results)
- ✓ Ensure that results of activities and short-term objectives are consistent with and support the desired long-term impacts
- ✓ Use participatory collaborative processes throughout the planning process
- ✓ Identify short-term and long-term timelines and resource needs
- ✓ Set priorities with an eye toward community involvement (bottom-up) planning or decentralization
- ✓ Ensure plans are consistent with funding availability, but also emphasize potential for leveraging buy-in and sustainability
- ✓ Ensure that both needs and problems are identified
- ✓ Identify strengths and weaknesses of the organizations involved, especially as this relates to strategic planning, and develop strategies to cope with these For example, include capacity building in areas of weakness and/or involve other partners in these areas
- ✓ Develop a clear organizational and management plan, including clarifying mechanisms for communication, authority and decision-making, coordination, resource allocation, monitoring and evaluation, etc
- ✓ Consider sustainability from the onset
- ✓ Remember that planning (or design) is a cyclical process, not a one-time effort Monitoring and evaluation systems should contribute to ongoing replanning and adjustment, as needed

Best Practices for Implementation

- ✓ Develop and closely follow a clear and agreed upon workplan, including responsibilities, timeframes and funding levels
- ✓ Do the same for the management system, which must include managing the partnership relationships as well as achieving the results The former will contribute to the latter
- ✓ Maintain flexibility during implementation planning, to allow for adjustments as needed in response to changing conditions or needs
- ✓ Clearly identify and monitor progress toward specific milestones
- ✓ Carefully and effectively select staff appropriate to manage and provide results, in a partnership mode This includes technical and managerial staff Consider technical, interpersonal, team and managerial skills and demonstrated performance
- ✓ Provide both technical and managerial staff with ongoing professional development opportunities to increase capacity
- ✓ Put in place and consistently use mechanisms for effective communication, including technological mechanisms, communicators committed to the task, those respectful of cultural/language situations, personal exchanges, and many more
- ✓ Conduct periodic joint reviews and evaluations, share results, including reports
- ✓ Ensure goals are compatible with desired long-term outcomes and goals of key partners
- ✓ Ensure implementation plans are consistent with meeting goals for sustainability
- ✓ Capitalize on each partner's network of relationships to broaden access to resources, expertise, etc
- ✓ Develop early mechanisms to disseminate both results and lessons learned and implement these activities on a regular basis
- ✓ Ensure liaison officers from all partners and key stakeholder groups are identified and communicated with on a periodic basis
- ✓ Develop and implement mechanisms to leverage support from stakeholder groups, communities, project committees, local media support, and others
- ✓ Ensure clear lines of responsibility and authority, including leadership that minimizes bureaucracy and focuses strongly on results
- ✓ Develop and implement strong marketing plans throughout

Best Practices for Monitoring and Evaluation

As in the previous sessions dealing with best practices, the monitoring and evaluation session identified the practices that had helped to ensure the rapid, efficient production of development results Key practices included the following

- ✓ Require periodic reports highlighting results and impacts and provide them on schedule Report no more frequently than quarterly, less frequent such as semi-annual reporting, may be justified
- ✓ Reports should be developed and submitted collaboratively by the partners, reflecting views of the partnership rather than only one partner
- ✓ Clearly identify the individuals and institutional responsibilities for monitoring, evaluation, and reporting
- ✓ Identify from the onset clear and measurable indicators for progress, results, and impact, ensure resources are available to access or collect the needed data and information
- ✓ Build in flexibility to modify processes, as well as targets or results indicators in response to changing conditions and needs, within the overall guidelines of the activity Evolving strategies of the partners and other stakeholders may require adding, deleting or modifying indicators
- ✓ Use evaluation processes that involve people internal to the partnership and external to the partnership Third party evaluations are necessary to ensure neutral assessment and fresh creative input They may be better suited to assess the validity of development hypotheses and when

needed, to recommend major changes The best evaluations usually involve partner, stakeholder, and third party evaluators

- ✓ Wherever possible, encourage low turnover of key persons involved in monitoring, evaluation, and reporting, or when this is not possible, put mechanisms to ensure continuity and understanding of the monitoring and evaluation (M&E) process
- ✓ Build in incentives for excellent performance (and potential disincentives for poor performance) Monitor and reward performance accordingly
- ✓ Carefully manage the monitoring and evaluation process Diagram tasks, evaluate planned versus achieved progress and reasons for differences, target key questions Report interim issues and steps taken to resolve them Verify results Monitor and evaluate the M & E process
- ✓ Build into the monitoring and evaluation process a realistic schedule and process for phase-down and transition to sustainable or follow-on activities to avoid an abrupt suspension of activities and funds, but rather schedule a transition phase to identify additional funding and to continue with the key activities and processes generating results
- ✓ Put feedback mechanisms in place to communicate with partners, donors, sponsors and other key stakeholder groups
- ✓ Establish benchmarks taking into account other projects, for comparative analysis processes
- ✓ Build in cost-benefit analysis, so activities generating low benefits for the costs can be phased down or terminated and those generating high impacts expanded or replicated
- ✓ Cost-benefit analysis should include not only strategies for reallocating resources, but also costs and benefits of abrupt suspension of activities for potential negative fall out from such
- ✓ Emphasize quality control and feedback (not only quantitative indicators but qualitative indicators and impact indicators in respect to beneficiary or targeted groups)
- ✓ Indicators for human and institutional capacity development are important, but more difficult to monitor qualitatively Emphasize utilization of the capacity for performance improvements, rather than simply completion of training courses
- ✓ Encourage donor or partner agencies to do long-term follow up evaluations (in 5-10 year timeframes) Long-term impact is difficult to assess in the short-term (3-5 years) of most projects or activities
- ✓ Publicize results/successes revealed through evaluation Use evaluation as a positive management tool, as well as to identify necessary course corrections
- ✓ Assess transformation of behaviors and attitudes, (e g , more client oriented, more results oriented), as well as performance, for individuals and institutions Both are important in sustaining improvements
- ✓ Use tools such as the "critical path method" for monitoring progress
- ✓ Monitor inputs such as procurement and institutional development activities, as well as the individual activities
- ✓ Assess how the partnerships themselves are functioning What is the level of collaboration and coordination among the various elements? Are the partners satisfied with one another? What can be done to improve the partnerships?
- ✓ Differentiate between the short-term outputs or results expected and long-term impacts or sustainable performances at higher levels of the development hierarchy and ensure integrity of the development hypothesis (i e , immediate and short-term outcomes are consistent with and support the desired long-term impacts)
- ✓ Ensure efficient and feasible monitoring, evaluation and reporting plans Monitoring and evaluation cost money, and this is generally in short supply Collaborate with others to the extent feasible, to prevent duplication and increase efficiency

Best Practices for Sustainability

The term "sustainability" refers to sustaining the results (development improvements) achieved and to sustaining future flow of benefits from the development investments, as conditions evolve Sustaining development partnerships is one important means to achieve both these related ends The following "Best Practices" contribute to one or more of these aspects of sustainability Sustainability must be considered within the context of planning, implementation, and monitoring and evaluation Therefore, there is some overlap with the practices identified above

- ✓ Have partners equitably share risks and benefits (not necessarily equal sharing of resources or other benefits, but appropriate and agreed upon sharing) Ensure mutuality of benefits, share and transfer skills, resources, recognition and other benefits among partners Do so from the onset and review and reinforce this frequently
- ✓ Share responsibilities among collaborators and partners, collaborate with, rather than provide assistance to "beneficiaries" Partners and end-users should share responsibility for results
- ✓ Involve in the development process stakeholder groups at decentralized levels -- communities, non-government organizations, private and volunteer organizations, students, etc -- as well as donors, sponsors and government agencies (At minimum, the latter affect the policy and regulatory environment and should not be left out of the information flow)
- ✓ Develop plans from the onset to ensure the institutional frameworks (legal, regulatory framework at institutional and governmental levels) are consistent with continuing benefit flows into the future Where needed, encourage necessary policy and procedural reforms
- ✓ Provide incentives for good performance Sanctions for poor performance are also useful
- ✓ Utilize the comparative advantages of non-governmental organizations and develop their capacity to participate and continue activities in the future In this context, "non-governmental agencies (NGO)" can include the private sector, community groups, educational institutions and other entities that can be self-sustaining
- ✓ Emphasize transparency in process, product, and contribution to public good
- ✓ Sustain personal relationships as well as institutional relationships, including aggressively seeking opportunities for ongoing collaboration
- ✓ Ensure plans are flexible to deal with the evolving environment in which the program will take place, i e , sustainable programs are ones able to evolve in response to changing conditions
- ✓ Emphasize human capacity development, e g , training of students, graduate assistants, faculty, stakeholder groups, and clients at all levels, as well as building the capacity to continue these training programs
- ✓ Identify internal and external resources, do periodic "stock taking" and adjust activities accordingly to maximize sustainability
- ✓ Do periodic "sustainability assessments" Assess the feasibility of the plans including the needs, limits, and the integrity of the plans with respect to evolving financial, technical, social and other factors
- ✓ Take full advantage of existing mechanisms to facilitate collaborative planning or getting together (workshops, Internet, conferences, e-mail, and others)
- ✓ Ensure that plans are consistent with the legal, institutional and cultural framework in which they are to operate This includes the frameworks internal to the partner and stakeholder organizations and the larger environment in which the programs are to take place
- ✓ Ensure that data and information are gathered to ensure the integrity of the design Test the hypotheses empirically where possible through selected gathering of information
- ✓ Assess the stability of markets for development products Plan for the program to adjust to changes internal and external to the program
- ✓ Take full advantage of Internet and other sources to expand the set of partners or collaborators to maximize leveraging and results and impacts

- ✓ Find or develop champions for the programs at all levels, have them named and assigned specific marketing/public relations and other supportive tasks Be aware that this is an ongoing effort as turnover occurs
- ✓ Identify and track the key decision makers and the key decision making processes, clearly articulate this, including responsibilities and timelines for decision-making Cultivate and reward their support
- ✓ Develop criteria for setting priorities, at the onset and as results are reviewed and plans are developed for subsequent years (specific criteria)
- ✓ Agree on evaluation criteria that explicitly address issues of sustainability
- ✓ Identify broad based and diversified resource support
- ✓ Make planning results-oriented or outcome conscious - avoid the tendency to focus on activities rather than results Success supports sustainability
- ✓ Avoid the tendency to sacrifice long-term impact to impressive, but sometimes illusory, short-term gains Quantitative results are important, but only if they support desired long-term impacts
- ✓ Develop a central conceptual model or framework for the program Revisions or adaptations made to the program should be consistent with this overall framework or model
- ✓ Develop good workplans on an annual basis for planning and implementing activities
- ✓ Conduct internal and external monitoring and evaluation, feedback findings from these efforts to respond to needs identified
- ✓ Be flexible and opportunity seeking, but maintain focus and know limitations
- ✓ Phase programs out gradually, preferably with plans, resources and other factors in place to ensure continued or expanding benefit flows from a successful program Don't terminate so abruptly that results and impacts are compromised
- ✓ Be candid about weaknesses and respond to them in positive ways (mechanisms for improvement need to be identified and implemented)
- ✓ Government cooperation and support, as well as that from beneficiary groups, community, and others directly involved, are vital for the planning stage Planning is a time to build stakeholder buy-in and support
- ✓ Emphasize sustainability at all points
- ✓ Collaborative research between partner institutions build long-term linkages, collaborative and exchange graduate programs are a strong mechanism to develop and expand collaborative research
- ✓ Ensure relationships are cordial, professional, and mutually respectful
- ✓ Create "new opportunities" which expand and replicate results and impacts
- ✓ Quality is essential, maintain high quality standards
- ✓ Serve as key institutions to catalyze and facilitate the development process
- ✓ Recognize unanticipated results and benefits and capitalize on these Recognize and cultivate opportunities for positive spin-offs Use these for future programs or to seek additional complementary funding or projects
- ✓ Aggressively market the capabilities, results, and impacts of successful higher education partnerships
- ✓ Ensure programs are adapted to local circumstances and cultural values
- ✓ Capitalize on and develop shared values
- ✓ Institutionalize learning from experiences as an institution
- ✓ Shorten the timeline from "activities" and "research" to the wide transfer and dissemination of results that show development promise
- ✓ Remember that to build credibility you must establish relevance -- to the clientele to be served and to key stakeholders providing financing or other necessary support (policy reform, partner resources, etc) Produce results to development needs
- ✓ Develop the willingness and ability to comprise and work as effective teams

Best Practices – Funding and Resources

The following recommendations refer to accessing and utilizing funds, human resources and other resources

- ✓ Develop detailed, specific budgets that meet the needs of the expected results (outputs) and activities necessary to achieve them Donors and sponsors and other potential investors want specific figures
- ✓ Recognize that diverse sources of funding are needed to develop and sustain robust programs
  - U S , host country, third country
  - Corporate funding
  - Individuals (gifts, donations)
  - Multi-national organizations
  - Alumni (gifts, contributions)
  - Foundations, grants, etc
  - Clients (currency, in kind contributions, time, expertise)
  - Generation of fees (self generation by program or activity)
- ✓ Maintain freedom to move money among categories within projects or programs (line item flexibility)
- ✓ Ensure proposed programs are complementary to and support strategic objectives of those organizations providing funding and other support (USAID missions, foundations, country programs, strategic priorities and plans)
- ✓ Simplify budget categories for flexibility - avoid micro-management of detailed budgets
- ✓ Promote and utilize good, "gutsy", courageous management Be entrepreneurial, but legal, in accessing and utilizing resources
- ✓ Emphasize accountability, those providing resources and support need to be sure their resources are being spent in accordance with agreements Note that audit or accountability functions of donor agencies such as USAID can create issues that limit equity of participation or of funding of equitable sharing of resources Partners need to deal with this in an open and transparent manner
- ✓ Consider funding sustainability from onset
  - Work hard for successor funding sources for institutionalization and continuation of important programs and activities
  - Capitalize on original funding
  - Capitalize on opportunities for leveraging resources from core and extended partners and stakeholders
- ✓ Good planning is essential to reconcile the program needs and the available resources
- ✓ When individual components are separately managed, they must be provided with separate or compartmental funding sources to allow implementation within an individual component Allow for budgeting flexibility for the activities of an individual component or set of results so they can be managed to best achieve those results
- ✓ Ensure the funding is used and reported in a way that matches the interests and requirements of the donors or investors
- ✓ Ensure benefits are achieved and that these benefits are for the host country (participating institutions, citizens, government and private sector) as well as donor or foreign stakeholders Publicize these benefits This encourages more investment
- ✓ Capitalize and reinforce the trend towards privatization, but also recognize that private sector interest are
  - Short-term and profit motivated
  - Generally issues specific (highly focused and based on benefits to the involved private sector entity)

Special Topics Groups

Groups of individuals met in small groups during lunch to discuss areas of mutual interest A list of persons specifically indicating interest in these particular areas is provided below The indicated individuals have agreed to serve as contact points for further information regarding potential future collaboration in these areas

Topic	Participants
Distance Learning and Information Technology	Weldon Sleight Shahab Khan Hamid Narjisse
University Cooperative Agreements/ New Partnerships	Guita Hourani
Agribusiness and Business Development	Louis Ferkh
Animal Health and Food and Plant Safety in Development Markets Issues relating to technical and policy environment	Neil Forsberg Chris Lu Ahmad Faqih
Higher Education Reform	Sandra Russo James Burns
Natural Resources and Water	Muhammad Shatanawi Manar Fayyad

Conference Follow-up Activities

Participants agreed upon the following as a set of the potential "Next Steps" for follow-up after the conference Where actions are already ongoing or completed, the status is indicated in the second column

	Action	*Status*
1	Prepare and disseminate the conference action proceedings, including lists and contacts for each of the participants	Completed
2	Post conference proceedings on the Internet as well as disseminating them in hard copy	Completed - website is http://www ip wsu.edu/ipdc/jordan
3	Create a web page on the partnership information, partners, results, progress, lessons learned, etc Use this to inform participants of progress made regarding actions proposed and taken at the conference Capitalize on existing websites such as those of the Association Liaison Office or USAID Center for Human Capacity Development	Ongoing in cooperation with ALO and USAID/HCD
4	Capitalize on the contacts made at the conference - follow up on individual and small group plans for collaborative activities	Ongoing – numerous examples
5	Convene a follow-up conference in 18 mos -2 years to review progress made, new partnerships developed, progress towards sustaining results from ongoing partnerships, lessons learned, etc potential topic *Higher Education-Private Sector Partnerships*	Dr Towfiq Sufian has offered to help organize a conference in Sana'a, Yemen in year 2000 or 2001
6	Promote professional exchanges across the regions and partners participating in this conference, especially in the high priority areas identified in the conference (water and natural resources, economic	Ongoing, e g , between U S , Russian, Lebanese and Jordanian institutions

	Action	Status
	growth, population, human capacity development, etc)	
7	Visit USAID and other donor missions to better fit potential partnerships and partner activities to the strategic plans and other needs of national and donor programs in the partner countries	Ongoing, e g , Jordan
8	Establish a conference committee composed of country representatives, that can report to their constituencies and communicate among the regions on the partnerships	To be carried out through the Webpage (see 3 , above)
9	Explore multi-institutional linkages to expand resources and build the experience base	Ongoing, e g , Jordan, U S Russia, Morocco
10	Conduct workshops or training on regional issues and general topics such as funding sources, grant development for follow-up, disciplinary areas of shared interest, performance monitoring, evaluation and others	
11	Review and consider another type of conference model (longer, more participatory) so more products are developed on-site (such as the World Bank model)	
12	Identify partners, i e private sector, NGOs, others, to help create or strengthen these partnerships with each country/region and between developed/developing countries	

Plenary Session with Panel to Review Results and Recommendations for Conference Follow-up

In keeping with the expectations established in the opening session, a panel representing various stakeholders in Higher Education Development Partnerships joined the group to review and provide feedback on the conference findings and recommendations for follow-up Following a summary presentation of these conference products, the panelists commented individually and then fielded questions from the participants The panelists represented donor agencies (headquarters perspectives and field perspectives), higher education partners (U S and regional) and host country partners Since the very experienced panelists had additional hands-on experience in the private sector, state government and host country government agencies, they were also able to provide feedback from these perspectives

Panelists included Mr Robert Randolph, USAID/Asia/Near East Bureau, Washington D C , Mr Jonathan Addleton, Program Officer USAID, Amman, Mr Muhammad Ali, Chief Advisor/Head of Management Change Unit, Bangladesh, Dr Issam Za'balawi, University of Jordan, and Dr James Henson, Washington State University

The ensuing discussions were lively and offered an excellent opportunity for each set of stakeholders to better understand the concerns and perspectives of the others Selected items are highlighted as follows

- Education and human capacity development are still a very important goals shared by donors such as USAID and host countries, as well as universities
- The private sector's role in development and partnerships with the private sector are critical topics This is a worthy focus for subsequent conferences
- Good supportive government policies are necessary for development, and bad policies waste valuable resources Higher education has played and should play an important role as a set of resources to support development and implementation of good policies

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- The importance of mutual respect and collegiality when working with governmental, political and academic officials in a country was reiterated by multiple panelists
- Sustainability is critical Several panelists agreed that development cooperation should place more emphasis on systemic improvements -- building capacity to sustain development improvements The concern was expressed that discrete projects are short-term in nature and focus on short-term results and that these results too often rapidly fade when the project is completed Long-term partnerships can support sustainable results
- Undergraduate as well as graduate students are important agents of development, and programs should include them as well Examples include university programs for health care professional and teachers
- Education for the 21st Century is higher education's greatest challenge, worldwide Helping nations and their peoples grow into the information age, a new global economic order and healthy democracies are among the key issues
- Historical development issues and relationships are important to the Asia/Near East (ANE) region There was consensus among all parties on the priority problems facing the region -- water and the environment, population, economic growth, and support of the peace process With minor adaptation, these also apply to countries of North Africa and the Newly Independent States
- Donors operating in the field reiterated the need to target activities to achieve tangible and measurable results, preferably with national impact, in support of joint agency/host country "strategic objectives"
- Approaches to solve these problems vary, and perspectives concerning the appropriate roles for various stakeholders (government, private sector and non-governmental) elicited spirited discussion Issues such as quality control, public good, equity, power and sustainability were among the concerns raised Higher education also debates these roles internal to the education sector
- Stakeholders from the donor community expressed their appreciation for higher education's willingness to acknowledge program management problems and to commit to improvements It was noted that issues of ownership must be worked out to ensure development programs and activities run smoothly
- Government must be a development partner/stakeholder, although in different roles than the past Policy, legal and regulatory environments must promote economic development, prevent harmful exploitation and protect minority interests in order for sound social and economic development to occur
- We need to make better and faster linkages between research, outreach and adoption of improvements Successes should be replicated and adapted to other countries and settings
- Much work remains to develop true partnerships for development, but results to date support the expanded use of partnership models Participants and other stakeholders reiterated their commitment to this ongoing challenge We are getting better at "talking the talk" and need to learn to be better at "walking the walk"

Evaluation

A written workshop evaluation form was distributed to all participants attending the final session Workshop evaluations indicated that over 90% of responding participants felt that the conference was "highly successful" in meeting its objectives These evaluations also generated information useful to improve future workshops A summary of this information has been shared with USAID's UDLP office and is available to those interested in organizing future related conferences

Parting Words of Wisdom (Best Workshop Quote)

In the past, universities often felt they should be recognized for the excellent work they do, without seeing the need to market and publicize their results We must remember that in today's competitive global marketplace, performing to high standards and achieving results are essential, but marketing gives us access to opportunities and resources to do so This concept was aptly summarized by University of Jordan conference participant Deifallah Badarneh quoting the old Arabic proverb

"If you dance in the dark, who cares?"

ANNEXES

Annex I. Conference Participant Listing

Annex II. Opening Remarks by Conference Speakers

Annex III. UDLP Project Profiles

Annex IV. Featured Speakers

Annex V. Plenary Panel Presentation

Annex I. Conference Participant Listing

Annex I List of Participants – Higher Education Partnerships for Social and Economic Development
Amman, Jordan – 18-20 April 1999

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Annex II. Opening Remarks by Conference Speakers

Annex II Opening Remarks
Dr Walid S Almaani, President, University of Jordan
Higher Education Partnership for Global Economic and Social Development Conference
Amman, Jordan, April 18-20, 1999

In the Name of God, the Merciful, the Compassionate

Mr Randolph, Mr Lucke
Dr Jim Henson Director of International Programs
Dear Colleagues

On behalf of the University of Jordan, it gives me pleasure to extend a cordial welcome to this gathering of scholars and researchers, who are with us today, to share their experiences on issues of paramount concern to Jordan and the region

Universities have always been important centres of knowledge However, with the diversification and expanding branches of science, universities are no more satisfied with their traditional role as a seat of learning concentrating on the two sole and common functions of education and research To the contrary, universities are now, more than ever before, aware of their responsibilities and duties towards boosting and contributing actively to the socio-economic development of local, regional and global societies

The duties and concerns of the University of Jordan have been translated in its mission, which rests on the following pillars

- Provision of sound professional education at both the undergraduate and postgraduate levels Most academic departments run master's programmes in addition to the regular undergraduate programmes associated with those departments,
- Support of goal-oriented research, particularly research activities, which are in line with national, developmental plans,
- Community service to Jordan and the region,
- Creation of the right environment for students, and ensuring the success of graduates in terms of enhancing their job prospects and professional status,
- The adoption of the principle of democracy in the education and decision-making processes, and
- Interaction of students with the local community and at the international level

Ladies and Gentlemen,

Now that we are fast approaching the third millennium, inter-regional cooperation and interdependence have become a fact of life Cooperation, exchange of information, and sharing of resources, at both the individual and institutional level, are now considered the only rational approach to a sustainable future In fact, the University of Jordan since its inception has given particular attention to strengthening its channels of communication with universities and research centres in other parts of the world with the objective of creating a base for common understandings on issues of global concern, through lectures, conferences, seminars, and workshops The USAID-sponsored partnership programme with Washington State University is one concrete example in this context

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Cooperation between the University of Jordan and Washington State University dates back to some 20 years ago The University of Jordan, then, via its Faculty of Agriculture, initiated faculty and student exchanges with Washington State University Later, in 1992, this cooperation expanded and embraced a joint programme with the Water and Environment Research and Study Centre, which was generously sponsored by the USAID Linkage programme Under this programme, the two sides joined efforts in conducting research and studies on the development and management of water resources, water quality, water use efficiency, wastewater, and the protection of the environment from degradation and pollution, among others

As a matter of fact, Jordan and the State of Washington face very similar environmental problems Each has vast deserts, fertile highlands, threatened wetlands, and important rivers, which are shared by neighbors Both even share the same agricultural systems, dryland and irrigated cropping With these shared concerns, both universities have been able to broaden and further develop one another's technical and managerial expertise and capabilities to address these water and environment-related problems

Ladies and Gentlemen,

As you are all well aware, Jordan suffers from acute water shortages coupled with ever-dwindling natural resources It is for this reason that the University of Jordan established the Water and Environment Research and Study Centre to contribute to the natural effects in management and protection of Jordan water resources Eventually, the role of the Centre was extended to address issues relating to the fragile environment, a variety of natural resources, and sustainable use

We are highly confident that the enriched discussions and deliberations of the Centre's workshop would address future challenges in the role of higher education to face developmental issues and would enable participants to come up with efficient and effective recommendations that would contribute to alleviating water constraints

On behalf of the University of Jordan, we would like to convey our thanks to Washington State University and to the USAID for their active support to the University of Jordan over the past years We very much hope to learn from participants' experiences in terms of linkage programmes between their respective universities and US universities in the sustainable economic and social development at the global scale and wish you a most productive mission in Jordan

Thank you

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Mr Robert Randolph, USAID Assistant Administrator/ANE
Higher Education Partnership for Global Economic and Social Development Conference
Amman, Jordan, April 18-20, 1999

Mr Chairman, Excellencies, Ladies and Gentlemen I am delighted to be in Jordan and am sincerely appreciative of the decision to continue with the University Linkages Conference, even as we mourn King Hussein and are inspired by his leadership vision and the wonderful example he set for all of humanity We wish King Abdullah, the citizens of Jordan, and the people in the region peace, prosperity and stability into the next century

This is my first trip to Jordan and my third trip to the Middle East region in my capacity as Assistant USAID Administrator for Asia and the Middle East I am especially pleased that this trip comes partly in connection with this Regional Higher Education Partnership Conference

In my previous position as Trade Representative for the State of Washington, I frequently called upon the expertise and knowledge of higher education institutions, particularly Washington State University and the University of Washington

Today we are honored to have in our presence Dr Walid Almaani, President of the University of Jordan, Dr Mohammad Hamdan, Secretary General of the Higher Council for Science and Technology in Jordan and former Minister of Education, and Dr Fayez Khasawneh, President of the Yarmouk University We are also delighted to have so many higher education representatives from across the region and beyond--from India, Bangladesh, Indonesia, Morocco, Oman, Yemen, Russia, Israel, Lebanon, Philippines, and Jordan

My remarks today will focus on three main areas

First, I want to share something about the USAID programs in the Asia Near East Region and in Jordan in particular

Second, I would like to offer a perspective on some of the key strategic issues faced by all countries as they move at an ever-faster pace toward a global economy in the information age--a transition in which higher education should and must play a significant role

Third, and briefly because this is what the linkages conference is all about, I will comment on the role of higher education in development

The United States is proud of nearly five decades of friendship and development cooperation with Jordan The first U S assistance project in Jordan was initiated in 1951 as part of the "Point IV" program, which in turn represented a logical extension of the Marshall Plan At that time, fewer than 600,000 people lived on the East Bank of the Jordan, and Amman was still a relatively small town In those days, Jordanians wishing to study at a university had to leave the country, some to the American University in Beirut and others to the United States, Europe and elsewhere Road networks and health services were quite limited Industry was still in its infancy, and the private sector was small and confined largely to trade

In the early decades we placed heavy emphasis on basic infrastructure, including roads and irrigation We also placed heavy emphasis on education, providing for example some 3,000 scholarships for Jordanians to study in the United States and at the American University in Beirut

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I am also pleased to recall some of the early USAID assistance provided to the University of Jordan, especially the faculties of agriculture, science, economics and management

During the next few days, I expect to see other areas of Jordan, outside Amman But, even in my brief time here, it is hard not to be impressed by the growth and expansion of Jordan's capital, a world class city that I am told is now home to some 40 percent of Jordan's more than 4 6 million people

I know that Jordan's strategic location is in a critical area of the world at times becomes a heavy defense burden It also represents an exciting opportunity to attract tourists, investors and traders, while expanding and modernizing Jordan's industrial potential

The rapid expansion in U S assistance to Jordan is, in part, a reflection of U S appreciation for Jordan's constructive contribution to the sometimes-difficult peace process USAID funding levels alone have increased from $7 2 million in 1996 to $140 million in 1998, making our program in Jordan one of the three or four largest USAID programs in the world Our current program in Jordan addresses three main issues, too little water, too many people and not enough jobs

Within the Asia and Near East region as a whole, our programs strive to

- Secure a comprehensive peace settlement in the Middle East,
- Strengthen trade and technology links in order to foster economic growth,
- Strengthen democracy, promote good governance and reduce gender disparities,
- Stabilize population growth and protect human health,
- Protect the world's environment, and
- Build human capacity through education and training

Within this broad framework, our programs are organized to address the needs of three very distinct regions, the Middle East, South Asia, and Southeast Asia We have representatives here from all of those regions today

The world is changing and the face of development is changing The global marketplace, environmental interdependence, new political concerns, the information age, the importance of private sector trade and investment--as different as our countries may be, these are themes that are common to all of us And, working in a policy-related government position, I know I speak for many others when I emphasize that we look to universities and the broader education sector for assistance as we deal with rapid change and confront a very different development environment Whether it is a matter of education, training, research or information, institutions of higher learning have an essential role to play

I do not exaggerate when I say that education will be one of the main factors in determining which countries participate successfully in the global economy Higher education is essential in order to train leaders of the future Most of this training will necessarily take place in one's home country But information technologies can provide the means to keep all of us linked and up to

date on new technologies, new approaches, and new ways to resolve common issues and concerns

In closing, I would like to congratulate you in advance on what I am certain will be a successful conference I am already familiar with some of the important linkages that have been established in the Asia and Near East region as a result of this initiative These include

◆ A human resource development center that is helping rural women in Bangladesh to improve the health of their families, carry out family planning, and generate income,

◆ A center for excellence in integrated pest management in Indonesia that is helping farmers to control important crop pests while decreasing their production costs,

◆ A telecommunication linkage that is enabling natural resource specialists in Morocco to share information and programs within Morocco and with U S collaborators

I am sure that you will be hearing about these and many other examples over the next two days Given USAID's own emphasis on results and on learning from the past, we have a significant opportunity here to share successes and lessons learned from programs and situations around the world These successes and lessons learned can in turn be used to forge a new vision for higher education partnerships into the twenty-first century

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Mr Lewis Lucke, USAID/Jordan Mission Director, USAID/Jordan
Higher Education Partnership for Global Economic and Social Development Conference
Amman, Jordan, April 18-20, 1999

As Director of the USAID Mission in Jordan, I am honored and pleased to have the opportunity to participate in this important conference

We who live and work in Jordan strongly believe this country and its institutions can legitimately aspire to be a regional and, indeed, a global, center of excellence We were especially pleased when USAID recognized this by selecting Amman and the University of Jordan to host the university linkages conference, bringing delegates from not only the Middle East but also East Asia, South Asia, and Eastern Europe

The late King Hussein set a stunning example for the entire world about the importance of building on a common humanity to construct bridges and establish linkages, even in cases where none had existed before Certainly, his example can be an inspiration to all of us, especially for an event such as this which is consciously designed to bring people from different countries and cultures together in pursuit of common objectives and concerns

Looking back over nearly five decades of development cooperation between Jordan and the United States, it is intriguing to recall the extent to which human resource development, including at the university level, has always figured in our partnership It is also interesting to recall the extent to which American universities have played an active role in USAID-funded development activities in Jordan and elsewhere

Indeed, Washington State University, one of the sponsors of this event, has been vitally involved in Jordan for many years For example, during the late 1970s, USAID supported Washington State University in its efforts to strengthen the newly established Faculty of Agriculture at the University of Jordan Later, during the 1980s, in partnership with the University of Jordan and other US and Jordanian universities, Washington State actively assisted in the Jordan Valley Agricultural Services and the Jordan National Agricultural Development projects, both of which were aimed at strengthening Jordan's agricultural research and extension capacity Still later, during the 1990s, Washington State University, with funding from the University Linkages Project, helped establish the Water and Environment Research Study Center (WERSC) at the University of Jordan to make a practical contribution to what is almost certainly the number one issue facing Jordan and the Middle East, namely water

I recall these several examples to emphasize that relationships, continuity and change are important elements in any partnership Just as the recent Washington State University linkage activity in Jordan was preceded in earlier years by partnerships of a different kind, I am convinced the relationships and linkages being established now will continue to bear fruit many years from now, perhaps in different and unexpected ways
These examples of past USAID support for linkages between Washington State University and various Jordanian institutions also suggest the variety of ways in which the strengths of higher education can be closely integrated with broader development goals and objectives, in this instance related to water and agriculture

One of the biggest challenges, both in this conference and when you return to your home countries, is to ensure that higher education partnerships and linkages, once established, are not only maintained but are allowed to flourish, extending and applying technology, research,

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teaching and services for the benefit of society as a whole Universities have much to learn from each other, even as the university community and government institutions such as USAID can benefit from the synergetic relationships that they maintain with each other

In closing, let me express my appreciation to the organizers and the participants of this conference Let me also welcome you once again to this event and to Jordan I am certain your discussions will be successful

Dr James B Henson, Director, International Programs, Washington State University
Higher Education Partnership for Global Economic and Social Development Conference
Amman, Jordan, April 18-20, 1999

Thank you Dr Shatanawi, President Walid Almanni, Assistant Administrator Robert Randolph, Director Lucke and Director Muhammad Shatanawi, ladies and gentleman

Bob, it is good to see you again and we look forward to working with you in your new responsibility in USAID I believe the last time we met was 2 ½--3 years ago in your office in Seattle when you were serving as the State of Washington's Trade Representative

It is great to be back in Jordan after several years of absence Driving in from the airport after our arrival from the US, I was struck by the great changes that have occurred in Amman and in Jordan since we first began coming to this beautiful country Also, as a representative of Washington State University, I am struck by how our histories are intertwined

Washington State University (WSU) began international activities in 1946 President Harry Truman in 1949, in his inaugural address indicated four major points for his foreign policy Point Four established what became known as development assistance In 1949, in response to Point Four, WSU was asked to edit and prepare 600 training films for use in war torn Western Europe to support agriculture and industry In 1954, WSU received its first development assistance contract with the predecessor of USAID Twenty-seven years ago, WSU and the University of Jordan (UOJ) began implementing a project to further develop and strengthen the Faculty of Agriculture at the University of Jordan These activities with UOJ and other institutions and organizations in Jordan have been continuously underway with a brief hiatus of activities in Jordan itself However, even then the ties with Jordan enabled faculty and students at WSU to access information to develop their own opinions and understandings of this difficult situation, a far different perspective from that available on CNN

Six years ago, President Samuel Smith of WSU and I were here in Amman and hosted about 50 WSU Alumni at a reception Yesterday, Mr Abbas Al-Omari from the UOJ successfully defended his dissertation and will receive his Ph D Degree from WSU in May He will then return to work with Dr Shatanawi in the Water Center Thus, there have been strong relationships between WSU, the UOJ and other organizations in Jordan with benefits for all

I am also struck by the relevance of the topic of this conference, *Higher Education Development Partnerships* This topic is as relevant domestically as it is internationally To support social and economic development, universities must reach out to access and share information, education, and technologies wherever they are, across town or around the globe The global nature of education, economics, the environment, and other issues important to us all makes this extremely important As a result, we believe that higher education development partnerships will become increasingly important to all of our universities as we look to the future in an increasingly interdependent world

On behalf of President Samuel Smith and WSU, I wish to welcome you to this conference

Annex III. UDLP Project Profiles

Annex III. UDLP Project Profiles
UPDATED LINKAGE PROJECT PROFILES
University Development Linkage Project - Linkage Profile

Developing Country Involved. India
Lead U S Institution Tulane University Medical Center
Linked Developing Country Institution Christian Medical College and Hospital, Vellore Tamilnadu, Birla Institute of Technology and Science Pilani, Rajasthan, Institute of Management Studies, Devi Ahilya University, Indor
Other Linked Institutions
Project Title "University Linkage to Strengthen Health Systems Management Education in India"
Primary Sector Health
Period of Award. 1995-2000
USAID Cooperative Agreement Number PCE-5063-A-00-5025-00
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1 *Country Background and Project Purpose*

The linkage between Tulane University Medical Center and Christian Medical College and Hospital and Birla Institute of Technology and Science will be very effective in alleviating the current shortage of trained health care management professionals in that country Better management of the massive health delivery system will result in improved delivery of services, increased coverage, and improved health status for the general population.

2 *Partnership Objectives*

- Expand and strengthen health systems management training and research in India
- Achieve program self-sustainability
- Develop literature through research and case studies in health care management in India
- Strengthen the process of internationalization of the Department of Health Systems Management in Tulane

Achieving these goals will result in increased cooperation among linkage institutions in teaching and research. As the demand for health care managers continues to increase, the linkage partners will pursue emerging trends and activities By keeping abreast of the changes in the health care environment in India, they will be able to respond by extending their support and collaborative efforts to modifying and expanding the present program as necessary

3 *Results and Impact of Partnership*

Objective 1 - Expand and Strengthen Health Systems Management

- Created a consortium of three institutions of higher learning to promote health management education in India.
- Introduced master of Philosophy degree in Health and Hospital System Management training for the working health care professionals We have awarded nearly 200 degrees so far Currently, 40 students are enrolled. This is the first of its kind training in India. Many other universities have now adopted our model The program has achieved the distinction and is accepted as the leader in the field. We often receive request to assist other schools for introducing such programs

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- The Institute of Management Studies has restructured its previous programs to have a healthcare focus more relevant to sector needs It now offers a three-year Bachelor of Hospital Administration (BHA) program at the undergraduate level and a two-year Master of Hospital Administration (MHA) postgraduate program
- Opened the third teaching center in Delhi The earlier 2 are in Vellore and Bombay
- 32 students were admitted in M Phil in Hospital and Health Systems Management for both contact programs The first contact periods were held at Vellore and Bombay and the second contact program was held at BITS (Pilani for 1 month)
- The linkage has resulted in 3 study sites at 2 major Indian universities at Tulane-Birla Institute of Technology and Sciences (BITS)-Christian Medical College and Hospital (CMCH) consortium (which was created in 1991 to provide management training for health care professionals
- The 29 students from the class of 1996 defended their master's dissertation to the panel of 3 internal and 3 external examiners Several dissertations were judged by the panel to be of very high standards
- 4 faculties from BITS visited Tulane during the summer 1997
- Increase in number of courses offered in India, new course development, courses at Health Systems Management incorporating international health management issues, course materials, research reports and case studies

Objective 2 - Program Self-Sustainability

- There is continued growth and development of the program beyond the 5-year life of the project.
- With the tuition generated by students, all programs are financially self-sustaining.

Objective 3 - Develop Literature

- A Tulane faculty member for each of 10 target subjects assisted Indian faculty in annual review of curriculum and evaluation, including literature reviews
- Over 100 master's theses have been written on various topics of importance

Objective 4 – Strengthen the Process of Internationalization of the Department of Health Systems Management at Tulane

- Assistance in improving the effectiveness of teaching, increasing the number of students graduating with degrees in Health Systems Management in India
- Textbooks, research papers, case studies, and lecture notes on health care delivery in developing countries with increased numbers of student and faculty exchanges and dissertation research on international health issues
- A student from Christian Medical College, Vellore joined a 3-year doctoral program at Tulane School of Public Health and Tropical Medicine in 1996

4 Impact of Partnership on Mission Strategic Objective(s) In-Country

The Department of Health Systems Management at Tulane is committed to training and applied policy-oriented research for improving the efficiency and effectiveness of health care delivery in developing countries This linkage will provide the crucial resources needed to progress to the next level of cooperation and development to ensure self-sustaining the program. India has a large health infrastructure for the delivery of health care services to its vast population of 860 million. This system consists of more than 10,000 hospitals, 14,000 primary health care center, and 107,800 sub-centers Despite a well-structured plan for this system, India has been unable to provide a desirable level of health care for its population. Many of its specific health care delivery targets are yet to be achieved. The benefits of improved health management in India will be shared equally by women and men. The capabilities of women as managers have been universally recognized Since women form an integral part of the Indian health care delivery system, the linkage has a special concern about training women health administrators The linkage will continue to promote the participation of women at all levels of the program. As a policy, the linkage plans to amount an aggressive effort to gender balance the participation of women, both as participants and beneficiaries

Professional training will be provided to health care managers to ensure more effective use of available financial and human resources This linkage will result in more professionally trained health care managers, better utilization of scarce resources, and established training programs to meet growing demand for health care mangers in India It will strengthen and expand the existing program, ensure sustainability, create related literature and internationalize Tulane's Health Systems Management Department

The linkage is committed to fulfilling the long-term requirements of sustaining a comprehensive, nationwide health care management training and research program. The linkage will provide a future venue for Tulane students to visit Indian institutions for short-term training in tropical and community medicine Indian students will visit Tulane for advanced training in environmental health, epidemiology, and biomedical engineering

5 Partnership Investments

- Based upon the program's success, the USAID Mission Office invited and funded the expansion of this program to the largest state in India We selected two universities from this state to include in our consortium. One of these universities has already introduced an updated Master of Health Administration for 50 students per year
- Other data not available

6 Number of Individuals who Received Training as a Result of Partnership Activities

NA

7 Future Directions of Partnership and Sustainability Beyond USAID Support

See Results, Objective 2, above

8 Publications Resulting from UDLP Partnership

NA

University Development Linkage Project - Linkage Profile

Developing Country Involved. Bangladesh
Lead U S. Institution Morgan State University
Linked Developing Country Institution Jahangirnagar University
Other Linked Institutions
Project Title "A Collaborative Undertaking of Morgan State and Jahangirnagar University Aimed at Promoting Research and Action Studies in Health, Family Planning, Poverty-Alleviation, and Female Empowerment in Rural Bangladesh"
Primary Sector Family Health, Family Planning, and Poverty-Alleviation
Period of Award. 1991-1996
USAID Cooperative Agreement Number PCE-5063-A-00-117-00
Contact Information PI name(s), Address, Tel, Fax, E-mail, website Ruhul Amin, Ph.D , Rm. 216, Montebello Complex, Morgan State University, Baltimore, MD 21251-0001, ph (443) 885-3062, fax (410) 319-3718, E-mail ramin@jewel morgan edu

1 Country Background and Project Purpose

Many developing nations have to move faster than normal speed just to remain in place and even faster to get ahead. Bangladesh is one such nation In 1991, when Morgan State University (MSU), Baltimore, Maryland, U S A , an HBCU institution, and Jahangirnagar University (JNU), Bangladesh, forged a partnership, under USAID's University Development Linkage Project (UDLP), to undertake development-related initiatives, Bangladesh was in a desperate situation With a population of 117 million, an annual population growth rate of 2 6% (World Bank, 1991), poor nutritional and health conditions, and more than its share of natural disaster setbacks, it was clear that every development effort must count in order to make a difference

Given the persistence of endemic deprivations in rural Bangladesh, the UDLP set out to establish two institutions -- a Human Resource Development Center at Jahangirnagar University campus and an non-governmental Organization (NGO) at the rural jurisdiction of Kapasia Thana in Bangladesh -- to undertake operations research, pilot testings, demonstration projects, and trainings in the areas of health, family planning, female empowerment, poverty-alleviation, and rural development. Additional objectives of the UDLP included student internship in the operations research project and faculty exchange between Morgan State University and Jahangirnagar University

2 Partnership Objectives

- To demonstrate that through the use of informal women leaders and self-sustaining income-generating projects, and other basic social sector services, major socioeconomic problems, such as ill health, high population growth, poverty, gender inequality, malnutrition, and hunger, can be solved.
- To perform research on factors affecting utilization of health care services by women and to conduct analyses of factors differentiating fertility, infant mortality, family planning, and women's empowerment in Bangladesh
- To establish sustainable research and outreach institutions aimed at experimenting and improving basic services in health care, reproductive health care, women's empowerment, and poverty alleviation.
- To contribute to strategic objectives of USAID Mission, Bangladesh, through operations research and disseminate research findings

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3 *Results and Impact of Partnership*

- A sustainable interdisciplinary research centre, called Centre for Human Resource Development (CHRD), has been established at JNU campus to coordinate applied and basic research on the priority development issues in Bangladesh The University has been providing adequate office, staff, computers, and other research facilities to continue research activities initiated under the 1991-1996 UDLP
- UDLP-created NGO, Palli Mangal Kendra (PMK), with its demonstration project in Kapasia Thana, has become a model experimentation center for different governmental agencies and other NGOs Two separate partnerships have been forged with two different NGOs for innovative strategy Both are funded by the Government of Bangladesh The NGO (PMK) has received funds from the Government of Bangladesh and foreign donor agencies to undertake demonstration activities aimed at improving health and family planning services in rural Bangladesh.
- Government of Bangladesh has recently (October 1998) awarded U S $1 5 million to Morgan State University, Jahangirnagar University, and its NGO (PMK) to undertake pilot testing and operations research on its U S $2 billion National Health and Population Sector Program for the year 1998-2003 Preliminary works on these pilot testing and operations research activities have already began from February 1998
- The linkage has provided expertise and designs aimed at providing leadership, organization, and other outreach services through more than 2000 female volunteers in collaboration with local government agencies, providing family planning and primary health care services and supplies
- Approximately 2,000 poor women have received an average of $60 00 per person for undertaking income-generating projects of their own choice with a repayment rate of 99 9 percent These projects have also become a source of income for the UDLP because of the interest income generated by the credit program.
- Through the linkage project, increased health care utilization has been reported, along with enhanced empowerment of women, and a rise in productivity and income in the project area.
- The contraceptive prevalence rate increased from 28 percent in 1992 to 52 percent by early 1998 in the project area The corresponding total fertility decline was from 4 61 to 3 66
- Because of the enhanced research capability of CHRD, donor agencies and government agencies such as Canadian International Development Agency (CIDA), Netherlands Overseas Assistance Program, and Planning Ministry of Government of Bangladesh are seeking and getting its technical services, including assessment of program impact and evaluation of various development programs in rural Bangladesh.
- The UDLP provided impetus for a Morgan State-sponsored child immunization and oral rehydration therapy (ORT) project in the inner-cities of Baltimore and Norfolk under a 2-year grant from the Health Care Financing Administration (HCFA) of the Department of Health and Human Services (DHHS) The project started in October 1996
- Two national seminars -- one in 1994 and another in 1996 -- were organized in Bangladesh with the participation of the representatives from USAID Mission, Government of Bangladesh, NGOs, and other donor agencies Research findings with policy implications from numerous studies conducted by the faculty members of Morgan State and JNU were presented in the seminars

4 *Impact of Partnership on Mission Strategic Objectives In-Country*

The Morgan State and Jahangirnagar University partnership has been making solid contributions to the USAID/Bangladesh Strategic Objective of increasing the proportion of people living above the poverty line, reducing the fertility level, and improving the health status of poor women and children. These contributions include (1) delineating cost-effective outreach programs in health, reproductive health, nutrition, women's empowerment, and food security through operations research, (ii) assisting the Government of Bangladesh's 5-year Health and Population Sector Plan by pilot testing its program strategies, (iii) disseminating successful lessons learned from the UDLP's demonstration projects to elsewhere in the country; and (iv) developing model community-based institutional partnership between governmental organizations and NGOs to serve the disadvantaged and the poor

5 *Partnership Investments*

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During the period 1991-1996, USAID/Washington, DC contributed $100,000 each year for 5 years totaling $500 000 Morgan State University matched this $500,000 with an additional contribution of $400,000 of its own while Jahangirnagar University made an additional contribution of $200,000

Other extended partners from Bangladesh, such as Canadian International Development Agency/Bangladesh, Asian Development Bank/Bangladesh, Plan International (an NGO), and Family Planning Services and Training Centre, Bangladesh (an NGO), have contributed a total of $200,000 These contributions, together with the monthly interest incomes from the partnership's recoupable credit program, have enabled the continuation of its activities beyond its October 31, 1996, the expiry date of USAID/Washington's fundings

More recently, in February 1998 and in October 1998, the partnership received grants of 45,000 and $1 5 million U S , respectively to continue its demonstration activities in the health and population sector of Bangladesh.

6 Number of Individuals Who Received Training as a Result of Partnership Activities

- Four (4) faculty members from Jahangirnagar University were brought to Morgan State campus and given training on advanced data analysis
- Two (2) faculty members from Jahangirnagar University and three (3) faculty members from Morgan State were sponsored to attend international conferences in U S A.
- Six (6) students from Morgan State and ten (10) students from Jahangirnagar University were given practical trainings on data analysis by the Partnership
- Twenty (20) field staff and 2000 female volunteers at the rural field project in Bangladesh were trained in outreach activities and program management.
- Three (3) faculty members from Morgan State visited Bangladesh numerous times to guide and train local staff on project activities

7 Future Directions of Partnership and Sustainability Beyond USAID Support

The Partnership has already sustained its activities for the last 2-years since the expiry of

USAID support in 1996 Its field demonstration activities in health and family planning will continue smoothly because of $1 5 million U S from the Government of Bangladesh for the period 1998-2003 But lack of any more operations research fund from USAID, despite the Partnership's outstanding achievements and track records, has narrowed its scope of operations research by the faculty experts from Morgan State and Jahangirnagar University This has been due to the fact that the new funds from the Government of Bangladesh, which have enabled the continuation of the partnership, are largely for demonstration activities in health and family planning. All this has prevented the further potentials for valuable operations research contributions to USAID/Bangladesh Strategic Objectives in poverty-alleviation, food security, and sustainable local development in Bangladesh.

8 Publications Resulting from UDLP Partnership between Morgan State and Jahangirnagar University, Bangladesh

A total of 46 journal articles, study reports, and books have resulted from the interdisciplinary research activities of the joint research team of Morgan State and Jahangirnagar University under the Partnership These are listed below

"Irrigation and Development" Paper presented in the XXIII International Conference of Agricultural Economists, Sacramento, California, 1997

"Women's Participation in Low Cost Poultry Keeping," Staff Working Paper, CHRD, Jahangirnagar University, Bangladesh, 1997

"The Impact of Interventions of Pallimangal on the Reduction in Maternal and Child Morbidity and Mortality and Factors Influencing Them," Staff Working Paper, CHRD, Jahangirnagar University, Bangladesh, 1996

"Understanding NGO Operations in Bangladesh Views from the Field," Staff Working Paper, CHRD, Jahangirnagar University, Bangladesh, 1995

"Integration, Polarization and Retreat Some Observations on SAP, PAP, and NGO Exercise in Bangladesh," Staff Working Paper, CHRD, Jahangirnagar University, Bangladesh, 1995

"NGO-promoted Micro-credit Program and Women's Empowerment in Rural Bangladesh Quantitative and Qualitative Evidence," in *Journal of Developing Areas* Vol 32, no 2, 1998

"NGO-promoted Women's Credit Program and Family Planning in Rural Bangladesh," paper presented in 1997 annual meeting of the Population Association of America

"Irrigation and Development Experiences from Rural Bangladesh", Staff Working Paper, CHRD, Jahangirnagar University, Bangladesh, 1996

"Relationship Between Survival Status of First Child and Subsequent Child Death," *in Journal of Biosocial Science* Vol 28, 1996

"Factors Influencing Child Mortality in Bangladesh and Their Implications for National Health Programme," in *The Asian-Pacific Population Journal* Vol 8, no 3, 1993

"The Influence of Community Factors on Infant and Child Mortality in Rural Bangladesh," in *Jahangirnagar Review* Vol 17, 1993

"Poor Women's Participation in Income-generating Projects and Their Fertility Regulation in Rural Bangladesh Evidence from a Recent Survey," in *World Development* Vol 22, no 4, 1994

"Reproductive Change in Bangladesh Evidence from Recent Data," in *Asia-Pacific Population Journal* Vol 8, no 3, 1994

"Recent Evidence on Trends and Differentials in Bangladesh Fertility," in *Journal of Biosocial Science* Vol 27, no 1, 1994

"Factors Affecting Desired Family Size in Bangladesh," in *Journal of Biosocial Science* Vol 27, no 1, 1994

"Women's Participation in Welfare Organization, Primary Health Care Utilization, and Contraceptive Use in Rural Bangladesh," Annual Meeting of the Population Association of America, May 5-7, 1994

"Impact of Poor Women's Participation in Credit-based Self-employment on Their Empowerment, Fertility, and Fertility Desire in Rural Bangladesh," Annual Meeting of the Population Association of America, May 5-7, 1994

"Increased Contraceptive Use in An Impoverished Society The Case of Bangladesh," Annual Meeting of the Population Association of America, 1993

"The Impact of Participation of Women in Development Projects on Fertility and

Health Experience from Village-based Study," International Conference on Sustainable Village-based Development, Colorado State University, 1994

"Poor Women's Participation in Income-generating Projects and Their Fertility Regulation in Rural Bangladesh Evidence from a Recent Survey," General Conference of the International Union for the Scientific Study of Population (IUSSP), 1993

"Women's Status and Factors Influencing Their Reproductive Health in Rural Bangladesh," in *Journal of Statistical Studies, 1994*

"An Evaluation of a Deep-Tubewell Irrigation Project," in *Jahangirnagar Review,* 1994

"Determinants of Infant and Child Mortality in Bangladesh," *Journal of Statistical Studies Vol* 13, 1993

"Increased Contraceptive Use in an Impoverished Society The Case of Bangladesh," Annual Meeting of the Population Association of America, 1993

"Impact of BRAC's Development Program on Fertility Change in Rural Bangladesh." Paper presented in the 1995 Annual Meeting of the Population Association of America, San Francisco, California.

Fertility Level from the 1993, Bangladesh Demographic Health Survey Is It Realistic?" Paper presented in the 1995 Annual Meeting of the Population Association of America, San Francisco, California.

"Low Contraceptive Use in Chittagong, Bangladesh Some Explanations " Paper presented in 1995 Annual Meeting of the Population Association of America, San Francisco, California.

"Factors Influencing Immunization Program in Bangladesh," *Jahangirnagar Review,* Vol 18, 1994

"Effects of Gender Preference on Fertility and Contraceptive Use in Bangladesh," *Jahangirnagar University Journal of Science* Vol 18, 1995

"Socioeconomic Impact of Deep Tubewell Under Different Management Systems," Staff Working Paper, Jahangirnagar University, Bangladesh, CHRD, 1995

"A Base-line Study on Domiciliary MCH-FP Services in Some Selected Areas of Kapasia Thana," Staff Working Paper, CHRD, Jahangirnagar University, Bangladesh, 1996

An Analysis of Base-line Survey of Pallimangal's Intervention Area (Kapasia Thana), "Staff Working Paper, CHRD, Jahangirnagar University, Bangladesh, 1996

"Evaluation of Human Resources A Case Study of Kapasia," Staff Working Paper, CHRD, Jahangirnagar University, Bangladesh, 1995

"The Relationship Between Women's Education and Its Effects on Health and Fertility in Rural Bangladesh," Staff Working Paper, CHRD, Jahangirnagar University, Bangladesh, 1995

"The Impact of Development Interventions on Women and Their Changing Role A Case Study of Selected Households," Staff Working Paper, CHRD, Jahangirnagar University, Bangladesh, 1996

"Impact of Poor Women's Participation in Credit-based Self-employment on Their Empowerment, Fertility, Contraceptive Use, and Fertility Desire in Rural Bangladesh," *The Pakistan Development Review,* Vol 34, no 2, 1995

"Economic and Demographic Impacts of Rural Credit Programs for Women in Bangladesh," Staff Working Paper, CHRD Jahangirnagar University, Bangladesh, 1993

"Situation of Mother and Child Health A Study on Two Villages in Kapasia Thana," Staff Working Paper, CHRD, Jahangirnagar University, Bangladesh, 1994

"Women in Development A Study of the Impact of NGO Interventions in Some Villages of Kapasia Thana of Gazipur District," Staff Working Paper, CHRD, Jahangirnagar University, Bangladesh, 1994

"Spatial Pattern of Fertility and Mentality Variations at Kapasia," Staff Working Paper, CHRD, Jahangirnagar University Bangladesh, 1994

"The Study on Changes in Sanitation Habits of Rural Household Members Who Have Adopted A Sanitary Latrine," Staff Working Paper, CHRD, Jahangirnagar University, Bangladesh, 1995

"Contraceptive Use in Bangladesh--A Study of Trend and Pattern," Staff Working Paper, CHRD, Jahangirnagar University, Bangladesh, 1995

"Infant and Child Mortality Levels and Trends in Bangladesh," *Journal of Biosocial Science,* Vol 27, 1995

"The Impact of Poor Women's Participation in Village-based Development Program on Fertility, *The Journal of Rural Development* Vol 25, no 1, 1995

"NGO-Promoted Micro-Credit Program and Selective Reproductive and Maternal and Child Health Services Experience from An Action Research Project in Rural Bangladesh," Paper for Presentation in 1999 Annual Meeting of the Population Association of America, New York City, 1999

University Development Linkage Project - Linkage Profile

Developing Country Involved:	Morocco
Lead U S. Institution:	Utah State University (USU)
Linked Developing Country Institution	Institute of Agronomy and Veterinary Sciences (IAV)
Project Title:	Collaborative Program for Research, Education and Extension
Primary Sector:	Natural resources
Period of Award	September 1992 to September 1997
USAID Cooperative Agreement Number:	PCE-5063-A-00-2036-00
Contact Information	PI name(s), Address, Tel., Fax, E-mail, website
Dr Hamid Narjisse, IAV Hassan II, B P 6202, Rabat, Morocco, ph 212-7-777018, fax 212-7-775838, E-mail narjisse@mtds com	
Dr Derrick Thom, Dept. of Geography & Earth Sciences, Utah State University, Logan, UT 84322, ph 435-797-1790, fax 435-797-4038, E-mail djthom@cc usu edu	

1 Country Background and Project Purpose

Morocco is a Mediterranean country with 93% of its land classified as arid to semi-arid Moroccan population is estimated currently (1999) at 29 million people, of which 35% are under 15 years of age The average population growth rate, despite recent declines, is still 2 1%. Demographic pressure thus affects the government's ability to provide basic services, as well as affects the country's natural resource base and productivity

Morocco's per capita Gross Domestic Product (GDP) was estimated in 1996 at $1,280, making it a lower-middle-income country Economic performances are, however, highly related to agricultural outputs, which represents 13 to 22 % of GDP, depending on climatic conditions Moreover, the agricultural sector is of a critical social and economic importance, as it employs over half (53%) of the overall active population and 80% of the rural population.

Morocco is a country of contrasts and dualistic development. In particular, rural areas lag far behind urban centers in providing adequate social services (water and sanitation, housing, education, electricity) and economic growth opportunities Two-thirds of the poor live in rural areas, where an estimated 5 6 million people (agricultural census, 1996) live at or below poverty level

Natural resources are scarce Available water per person and per year will drop from approximately 1000 m3 currently to only 689 m3 by the year 2020 Similarly, area of arable land available per person will decline from 346 presently to 232 ha by the year 2020 It is expected that this increasing scarcity of land and water resources will further threaten the integrity of natural resources and the fragile balance of food security

In this context, the IAV/USU linkage project was established to enhance on-going collaborative faculty and student exchanges and open up new areas of collaboration. The various activities of the linkage have focused on natural resource management, education and extension.

2. Partnership Objectives

Objective 1 To conduct research on natural resource management in Morocco

Objective 2 To improve the quality of teaching at IAV and USU

Objective 3 To develop joint outreach program to assist the private and public sectors in Morocco and Francophone Africa developing a sound management plan for their natural resources

3 Results of Partnership

3 1. Anticipated results The most successful activities of the linkage project have been

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3 1 1 Establishment of a telecommunication link

The most spectacularly successful activity of the linkage has been the establishment of a telecommunication link between IAV and USU This link provides direct communication through telephone lines and provides a live interactive environment between the two institutions Seminars and courses activities were conducted bringing IAV and USU students and faculty in direct contact at minimal cost

The telecommunication tool will be used in the future to strengthen IAV's outreach role In this regard, institutional arrangements are currently being taken in this direction. In parallel, a source of funding is also being explored to secure acquisition of a bridge that will make multiple links between IAV and remote extension centers possible

3 1 2 Implementation of a research program

Rangeland research

Two research programs were undertaken on Moroccan steppic rangelands The first component of this program aimed at the investigation of the effect of water restriction and undernutrition on water and nitrogen balance, energy metabolism and the performance of desert sheep in Morocco Thus, a field survey and a metabolism experiment were conducted to study livestock watering practices in the Moroccan Pre-Sahara and their changes with drought extent, season, ecological zone, pastoral system and herd size The metabolism experiment was designed to determine effects of once per two days, once daily and twice daily drinking frequencies, as well as effect of high and low body conditions on water and nutrient utilization by sheep fed high and low quality diets

The second topic dealt with social issues related to the High Plateau rangeland development and conservation. Objectives of this research included assessing pastoralists' perceptions of the landscape and comparison of their perceptions with those of land managers, and ecologists developing vegetation maps and systems of land use to be implemented in the Oriental project area

Irrigation engineering research

IAV and USU irrigation engineers revised software on systems-scale water management computer models and conducted field verification of these models This software was upgraded and is currently in use by regional agencies managing large scale collective irrigation systems in Morocco This software was also adapted by USU engineers to irrigation conditions in Egypt and tested within the framework of a large collaborative project involving irrigation management in Egypt

Another worthwhile spin-off of the collaboration between irrigation engineers of IAV and USU has been the translation of an advanced irrigation engineering textbook French for use at IAV and other Francophone African countries A member of the Civil and Environmental Engineering at USU originally wrote this textbook in English.

3 1 3 Student exchanges

The student exchange program has provided support for travel for IAV students, while USU students have received travel support from matching private funds and paid tuition, board and room for their Moroccan counterparts The benefits granted to Moroccan students during their stay in USU compensated for the services provided to USU students while in Morocco by the Moroccan government. This program started as a College of Natural Resources initiative and has been expanded to include students from the department of Sociology, Social Works and Anthropology The experience gained by the students involved in the student exchange program has certainly added a new dimension to their education and all speak very positively about their experiences

3 1 4 Rangeland management short course

USU faculty with the collaboration of some of their IAV counterparts developed a Range Management Short Course entitled «New Directions in Range Management and Ecology» This two-week course was taught in English at Logan in the summer of 1996 by faculty from USU and associates It was attended by participants from Botswana, Kenya and Morocco

3 1 5 Enhanced collegial collaboration

The linkage has provided opportunity for 27 USU faculty and staff and 16 IAV faculty and staff to visit Morocco or US These exchanges strengthened IAV and USU partnership through seminar activities and development of research proposals on issues of agroforestry, rangeland management, and applications of remote sensing to natural resources inventory, monitoring and sustainable management.

This enhanced collegial collaboration benefited also the student communities in both institutions The course broadcasted alternatively from IAV and USU, and the exchange opportunities provided by the UDLP contributed significantly to a better appreciation of issues pertinent to natural resources management and conservation both in Morocco and Utah

3 2 Unanticipated results

3 2 1 Organization of a Moroccan art exhibition in Utah and Florida

IAV, the Moroccan Ministry of Culture, and USU joined their efforts to promote a better understanding of the Moroccan culture and ancestral civilization by the people of Utah For this purpose, an art exhibit entitled "fabled land, fabled treasures 300 years of Moroccan art" was first open in the Nora Eccles Harisson Museum of Art at USU on April 4 to July 2, 1995 The exhibit included over 100 antic specimens selected from four Moroccan museums It was visited by over 5 000 visitors living around the USU campus and traveled to Gainesville Florida where it was presented for another two months

3 2 2 Delivery of a joint course to IAV and USU students

A joint course on issues related to natural resources sustainable use involving four faculties from USU and four faculties from IAV was broadcasted weekly via distance education medium. Each session of the course lasted 60 minutes and was attended by over 30 IAV and USU students in addition to faculty from both institutions

The course included also an interactive component whereby student from IAV and USU asked questions and commented on the issues covered by the presentation This activity was highly appreciated and illustrated the potential of mutually beneficial academic collaboration between the two institutions at a minimal cost.

3 2 3 Delivery of seminars

Over 10 seminars were given alternatively to IAV and USU audiences by visiting faculty from the two institutions These seminars covered a variety of topics including biodiveristy conservation and management, fisheries, application of remote sensing to natural resources inventory and management as well as social and demographic issues Students, faculty and professionals from collaborating institutions attended these seminars

They allowed useful exchanges of research results and approaches to natural resource management and conservation. They also contributed to a better understanding of major environmental issues and their social dimension in the Morocco and Utah contexts

3 2 4 Faculty sabbatical leaves

Two faculties from USU funded by the Moroccan-American Foundation spent each one-year sabbatical leave at IAV Similarly, one faculty from IAV received grant from the Quinney Foundation and spent one-year leave at the College of Natural Resources of USU

The faculty involved in these exchanges participated in teaching and research activities undertaken by the host institution. Their interaction with their host counterparts led to the development of collaborative research proposals

3 3. Problems encountered

Despite the overall success of the IAV/USU linkage, there were few problems that may have limited the scope of project achievements Among these problems, the following were the most prominent

- For some project components, the decision making process was to a large extent controlled by the U S institution, which resulted into an unbalanced distribution of funds between partner institutions
- The multiplicity of UDLP administrators was sometimes a source of confusion This may have reduced the pace of project implementation and in some instances precluded the necessary mobilization of faculty and academic departments to fulfill project ambitions
- UDLP partners faced difficulties in sustaining project activities after project termination These obstacles may be related to
    - The absence of mechanisms build into the project to secure its sustainability;

- The scarcity of U S funding sources in support of international development programs throughout the period of project implementation.

3 4 Suggestions for possible improvements

A program such as the UDLP should have built into it some safeguards to secure the following guiding principles

- Adequate participation of partners' institutions to the decision making process in terms of defining work plans content and funds allocation. This could be achieved by requiring that work plans, progress reports and financial statements are jointly developed and submitted by representatives of US and developing countries' institutions
- Equitable distribution of UDLP funds and benefits between U S and developing country's institutions This can be reached by making sure that the project document outlines a target ratio of funds allocation, and that any deviation from such ratio has to be justified and approved by the two parties as a condition to funding continuation
- Provision for a mid term review and evaluation of achievements in both US and developing country's institutions, aiming at identifying and recommending necessary adjustments to the management and implementation of the UDLP program.
- Progressive phasing out of the project to allow for continuation of some critical project activities after its termination.

4 ***Partnership Impact on Mission Strategic Objectives***

- The telecommunication component of the UDLP project confirmed the potential outreach role that IAV may play at reasonable cost The telecommunication broadcasts from USU and to USU as well as the link of IAV to Khemisset, a provincial extension center, all demonstrated the opportunities provided by this tool in terms of conveying extension services to producers and land managers and promoting internationalization of IAV
- This distance education concept is now being integrated into a more comprehensive information system to be promoted at IAV and involving all regional extension centers represented by focal points This information system will allow a better flow and access to available information, improve the responsiveness of IAV's research to users needs and will contribute to enhance IAV's outreach capabilities

5 ***Partnership Investments***

UDLP benefited from the financial support of several contributing partners, among which

USAID	450,000 USD
Core Partners matching funds	
USU	998,869 USD
IAV	450,000 USD
Extended Partners	
Moroccan-American Foundation	60,000 USD
Moroccan Ministry of Culture	10,000 USD
Quinney Foundation	20,000 USD
US Department of education (for USU only)	unknown
US National Security Education Program	10,000 USD
Nora Eccles Harrison Museum at USU	10,000 USD

Number of individuals who received training through UDLP
3 USU undergraduate students
5 USU graduate students
4 IAV graduate students

An additional 11 USU and 20 IAV students attended a joint course broadcasted alternatively from IAV and USU through telecommunication link

7 ***Future Directions of Partnership and Sustainability Beyond USAID Support***

The linkage program allowed the formation of disciplinary teams working together and identifying areas of potential collaborative research. These efforts led to the development of the following joint proposals

- Identifying Sustainable Development Futures for the Souss Region of Southwestern Morocco
- Characterization of Resilience Capabilities of Rangeland through Landscape Techniques Cooperative Program in Morocco and Utah
- Natural Resource Management in Morocco Decision Support System Development and Evaluation.
- Proposal in support of the development of new directions in the extension department's mission in Morocco

Up to date, these proposals were not funded. The authors are facing the dilemma that these collaborative research programs involving US institutions, can be funded only US donors only Unfortunately, current support for international aid including international research and education is rather slim in the US

8 Publications Resulting from UDLP Partnership

Beth Oldham 1997 Goiter in the Moroccan High Atlas Assessment of a nutritional education program. Master thesis Utah State University

Roland W Jepson et A Oulhaj 1997 Ecoulement a surface libre et informatique Irrigation engineering textbook written by R.W Jepson from USU, and translated by Ahmed Oulhaj from IAV

El Mostapha Darfaoui 1998 The effect of water restriction and undernutrition on water and nitrogen balance energy metabolism and the performance of desert sheep in Morocco Dissertation, USU Logan Utah

El Mostafa Darfaoui, John Malechek, and Hamid Narjisse 1999 Effect of watering frequency and diet quality on water feed and Nitrogen utilization by sheep in different body conditions Submitted Journal of arid Environment.

El Mostafa Darfaoui, Hamid Narjisse and John Malechek 1999 Deterministic Relation between Pastoral System and Water Availability, Utilization and Development. Submitted to Journal of Human Ecology

Aziz Bakkoury 1999 Assessment of land use change in the argania forest in Morocco Master thesis, IAV

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Faculty and staff who visited Morocco and US on funding from UDLP

Participants from USU

Dr Trevor Hughes (Civil and Environmental Engineering)
Dr Roland Jepson (Civil and Environmental Engineering)
Dr Wynn Walker (Head, Department of Irrigation Engineering)
Dr Weldon Sleight (College of Agriculture)
Mr Edgar Tooley (Continuing Education)
Dr Robert Schmidt (Fisheries and Wildlife)
Dr Gregory Perrier (College of Natural Resources, and International Programs)
Dr Neil West (Rangeland Resources)
Dr Allen Rasmussen (Rangeland Resources)
Dr Ben Norton (Rangeland Resources)
Dr James Dobrowolski (Rangeland Resources)
Dr Steven Rosen (Director, Art Museum at USU)
Mr Charles Gay (Assistant to the Dean of the College of Natural Resources)

Dr Robert Lieliholm (Forestry)
Dr Terry Shank (Forestry)
Dr Mike Jenkins (Forestry)
Dr Derrick Thom (Geography & Earth sciences)
Dr Cliff Craig (Geography & Earth Sciences)
Dr Alain Folconner (Head, Department of Geography and Earth sciences)
Dr Bradley Parlins (Social Sciences)
Dr Pamela Riley (Social Sciences)
Dr Yun Kim (Social Sciences)
Dr David Rogers (Social Sciences)
Dr Mikael Toney (Social Sciences)
Dr Gary Kiger (Head, Department of Sociology, Social Works and Anthropology)
Dr Al Moser (Acting Dean of the College of Engineering)
Dr Joseph Chapman (Dean of the College of Natural Resources)

Participants from IAV

Dr Sabah Bejelloun (Nutrition)
Dr Najib Chbouki (Forestry)
Dr Mohamed Yssef (Range Science)
Dr Hachem Alaoui (Forestry)
Dr Driss Kheyyali (Fisheries)
Dr Ayachi Sahar (Zoology)
Dr Ait Kadi Mohamed (Irrigation Engineering)
Dr Essafi Aboubekr (Irrigation Engineering)

Dr Kamal Taarji (Irrigation Engineering)
Dr Mohamed Oulhaj (Irrigation Engineering)
Dr Hamid Narjisse (Range Science)
Dr M'Hammed Sedrati (Director General, IAV)
Dr Abdellah Herzenni (Social Science)
Dr Majid Ben Abdellah (Economic)
Dr Hafidi Brahim (Agricultural Extension)
Dr Bakkoury Mohamed (Director, Human Resources)

IAV and USU students who received funding through the UDLP

IAV students

Youssef Bahaddou (Forestry)
Aziz Bakkoury (Remote Sensing)
Moustapha Darfaoui (Range Science)
Nawal El Houari (Social Science)

USU students

Ryan Marsh (Range Science)
Jason West (Range Science)
Chandra Heaton (Range Science)
Beth Oldham (Social Science)
Tim Franklin (Watershed Management)
Louann Rank (dropped from the UDLP program before completing her research)
Amy Kasprisin (dropped from the UDLP program before completing her research)

"Linkage Profile" – Non-UDLP Partnership

Developing Country Involved. Russia
Lead U S. Institution Washington State University
Linked Developing Country Institution Biological Research Center/Pushchino State University
Other Linked Institutions University of California (Riverside, Davis, Berkeley), Texas A&M University, University of Tennessee, plus public, private and NGO institutions in Russia (e g Ministry of Agriculture, Ministry of Education, rous to list herein)
Project Title "Uniting Science & Education & the Transfer of Technology for Sustainable Economic Development & Environmental Protection of South-Central European Russia"
Primary Sector Environment
Period of Award October 1994-June 1997
USAID Cooperative Agreement Number PCE-5063-A-00-117-00
Contact Information PI name(s), Address, Tel, Fax, E-mail, website Dr Alexander Boronin, Director, Institute of Biological Chemistry & Physiology of Microorganisms, Russian Academy of Science, 142292 Pushchino, Moscow, Region Russia, ph 7-095-9257448, fax 7-095-9233602 E-mail boronin@ibpm.serpukhov su Dr J B Henson, Director, International Programs, Washington State University, French Ad 130, Pullman, WA 99164-1011, ph 509-335-2541, fax 509-335-1060 E-mail henson@wsu edu

1 Country Background and Project Purpose

Russia is undergoing massive and simultaneous political, economic and social transformation. It faces a legacy of central planning, an economy poorly linked to the global marketplace severe environmental degradation and a citizenry that has been accustomed to a socialist system where government supplied the means to meet basic needs To face these challenges, Russia's formidable human resources – scientists and a highly educated population - must learn and apply new skills that will enable this human capital to solve development problems and capitalize on development opportunities While the U S has a strong political and economic stake in Russia's successful transformation to a stable, market-oriented democracy the U S development strategy and timeframe for Russia is short. Experience has demonstrated that while progress is underway, the transition will take more time than anticipated.

The Russia-U S Science Education, and Economic Development (SEED) Consortium was established as a model for reorienting Russian science and education to better support economic and social development. Members of this consortium worked together to established an overall vision and strategy for the partnership (consortium) with an emphasis on utilizing the U S land grant university model to bring about a reorientation, utilization and sustainability of the scientific staff and institutions of the participating organizations in Pushchino In Russia, consortium members are associated with the Biological Research Center, one of the Russian Science Cities established in 1962 in Pushchino Pushchino is located 60 miles south of Moscow on the Oka River, a tributary of the Volga. The city is composed of the scientific institutes of the Biological Research Center and the associated staff, facilities and infrastructure The Center is a part of the Russian Academy of Sciences Research Network. The Pushchino members include the Institute for Biochemistry and Physiology of Microorganisms, Pushchino State University; the Center for Research and Training in Applied Ecology, the Ecobiotechnopark, and the Agrocollege U S members include Washington State University; the Berkeley, Davis and Riverside campuses of the Division of Agriculture and Natural Resources of the University of California System, the University of Tennessee, and Texas

A & M University Other participants include private business firms, foundations and governmental agencies in the U S , Russia and international ones

The purpose of the grant was to further develop the newly established consortium and utilize its expertise to address priority problems in six areas 1) environment and natural resources, 2) higher education, 3) agriculture and agribusiness, 4) information and networking; 5) technology transfer and commercialization, and 6) institutional capacity

2 *Partnership Objectives*

- Develop and test a model for development cooperation in Russia that includes mutually beneficial partnerships between U S and Russian higher education institutions and effective linking of education, research and outreach services, in support of economic development. The latter approach will be adapted from the U S land-grant university model and will link Russia's scientific institutions with educational institutions, while adding outreach to the missions of both
- Demonstrate the utility of this model through producing selected results in the target areas of environment and natural resources, agriculture and economic development. Specifically
  - Improving environmental policy and planning in the Serpukhov Region
  - Biocontrol of crop or animal pathogens
  - Improving virus-free potato seed stock
  - Bioremediation of environmental pollutants
  - Establishment of a Technology Transfer Park to commercialize technologies
  - Graduate, Undergraduate and Continuing Education in the environment and natural resources and in agricultural and environmental economics
  - Development of a Master Farmer extension program
- Promote and contribute to democratic development, decentralization and improved civil society through community participation in the Consortium's programs and the establishment of linkages with the global community

3 *Results and Impact of Partnership (Selected Examples)*

- Pushchino State University (PSU) was established as the first university in Russia to be integrated with a science center and its institutes It now conducts over 19 undergraduate and graduate degree programs, as well as research and outreach/continuing education programs Its enrollment has increased annually since its establishment, in some years nearly doubling.
- PSU established Russia's first master's program in environmental science
- Research and outreach programs are generating results that are being used to address priority problems, such as
  - Biopesticides to control root pathogens of wheat, barley, grapes, fruit crops and vegetables were developed and tested and are in the process of registration These produced significant yield increases in these crops and have utility in both the U S and Russia.
  - Technologies for Bioremediation of soils contaminated by crude oils developed, tested, registered and widely in use in Russia's oil-contaminated regions
  - A Master Farmer program is in place in Pushchino and is increasing production in home gardens, the primary food sources for consumption and markets in the area.
  - Virus free potato stock is being made available to agro-industries and farmers
- Working in concert with the Serpukhov community, as well as district, regional and national agencies, a Consortium team identified a link between a public health problem (high cancer incidence) and former industrial pollution of soils now used for gardens The teams are now working together to remediate the problem.

- Skills of 1,525 people were upgraded under the program (673 men and 852 women) The improved managerial and technical skills have resulted in increased revenues for the programs from grants, contracts, commercialization of technologies, the private sector and training fees
- A model distance education system was put in place and a pilot course offered with University of California, Riverside in hazardous materials handling.
- A non-governmental organization entitled Research and Education Center for Applied Ecology was established to carry out selected programs for which NGOs are more appropriate than governmental or private sector entities
- Programs and methodologies for teaching English as a second language were put in place, emphasizing spoken English and business English, as well as written English, as has been more traditionally taught in Russia.
- Commercialization of numerous technologies developed at Pushchino was attempted, with success achieved in several (milk fat testing kits, citric acid production, Bioremediation of oil spills, biopesticides) Linkages established with other organizations in Russia that provide business training

4 ***Impact of Partnership on Mission Strategic Objective(s) In-Country***

Activities contributed to multiple SOs of the USAID/Russia Mission including Examples include

- Oil-spill remediation technologies support SO1 5 - "A more economical and environmentally sound energy system"
- Commercializing technologies supports SO1 3 "Accelerated private enterprise growth and development"
- The bottom-up, locally-oriented training, planning and implementation (e g Serpukhov policy and planning) support numerous aspects of SO2 (civil society and democratic reform)
- Multiple outcomes contribute directly to SO3 3 "Increased capacity to deal with environmental pollution as a threat to public health"

5 ***Partnership Investments*** - *[Note Reported matching was not a formal requirement of this grant]*

USAID	$ 2,200,720
U S universities, etc	$ 500,000

6 ***Number of Individuals who Received Training as a Result of Partnership Activities***

From Russia – 1,525, including 852 women and 673 men.

From the U S - Four graduate/professional students traveled to Russia to carry out specific technical internship and teaching programs in their areas of expertise Numerous other undergraduate and graduate students participated in activities in the U S

7 ***Future Directions of Partnership and Sustainability Beyond USAID Support***

The Consortium has continued collaborative activities beyond USAID support, with resources from Russian, U S and third country parties However, the economic situation in Russia has continued to deteriorate and funding remains a major constraint to the achievement of shared objectives

8 ***Publications Resulting from UDLP Partnership***

Over 50 publications by selected faculty and trainee personnel The following selections illustrate the scope of such.

"Proceedings of an Environmental Policy and Planning Workshop Held at Pushchino State University, Pushchino, Russia, March 17-21, 1997", edited by Theodora Tsongas, George Hinman, and Walter Butcher, Washington State University, 1997

"Prospects for Agricultural Trade and Joint Venture Projects between Washington State and the Russian Far East", Roger P Martin, WSU, Pullman, WA, March 1995

Tsongas, Theodore, Dmitri Orlinski, Irena Priputina, Galina Pleskachevskaya, Alexander Fetishchev, George Hinman and Walter Butcher, "Risk Analysis of PCB Exposure Via the Soil-Food-Crop Pathway and Alternatives for Remediation at Sepukhov, Russiam Federation", Journal of Risk Analysis (In Press)

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The Newly Independent States, Development and Funding Sources in Western Europe A Guide to Research Collaboration and Grant Assistance for the NIS, prepared by Raja Rao, WSU 1997

Petersen, James, "Travel/Consultancy Report – Bioremediation Research and Training at Pushchino", WSU, June 1997

"Progress Report, Pushchino Seed Potato Project", Stephen Slack and Tom Gorman, Cornell University , July 1996

"Pushchino Environmental Policy and Planning Workshop Held in Washington State – June/July 1996", George Hinman, A Komorov, D Orlinsky, I Priputina, L Khania, S Zuden, R. Popadyuk, et al , WSU, Pullman, WA, 1996

"Animal Health Needs and Opportunities – Serpukhov Region", Trip Report by N J MacLachlan and D W Hirt, University of California, Davis, April, 1996

Butcher, Walter, "Travel/Consultancy Report – Environmental Risk Analysis and Forest Resource Management Workplan Development" WSU, Pullman, WA, September 1996

Wills, James and Natasha Bulashova, "Guide to Proposal Development", BRC, Pushchino Russia, 1996

Kharybina, Tatiana, "Improving Library and Information Services at Pushchino", Travel Report, Pushchino, Russia, August 1996

Hooker, Richard, "Environmental Science Course Work Plan", WSU, Pullman, WA/Pushchino, Russian Federation, September 1996

"Enhancing Analytic and Administrative Skills in Support of the Pushchino Initiative" Anne Jeffrey and Katherine Mitchell, University of California, Berkeley, California, June 1997

"Status Assessment of the Biopesticides and Plant Disease Diagnostic Laboratory Programs", J Ole Bercker, University of California, June 1997

"Quarterly Implementation Progress Report for Period 1 January 1997-31 March 1997 Uniting Science and Education and the Transfer of Technology for Sustainable Economic Development and Environmental Protection of South-Central European Russia", The Russia-U S Science, Education and Economic Development Consortium, 1997

"Quarterly Implementation Progress Report for Period 1 October 1996-31 December 1996 Uniting Science and Education and the Transfer of Technology for Sustainable Economic Development and Environmental Protection of South-Central European Russia", The Russia-U S Science, Education and Economic Development Consortium, 1996

"Eighth Quarterly Report and Year 2 Annual Report Uniting Science and Education and the Transfer of Technology for Sustainable Economic Development and Environmental Protection of South-Central European Russia", The Russia-U S Science, Education and Economic Development Consortium, 1996

"Quarterly Implementation Progress Report for Period 1 April 1996-30 June 1996 Uniting Science and Education and the Transfer of Technology for Sustainable Economic Development and Environmental Protection of South-Central European Russia", The Russia-U S Science, Education and Economic Development Consortium, 1996

"Quarterly Implementation Progress Report for Period 1 January 1996-31 March 1996 Uniting Science and Education and the Transfer of Technology for Sustainable Economic Development and Environmental Protection of South-Central European Russia", The Russia-U S Science, Education and Economic Development Consortium, 1996

"Quarterly Implementation Progress Report for Period 1 October 1995-31 December 1995 Uniting Science and Education and the Transfer of Technology for Sustainable Economic Development and Environmental Protection of South-Central European Russia", The Russia-U S Science, Education and Economic Development Consortium, 1995

"Fourth Quarterly Report and Year 1 Annual Report Uniting Science and Education and the Transfer of Technology for Sustainable Economic Development and Environmental Protection of South-Central European Russia", The Russia-U S Science, Education and Economic Development Consortium, 1995

"Quarterly Implementation Progress Report for Period 1 April 1995-30 June 1995 Uniting Science and Education and the Transfer of Technology for Sustainable Economic Development and Environmental Protection of South-Central European Russia", The Russia-U S Science, Education and Economic Development Consortium, 1995

"Quarterly Implementation Progress Report for Period 1 January 1995-31 March 1995 Uniting Science and Education and the Transfer of Technology for Sustainable Economic Development and Environmental Protection of South-Central European Russia", The Russia-U S Science, Education and Economic Development Consortium, 1995

"Quarterly Implementation Progress Report for Period 23 September 1994-31 December 1994 Uniting Science and Education and the Transfer of Technology for Sustainable Economic Development and Environmental Protection of South-Central European Russia", The Russia-U S Science, Education and Economic Development Consortium, 1994

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University Development Linkage Project - Linkage Profile

Developing Country Involved. Indonesia
Lead U S Institution Clemson University
Linked Developing Country Institution Institut Pertanian Bogor
Other Linked Institutions
Project Title Collaborative Development of Integrated Pest Management Methods for Secondary Food Crops in Indonesia
Primary Sector Agriculture, Environment, Health
Period of Award 10/93 – 9/98
USAID Cooperative Agreement Number PCE-5063-A-00-3041-00
Contact Information PI name(s), Address, Tel, Fax, E-mail, website Michael Hammig, Dept of Agricultural & Applied Economics, Clemson University, Clemson, SC 29634, ph 864-656-3223, fax 864-656-5776, mhammig@clemson edu Aunu Rauf, Dept of Plant Pests and Diseases, Institut Pertanian Bogor, Jl Raya Pajajaran, Bogor 16144, Indonesia, ph 62-0251-327730, fax 62-0251-345011, E-mail aunu@indo net.id

1 *Country Background and Project Purpose*

In 1987 the Government of Indonesia announced a commitment to implement a program of integrated pest management (IPM) training in the major growing regions of the country This program was motivated by a series of serious insect pest outbreaks that severely reduced production of rice, Indonesia's staple food These outbreaks were caused by excessive chemical pesticide applications to control pests The pests developed resistance while natural enemy populations were devastated, leaving an ecological imbalance that caused the loss of thousands of hectares of rice The IPM Training Program (IPMTP) has instituted an extensive network of field-oriented, season-long training experiences to empower farmers as the primary decision-makers for pest control in their fields

Farmers who have been trained in rice IPM expressed interest in learning IPM approaches for non-rice food crops that are typically produced in rice-based cropping systems These secondary crops include soybean and a variety of vegetables Pesticide overuse is particularly acute in secondary crops, where spraying as often as three times per week is common The IPM methods for secondary crops are much less well developed than for rice because the pests attacking these crops are much more complex Therefore, training in secondary crop IPM needs an effort by pest management scientists to provide technical support.

The UDLP project linking Clemson University and the Institut Pertanian Bogor (IPB) is the primary mechanism to develop this technical support system IPB is the major agricultural university in Indonesia. It has a staff of top quality crop scientists and responsibility to serve the agricultural sector throughout the nation. The purpose of the linkage is to bring together international and national experts to enhance the capability of IPB to fulfill the technical support role to the IPMTP, and to provide resources to develop IPM systems and training materials for use by the IPMTP

Clemson University has faculty with extensive international experience, and expertise in IPM program development internationally and in the U S Farmers in South Carolina, and the Southeast in general, face many of the same pest problems as those encountered in Indonesia. Through the UDLP, Clemson scientists are able to discover and test new pest management approaches for possible application at home

2 *Partnership Objectives*

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Create a Center of Excellence in IPM training at IPB

Conduct workshops and collaborative research at Clemson University with Indonesian scientists and students on the current scientific approaches to biological control

Strengthen the teaching and extension programs at IPB in the areas of plant protection and biological pest control to ensure that these programs meet top world standards and adequately serve the needs of the Indonesian government institutions serving the agricultural sector

Conduct collaborative research programs focused on the biological control of pests affecting food crops important to Indonesia and the Southeast U S

3 *Results and Impact of Partnership*

Progress towards achieving objectives

The first objective has been achieved. IPB is recognized as a center for IPM expertise in Indonesia. Activities of the Center cover a wide range IPB scientists are in the process of completing a national survey of impact and incidence of disease and/or predation of the new leaf miner fly pest that is rapidly spreading across Indonesia. (The pest is new because it was not previously present in Indonesia, but was likely imported unintentionally on flowers from Europe) Scientists and students, who represent the main regional agricultural universities, are conducting extensive field research on IPM methods for various crops and pests under the guidance of IPB faculty IPB scientists are called upon by the central government for advice related to pest outbreaks in some of the main rice growing regions IPB provides leadership for collaborative activities involving international agencies, such as the International Potato Center, the International Institute for Biocontrol, and the Food and Agriculture Organization (FAO) regional IPM program, and national institutions such as Ministry of Agriculture offices and other national universities

The second objective is open-ended. Activities under this objective include the presence of three staff members from the IPB Department of Plant Pests and Diseases who are pursuing PhD studies at Clemson. All three will return to faculty positions at IPB when they complete their studies at Clemson. Their expertise covers a range of biocontrol specialties including nematology, insect pathology, and insect parasitoids and predators Microbial control agents found in Indonesia have been the focus of research at Clemson seeking applications in IPM systems in the U S IPB faculty and staff have traveled to Clemson to participate in seminars and workshops related to IPM programs in South Carolina. They have visited farms and research sites where pest management programs were demonstrated and discussed.

The third and fourth objectives go hand-in-hand and represent the major thrust of the project. Clemson faculty and administrators worked with IPB faculty and administration to develop an appropriate curriculum for the MS program in IPM. This program has been instituted at IPB and serves a key role in the development of IPM in Indonesia. Students come from government agencies and NGOs whose agendas focus on IPM. Graduates of this program will form the future core of the IPM institutional support system outside the research community

Clemson scientists have conducted seminars and workshops on IPM on a variety of topics and in different locations The focus of these workshops is to enable the support staff for IPM training to understand basic principles that can be provided to farmers through field exercises and farm demonstrations IPB scientists and experts from other agencies such as the Ministry of Agriculture and FAO have also participated in these workshops and seminars

Field research is at the heart of the continuing development of IPM strategies The dynamic ecosystems that are characteristic of agriculture in the humid tropics require that pest management programs adapt to changing circumstances Identification of pests and natural enemies, and estimation of impacts, are the basic information needed to begin programs of biological control. Under the UDLP, IPB has implemented a wide range of field research activities in several different geographic areas with the aim of supporting the process of IPM development. These research activities have focused on key crops, where common pesticide use is particularly excessive, such as shallots, cabbage, potato, and soybean, and on key pests that attack a variety of crops such as the leaf miner fly

Application of the results of field research is accomplished through the IPMTP Therefore, the research community's primary role is to provide field exercises and training materials that can be used by the IPMTP IPB is the leading institution developing these materials for secondary crops Field level contacts are maintained through the network of Action Research Facilities, managed by farmer groups in important growing areas IPB scientists

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provide technical support to the farmer groups, and successful IPM approaches are communicated from farmer to farmer in formal training programs and through informal daily contacts This method of technology adoption has been very successful, especially in the case of shallot IPM where a microbial control agent replaces chemical insecticides

Quantitative and qualitative results

- 10 workshops or seminars conducted in Indonesia with participation of Clemson University faculty Topics cover a broad range of IPM issues About 200 participants participated in these workshops
- About 25 additional workshops or seminars in Indonesia with IPB participation using information or materials produced with UDLP support. About 500 participants
- 3 IPB faculty members pursuing PhD studies at Clemson University Funding of these students is from a Japanese educational grant, for one student, and from the Ministry of Education study abroad program for the other two
- 1 Clemson University MS student who was funded under the USAID/HBCU research grants program. This student focused his research on economic impacts of IPM training, indirectly supporting the UDLP project
- 1 Clemson University PhD student who completed his research on microbial control agents from Indonesia.
- The MS in IPM program at IPB has graduated 5 students so far The program is an established part of the offerings of the IPB Department of Plant Pests and Diseases
- About 30 field completed research projects, conducted in Indonesia by IPB junior faculty or graduate students, or with collaboration from other institutions including other universities and the Ministry of Agriculture Plant Protection Agency Partial funding for some of these studies, and technical support, was obtained from the FAO regional IPM program Crops covered include soybean, shallots, potato, corn, cabbage, long bean, cowpea, and chilies, provinces covered include West, Central, and East Java, West and North Sumatra, South and North Sulawesi, Lampung, and West Timor
- 17 graduate students at IPB are involved in the UDLP project, seven PhD and 10 MS including 1 PhD and 8 MS students who have been graduated by October 1998 in the fields of entomology or plant pathology
- A $15 000 grant from the McKnight Foundation to prepare a proposal for a collaborative program involving IPB and four other Indonesian universities, and Clemson University, on a coordinated IPM technology transfer effort The full proposal was not funded, but the planning effort resulted in a new network of IPM support personnel.
- Extensive surveys of insect pests in all the major growing areas of Indonesia were conducted to identify natural enemies Many hundreds of insect larvae were collected and returned to laboratories in Bogor to monitor for incidence of disease or parasitism.
- Estimates of economic benefits of IPM systems vary depending on the crop Also, because of the recent economic shocks in Indonesia, the dollar value of benefits has decreased. The value of the dollar with respect to the Rupiah has appreciated about five-fold from March 1998 to October 1998 Nonetheless, realized and potential economic benefits are substantial On shallots alone, in the main growing region of West and Central Java, recent data show that IPM farmers earn $700/ha more, per crop, than those who follow common practice Local officials estimate that about 500 ha are now under IPM production systems Since two crops per year are common, and three crops per year are possible, the currently realized economic benefit of shallot IPM developed under the UDLP is between $750,000 and $1 0 million per year At a capitalization rate of 10 percent, the value of the technology to farmers currently using it is on the order of $10 million. Potentially, the technology will spread to all farmers in the region, and to farmers in other areas with similar pest problems, and the benefit will multiply to an order of magnitude of $100 million or more
- In West Sumatra, IPMTP personnel have established a network of local centers for the provision of natural pest control agents These centers are located in farmer homes They propagate and store microbial agents and provide a source for neighboring farmers to obtain them at low or no cost. Six centers are currently operating, and 30 are planned. The UDLP provides technical support to this effort The regional Crop Protection Agency of the Ministry of Agriculture estimates that about 600 ha of shallots are produced with microbial insect control

Unanticipated results and problems encountered

- Pest and natural enemy surveys led to the identification of the leaf miner fly as a new pest on some of the important vegetable crops in Indonesia. In a short time the pest has spread, due to lack of indigenous natural enemies, to almost all the major growing regions of Indonesia. More recently, a second species of leaf miner fly was identified in one of the rice bowl regions of West Java IPM strategies to combat these pests exist in other parts of the world, and natural enemies could be imported to Indonesia to implement them. However, at present the necessary financial resources are not available

Impacts on partnership institutions

- The UDLP has provided IPB with resources to carry out its role as leader of IPM support in Indonesia. The UDLP has provided resources to conduct practical field-level research and demonstration projects in a variety of geographic areas on farms Without these resources, funding would only be available through a cumbersome bureaucratic system that minimizes the ability of the university research system to respond quickly to farmer needs Because of the recent economic stress in Indonesia, the UDLP was the only source of research funding for IPB graduate students in the field of IPM during the past year

- The UDLP has provided Clemson University with the resources necessary to sustain a long-term commitment to development of IPM internationally Clemson scientists are at the forefront of many of the evolving developments in this field and have established close working relationships with key international agencies and the community of scientists that will significantly influence the progress of agricultural pest control for the foreseeable future

Meeting development needs

- The economic situation in Indonesia has focused attention on agriculture Prices of imported inputs, such as chemical pesticides, have increased dramatically while output prices have risen on slightly by comparison This places farmers in a precarious economic situation. IPM strategies, because of their reliance on natural controls, enable farmers to better cope with the economic stress Training and technology dissemination are key elements to the development strategy for agriculture The UDLP project is well positioned to contribute to this strategy

4 Impact of Partnership on Mission Strategic Objective(s) In-Country

The UDLP activities cut across the list of strategic objectives of the Jakarta Mission.

- Liberalization of trade and domestic competition The UDLP has contributed to farmers' efforts in West and North Sumatra to export vegetables to Singapore and Malaysia where chemical residue restrictions are strict.

- Sustained improvements in health. The impact is difficult to measure quantitatively, but IPM systems eliminate the danger of pesticide poisoning and dramatically reduce the chemical contamination of rural water supplies

- Strengthened natural resource management. Reduced chemical runoff and environmental damage from agricultural activity enhances biodiversity protection.

- Promotion of democracy The IPMTP is fundamentally based on the concept of the farmer as primary decision-maker This contrasts with traditional linear top-down programs of agricultural technology transfer

5 Partnership Investments

Contributions from 10/1/93 through 9/30/98
USAID $350,000
Core Partners $525,011 24Extended Partners (including FAO, McKnight Foundation, CIP, IIBC) - About $35,000

6 Number of Individuals who Received Training as a Result of Partnership Activities

Faculty 7 Clemson University; 8 IPB
Graduate Students 4 PhD, 1 MS, Clemson University; 7 PhD, 10 MS, IPB
Community Outreach Programs (estimates)
West and Central Java, 300
West Sumatra, 150
Other areas, 100

7 *Future Directions of Partnership and Sustainability Beyond USAID Support*

Partnership activities will continue to address important pest management issues International institutions such as the FAO regional IPM program for South and Southeast Asia will continue to look to Clemson and IPB as sources for technical expertise The IPB faculty will have a core group of scientists who are graduates of Clemson University, and Clemson will have a group of faculty with extensive experience in Indonesia. The strong personal and professional relationships developed under the linkage will endure, and the commitment to find solutions to key farm production questions provides the foundation for future collaborations

8 *Publications Resulting from UDLP Partnership*

HAMMIG, M D , A. Rauf, and G R. Carner "Integrated Pest Management in Non-Rice Food Crops in Indonesia Opportunities to Reduce Chemical Pesticide Use," in W Lockeretz (ed.) Agricultural Production and Nutrition Proceedings of an International Conference, Tufts University, Boston, MA, 1997

HAMMIG, M.D and A. Rauf "Economic Efficiency of Pesticide Use by West Java Vegetable and Soybean Producers," J of Plant Protection in the Tropics, vol 11, no 1, 1998

Norvell, S A. and M D HAMMIG "Integrated Pest Management Training and Sustainable Farming Practices of Vegetable Growers in Indonesia," J of Sustainable Agriculture (forthcoming)

van den Berg, H , B M Shepard, and H Nasikin. 1998 Response of soybean to attack by stemfly, *Melanagromyza sojae*, in farmers' fields in Indonesia. Journal of Applied Ecology (accepted for publication)

van den Berg, H , B M. Shepard, and H Nasikin. 1998 Damage incidence by *Etiella zinckenella* and *Helicoverpa armigera* in soybean in East Java, Indonesia. International Journal of Pest Management (accepted for publication)

Shepard, B M , Samsudin, and A. Braun 1998 Seasonal incidence of *Liriomyza huidobrensis (Diptera Agromyzidae)* and its parasitoids on vegetables in Indonesia. International Journal of Pest Management. 44 43-47

Shepard, B M and A.T Barrion. Parasitoids of insects associated with soybean and vegetable crops in Indonesia. Journal of Agricultural Entomology 15 239-272

Shepard, B M., G R. Carner, A T Barrion, P A.C Ooi, and H van den Berg Insects and natural enemies associated with soybean and vegetables in Southeast Asia. 1999 Quality Printing, Orangeburg, SC 115 pp (In press)

Shepard, B M 1994 Pesticides in Developing Countries Poisons, Not "Medicine " Journal of Agromedicine 1(3) 1-7

Shepard, B M and N A. Shellhorn. 1997 A *Plutella/Crocidolomia* management program for cabbage in Indonesia. Pp 262-266 (In) The Management of Diamondback Moth and Other Crucifer Pests Proceedings of the Third International Workshop, Kuala Lumpur, 29 October – 1 November,1996

Carner, G R. and B M. Shepard. 1996 Natural epizootics of *Zooptera radicans* in populations of *Plutella zylostella* in cabbage in North Sulawesi, Palawija and Vegetable IPM Newsletter, 1(2) 2

Shepard, B M. and G R. Carner 1996 High rates of parasitism of loopers on potato in Kuningan, West Java. Palawija and Vegetable IPM Newsletter, 1(2) 2

Turnipseed, S G , B M Shepard, H Sudarsono, F X. Susilo, and C Ginting 1996 The leafminer, *Liriomyza huidobrensis*, spreading rapidly as a major vegetable pest in Indonesia. Palawija and Vegetable IPM Newsletter, 1(2) 3

Shepard, B M., A. Braun, and Samsudin 1996 *Liriomyza huidobrensis*: A newly introduced pest of vegetables Palawija and Vegetable IPM Newsletter, 1(1) 2

Shepard, E F and B M. Shepard 1996 Virus of *Spodoptera exigua* Palawija and Vegetable IPM Newsletter, 1(1) 2

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University Development Linkage Project – Linkage Profile

Developing Country Involved. Jordan
Lead U S Institution Washington State University
Linked Developing Country Institution Water and Environment Research & Study Center, University of Jordan
Other Linked Institutions Numerous in U S , Jordan and Middle East e g , U South Carolina, Hashemite University, Ministry of Water and Irrigation, National Center for Agricultural Research and Technology Transfer others
Project Title "Improving the Management of Water & Natural Resources in Jordan and Washington State Through Cooperation in Applied Research, Technology Transfer, and Graduate Education"
Primary Sector Water, Environment
Period of Award September 1992-March 1999
USAID Cooperative Agreement Number PCE-A-00-92-00041-00
Contact Information PI name(s), Address, Tel, Fax, E-mail, website Dr Muhammad Shatanawi, Director, Water & Environment Research & Study Center, University of Jordan, Amman, Jordan, ph 962-6-5355000, fax. 962-6-5355560, E-mail water1@ju edu.jo Dr Jan C Noel, Dir , Dev Cooperation and Assoc Director, International Programs and Dr James Harsh, Crop and Soils Science, Washington State University, Pullman, WA 99164-6226, ph 509-335-2980, fax 509-335-2982, E-mail noel@wsu edu

1 Country Background and Project Purpose

Located in the heart of the Middle East, Jordan has a population of 4 8 million people (1998 estimate) with a growth rate that normally exceeds 3-5% per year It has a mild Mediterranean climate and a diverse topography, encompassing the world's lowest point (the Dead Sea), as well as mountains, deserts, and fertile plateaus and valleys It shares important coastal (Red Sea) and water resources with its neighbors, Syria, Israel, the West Bank, Saudi Arabia and Iraq The Jordanian people have a high regard for education, with literacy rates for Jordanians over the age of 18 exceeding 91% for men and nearing 80% for women.

Jordan faces significant challenges in meeting the needs of an expanding population in the country's dynamic socio-political setting. Paramount among these are the limited supplies and low quality of water, conflicting demands for its use, and a fragile environment, under pressure from urban and agricultural and industrial expansion. Jordan is considered among the world's poorest countries in water resources The "international poverty line" for per capita share of water is considered to be 1,000 m^3/year, and Jordan's per capita share is less than 200 m^3/year These conditions require that every possible effort be directed towards conserving and sustaining Jordan's natural resources, without which economic and social development cannot be sustained. The State of Washington shares many features and issues with Jordan and, as a result, has collaborated with Jordan for over 27 years The University of Jordan (UOJ) has been a major partner in these development efforts

The purpose of this UDLP program was "to strengthen and further enhance education, research, and outreach performance and capacity of UOJ and WSU in the area of *water and the environment*, through planning and management of sustainable collaborative programs and activities" The UOJ Water and Environment Research and Study Center (WERSC) provided leadership at UOJ for the program. Three Colleges at WSU--Agriculture and Home Economics, Engineering and Architecture and Sciences -- led the WSU efforts

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2 *Partnership Objectives*

- To strengthen the capacity of the University of Jordan (UOJ) and its Water and Environment Research and Study Center (WERSC) *to plan and manage research, technology transfer and human resource development* in support of societal needs in the environment and natural resources
- To strengthen the applied research and technology transfer capabilities of the UOJ and WERSC through the *planning and conduct of collaborative* research *and technology transfer activities*

3 ***Results and Impact of Partnership***

- A new building for the University of Jordan Water and Environment Research and Study Center (WERSC) was inaugurated on 17 April 1997 The new facilities consist of three laboratories, a conference room, training facilities, a library/computer facility and offices for faculty and graduate students Design, construction and furnishing, apart from a small amount of equipment funded under the Linkage grant, were funded by a trust established for the Center and overseen by a board including private, public and non-governmental representatives
- 2 Ph D programs were established at UOJ, increasing sector human capacity and conducting research on priority water and environmental issues
- A new interdisciplinary program leading to a Master's of Science in Environmental Management was established From the first class, 15 students have graduated, there are 45 in the new class
- Critical technical, information and training equipment and supplies were identified, procured, installed and personnel trained in their maintenance and use These are now in use by students and faculty in WERSC's research, training and outreach programs
- Faculty training provided in proposal writing and grantsmanship resulted in at least 15 proposals, of which 12 have been funded to date
- Research results in WERSC projects are being produced on schedule and within budget, as reported by various funding agencies
- Financial tracking and resource allocation for grants and contracts has been upgraded, resulting in more efficient use of external funds
- Systems are in place and functioning well to encourage and reward interdisciplinary research and participation by multiple scientists and organizations
- Levels of faculty and staff and the amount of external funding have more than tripled since the onset of the project.
- UOJ has increased its input into water policy through service on decision-making bodies, research and publications
- External linkages have expended WERSC faculty have carried out research projects and training programs for, or in collaboration with, more than 20 Middle-Eastern, U S and European institutions
- Links and cooperation with other Jordanian institutions have been strengthened.
- UOJ/WERSC research has promoted increased water use efficiency through such programs as
  - Demonstrated decreases in irrigation water demand through incorporating rainfall water into irrigation management in the Jordan Valley
  - Demonstrated improved natural vegetation and barley production through better utilization of water resources and integrated management plan for Marab Suweid

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- Improvement of irrigation efficiency under protected agriculture by 30%, through proper irrigation scheduling and management. 30 farmer-leaders are helping to further disseminate these practices
- Identified optimum sites for enhancing natural recharge and artificial recharge of groundwater, including upper Yarmouk basin sites

- Water quality monitoring services are being provided for the public and private sectors
- Water quality research is testing technologies and adapting them to conditions in Jordan, e g , solar and duckweed treatments of wastewater, and use of anaerobic sludge blankets
- Substantial improvements in water and environmental quality at Azraq Oasis were achieved through a WERSC-UNDP-Royal Society for Conservation program
- Based on findings from a comprehensive study of wastewater effluents from 25 industries in Jordan, WERSC provided recommendations for improved treatment to the participating companies

4 Impact of Partnership on Mission Strategic Objective(s) In-Country

The major results of the Linkage program directly supported the USAID Mission's SO2, improved management and use of water resources and its intermediate results (IRs) Illustrative examples follow

IR2 1 Stronger water institutions Institutions strengthened through degree and non-degree training and cooperative activities include the Ministry of Water and Irrigation, National Center for Ag Research and Technology Transfer, Jordan Environmental Society, General Corporation of Environmental Protection and other NGOs, and numerous Jordanian universities

IR2 2 Increased efficiency in use of water resources Decreased irrigation water consumption on target farms 30%, training materials made available for further dissemination and use

IR2 3 Improved quality of wastewater Numerous technologies tested/testing in process (solar treatment, duckweed treatment), water quality assessment programs improved, industries trained in water quality issues

5 Partnership Investments

USAID - $500,000
WSU and UOJ – Formally reported matching - $1,361,220 61
Additional resources invested by other partners in Jordan and U S (not formally reported) – Over 140,000

6 Number of Individuals who Received Training as a Result of Partnership Activities

- 1 Jordanian received his Ph D from WSU in urban water quality, funded primarily by the project.
- 15 MS students have graduated from the new interdisciplinary MS programs established in Jordan,
- 45 additional students are enrolled in these programs
- Water use efficiency skills of over 30 leading Jordanian farmers were upgraded, leading to 30% decreases in water use and continued extension of these skills to other farmers
- An Environmental Impact Assessment (EIA) short-course jointly conducted by UOJ/WERSC and WSU trained 25 participants from the Ministry of Water and Irrigation (MWI), Ministry of Health, Global Cooperation for Environmental Protection and university community
- More than 500 persons in Jordan and in the region received training in a broad range of areas ranging from Wadi hydrology to industrial water quality improvement to "quality assurance, quality control" (QA/QC)
- More than 50 U S and UOJ faculty, administrators and graduate students benefited from participation in exchange and collaborative teaching, research and outreach programs This included lectures and seminars at both institutions, as well as laboratory and other practical training

7 Future Directions of Partnership and Sustainability Beyond USAID Support

The partners have continued to seek funding for collaborative activities, with some success However, especially for U S universities, funding available for this purpose is extremely limited Cooperation has extended to include other universities in the U S , Jordan and the region and to disciplines beyond those originally targeted by the linkage

8 *Publications Resulting from UDLP Partnership between Washington State University and University of Jordan*

"Final Report – University Development Linkage Project (UDLP)", Washington State University and University of Jordan, April, 1999

"Unsteady State Inverse Chlorine Modeling and Pipe Networks" Al-Omari, Abbas, Ph.D thesis, WSU Pullman, WA 1999

"Proposal/Concept Paper Water Resource Management University Partnership (WARM-UP) for Jordan", Washington State University in Association with University of Jordan, Jordan University of Science & Technology, Purdue University University of South Carolina, and The Hashemite University, 1999

"Draft Proposal/Concept Paper Water Resource Management University Partnership (WARM-UP) for Jordan", Washington State University in Association with University of Jordan, Jordan University of Science & Technology, Purdue University, and University of South Carolina, 1998

"Hydrological and Environmental Aspects of Wadi Kufranja Basin in Jordan" MS thesis of Mr Thair Mumani, Amman, Jordan, 1998

"The use of Solar Energy in Post Treatment of Treated Wastewater for Irrigation Purposes" MS thesis of Mrs Suhair Saeed, Amman, Jordan 1998

Uranium Availability in Soils Amended with Phosphate Fertilize Preliminary Report by Drs T M. Abu-Sharar, James B Harsh and Francis J Peryea.

Technical bulletins published by WERCS, Amman, Jordan 1996

"Water budget and hydrology of the Azraq basin"

"Water quality in the Central Jordan Valley"

"Activities of long-term studies on water conservation and management in arid and semi-arid region (Azraq Oasis Conservation Project)"

"Quarterly Report for Period 1 October-31 Dec 1998 University Development Linkage Project (UDLP)" Washington State University and University of Jordan, 1998

"Annual Report for Period 1 October 1997-30 September 1998 University Development Linkage Project (UDLP)", Washington State University and University of Jordan, 1998

"Quarterly Report for Period 1 July-30 September 1998 University Development Linkage Project (UDLP)", Washington State University and University of Jordan, 1998

"Quarterly Report for Period 1 April 1998-30 June 1998 University Development Linkage Project (UDLP)", Washington State University and University of Jordan, 1998

"Annual Workplan for 1997-1998 University Development Linkage Project (UDLP)", Washington State University and University of Jordan, 1997

"Quarterly Report for Period 1 April 1997-30 June 1997 University Development Linkage Project (UDLP)", Washington State University and University of Jordan, 1997

"Annual Report for Period 1 October 1996-30 September 1997 University Development Linkage Project (UDLP)", Washington State University and University of Jordan, 1997

"Quarterly Report for Period 1 July 1997-30 December 1997 University Development Linkage Project (UDLP)", Washington State University and University of Jordan, 1997

"Trip Report for Roger Willett, 21-28 October 1997" University Development Linkage Project (UDLP)", Washington State University and University of Jordan, 1997

"Quarterly Report for Period 1 April 1997-30 June 1997 University Development Linkage Project (UDLP)", Washington State University and University of Jordan, 1997

"Trip Report for James Harsh, 27 June-4 July 1997 University Development Linkage Project (UDLP)", Washington State University and University of Jordan, 1997

"Quarterly Report for Period 1 January 1997-31 March 1997 University Development Linkage Project (UDLP)", Washington State University and University of Jordan, 1997

"Trip Report for Jan C Noel, 9-18 April 1997 University Development Linkage Project (UDLP)", Washington State University and University of Jordan, 1997

"Quarterly Report for Period 1 October 1996-31 December 1996 University Development Linkage Project (UDLP)", Washington State University and University of Jordan, 1996

"Trip Report for M.H. Chaudhry, 21-29 September 1996 University Development Linkage Project (UDLP)", Washington State University and University of Jordan, 1996

"Annual Report for Period 1 October 1995-30 September 1996 University Development Linkage Project (UDLP)", Washington State University and University of Jordan, 1996

"Quarterly Report for Period 1 April 1996-30 June 1996 University Development Linkage Project (UDLP)", Washington State University and University of Jordan, 1996

"Annual Workplan for Period 1996-1997 University Development Linkage Project (UDLP)", Washington State University and University of Jordan, 1996

"Trip Report for Muhammad Shatanawi, 7-16 July 1996 University Development Linkage Project (UDLP)" Washington State University and University of Jordan, 1996

"Trip Report for T M. Abu-Sharar, 13-29 June 1996 University Development Linkage Project (UDLP)", Washington State University and University of Jordan, 1996

"Long term Effect of Treated Wastewater on Soil and Olive Trees" MS thesis of Mr Nabil Kazaz, Amman. Jordan (1999)

"Determination of Organic and Inorganic N-Chloroamines in Al-Samra Chlorinated Treated Wastewater and its Effect on Disinfection Process", MS thesis of Mr Ahmed Al –Shaikh, Amman. Jordan (1999)

Chaudhry, Hanif and Muhammad Shatanawi, "Application of Mathematical Models for Management of Water Resources Under Drought Conditions", abstract accepted by the International Association of Water Resources, Montreal , Canada, 1997

Chaudhry, Hanif and Muhammad Shatanawi, "Application of Mathematical Models for Management of Water Resources Under Flood Conditions", abstract accepted by the International Association of Water Resources, Montreal , Canada, 1997

"Computing the extent of flooding of the downstream valley in case of failure of the King Talal Dam" paper was presented at the North American Water and Environment Congress 96 in June 1996 at their meeting in Anaheim, California. Muhammad Shatanawi et al. 1996

"Trip Report for Atef Al-Kharabsheh, 13-29 June 1996 University Development Linkage Project (UDLP)", Washington State University and University of Jordan, 1996

"Quarterly Report for Period 1 January 1996-31 March 1996 University Development Linkage Project (UDLP)", Washington State University and University of Jordan, 1996

"Trip Report for Hanif Chaudhry, 9-16 December 1995 University Development Linkage Project (UDLP)", Washington State University and University of Jordan, 1995

"Annual Report for Period 1 October 1994-30 September 1995 University Development Linkage Project (UDLP)", Washington State University and University of Jordan, 1995

"Annual Workplan for 1995-96 University Development Linkage Project (UDLP)", Washington State University and University of Jordan, 1995

"Quarterly Report for Period 1 October 1995-31 December 1995 University Development Linkage Project (UDLP)", Washington State University and University of Jordan, 1995

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"Quarterly Report for Period 1 April 1995-30 June 1995 University Development Linkage Project (UDLP)", Washington State University and University of Jordan, 1995

"Trip Report for Thomas Ley, 22 May -22 April 1995 University Development Linkage Project (UDLP)", Washington State University and University of Jordan, 1995

"Quarterly Report for Period 1 January 1995-30 March 1995 University Development Linkage Project (UDLP)", Washington State University and University of Jordan, 1995

"Quarterly Report for Period 1 October 1994-31 December 1994 University Development Linkage Project (UDLP)", Washington State University and University of Jordan, 1994

"Trip Report for Anwar Battikhi, 10-26 November 1994 University Development Linkage Project (UDLP)", Washington State University and University of Jordan, 1994

"Annual Report for Period 1 October 1993-30 September 1994 University Development Linkage Project (UDLP)", Washington State University and University of Jordan, 1994

"Annual Workplan for 1994-1995 University Development Linkage Project (UDLP)", Washington State University and University of Jordan, 1994

"Trip Report for Deifallah Badarneh and Ahmad Abu-Awwad, 9-12 September 1994 University Development Linkage Project (UDLP)", Washington State University and University of Jordan, 1994

"Trip Report for Muhammad Shatanawi, 27 July-10 August 1994 University Development Linkage Project (UDLP)", Washington State University and University of Jordan, 1994

"Quarterly Report for Period 1 April 1994-30 June 1994 University Development Linkage Project (UDLP)", Washington State University and University of Jordan, 1994

"Trip Report for Laila H. Abu-Hassan, 2-13 April 1994 University Development Linkage Project (UDLP)", Washington State University and University of Jordan, 1994

"Quarterly Report for Period 1 April 1994-30 June 1994 University Development Linkage Project (UDLP)", Washington State University and University of Jordan, 1994

"Quarterly Report for Period 1 January 1994-31 March 1994 University Development Linkage Project (UDLP)", Washington State University and University of Jordan, 1994

"Trip Report for David Mulla, 19-26 March 1994 University Development Linkage Project (UDLP)", Washington State University and University of Jordan, 1994

"Quarterly Report for Period 1 October 1993-31 December 1994 University Development Linkage Project (UDLP)", Washington State University and University of Jordan, 1994

"Trip Report for William Funk, David Mull, and Bill Budd, 22 June-10 July 1993 University Development Linkage Project (UDLP)", Washington State University and University of Jordan, 1993

"Trip Report for Manar Fayyad, 26 May-10 June 1993 University Development Linkage Project (UDLP)" Washington State University and University of Jordan, 1993

"Annual Report for Period 1 October 1992-30 September 1993 University Development Linkage Project (UDLP)", Washington State University and University of Jordan, 1993

"Quarterly Report for Period 1 April 1993-30 June 1993 University Development Linkage Project (UDLP)", Washington State University and University of Jordan, 1993

"Quarterly Report for Period 1 January 1993-31 March 1993 University Development Linkage Project (UDLP)", Washington State University and University of Jordan, 1993

"Annual Workplan for 1993-1994 University Development Linkage Project (UDLP)", Washington State University and University of Jordan, 1993

"Trip Report for William Funk, David Mulla, Gordon Rodewald, 24 January-4 February 1993 University Development Linkage Project (UDLP)", Washington State University and University of Jordan, 1993

"Quarterly Report for Period 1 October 1992-31 December 1992 University Development Linkage Project (UDLP)", Washington State University and University of Jordan, 1992

"Annual Workplan for 1992-1993 University Development Linkage Project (UDLP)", Washington State University and University of Jordan, 1992

"Project Implementation Plan University Development Linkage Project (UDLP)", Washington State University and University of Jordan, 1992

PREVIOUS LINKAGE PROJECT PROFILES

University Development Linkage Project - Linkage Profile

Developing Country Involved. Nepal
Lead U S. Institution University of Massachusetts at Amherst
Linked Developing Country Institution Tribhuvan University, Kathmandu, Nepal
Other Linked Institutions
Project Title "U S Nepal Literacy Link"
Primary Sector Literacy and Vocational Education
Period of Award 1991-1996
USAID Cooperative Agreement Number DAN-5063-A-00-1108-00
Contact Information PI name(s), Address, Tel, Fax, E-mail, website Dr David Kinsey, Center for International Education, Univesity of Massachusetts-Amherst, Amherst, MA 01003, ph 413-545-0465, fax 413-545-1263, E-mail dkinsey@educ umass edu

1 Partnership Summary

Since 1989, Nepal has been engaged in a national literacy campaign to increase the literacy skills of the adult population Due to the low literacy rate (estimated at 36% for men and 18% for women) the country faced a monumental task in finding and developing the human resources necessary to teach classes, train facilitators, develop post-literacy materials, manage literacy programs and evaluate progress Many international and local NGOs joined with the government to address the need However, the rapidly expanding literacy activities have increased substantially the demand for technical assistance The Center for International Education (CIE) at the University of Massachusetts and the Research Centre for Educational Innovation and Development (CERID) at Tribhuvan University joined together with support from the UDLP to address this need through their Literacy Linkage Program

The Center for International Education at the University of Massachusetts has long, successful involvement in international programs For more than 27 years, CIE has been engaged in a number of education projects in Asia, Africa and Latin America. It has acquired special capabilities and experience in literacy and nonformal education through a number of projects funded by international development donors In 1986, it collaborated with World Education, an international NGO with long experience in Nepal, to establish a Literacy Support Initiative to specifically address the growing need for professional development opportunities for literacy practitioners Through this collaboration and the resulting summer Institutes for Literacy Professionals held at the University of Massachusetts, CIE laid the groundwork for the linkage with CERID and Nepal

The Research Center for Educational Innovation and Development at Tribhuvan University has carried out research and program development projects addressing all levels of education in Nepal In the area of adult and nonformal education, CERID has undertaken a number of research projects, evaluation studies, development activities It has developed models for education-for-all strategies, trained literacy personnel, organized seminars and workshops, and conducted literacy programs CERID worked with World Education in the early development of the materials which are now being, used in the national campaign.

The purpose of the Literacy Linkage Program is 1) to promote learning opportunities for literacy practitioners in Nepal, and 2) to build resources and capacity at Tribhuvan University and the University of Massachusetts to support the expansion of nonformal education and adult literacy efforts

2 *Partnership Objectives*

- Increase the international and community development involvement of CIE and UMass through implementing a distance education program and through joint projects with literacy provider organizations
- Increase the capacity of CERID and Tribhuvan University to provide training and technical assistance in the field of literacy through setting up an NFE Resource Center at CERID and the NFE course of study for the bachelors degree program at the Faculty of Education

3 *Partnership Results/Accomplishments to Date (as of 9/30/96)*

Objective 1 - Increase the International and Community Development Involvement of CIE and UMASS Through Implementing a Distance Education Program and Through Joint Projects with Literacy Provider Organizations

- The Distance Education Pilot Program was implemented in the fall of 1995
- Linkage partners collaborated on the development and field-testing of action learning manuals to be used in distance education and self-study programs
- Multi-day workshops were conducted on Learner Generated Materials Development, Whole Language Strategies, Practitioner Networks, Family Literacy and Women's Literacy Support Groups as a Post-Literacy Strategy
- Intensive multi-week Literacy Training Programs for professional development were conducted in Massachusetts, Thailand and Nepal
- CERID staffs have had professional and program development opportunities at UMass to learn about and develop expertise in Family Literacy and NFE Resource Center management
- Proposals have been written and donors have been approached to continue work on
- Distance Education, the NFE Resource Center, and Women's Literacy
- Seven participants from seven different organizations successfully completed the distance education program

Objective 2 - Increase the Capacity of CERID and Tribhuvan University to Provide Training and Technical Assistance in the Field of Literacy Through Setting up an NFE Resource Center at CERID and the NFE Course of Study for the Bachelors Degree Program at the Faculty of Education

- The NFE Resource Center at CERID was established in November 1995 to provide training and technical assistance in the field of literacy
- Training and technical assistance activities for literacy practitioners have been developed and implemented by the linkage project
- Multi-day workshops have been held on learner generated materials development, whole language strategies, practitioner networks, family literacy and women's literacy support groups as a post-literacy strategy
- Intensive multi-week Literacy Training programs for professional development were conducted in Massachusetts, Thailand and Nepal
- LSI staff member directed a five-week Summer Institute for Literacy professionals for 30 NGO and trainers from the Ministry of Education in Namibia, Africa
- LLP staff member and a doctoral student at CIE from South Africa developed a staff training manual in collaboration with the Child Workers in Nepal (CWIN) for practitioners who work with marginalized children in Nepal

- Approximately 170 resource books, about 200 articles and about 100 newsletters were collected and classified for the NFE Resource Center
- The catalog of reference materials in English is completed
- The database of the organizations according to their program activities is underway
- CERID submitted a proposal to UNESCO/PROP on NFE Resource Center as a strategy for Providing Support System to Literacy workers in Nepal
- CERID prepared 12 video tapes on various topics related to education and development
- The LLP team at CERID organized a weekly Dialogue Session for six weeks to share and disseminate the effective ideas and activities undertaken by various programs
- The development of a B.Ed NFE course has been completed and approved by university officials
- Staff persons from Research Center for Educational Innovation & Development (CERID) and LLP/Center for International Education (CIE) participated in the development of a concept paper for a post-literacy program for women in Nepal

4 Spin-off

- The Action Learning manuals have provided the basis for exchanges and collaboration with programs in other countries that are interested in promoting whole language and community-based literacy programs

University Development Linkage Project - Linkage Profile

Developing Country Involved. Thailand
Lead U S. Institution Case Western Reserve University
Linked Developing Country Institution Khon Kaen University
Other Linked Institutions
Project Title "Linkage for Technological & Health Development in Northeast Thailand"
Primary Sector Health & population
Period of Award 1993-1998
USAID Cooperative Agreement Number PCE-5063-A-00-3036-00
Contact Information PI name(s), Address, Tel, Fax, E-mail, website Dr Vira Chankong, Dept. of Systems Engineering, Case Western Reserve University, 10900 Euclid Ave , Cleveland, OH, ph 216-368-4054, fax. 216-368-3123, E-mail vxc2Wpo cwru.edu

1 Partnership Summary

Khon Kaen University (KKU) is a major university in northeast Thailand, the largest and least developed of Thailand's four regions A leading force for development for the region's twenty million inhabitants, the University is expected to teach increasing numbers of engineers, physicians, and other professionals and technicians It has had difficulty, however, in building staff and developing programs in engineering and health-related disciplines

At the same time, Case Western Reserve University (CWRU) and the New Jersey Institute of Technology (NJIT) are strong, in these disciplines Both institutions have the need and the desire to further the globalization of their programs which they can better accomplish through offering students and faculty high-quality practical experiences in community development. CWRU has had a formal collaboration with KKU in faculty development over the past few years, and both CWRU and NJIT have long-standing faculty connections with KKU

This linkage is enabling Khon Kaen University to improve its educational, research, and outreach programs in engineering and health-related disciplines through faculty upgrading, new programs of instruction, and new techniques of problem solving Within the broad areas of engineering and health, the project elves particular focus to biomedical engineering environmental engineering, community development, and the systems approach to problem solving.

2 Partnership Objectives

Specific objectives of the project are to

- Strengthen KKU capabilities in terms of personnel, curricula, and research in Biomedical Engineering as well as in other engineering and health-related disciplines
- Develop a collaborative effort between CWRU and KKU to strengthen each other in the area of community health,
- Form an educational and research partnership in environmental engineering in linking KKU and NJIT, and
- Create a core group of systems-oriented professionals to serve as a technological arm of KKU and outside clients in dealing with large and complex problems, such as community development, multidisciplinary research identification and planning, policy formulation and evaluation, and environmental assessment and management.

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Partnership Results/Accomplishments to Date (as of 4/1//96)

Objective 1 - Strengthen KKU capabilities in terms of personnel, curricula, and research in Biomedical Engineering as well as in other engineering and health-related disciplines

1 1 Biomedical Engineering

- The linkage is based on a series of faculty-to-faculty collaborate efforts centered on a given series of activities This series includes curricula development, practicum development, establishment of research programs, organization of the Department of Biomedical Engineering, at KKU, and establishment of the Systems-Oriented Technological group at KKU These collaborative efforts are reinforced by postgraduate training for junior KKU faculty at U S universities
- The partners have launched the activities necessary to realize their objectives They have developed a curriculum in biomedical engineering and sent two KKU medical faculty to enter graduate programs in biomedical engineering at CWRU Also, two nurses at KKU are entering doctoral programs at CWRU
- The first year budget of $130,000 was granted by the Royal Thai government (RTG) to KKU for the 1995 fiscal year to purchase the first set of priority equipment Also, during this initial stage, KKU has allocated 200 square feet of office space to the program KKU and CWRU have agreed on an exchange program in community health nursing They are developing a proposal to undertake TB research in Thailand and are examining the possibilities for other community health research and training activities
- A professor of Biomedical Engineering, CWRU, revisited the KKU Faculty of Engineering in December 1995 to present a short course on Biomechanics and Biomaterials to the engineering faculty in preparation for the upcoming Biomedical Engineering courses to be joint taught at KKU
- After several comprehensive reviews of the proposed Biomedical Engineering, curriculum, the revised version has been submitted for approval by the KKU University Council and for the eventual approval by the Ministry of University Affairs The program moved ahead as planned when the first group of 20 students was admitted as part of the freshmen pool of the 1995-1996 academic year beginning June 1995
- A joint research between faculty members of KKU and CWRU was initiated The project was a feasibility study to demonstrate the viability of a low-cost alternative to radiography, for detecting femoral fractural alignment using surface pressure measurement. If the concept is proven feasible, Thailand Research Fund (TRF) will fund a full scale joint research and development project

1 2 Faculty Exchanges and Training in Other Health and Engineering Fields

- In environmental engineering, the partners have adopted as a long-term goal the establishment of a Center for Environmental Waste Management in Northeast Thailand. This center would provide technical services to industries and government agencies The partners have undertaken a plan that addresses this long-term goal and strengthens KKU in the meantime The plan includes reviewing NJIT's experience in developing a university-industry partnerships center to deal with environmental problems It also includes a comprehensive program of graduate degree training for five Thais at NJIT supplemented by short courses for other KKU faculty Finally, they are in the process of forming, a systems-oriented technology group
- Two faculty members of the KKU Faculty of Nursing came to CWRU to begin their doctoral programs
- Director of the Center for International Health at CWRU traveled to KKU on December 1995 to engage in dialogue concerning continued linkage relationships between CWRU and KKU in health-related areas and screen KKU medical students for exchange rotations He had productive meetings with KKU President, VP for Foreign and Public Relations, Dean and Associate Deans of Medicine, Dean of Nursing, and various medical department chairs and key medical professors Four pre-screened medical students were interviewed and accepted for elective rotations at CWRU in March 1996

1 3 Student Exchanges

- During, March 1-28, 1996, four KKU medical students took their elective rotations at CWRU as part of the medical student exchange program

Objective 2 - Develop a collaborative effort between CWRU and KKU to strengthen each other in the area of community health

- A joint research proposal on "Urban Primary Health Care Development of the Model" was drafted To support this proposed joint research project, the KKU Faculty of Nursing secured $ 10,100 of support from the municipality of Khon Kaen to match $5 000 from the Faculty and $6,200 from the UDLP
- The project "Lead Level in Thai Children" conducted jointly by a doctor of the Rainbow Babies and Children Hospitals and her Thai counterparts has been under way with some survey results coming in. The project budget of $850 is sponsored by the UDLP Through the CWRU-KKU UDLP connection, the collaboration between KKU and the Lao University of Health Services in Vientiane, Laos, has been strengthen many fold The Lao community health curriculum grew out of consultations and training programs at Khon Kaen for a dozen Lao faculty A three-month intensive Lao post-graduate course in child health in early 1995 has about equal numbers of Lao and volunteer KKU and American pediatricians on the faculty All this has acquired little or no UDLP funding, but it is acknowledged by all that it could never have occurred without the chemistry of the UDLP
- USAID has just funded (October 1995) a new effort to help the Lao address the problem of unexploded ordnance in northern Laos CWRU faculty will provide the medical/surgical component of this project, to help improve the ability of the small district hospitals in the area to respond to the victims of accidental detonations, which occur nearly every day

Objective 3 - Form an educational and research partnership in environmental engineering in linking KKU and NJIT

- $37,000 was funded by the Department of Technical and Economic Development Cooperation of the Thai Ministry of Foreign Affairs and the USAID/Thailand for a workshop on Hazardous Waster Management for Thai officials and practitioners during, February 1995 The workshop was quite a success There were about 200 participants from the government agencies and industries from the whole country On request of many faculty members of KKU and invited participants, another meeting was held at KKU in mid-July to officially organize a team at KKU to work on the establishment of the Industry University Cooperative Center on hazardous waste management for the Northeast region. The Thailand Research Fund (TRF) provided the funding of $4 million to establish and operate a University-Industry Cooperative Research Center (IUCRC) on Environment for Thailand for the first four years The proposed IUCRC is to cooperate with the US IUCRC Center for Hazardous Substance Management (HSMRC) at NJIT, and will have regional satellite center at Khon Kaen. The KKU Faculty of Engineering, pledged to match $40,000 to support the establishment of such a satellite center at KKU

Objective 4 - Create a core group of systems-oriented professionals to serve as a technological arm of KKU and outside clients in dealing with large and complex problems, such as community development, multidisciplinary research identification and planning, policy formulation and evaluation, and environmental assessment and management

More than 10 Thai graduate students were recruited by CWRU to come for graduate training at the Systems Engineering Department at CWRU and many of these have indicated an interest in becoming faculty at KKU when they return to Thailand.

University Development Linkage Project - Linkage Profile

Developing Country Involved. Thailand
Lead U S Institution University of Oklahoma
Linked Developing Country Institution Chulalongkorn University
Other Linked Institutions Case Western Reserve University & University of Michigan
Project Title "Organization & Implementation of Graduate Engineering Programs in Chulalongkorn University as a Joint Venutre & Participating U S Universities"
Primary Sector Economic Growth
Period of Award. 1993-1998
USAID Cooperative Agreement Number PCE-5063-A-00-3012-00
Contact Information PI name(s), Address, Tel, Fax, E-mail, website Dr John Scamehorn, Asahi Glass Chair, Univ of Oklahoma, Chemical Engineering & Materials Sci , Norman, OK 73019, ph 405-325-6382, fax 405-325-5813, E-mail scameho@mailhost.ecn uokno

1 Partnership Summary

Over the past several years, the pace of economic development in Thailand has been impressive, with manufactured exports growing rapidly The annual gross domestic product (GDP) growth rate usually exceeds 8% Although much of this current economic activity is in the petroleum sector, Thailand, with its vast oil and reserves, has ambitious plans to further develop, modernize and improve the efficiency of its national petrochemical industry -- thereby increasing the value of its oil and gas reserves However, along with its success as an industrialized nation, Thailand has experienced serious problems of human resource development and utilization Foremost among these has been the slow response of the local educational system to meet market demands, resulting in significant shortages in the supplies of key skills in the important science and technology fields, in particular, engineering and computer sciences

To address the above problems, leaders at Chulalongkom University, Thailand's premier institution of higher education, adopted an aggressive strategy to improve technology infrastructure in Thailand. The University's initial approach was directed toward meeting the requirements of the petrochemical industries in Thailand. The Petroleum and Petrochemical College of Chulalongkom University is being reorganized as a joint academic endeavor with three cooperating U S universities - Case Western Reserve University, the University of Michigan and the University of Oklahoma.

This joint academic venture between Chulalongkom and its three US partner universities has proven to be an ambitious undertaking, involving not only instructional programs, but developmental and research projects as well This linkage assists in the start-up and development of the joint venture and promotes a common goal of the participating universities, that is, to establish a center of international engineering excellence in Thailand.

2 Partnership Objectives

- Establish a sustainable collaborative venture involving an academic partnership among Chulalongkom University, Case Western Reserve University, the University of Michigan and the University of Oklahoma
- Establish innovative graduate programs for the new Engineering College at Chulalongkom University

3 Partnership Results/Achievements to date (as of 6/30/96)

Both the collaborative venture and the graduate program are established and operational and both objectives therefore, are in the process of being met

Objective 1 - Establish a Sustainable Collaborative Venture Involving an Academic Partnership among Chulalongkorn University, Case Western Reserve University, the University of Michigan and the University of Oklahoma

- The participating U S counterparts provided instructional faculty for graduate level courses offered in Thailand in which the goal of the program is to produce 20 M.S graduates in polymer science and 20 M.S graduates in petrochemical engineering per year
- Thai professors have visited U S to study and discuss new developments in petrochemical engineering and polymer sciences, to review the processes by which U S professors integrate their students' laboratory work and library studies, and to secure reference material
- The U S partners have arranged for Chulalongkom University students to access scientific literature in the Michigan library through use of a special account number

Objective 2 - Establish Innovative Graduate Programs for the New Engineering College at Chulalongkorn University

- The linkage expanded from its classroom activities into research and development since Chulalongkom University (CU) received its equipment and the partnership established its procedures and programs
- The M S programs in polymer sciences and petrochemical engineering were formally established with the first classes in May 1993 at CU
- The Engineering College at CU has obtained several small Thai government grants for research, indicating the ability of the faculty to compete
- Theses from the first graduates of the Engineering College were completed. An estimated 70% of these theses have resulted in publications/presentations in distinguished international journals
- The College received 36 grants for 3,819,551 Baht in 1995 Nine research proposals for 10,429,600 Baht are pending
- The Engineering College at Chulalongkom University permits six faculty visits of the two U S partners for one to two weeks per year, and each year, 25 students are budgeted at 50-55K Baht each to spend 2-3 weeks in the U S

University Development Linkage Project - Linkage Profile

Developing Country Involved. Nepal
Lead U S Institution Boston University
Linked Developing Country Institution Tribhuvan University, Kathmandu, Nepal
Other Linked Institutions EarthWatch, Watertown, MA
Project Title "Linkages Program in Health Sciences" – TU/BU Linkages Program
Primary Sector Health & population
Period of Award 1991-1996
USAID Cooperative Agreement Number DAN-5063-A-00-1113-00
Contact Information PI name(s), Address, Tel, Fax, E-mail, website Dr Amenda Reed, Dir Of Academic Affairs, Boston Univ , 715 Albany St, T-4W, Boston, MA 02218, ph 617-638-5234, fax 617-353-6330

1 Partnership Summary

For more than a decade, faculty members from the health schools of Tribhuvan University (TU) and Boston University (BU) have collaborated on public health projects in Nepal That collaboration was limited to a handful of faculty primarily in public health and community medicine due to the financial constraints A funded Linkages program has not only strengthened inter-institutional relations and broadened the number of faculty and students involved at each university but it has also strengthened educational, research, and service programs that address primary health care services

Through the linkage, TU's faculty members and students have had the opportunity to increase their knowledge and skills through various interactions with Boston University For example, the teaching program at TU to train public health professionals to serve all the people of Nepal including the neediest and hardest to reach population Also the linkage with TU has certainly added to the already strong sense of internationalization at Boston University

2 Partnership Objectives

- Steering Committee - - Guide the Evolution of the Linkage Program
- Establish a Faculty Development Program
- Expand academic resources at the Tribhuvan Department of Community Medicine and Family
- Develop a public health research agenda.

3 Partnership Results/Accomplishments to Date (10/30/96)

Objective 1 - Steering Committee – Guide the Evolution of the Linkage Program

- The Steering Committee met in January 1995 to discuss future linkage activities New funding possibilities have been explored that will require little direct funding or activities that can be piggybacked onto preexisting university activities

Objective 2 - Establish a Faculty Development Program

- A TU faculty member completed a six-week rotation at the Boston University (BU) School of Medicine and its teaching facility, The University Hospital, at the end of October 1994 His work in Boston resulted in the

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establishment of a Neurosurgery Program at the Tribhuvan University Teaching Hospital by Boston University and its faculty member

- During his stay in Kathmandu from January 1995 to April 1995, a BU faculty member completed training two TU general surgeons, a complete operating room team, the nursing staff and ward staff, not only in the area of neurosurgery, but in the management and handling of head and neck injuries to prevent permanent disability as well He also established a 12 bed ward of neurosurgery/neurology, performed surgery, conducted an active (3 times per week) outpatient department; and arranged for the donation and shipping of over $100,000 worth of medical equipment for the neurosurgery program at TU In 1996, over $13,400 20 worth of medical equipment was donated to TU Neurosurgery Program through the help of this faculty member
- A TU nursing school faculty completed a six week study visit to BU and also fully participated in a two credit course taught by a BU faculty member
- A TU faculty member completed the Summer Certificate Program Health Care in Development Countries in August 1996 He has returned to Nepal and resumed his teaching responsibilities in the Department of Community Medicine and Family Health

Objective 3 - Expand Academic Resources at TU Department of Community Medicine and Family Health

- More than 130 volumes of books and 33 sets of reading materials were placed in the TU Teaching Library and Community Medicine Department Library
- The following equipment was purchased and shipped to TU a computer with fax modem, CD ROM, software, etc , a printer, an overhead projector, a slide projector and batteries and battery charger Approximately150 more books and journals have been purchased and shipped with the equipment
- Two laboratory rooms, one health education and one group communication room have been constructed and furnished with equipment

Objective 4 - Develop a Public Health Research Agenda

- Two TU students completed the Summer Certificate Program Health Care in Developing Countries
- In 1996, a BU student completed her two month field trip to Nepal She had a very fruitful and successful field work experience and fulfilled her final MPH requirement - an International Health Concentration Paper Her Paper is entitled Situation Analysis AIDS Prevention Programs for Women in Nepal

University Development Linkage Project - Linkage Profile

Developing Country Involved. Indonesia
Lead U S Institution Virginia Commonwealth University
Linked Developing Country Institution Hasanuddin University
Other Linked Institutions
Project Title "Urban & Regional Resources Planning & Management"
Primary Sector Environment & natural resources
Period of Award. 1992-1997
USAID Cooperative Agreement Number PCE-5063-A-00-5025-00
Contact Information PI name(s) Address, Tel, Fax, E-mail, website Dr Larry Beall, Dir , Center for Intl Urban Management, Virginia Commonwealth Univ , 919 W Frank Ave , Richmond, VA 23284, ph 804-828-7140, fax 804-828-8884, E-mail lbeall@cabell vcu edu

1 Summary Partnership

Virginia Commonwealth University (VCU) and Hasanuddin University (UNHAS), located in Ujung Pandan, South Sulawesi of Indonesia, are comprehensive institutions of higher education located in urban regions They are collaborating in this UDLP in the areas of urban and regional resources planning and management. Specifically, the linkage draws upon a variety of faculty and programmatic emphases and strengths at both institutions in the areas of community planning, environmental management, economic development, information systems, human resource development, public management, and public health

This linkage enhances Hasanuddin University's ability to contribute to the realization of Indonesia's urban management-oriented economic and environmental sustainability objectives by upgrading its capabilities in urban and regional resources planning and management. Activities include the development of additional academic programs, adult training programs, and policy development-oriented research programs

2 Partnership Objectives

Specific objectives are to

- Establish a graduate Urban Management Program at Hasanuddin University,
- Establish a self-sustaining Center for Urban Management Training at Hasanuddin University;
- Create a research and training program involving direct consultation with local and regional governments in the formation of urban development policies and strategies

3 Partnership Results/Achievements to date

Objective 1 – Establish a Graduate Urban Management Program at Hasanuddin University

- VCU through its Center for Urban Management (CIUM), established as one of the objectives of the Linkage, has been awarded a 15-month grant from the USAID Mission to extend its curriculum and capacity building work to the Institute of Technology Bandung (ITB) in Java, Indonesia. CIUM is also hosting a conference of government tourism officials for a program on tourism development, which is an out growth of the work done with UNHAS and ITB, in Java
- Linkage partners have prepared a curriculum for the graduate program in urban management

- The linkage partners have prepared a curriculum for the graduate program in urban management. Meanwhile, library development of Hasanuddin has proceeded with the shipment of books Faculty development has been initiated by the enrollment of three Hasanuddin faculty members in the Ph.D program at VCU VCU faculty have presented seminars at UNHAS Discussions have occurred to define the training needs urban public employees and training materials have been prepared
- The University Research for Graduate Education Award (URGE), presented through the Government of Indonesia, is the first graduate study award

Objective 2 – Establish a Self-sustaining Center for Urban Management Training at Hasanuddin University

- VCU and UNHAS have cooperatively held three major conferences in Ujung Pandang relating to urban management, environmental management, and tourism development. These conferences have been attended by public officials from eastern Indonesia and academics from several universities, and are assisting UNHAS in its role as a recognized center for training
- VCU and UNHAS have held three major conferences in Ujung Pandang relating to urban management, environmental management and tourism development. These conferences have been attended by public officials from eastern Indonesia and academics from several universities and are assisting UNHAS in its role as a recognized center for training
- Linkage has pursued a capacity building plan for students and faculty at both VCU and Hasanuddin University in Indonesia. Four Indonesian faculty/students for a total of 11 semesters of full time education have been enrolled

Objective 3 – Create a Research and Training Program

- As part of our major capacity building effort, one UNHAS professor came to VCU for three months to finish his research for a Ph.D in Urban Management, another UNHAS professor concludes a Ph.D course and is beginning research study at VCU in Urban Management, and another UNHAS professor concludes a Ph.D course and beginning research study at VCU in Urban Management A VCU professor will travel to UNHAS in March 1997 to facilitate the final exam, using none linkage funding
- Two senior UNHAS professors to visit VCU for one month to continue interdisciplinary urban research and curriculum study in finance One UNHAS faculty completed the course work for the VCU Ph D in public administration and successfully passes the comprehensive examination This will be a VCU degree and with the two sandwich degrees in progress, will upgrade the credentials of the UNHAS urban management faculty by three doctorates
- Plans completed by CIUM for one UNHAS professor to visit VCU for two months under special Government of Indonesia grant designed to assist in research for Ph.D at an Indonesian university Two more Indonesian public officials are accepted into VCU graduate programs UNHAS professor published article in a major Indonesian Journal based upon research accomplished at VCU on a linkage sponsored research trip Linkage has awarded over $75,000 to VCU students and faculty for internships, research and study over a three year period
- Virginia Commonwealth University is enhancing its capability to participate through the creation of an interdisciplinary Center for Urban and Regional Resources Planning, and Management. It is also supporting the research agenda of VCU and Hasanuddin University faculty who seek direct and sustainable impacts on urban public policy
- The linkage has developed a three-year research program for collaboration between VCU and UNHAS faculty Two projects have already begun

4 Spinoffs

- Discussions were held at various locations to assist in coordinating the planned 1996 VCU Summer Study Tour to Indonesia. This, along with the Indonesian Language and Culture course, significantly contributes to the international capacity building of students and faculty

- The USAID Mission funded a one year linkage with ITB for the purposes of curriculum and program review in the management program, not only relevant to ITB, but to UNHAS in sharing lessons learned with the UDLP partner
- The VCU/UNHAS linkage has attracted interest from other Indonesian universities The additional involvement with ITB has multiplied the flow of information and interaction between the institutions in a cost effective way

University Development Linkage Project - Linkage Profile

Developing Country Involved. India
Lead U S. Institution Sinclair Community College
Linked Developing Country Institution Center for Vocational Education in Madras, India
Other Linked Institutions Eastern Iowa Community College District & Community Colleges for International Development
Project Title "A Community College Linkage to Vocational/Technical Training & Education Programs in Madras, India"
Primary Sector Economic growth
Period of Award 1992-1997
USAID Cooperative Agreement Number PCE-5063-A-00-2021-00
Contact Information PI name(s), Address Tel, Fax, E-mail, website Dr William Struhar Professor, Sinclair Community College 444 W Third Street, Dayton, OH 45402, ph 513-449-4548 fax 513-449-6100, E-mail wstruhar@sinclair edu

1 Partnership Summary

The Government of India is faced with the challenge of training its large population of unskilled and illiterate workers and strongly desires that vocational education becomes readily available to students

Sinclair Community College (SCC) and the Eastern Iowa Community College District (EI) are providing, operational, logistical, and programmatic support to the Center for Vocational Education (CVE) so that the CVE becomes by September 30, 1997, a proactive, self-sufficient, prototype institution for the delivery of vocational/technical education in India. The prototype is to enhance individual employability, reduce the mismatch between the demand and supply of skilled workers, and provide alternatives for those who would otherwise be pursuing higher education without specific interest or purpose

The Center for Vocational Education (CVE) in Madras was created in 1990 to act as a catalyst to connect Government and private funding groups with volunteer agencies which can provide or oversee the initiation and implementation of appropriate vocational training programs for the population of unskilled workers in their community locations

In August of 1996 The Madras Community College was established by the Archdiocese of Madras-Mylapore in response to the educational and employment needs of the people of Madras and its neighborhood The College is aimed at assisting individuals in the community who are interested in acquiring work-oriented skills

2 Partnership Objectives

- Developing the infrastructure (management systems, fiscal controls, curriculum resources, and equipped and operating, office space) at the CVE
- Developing the resource development capability at the CVE (in terms of gaining support from the government, from international agencies, and from business)
- Developing, a human resources development plan for the CVE including curriculum and delivery systems necessary to provide vocational technical training programs

3 Partnership Results/Accomplishments to Date (as of 1/31/97)

After four years of a five-year project, this linkage project is on target to accomplish its original objectives, and has already achieved additional outcomes With the establishment of the Madras Community College, a model of vocational training, similar to that done in other successful U S community colleges has been introduced to the Madras area. India's imagination, dedication, and willingness to invest in the community college approach will determine the long-term significance of the seeds which have been planted

Objective 1 - Developing the Infrastructure (Management Systems, Fiscal Controls, Curriculum Resources, and Equipped and Operating Office Space) at the CVE

- The CVE building has been refurbished to include air conditioning, office equipment, and accounting systems
- The CVE structure is for general office use, conferences, training programs, and lodging

Objective 2 - Developing the Resource Development Capability at the CVE (In Terms of Gaining Support from the Government, from International Agencies, and from Business)

- Fifteen U S faculty from eight U S Community Colleges traveled to Madras, India and assisted with curriculum and resource development at the CVE
- A USIA College and University Affiliations Program grant for $120,000 with a comparable India match was obtained for 1995-1998 by Sinclair Community College
- A U S Department of Education Title VI-B grant was awarded to Eastern Iowa Community College District for $120,000 with a comparable India match in 1995 through 1997

Objective 3 -Developing a Human Resources Development Plan for the CVE, Including Curriculum and Delivery Systems Necessary to Provide Vocational/Technical Training Programs

- Seventeen U S faculty from ten community colleges have traveled to Madras for 4-7 weeks and contributed to the development of the Centre for Vocational Education and its programs
- More than 2,000 rural and urban poor, 10th grade dropouts, women and village persons have participated in short-term employment skills training programs offered by the CVE in Madras at adjacent Community sites
- A tools bank has been created at CVE and serves as an invaluable asset in the provision of training programs
- The CVE delivered or participated in a number of workshops concerning organizational development, educational reform and community courses in India
- The CVE has been involved in a series of talks with a wide variety of business, government and educational personnel in Madras concerning training opportunities for future Ford employees at the proposed Mahindra-Ford plant being constructed near Madras
- The CVE and the Jain Industrial Training Centre prepared a detailed proposal to provide basic skills training for 700 technicians to be recruited during 1997
- The first CVE satellite is operational A second satellite is being developed

4 Spin-off

A corpus fund (similar to a U S foundation fund) has been initiated to assure sustainability of the operation of the Centre when the UDLP concludes in 1977

University Development Linkage Project - Linkage Profile

Developing Country Involved. India
Lead U S Institution University of North Carolina at Chapel Hill
Linked Developing Country Institution Indian Institute of Health Management Research, Japiur, India
Other Linked Institutions
Project Title "UDLP between the University of North Carolina at Chapel Hill and the Indian Institute of Health Management Research, Jaipur, India"
Primary Sector Health & population
Period of Award 1991-1996
USAID Cooperative Agreement Number DAN-5063-A-00-1112-00
Contact Information PI name(s), Address, Tel, Fax, E-mail, website Dr Sagar Jain, Professor&Director, Univ of North Carolina-Chapel Hill, 1104 E McGavran-Greenberg, Chapel Hill, NC 27599, ph 919-966-7378, fax 919-966-6961, E-mail jain@zeus sph.unc edu

1 Partnership Summary

Major health problems in developing nations include lack of effective access, maldistribution, poor quality, lack of continuity, waste, and corruption. These problems are usually the result of poor health policies or inadequate implementation, and there is a dearth of systematic data and know-how to correct them. Also, there is little tradition for health service research and an almost total absence of sound training in health policy analysis or management of health services This is especially true in India – the world's second most populous country This project addresses these issues in India and other nations in South Asia.

In 1984, the Indian Institute of Health Management Research (IIHMR) was established as a private sector institution of higher learning for the purpose of improving standards of health care through research, training, and consultation services in public health policy and management. IIHMR has grown rapidly and has 15 full time faculty, 22 research staff, and 29 support staff It has gained high visibility and a good reputation. During, 1990-91, it had 15 active research projects/consultations and 10 short courses, and it also inaugurated a 12-month post-graduate diploma program in Health Policy and Management for physicians/managers To conduct its projects (68 to date), IIHMR has received funding, from a large number of public and private donors, national and international, interested in improving health services

Despite its achievements, IIHMR is aware of its need to strengthen its know-how in design and implementation of its research and teaching programs Of late, its administrators, faculty, and governing board have paid increasing attention to this necessity This is the background and driving force for its linkage with the Department of Health Policy and Administration (UNC-HPAA), in the School of Public Health of the University of North Carolina at Chapel Hill

UNC-HPAA is a recognized, leading academic department in public health policy and administration It has the interest, capacity, international experience, and support to enter into a long-term, mutually-beneficial linkage arrangements with IIHMR.

The overall purpose of the project is to develop and offer high quality, relevant and cost-effective training in methods of health policy and management to mid-career health professionals from developing countries, strengthen the capacity of IIHMR for teaching, research, and consultation in India and other South Asian countries, and to support the internationalization of UNC

2 *Partnership Objectives*

- Executive MPH program in health policy for middle and upper level health managers
- Opportunities for collaborative research in issues of health policy and management
- Short-term faculty exchanges to help meet faculty development needs
- Field research and training opportunities for UNC faculty and students in India and Asian countries
- Involvement of other institutions of higher learning

3 *Partnership Results/Achievements to date (as of 9/30/96)*

Efforts to date have focused on the development of the Executive Graduate Program. The program graduated its first 10 students in August 1994, with these students being awarded their MPH/MHA degrees from UNC The program continues to grow in size, and its goal is to become independently sustainable with 25 full-time graduate students, 15 non-degree students, and significant consulting and research activities in South Asia and other developing countries

Objective 1 – Executive MPH Program in Health Policy for Middle and Upper Level health Managers

Several activities contributed to the progress for achieving this objective Specifically

- UNFPA-New York provided $275,000 in funds to offer 11 fellowships to NGO nominees
- An agreement between USAID-Dhaka and the Government of Bangladesh provides fellowship funds for 12 FTE each year for two years The linkage inaugurated the EPDC Monography series to publish textbooks and related materials for use in the teaching program
- The Government of India sent five officials interested in overseas MPH/MHA degree to EPDC
- A new brochure of the program was developed, printed and distributed
- Nine new students entered the Graduate program for 1996-1997
- The Rajasthan dataset was revised in light of class testing during 1995-1996 The revised version was published. Three monographs were commissioned, drafts of two were class tested and are being, revised. The third is still being drafted

Objective 2 - Opportunities for Collaborative Research in Issues of Health Policy and Management

Several continuing and new studies are in varying degrees of progress Namely

- *The Journal of Health and Population in Developing Countries* is a six-month publication of EPDC The first issue of the Journal was published in early 1997
- A study commissioned by the Government of Rajasthan, *Strengthening of the Management Capability of the Rajasthan Health Services System,* was completed
- A study commissioned by the Population Foundation of India, *Assessment of Factors in the Working of Health System in Kota District in Rajasthan,* was completed
- Two studies commissioned by the UNFPA New Delhi, *Evaluation of UNFPA Projects in States of Rajasthan and Himachal Pradesh,* were completed
- A study commissioned by the UNFPA New York to evaluate the training packages on quality improvement prepared by the International Council on Management of Population Programs, Kuala Lumpur was completed
- An assessment of the M.Sc degree program in Medical Administration offered by the University of Colombo, Sri Lanka was completed

Objective 3 -Short-Term Faculty Exchanges to Help Meet Faculty Development Needs

One or more faculty of IIHMR are accepted in the EPDC Master Degree Program each year and are given the needed financial support from EPDC resources Specifically

- Two faculty from the IIHMR were accepted for MPH/MHA studies and awarded full fellowships Nearly half a dozen others were accepted in specific courses as non-degree students
- Two UNC faculty taught EPDC courses at Jaipur for the first time

Objective 4 - Field Research and Training Opportunities for UNC Faculty and Students in India and Asian Countries

Several students explored the possibility of doing their field training in India and Nepal, and they were all found to be appropriate placements However, with limited travel funds and non-availability of living allowance, activity was nominal

- One UNC student did her summer internship in Jaipur

Objective 5 - Involvement of Other Institutions of Higher Learning

EPDC continues to be perceived as an important international activity of the University Other parts of the University have sought EPDC assistance in developing- linkages with other institutions in India. Specifically

- With financial assistance from the Asian Development Bank, an effective linkage was made with the M.Sc (Medical administration) Program of the University of Colombo, Sri Lanka

Annex IV. Featured Speakers

Annex IV Featured Speakers

Reforming Higher Education in Jordan
By
Dr Isam Za'balawi, Vice President, University of Jordan

from a Presentation at the
Higher Education Partnership for Global Economic and Social Development Conference
Amman, Jordan, April 18-20, 1999

Features of a Quality-Oriented Institution

- Is committed to the need for continuous improvement
- Identifies whom it wishes to serve
- Addresses the needs of the clients in its mission statement
- Identifies the values that guide its actions
- Develops a vision of what it would like to be in the future
- Has strong leadership
- Identifies its critical processes
- Aligns the implementation of its activities with its mission and values
- Provides continuing educational opportunities for all employees
- Employs cross-functional teams to improve processes
- Pushes decision-making to the lowest appropriate level
- Bases decisions about allocation of resources on precise data
- Views itself as a learning organization
- Relies on a number of sources for funding

Higher Education Conferences

Where/When	*Focus*
April 1997)	Relevance
Tokyo (July 1997)	Quality
Palermo (Sept 1997)	Finance
Beirut (March 1998)	Globalization
Paris (Oct 1998)	Regional and international co-operation
Dakar	
Havana (Nov 1996)	

Major Issues

- Terms of reference for reform
- HE Context and environment
- HE mission, function, aims, and purposes
- Teaching and learning
- Staff
- Research
- Students and graduates
- Size and shape of HE
- Quality and standards
- Relevance
- Use of resources
- Universal vision and international partnership
- Cooperation with other sectors
- Higher Education Development Project

Terms of Reference for Reform.

- There is an increase in the demand for HE
- There is a growing diversity of students
- HE has a pivotal role in the creation and development of knowledge
- Jordan must compete in an increasingly competitive market
- The competitors are aiming to improve the contribution of HE to economic performance
- There are distinctive features for HE in Jordan
- HE should continue to have a role in the social and spiritual life
- HE should play a dominant role in developing the national expertise to compete at regional and international levels
- HE is a major contributor to national and regional economic growth
- HE is important for all sectors of economy
- HE is an *important export*
- HE should make good use of information and communication technologies
- HE has a key role in delivering industry needs

HE Context and Environment·

- HE institutions have to position themselves in a changing world
- The globalization of economy, knowledge, and culture
- Multiple stakeholders have legitimate interests in HE
- The Jordanian society is moving to become a learning society
- The changing environment calls for a dynamic HE system
- HE has a local, regional, and international context

HE Mission, Function, Aims, and Purposes

- Qualified graduates
- Opportunity
- Knowledge
- Culture
- Education at all levels
- Quality of life
- Lifelong learning
- Social values
- Education and world of work

Teaching and Learning:

- The teaching function is complex, it deserves more attention
- The learning function is extremely important, students need to be trained to be responsible for their learning
- Special consideration should be given to transferable skills
- Curriculum should address the needs of the world of work
- Innovations in curriculum development should be encouraged
- Information and communication technologies should be utilized in the teaching and learning activities
- Linking teaching and learning with the research process
- Disseminating good teaching and learning practices

Staff

- All members of staff are responsible for accomplishing the university mission
- The institution should have a strategy for staff development
- The institution should look at means to raise the salary scale to an appropriate level
- The institution should adopt a transparent appointment policy
- The institution has to develop rehabilitation programs for teaching
- A special attention should be paid to the assistants
- Incentive system to reward outstanding activities in teaching, research, and management
- Enhancing the job security conditions

Research

- All universities should have a research component
- Universities in Jordan should adopt a cooperation strategy for research
- Establishing a national council for research
- Developing transparent criteria and procedures for funding research
- Make good utilization of research outcomes
- Promoting young researchers
- More basic and more applied research
- Incorporating research elements and results in the teaching activities
- Encouraging research capacity-building
- Information technology is a powerful aid to researchers
- Scholarships and research grants
- Intellectual property
- Social responsibility of the researcher

Size and Shape of HE

- The HE system could expand to provide wider opportunities at both undergraduate and graduate levels
- Colleges and further education could take on a larger role at the early stages of the undergraduate level
- Encouraging continuing, distance, and part-time education
- Establishing strong cooperation with the employers and the professional bodies for continuing professional development (CPD)
- Partnership with international institutes

Students and Graduates

- Students are the main customers of HE, they should be the center of the reform debate
- More information should be available to the students about admission and careers
- Students are very much concerned about the training they receive to prepare for the world of work
- Students should be engaged as active participants in the learning environment
- There should be a university ombudsman with adequate staff and resources to deal with students' complaints

Knowledge and Thinking Skills·

- Specialized knowledge in the fields of study

- Application of knowledge
- Logical thinking
- Critical thinking
- Problem solving
- Communication skills
- Utilization of data and information
- Research skills

Personal Skills and Attributes

- Self confidence
- Self control
- Identification of strengths and weaknesses
- Innovation
- Self-dependence
- Appreciation of relationships
- Desire for advancing ones knowledge

World of Work Skills

- Leadership and responsibility
- Developing relations
- Identifying priorities
- Persistency
- Explaining and convincing
- Making good use of the given opportunities
- Mastering foreign languages
- Enthusiasm and commitment
- Adaptation

Quality and Standards

- HE institutions should reinforce the system standards
- HE standards should be very close to the international standards
- HE institutions should develop the quality culture
- HE institutions should co-op with the stakeholders to improve the standards
- HE institutions should develop the culture for self assessment
- Establishment of an independent accreditation body

- Quality
  - Faculty members
  - Administrative staff
  - Students
  - Programs
  - Curriculum
  - Facilities
  - Environment

- HE institutes should adopt Total Quality Management (TQM) or Reengineering principles

Relevance

- HE should reinforce its role of service to society

- Linking HE with world of work
- Building strong cooperation with the Government, Parliament, and politicians
- Continuous updating of curriculum
- Renewing the teaching and learning methods and techniques
- Directing research to serve the different sectors of the economy
- Serving the other levels of the national education system
- Building the capacity to compete to secure funding

Use of Resources

- HE institutions should collaborate to activate efficient use of resources
- Promoting continuous and distance learning
- Providing technical services and consultancies
- Private sector and the university facilities
- Promoting the concept of the "entrepreneurial university"
- Adopting the market policy for funding research

Universal Vision and International Partnerships

- Establishing links and partnerships with international institutes and research centers
- Management based on the dual principle of responsibility and accountability
- Universal access for all who possess the prerequisites
- Adopting international standards
- HE should have a guiding ethical role at a time of crises of values
- Enhancing the curriculum and education programs
- Faculty enhancement through exchange
- Inter and multi-disciplinary research and education
- The use of the state of the art facilities and communication systems
- Involvement of private sectors
- Accessing resources and information

Cooperation with Other Sectors

Higher Education Development Project

Project Objectives

- Increasing the flexibility and responsiveness of HE to changing demands of society and the regional and global market economy
- Improving the efficiency and resource utilization in HE
- Improving the quality of curriculum, teaching, learning, and research in HE
- Improving the higher education's capacity, relevance, performance, quality, and accountability as well as the level of coordination
- Supporting the reform program of sector governance

Project Components

- **Component 1 Initiate Improvement in Quality, Relevance and Efficiency**
  - System-wide Support
  - Higher Education Development Fund

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- **Component 2.Initiate Improvements in Governance**
  - Higher Education Council Secretariat
  - Higher Education Accreditation Council
  - Planning and Management Capacity at the University Level

- **Component 3 Reform of the Community College System**
  - Governance and Management
  - Program Development
  - Human Resources Development
  - Facility and Equipment Upgrade

System-wide Support

- Information Technology (IT) Networks
- Management Information System
- Library Systems
- Training of Faculty Developers

Information Technology (IT) Networks

- Establishing a robust standard infrastructure
  - Hardware
  - Software
  - Intra-and Inter University Network
  - Internet Connectivity
- Graduating classes of students ready to compete
- Providing faculty with access to global research data and information resources

Library Systems·

- Increase the overall efficiency
- Facilitate access to exchange information
- Optimize resource use through sharing
- Introducing electronic services
- Raise awareness among staff and users of the potential role of libraries
- Developing and strengthening the services provided

Management Information System (MIS)·

- HE National Executive IS
- University Executive IS
- University Academic and Administrative IS
- Student IS

Training of Faculty Developers

- Promote sound and innovative teaching practices
- Improve student learning
- Promote positive attitude toward life-long learning and professional development in academic

staff

Higher Education Development Fund

- IT Fund at the university level
  - Development of IT proficiency for students and faculty
  - Integration/ Linkage of educational technology with the curriculum
  - Distance learning activities
- Curriculum and program reform and development
- The "entrepreneurial university"

Faculty Development Centers

- Developing a core of skilled developers
- Planning and deliver professional development activities
- Responding to remedial needs of academic staff
- Contributing to the development of policy regarding teaching and learning

Higher Educational Secretariat

- HE sector monitoring
- Developing experience in University planning
- Documentation Center
- Organizing workshops and seminars
- Local and overseas training

Planning and Management at University Level

- Strategic planning
- Policy studies
- Quality assessment and quality assurance

University Resource Allocation

- Number of students
- Number of programs
- Level of the program
- Institutional factors
- Cost per unit
- The fees and tuition

Higher Education Accreditation Council

- Developing the accreditation procedures
- Developing accreditation manuals
- Training of assessors
- Establishing disciplinary committees
- Workshops on self assessment
- Study visits

Governance and Management

- Technical assistance to BAU
- Hardware and software for the development MIS
  - Financial
  - Human
  - Students
  - Management

Program Development

- Associate degree programs
- Central program development unit
- Competency-based curriculum development

Human Resources Development

- Adoption of the concept of lead instructor
- Professional development workshops
- Engagement of external experts instructors

Facility and Equipment Upgrade

- Technical Skills in
  - Mathematics
  - Communications
  - English comprehension
  - Literacy
  - Computer applications
- Equipping all community colleges with
  - Computer Labs
  - Science Labs
  - Library resources
  - AV Equipment Specialized equipment Language Labs

The Role of Jordanian Higher Education Institutions and Scientific Centers in Employing Science and Technology for Development

By

Dr Mohammad Hamdan, Secretary General, Higher Council of Science & Technology

from a Presentation at the

Higher Education Partnership for Global Economic and Social Development Conference
Amman, Jordan, April 18-20, 1999

Scientific and technological activities play a significant role in cultural, economic and social development This role is expressed in terms of human and natural resources development, the improvement of the quality of production, and increasing productivity levels

Scientific and technological activities include three main components, namely basic research, applied research and experimental development, and scientific and technological services

Undertaking basic research aims at the production of original contribution to knowledge together with the acquisition of all recent developments arising therefrom for the expansion of human knowledge Hence the improvement of teaching and training activities Notwithstanding its high cost and its long term return, this kind of research is the concern of universities in an attempt to develop their academic, intellectual, and research capabilities

Embarking on applied research and experimental development aims at coming up with feasible solutions to certain problems facing the various developmental sectors, or at applying a particular model by way of utilizing the knowledge and results attained through basic research This kind of research is the concern of universities and scientific centers

Scientific and technological services, on the other hand, aim at assisting the various developmental sectors in improving the capabilities of manpower operating within them This is accomplished by virtue of education and training It is also accomplished by solving the said sectors' managerial and technical problems and improving the quality of their products and services such as by calibration of their instruments, and maintaining them These scientific and technological services are offered by special centers for consultants, studies, and technical services as well as by scientific centers and universities

Planning for basic scientific research at universities is usually performed by each university in isolation of other universities and is mainly finance by the university's budget In some rare cases, outside funding is secured Cooperation among universities in this field, however, is required Rules and criteria concerning scientific publication vary from one university to another Whereas some universities publish their own journals through which part of research work and studies are published, others encourage and seek publication in international journals Incentives prompting faculty members at universities to undertake applied research and experimental development are needed These incentives are not up to ambitions Also needed is coordination among various universities and scientific centers within the domain of undertaking joint applied research This maximizes benefits from the scientific expertise and from the research facilities in the said universities and centers, and minimizes duplication of efforts

There is a broad base of institutions offering scientific and technological services, including universities and scientific centers, most of which lack the proper matching between services required and development requirements On the other hand, there is a very limited number of production and service establishments that have research and development units This is due to unavailability of qualified personnel and sufficient funds to cater for such activity in most cases In addition to that, research

development expenditure in Jordan is very limited Indeed, the results of the national scientific and technological requirements and potential students indicate this expenditure does not exceed 0 4% of the gross domestic product

The endeavor to activate basic scientific research and to raise its standard, requires the provision of an independent budget (at the Higher Education Council) for the purpose of financing this kind of research It also requires the establishment of a scientific committee to administer the said budget A committee is needed comprising the deans of scientific research at the universities and their counterparts in the production sector This committee should evaluate the basic scientific research proposals and recommend approval and encourage joint basic research and cooperation among faculty members of the various universities Decisions should support research that is carried out in a manner whereby use of human and financial resources and available research facilities are enhanced and the quality of research is improved This should be accompanied by laying down the basis and criteria necessary for the publication of the results of scientific research and their use In the context of regional and international cooperation, universities and research centers should develop effective partnerships with relevant institutions, which should prove to be highly successful in securing regional and international funding

The Higher Council of Science and Technology on its part approved the national scientific and technological policy In its four main elements are information, human resources, research and development, and technologies to ensure interaction between man and natural, financial, and information resources Such interaction serves the purpose of tying science and technology directly to development as a basic approach that seeks to find remedies to all the problems of developmental sectors, and encourages innovation and invention Moreover, the General Secretariat of the Higher Council of Science and Technology conducted the national scientific and technological requirements and potential study The results of this study are being used to prepare the national research and development plan, and the national plan for the development of human resources working in Research and Development

Approving the said two plans shall take place before mid-May 1999, after finalizing discussions pertaining to them with the Jordanian universities and scientific centers

Activating the role of applied research and experimental development within the framework of the various development activities requires allocating a special budget at the Higher Council of Science and Technology This budget would be used to finance applied research and experimental development It also requires formation of a national committee comprising the deans of scientific research at the various universities and representatives of scientific centers and private sector institutions, to manage the said budget and to evaluate research proposals, prior to recommending their approval by the Higher Council of Science and Technology This would help to enable scientific centers and universities to promote research and development and studies units that would assist productive and service institutions, in both public and private sectors to solve their problems, develop their products and services, and establish research and development units of their own in the long run

The science and technology service providers need to specialize and to upgrade their capabilities in order to provide quality services, and to satisfy local requirements At the same time, they should also seek accreditation at both local and international levels

In view of the fact that Jordan has accomplished relative advancements in the areas of the basic technological infrastructure, and in developing its own potential in science and technology, emphasis should be made on financing research and development Undoubtedly, initiating the implementation of the decisions and recommendations pertaining to increasing expenditure constitutes a start In this case, the state, by means of a viable political decision, adopts the Higher Council of Science and Technology's resolution pertaining to defining expenditure on science and technology as that which does not fall below

1% of the gross domestic product This is in addition to the need to activate the provisions of the articles pertaining to expenditure on research and development, broadening its base within the scope of various legislations, laying down mechanisms that spur donations in the interest of scientific research, and securing direct financial assistance to higher education students in an attempt to direct their research in the light of our own national priorities

Annex V. Plenary Panel Presentation

Annex V. Plenary Panel Presentation

Development Results for Whom, by Whom, by When and at What Cost

Presented by
Jim Burns

Association Liaison Office for University Cooperation in Development[1]

Good morning, my name is Jim Burns and I'm delighted to represent the Association Liaison Office (ALO) for University Cooperation in Development from Washington, DC

It is a pleasure to join you this morning to share some observations on what universities see as the challenges and rewards of working for development results in this day and age Before I do so, let me tell you a little about the brokering role occupied by our office

Over the past 6 1/2 years, the Association Liaison Office for University Cooperation in Development has sought to foster closer interaction and understanding between American higher education and USAID, as they work -- in concert and individually -- to address an array of global challenges My office is part of six higher education associations It was created to build a stronger role for the U S higher education community in international development cooperation

The Association Liaison Office has four main areas of work

1) Policy Roundtables on Higher Education and Global Development Cooperation,
2) Communications and Outreach,
3) A Competitive Grants Program through the American Association of Community Colleges (AACC) for International Workforce Development Partnerships, and
4) A Program of Competitive Grants for International Institutional Partnerships for Development

Our Policy Roundtables address cross-sectoral issues and the changing circumstances of higher education development cooperation We have been particularly interested in three themes (a) the shift from technical assistance to development cooperation, (b) the forming of new cooperative alliances -- academic-business-government, and (c) the interest of higher education institutions around the world in being perceived as more relevant to the identification and solution of local and global problems

A new initiative within our Communications sphere is the International Higher Education Linkages (IHEL) Database You can search the database by region or country of the world, and development sector, and see which U S institutions are partnering with institutions abroad I personally invite each of you to ensure that your institution's international partnerships are represented in the IHEL database The Web site can be reached through the ALO homepage

The Grants Program for International Workforce Development Partnerships, through AACC, began last year Eleven institutions received awards of up to $50,000 The work done through these partnerships is particularly exciting, focused as it is on building a stronger workforce, whose skills will carry them into the future with greater assurance

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The Grants Program for International Higher Education Partnerships for Development Cooperation, our flagship program, also began last year We made 14 awards in 1998 for up to $100,000 each Last year's competition brought in 100 proposals for our peer reviewers We expect to issue the 1999 solicitation later this month, depending on when USAID provides FY99 moneys for the program This year's RFP will be similar except that we will stress the congruence of the proposed work with the strategic objectives, and expressed interest, of the relevant USAID mission And here, one can see the significance of orienting development results to a key stakeholder, namely USAID To help institutions interested in offering proposals ensure that their work squares with country-specific objectives, ALO has set up its Web site to enable one to go from the ALO homepage to the USAID Web site, which contains information on the priorities of each of its missions The partnership profiles are on our Web site

So I have begun to touch on results In a word, ALO follows the UDLP model, but attempts to be slightly leaner and meaner Here's a comparison of ALO and AACC partnerships with UDLP partnerships ALO and AACC partnerships are managed through ALO, are two to three years in length, funded for $50,000 to $100,000 as seed money, and there were 25 initiated in the inaugural year UDLP's were managed by USAID, five years long, $500,000 or more in funding, and there were 42 started at once

What are we aiming for in the ALO partnerships? We seek to support both institutional and USAID goals in development cooperation USAID has six Agency-wide goals Besides other development goals, each of the institutional partnerships receiving an ALO award aims to "build human capacity through education and training " Each partnership focuses on the strategic objective for higher education and has a performance goal to "increase the number and quality of teaching, research, and community outreach programs in host country higher education institutions that respond to national or local development needs "

To ensure that our partners do what they set out to do, we expect that the partnerships will have three categories of outcomes (1) Enhance capacity of cooperating country institutions to contribute to development, (2) Results in specific development sectors, and (3) Special capacities that the partner institutions seek to develop for themselves Here you can see how we try to match the interests of our various stakeholders, insisting that the needs of the cooperating institutions occupy a level place with the goals of the Agency or of the U S institutions

Monitoring and measuring the results of development cooperation can't be done the same way as it once was for technical assistance The challenge we were faced with was capturing the quantitative sorts of results USAID as a government agency needed (such as "ten people trained"), but not ignoring the more qualitative results (like "exposure to new agricultural techniques") With higher education partnerships, we also must include the benefits to the U S in our evaluations -- not only to the institutions but the broader benefits to local communities

By carefully strategizing about monitoring and evaluation before a partnership goes to work, we will not only have more results to report, but our projects will have greater impact and sustainability in the end

A few words on our role vis a vis others around the table I believe that ALO occupies a unique place, brokering relations between not only the Agency and the higher education community, but also among the individual partnering institutions, who are themselves working with the local and national public and private sectors Universities serve as a nexus where the demands and mandates arising in both the public and private sectors meet As such, they play an increasingly pivotal role in building broad-based partnerships for development

Our institutions are well positioned to contribute to the development equation, having expertise in research, teaching, and technological innovation and transfer Capable of lending significant help to collaborating institutions overseas, we offer (individually and through networks) a group of cost-effective, flexible, and responsive alternatives to contractor-based work

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In the shadow (or light) of the new Government Performance & Results Act (GPRA) era, higher education is increasingly aware that its partnerships must be accountable, must focus on results, must be mutually owned, and must build long-term capacity (domestically and internationally) Tangible benefits must result from partnerships and must be vividly described to satisfy the requirements and interests of all stakeholders involved

At the same time, institutions realize that long-term capacity building and sustainability issues must not be sacrificed to the quick results that catch the attention of the Agency or Congress Higher education institutions create focal points around which systemic change and improvement may develop within participating institutions and communities These endeavors must remain highly prized in our collective work This is why we at ALO have invested much time and thought into creating a monitoring and evaluation instrument that values immediate results and long-term outcomes

Here are some of the outcome indicators that USAID looks for in universities abroad, as evidence of increased capacity from the higher education partnerships (1) Activities that demonstrate a link with improved development knowledge, research, and outreach, (2) Collaborations with business, government, and U S institutions, and (3) Development results that host country universities contribute to

ALO's evaluation addresses the context of the partnerships, implementation, and short- and long-term outcomes

The evaluation applies critical thinking to these types of questions

1) What is the project to accomplish for the partnering institutions and for international development?
2) What evidence will indicate that the project has accomplished those goals? What activities will the project undertake to accomplish the goals?
3) What factors help or hinder the project's ability to accomplish those goals?
4) What should others learn about the project and any of its spin-offs or unforeseen outcomes?

We have two evaluations each year -- one midyear, due January 31, and an annual evaluation due July 31

All this work is important, but higher education institutions clearly need a diversified development funding portfolio Universities must avoid too great a reliance on governmental support, which is declining Greater efforts are needed to bring strong private sector support and more broadly based arrangements for development cooperation

Multi-party collaboration holds the promise of long-term sustainability