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The Initiative for Namibian Education Technology

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FINAL ADMINISTRATIVE AND PROGRESS REPORT

15 February 2003 through 31 August 2005

THE UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT

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Education Development Center (Prime Grantee)

Implemented by the Academy for Educational Development

A Digital Opportunities for Technology-Education (dot-EDU) Project

GLOSSARY OF TERMS

AED	Academy for Educational Development
AFT	American Federation of Teachers
ALO	Association Liaison Office for University Cooperation in Development
BES	Basic Education Support Project
BETD	Basic Education Teachers Diploma
DCGEF	Discovery Channel Global Education Fund
EAS	Educational Administrative Support
EET	Extended Education Team
EDC	Education Development Centre
EGAT	Economic Growth and Trade
EMIS	Education Management Information System
F2F	Face-to-Face
GDA	Global Development Alliance
GeSCI	Global eSchools and Community Initiative
GSE	(Harvard) Graduate School of Education
HAMU	HIV/AIDS Management Unit (of MBESC and MHETEC)
ICT	Information and Communication Technology
IFESH	International Foundation for Education and Self-Help
IMTE	Integrated Media and Technology Education
iNET	Initiative for Namibian Education Technology
INSET	In Service Educators Training
ISC	Instructional Skills Certificate
IT	Information Technology
LMS	Learning Management System
M&E	Monitoring & Evaluation
ME	Ministry of Education
MBESC	Ministry of Basic Education, Sport, and Culture
MHETEC	Ministry of Higher Education, Training, and Employment Creation
MIB	Ministry of Information and Broadcasting
MOA	Memorandum of Agreement
MOE	Ministry of Education
MOU	Memorandum of Understanding
MRLGH	Ministry of Regional and Local Government and Housing
MTU	Maximum Transmission Rate
NETA	Namibian Education Technology Alliance
NIED	National Institute for Educational Development
NGO	Non-Governmental Organisation
OBS	Oshakati Business School
OPM	Office of the Prime Minister
PAD	Directorate of Planning and Development (within MBESC)
PRESET	Pre-service Educators Training
SEO	Senior Education Officer
TBCM	Teacher Basic Competency Manual
TOR	Terms of Reference
TRC	Teacher Resource Centre
24/7	24 hours per day, 7 days a week
UN	United Nations
UNAM	University of Namibia
USAID	United States Agency for International Development
WPUNJ	William Paterson University of New Jersey

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EXECUTIVE SUMMARY

iNET (dot-EDU/Namibia) was envisioned to support and expand USIAD-funded previous ICTs in education interventions in Namibia. The LearnLink Project supported the National Institute for Educational Development (NIED) to establish computer centres in four Ministry resource centres; develop the Educational Development & Support Network website (www.edsnet.na); acquire skills to develop online professional training materials; foster the development of teams of “technology champions” located in four of the Ministry’s seven education regions¹; and develop policies related to ICT, education, and training. The second activity was a small grant to the Rössing Foundation, a local NGO, to assist the Ministry’s Planning and Development (PAD) Unit with the improvement of their Education Management Information System (EMIS). The grant provided EMIS with new technologies (computer hardware and software) and staff training at both the national and regional levels.

With the support of USAID/Namibia, the offices of Energy and Information Technology (EIT) and Women in Development (WID) in the Economic Growth and Trade bureau, and the technical expertise of partner organizations in dot-EDU and other DOT-COM cooperative agreements, iNET was developed to exploit the cross-sectoral benefits of ICTs in the education sector. Gender sensitivity in professional development and improvement of women’s professional opportunities through dot-EDU were important priorities in this activity.

This 24-month activity (extended at no cost to 30 months) was implemented in Namibia with an Associate Award through the Leader with Associates (LWA) cooperative agreement (no. GDG-A00-01-00011-00) for learning systems (dot-EDU). Bringing digital opportunities to developing nations, dot-EDU is under the Digital Opportunity through Technology and Communication Partnerships (DOT-COM Alliance).

The dot-EDU award was designed to assist countries in strengthening learning systems to improve quality, expand access, and enhance equity through application of digital and broadcasting technologies. Education Development Center, Inc. (EDC) is the dot-EDU prime grantee. USAID/Namibia requested EDC, the prime grantee, as well as the Academy for Educational Development (AED), a sub-grantee, to be involved in the implementation of this Associate Award. EDC and AED worked together to define the specific roles and responsibilities of each dot-EDU partner to ensure effective implementation of this USAID/Namibia activity.

Through the Associate Award with EDC, activities were undertaken to ensure that appropriate technology was introduced in a systematic and sustainable manner and that a threshold of educational leadership in the use and application of technology was cultivated. The iNET activity focused on the following areas: 1) improved professional development for MBESC officials (teachers, principals, advisory teachers, inspectors, and regional and head office staff) through expanded and sustained use of ICT, 2) policy support for the use of ICTs for education, and 3) improved policy and planning of the MBESC through decentralization of the Ministry’s EMIS in all 13 regional education offices.

The iNET project aimed to achieve three overarching results. Each of the activities and results is described below.

¹ These four education regions were Ondangwa East, Ondangwa West, Rundu, and Katima Mulilo. These education regions are now represented by the following regions: Omusati and Oshana (formerly Ondangwa West); Ohangwena and Oshikoto (formerly Ondangwa East); Kavango (formerly Rundu); and Caprivi (formerly Katima Mulilo). All education activities in Namibia are now administered according to the thirteen political regions. (See Figure 1.)

In support of Project Result 1: *Improved standards of professional development for MBESC officials (teachers, advisory teachers, principals, inspectors, regional and head office staff) will be achieved through expanded and sustained use of ICT*); the following activities and achievements were completed:

Teacher Resource Centres

iNET supported 4 target teacher resource centres (TRCs) to develop business plans to enhance and expand TRC services for increased usage and increased income towards sustainability. All four TRCs reported increased usage and two reported increased income. While the other two centres reported that income has remained the same, one of these centres has budgeted Internet connectivity into their operational expenses and the other has begun to implement a business plan to cover connectivity costs. (Internet connectivity remains the largest recurring operational costs for TRCs.)

www.edsnet.na

iNET and NIED worked together to further expand the Namibian educational content available via www.edsnet.na. At the beginning of the project, the site contained almost none of the official Ministry of Education curricula and other educational resources. Today, the website hosts nearly all syllabi, curricula, and teachers' guides as well as sample lessons plans, HIV/AIDS information, mother tongue and English readers, pronunciation sound clips, and a wealth of other important information for teachers. Literally thousands of new pages of information are now available (and growing daily). Additionally, the website is also available in a platform-independent, browser-based CD format. This expands access to the site to all schools, circuit offices, regional offices, and other stakeholders. Due to the hard work of NIED and iNET, the website was nominated for a World Summit on the Information Society (WSIS) award.

Colleges of Education

iNET assisted NIED to install two computer labs at all four Colleges of Education. Each College now utilises a student lab with twenty thin-client, Linux-based workstations and a faculty lab with ten Windows XP-based PCs on a local area network. All labs have full-time Internet connectivity. Based on usage statistics collected by the Colleges, the student labs are utilised at full capacity while the use of the faculty labs varies from College to College. (Some Colleges have a larger number of computers per faculty members and thus these are utilised more frequently by faculty members in their own offices.)

iNET worked with NIED to continue the Harvard online course, WIDE World with NIED staff and College lecturers. In all, over 80 participants completed the course with an overall pass rate over 80%. This online course was supplemented with a number of face-to-face trainings delivered by the project in association with other professional development activities at the Colleges. At the end of the project, nearly 60% of College lecturers who participated with iNET reported integrating ICTs into their lessons and over 80% reported using ICTs to research and/or plans their lessons.

In support of Project Result 2: *Structures and support systems will be developed to facilitate on-going policy discussions on effective uses of ICT for education*; the following activities and achievements were completed:

ICT Policy for Education

iNET coordinated the early efforts in the development of the ICT Policy for Education process. This entailed numerous ICT and Education Steering Committee meetings, work groups, and policy development. After nearly two years, the ICT Policy for Education was finalised and publicly launched by the Prime Minister.

Technical High School Feasibility Study

iNET developed and delivered the Technical High School Feasibility Study to the Ministry of Education. This study has been used to inform the development of the Schools of Excellence proposals in Namibia.

In support of Project Result 3: *Improved MBESC policy and planning through decentralization of the Ministry's Education Management and Information System (EMIS) to all regional education offices as*

well as to all circuit offices within BES-supported regions; the following activities and achievements were completed:

Regional Education Planners

iNET developed professional development support to the Ministry's Regional Education Planners and Inspectors of Education. The training ensured that all planners were able to utilise desktop spreadsheet programs for data collection, analysis, and reporting. Each planner also received a laptop and each regional office was networked to share printing and connectivity throughout the offices. While the results of the networks varied according to each office, the vast majority of regional planners reported utilising the Internet and networked printers regularly.

EMIS Web-Interface

The main goal of the provision of networks, equipment, and training for regional education planners and inspectors was to prepare them for the delivery of the EMIS web-interface. This new service was developed by iNET to provide up-to-date access to EMIS data in the regions. The most current EMIS data is now available in spreadsheet format, pdf, and html. Multiple formats were utilised to allow planners to customise data for regional requirements (spreadsheets), print easily (pdf), and/or download information quickly (html). The data is now available at <http://emis.edsnet.na>.

ADMINISTRATION AND MANAGEMENT

The first section of the report covers the administration and management of the dot-EDU/Namibia activity, iNET (The Initiative for Namibian Education Technology), from project inception on 15 February 2003 through project closeout on 31 August 2005. This section is divided into project management and operations, hiring and staffing, deliverables, and procurement.

Introduction

USAID/Namibia's previous Information and Communication Technology (ICT) support to the Ministry of Basic Education, Sport, and Culture (MBESC)² included two activities. The first activity, implemented via the Global Communications and Learning Systems task order (LearnLink), supported the National Institute for Educational Development (NIED) to establish computer centres in four Ministry resource centres; develop the Educational Development & Support Network website (www.edsnet.na); acquire skills to develop online professional training materials; foster the development of teams of "technology champions" located in four of the Ministry's seven education regions³; and develop policies related to ICT, education, and training.

The second activity was a small grant to the Rössing Foundation, a local NGO to assist the Ministry's Planning and Development (PAD) Unit with the improvement of their Education Management Information System (EMIS). The grant provided EMIS with new technologies (computer hardware and software) and staff training at both the national and regional levels.

At the completion of both activities in March 2002, there had been significant advances throughout the Ministry in using ICTs for more effective and improved education practices and capacity had been established within NIED to develop computer-mediated, self-directed professional development materials for use over the Internet as well as on Internet-independent PCs.

iNET (dot-EDU/Namibia) was envisioned to support and expand these previous interventions to other institutions within the Ministry of Education. With the support of USAID/Namibia, the offices of Energy and Information Technology (EIT) and Women in Development (WID) in the Economic Growth and Trade bureau, and the technical expertise of partner organizations in dot-EDU and other DOT-COM cooperative agreements, iNET was developed to exploit the cross-sectoral benefits of ICTs in the education sector. Gender sensitivity in professional development and improvement of women's professional opportunities through dot-EDU were important priorities in this activity.

² The Ministry of Basic Education, Sport, and Culture and the Ministry of Higher Education, Training, and Employment Creation combined in 2005 to become the Ministry of Education.

³ These four education regions were Ondangwa East, Ondangwa West, Rundu, and Katima Mulilo. These education regions are now represented by the following regions: Omusati and Oshana (formerly Ondangwa West); Ohangwena and Oshikoto (formerly Ondangwa East); Kavango (formerly Rundu); and Caprivi (formerly Katima Mulilo). All education activities in Namibia are now administered according to the thirteen political regions. (See Figure 1.)

Ms. Lineekela Nandjedi, who was appointed iNET Administrative Assistant in August 2004. Ms. Nandjedi resigned from the project in November 2004 to take up an appointment with the Ministry of Information and Broadcasting.

Computer Centre Assistants – Mr. Joseph Kanyetu was appointed iNET Computer Centre Assistant (CCA) at Rundu College of Education in January 2004. Ms. Deolinda Hapulile was appointed iNET CCA at Ongwediva College⁴ in March 2004. Ms. Junita Steyn was appointed CCA at Windhoek College in March 2004. Ms. Astridah Samupwa was appointed CCA at Caprivi College in April 2004. All CCAs completed their contracts with iNET on 30 June 2005.

Washington

The project received support from the following Washington DC-based staff: the EDC dot-EDU Director, Mr. Bill Wright, the AED dot-EDU Deputy Directors Mr. Steve Dorsey and Mr. Jeffrey Goveia; the EDC Senior Programme Manager, Ms. Nadia Karim-Shaw; the AED Senior Programme Manager, Ms. Kelly Morphy; and the AED Senior Operations Manager, Ms. Lesley Schaffer supported the project from Washington DC. In addition, the project received budgetary support from AED Finance Officers Mr. Doug Boudreau, Mr. Douglas Black, Mr. Gedeon Katuala, and Mr. Mateo Cummings.

Consultants

Mr. Christof van Niekerk worked with the project in August – September 2004 to prepare the www.edsn.net website for transfer to CD. Mr. van Niekerk is an independent consultant operating as Sector 09 (www.sector09.com).

Ms. Elsie Klintenberg, the former Administrative Assistant to the LearnLink project, was contracted to support iNET's Administrative Assistant with various administrative tasks in July – August 2004.

The Fourth R and Oshakati Business School (OBS) began working with the project in October 2003 to deliver spreadsheet training for the regional education planners and Circuit Inspectors. The OBS agreement was terminated due to poor service in the target regions and the Fourth R delivered support activities to all 13 regions for this activity through June 2004.

Mr. Frederick Simpungwe of Chizu Business Consultants developed and delivered training for Resource Use Planning to the target TRCs. Mr. Simpungwe conducted an initial three-day workshop in November 2003 with TRC managers and their support staff and provided feedback and support over the following six months.

Ms. Lisle Izak worked with NIED and iNET to update the NIED websites in February 2004 and again in August 2004.

Mr. Dennis Mwangi from Ongwediva TRC Computer Centre was seconded to NIED and assisted iNET with the development and deployment of small local area networks in each of the regions from May – July 2004. Mr. Mwangi was trained under the LearnLink activity and has continued to develop a considerable IT skill set.

Mr. Chien-Li Chung was identified by AED to support the development of the EMIS web-interface. Mr. Chung has a long history of support to the EMIS unit at the Planning and Development Directorate. At the request of the EMIS CEO, Mr. Chung was considered and then selected to support the project with the development of the web-interface.

⁴ “College” is often utilised for “College of Education” throughout this final report.

Deliverables

Reporting Documents

- Draft 2003 iNET Annual Work Plan
- Draft 2003 Annual Work Plan for ICTs in Namibian Schools GDA
- First Quarterly Report (February 2003 – June 2003)
- Second Quarterly Report (February 2003 – June 2003)
- Revised MOU for ICTs in Namibian Schools GDA to USAID Contracts Officer
- iNET 2004 Work Plan
- Third Quarterly Report (October 2003 – December 2003)
- Technology Access at Colleges of Education Report
- End of Year Financial Reports
- Fourth Quarterly Report (January – March 2004)
- 2004 First Quarter Accruals
- Revised ICTs in Namibian Schools GDA MOU
- Fifth Quarterly Report (April – June 2004)
- 2004 Second Quarter Accruals
- Request for No Cost Extension by MBESC to USAID/Namibia
- ICTs in Namibian Schools GDA Work Plan
- Sixth Quarterly Report (April – June 2004)
- 2004 Third Quarter Accruals
- Seventh Quarterly Report (September - December 2004)
- Final SOW for EMIS Web-Interface Development and Deployment
- 2004 Fourth Quarter Accruals
- Eighth Quarterly Report (January – March 2005)
- 2005 First Quarter Accruals
- Project Staff Termination Letters
- dot-EDU Namibia Close-Out Plan
- Final Project Report

Training and Training Materials

- Enrolment of 47 College of Education and NIED Faculty in Harvard's WIDE World Online Course
- TRC Resource Use Planning Workshop and Report
- Educational Administrative Support (ESA) to Planners and Inspectors
- WIDE World Field Visit Report
- TRC Resource Use Plans for all Participating TRCs
- College of Education Field Reports
- EAS Training Reports
- College of Education (College) Final Activities Plan
- College Surveys and Analysis
- College IMTE Course Revision

Policy Documents and Publications

- Terms of Reference for ICT and Education Steering Committee
- Secondary Technical Institute Feasibility Study
- Proposal to Encourage the Use of Free and Open-Source Software at NIED
- *Reform Forum* article, "Why I Don't Want to take a Course about a Pencil"
- Specification for Internet Connectivity to Colleges of Education

- Proposal for NIED In-House Production of Electronic Resources
- Draft ICT Policy for Education
- Final ICT Policy for Education to Ministers of Education
- ICT Policy for Education Launch

Other Deliverables

- Small Pilot Wireless Network Developed at NIED
- EMT Approval of www.edsn.net CD for Development and Distribution
- Request for Proposals (RFP) for Equipment to Colleges of Education
- RFP for Equipment to Regional Education Offices
- RFP for Equipment to Teacher Resource Centres
- Xnet & iNET MOA
- Cabling and Networking of Regional Offices of Education
- Cabling and Networking of Colleges of Education
- Technical Support to all Target TRCs
- EMIS eForm Mock Up for MBESC: PAD-EMIS
- Procurement and Delivery of Equipment to Colleges, TRCs, and REOs
- SOW for Development of EMIS Web-Interface
- Test Version of 2005 www.edsn.net Educational Resources CD
- Development and Piloting of EMIS Web-Interface
- TRC Re-launch Activities
- Development of NIED In-House CD Reproduction Capacity
- Launch and Distribution of 2005 www.edsn.net Educational Resources CD

Procurement

See Appendix 2 for all items procured by project and the location of each item.

PROJECT ACTIVITIES AND ACHIEVEMENTS

iNET is pleased to report that all primary project objectives have been achieved and/or exceeded. This has been verified through an evaluation conducted by an Evaluation Specialist identified and hired by EDC⁵. Although the project, in close cooperation with NIED, head office, and regional partners, has made significant progress over the past two and a half years, some work has not reached a stage where the interventions may be considered consolidated or sustainable. The Ministry of Education must assume and continue support to these activities if the full benefits are to be secured.

Result 1 Activities and Achievements

“Improved standards of professional development for MBESC officials (teachers, advisory teachers, principals, inspectors, regional, and head office staff) will be achieved through expanded and sustained use of ICT.”

Introduction

To address this objective, the project worked with managers and lab assistants from the teacher resource centres at Katima Mulilo, NIED, Ongwediva, and Rundu; teacher education officers and the Media Officer at NIED; and teacher educators, student teachers, and computer centre assistants at the four Colleges of Education. Among other activities, the project delivered business planning workshops for the TRCs; materials development and reproduction support to NIED; and substantial ICT integration workshops and online courses for the Colleges of Education.

The evaluation conducted by Ms. Julie Maurin, the Evaluation Specialist identified by EDC, indicated the following:

Overall, iNET was successful in attaining each of these sub-results (under Result 1). Of notable success were the development and use of the Resource Use Plans for the TRCs, updates to the www.edsnet.na website including HIV/AIDS resources and syllabi, training of computer lab staff, and increased use of computers at the colleges and TRCs.

Below is a detailed account of project activities and achievements for Result 1.

Teacher Resource Centre Activities and Achievements

iNET supported four Teacher Resource Centres (TRCs) to upgrade their services and move closer towards sustainability. These TRCs were part of the LearnLink Project⁶ and are located at Katima Mulilo, Ongwediva, NIED, and Rundu. iNET support entailed initial site visits to establish the types of services, equipment, additional resources, and training which were required to enhance the capacity and sustainability of the target TRCs. These discussions made it clear that the procurement process for the TRCs must reflect the lessons learned during the LearnLink project. This meant that each TRC should develop appropriate, customised proposals, rather than utilising an identical set of interventions for all TRCs. TRCs indicated that they would like to develop Resource Use Plans through an iNET-sponsored

⁵ See Appendix 4 for the iNET Evaluation Report in full.

⁶ The LearnLink Project was the first USAID-funded ICTs in Education project in Namibia and operated from 2000 – 2002. See <http://www.edsnet.na/Edutech/LearnLink.htm> for more information.

training activity to articulate how the requested equipment and resources would effectively support and enhance their centres.

The project, through a local business consultant, delivered the initial workshop for TRC Resource Use Planning. This activity assisted TRCs to expand their client base, increase income, establish which equipment the project should procure, and the ways in which these additional resources can enhance the capacity and increase sustainability progression at each TRC.

All four target TRCs completed their first and second Resource Plan drafts after iNET's initial workshop. The consultant provided in-depth feedback and support throughout the development of the plans. These plans allowed iNET to develop the TRC equipment Request for Proposals (RFP), whereby each TRC articulated their equipment needs in regards to their expected outcomes and improvements. Procurement included some or all of the following equipment for each TRC: office equipment, computers, peripherals, software, and training materials. (See Appendix 2 of this report for full TRC procurement details.) The project also assisted TRCs with installations of new equipment.

To assist the TRCs with implementing their Resource Use Plans, iNET and the TRCs designed and created promotional materials in the form of newsletters, posters, e-mail announcements, etc, as well as media announcements to create awareness of these new services. After discussions with the NIED Resource Centre Manager, iNET suggested that each TRC should hold an "Open House Week" rather than one-day re-launch activities. Katima Mulilo and Rundu TRCs each held well-attended open house activities. The Caprivi Governor and Katima Mulilo Mayor attended the Katima Mulilo TRC re-launch, while the Rundu Headwoman and Rundu Town Councillor lead the Rundu TRC re-opening. (See "Success Stories" at the end of this report.) Both Ongwediva and NIED TRCs re-launched their services without holding official re-openings.

With respect to enhanced capacity and sustainability of the TRC computer centres, iNET met its targets of enhanced and sustainable services through increased computer centre use, client input, and increased income. Development of the Resource Use Plans, a target itself, was particularly successful. The evaluation conducted by Ms. Julie Maurin, the Evaluation Specialist identified by EDC, indicated the following:

Most TRC managers reported the development of Resource Use Plans for the TRCs as highly beneficial. Bringing the managers together at NIED to develop these plans led to three main positive outcomes. First, the development of the plans was often their first exposure to institutional development and various business planning models and processes. The plans allowed the managers to maximize their support to teachers and other clients, and to think carefully about the sustainability of their centres. Second, it created a network among managers to share ideas and problem solve collectively. This is important, as managers do not have regular contact with their counterparts. Third, the plans resulted in increased revenues for some TRCs.

The report also details the increased revenues generated at Rundu and Katima Mulilo. At NIED and Ongwediva, this proved more difficult given the free access provided and extensive utilisation of the centres by non-paying Ministry of Education officials (often during workshops).

The largest recurring cost for the computer centres, and one of the most difficult for TRCs to budget for, is Internet connectivity. From the start, the computer labs at the four target TRCs have utilised SchoolNet/Namibia for their Internet connectivity. The rates offered by SchoolNet/Namibia, have generally been the most competitive connectivity rates in Namibia. At the end of the LearnLink project, the USAID-funded BES 2 project began paying Internet connectivity expenses at Ongwediva, Rundu, and Katima Mulilo TRCs, while NIED established its own connectivity budget. The BES 2 support ended in September 2004.

Recently, the Ongwediva TRC terminated their Internet service agreement with SchoolNet/Namibia and moved to a local ISP (Internet Service Provider). The Ongwediva

TRC also established connectivity funding through operational budgets and agreements with projects operating from the TRC premises. The future of the Ongwediva TRC connectivity funding looks promising. In contrast, the Rundu and Katima Mulilo TRCs' connectivity funding remains unclear. While both organisations have increased centre usage and income, no formal agreements have been entered into with SchoolNet/Namibia or another ISP. The connectivity theme is returned to later in this section under "Obstacles Encountered", "Lessons Learned", and "Recommendations to the Ministry of Education".

As detailed in the evaluation, iNET's support to the Teacher Resource Centres produced the key results of increasing centre usage, increasing centre income at some centres, and enhancing centre management capacity. The value of the computer centres at the TRCs has been shown through the extensive use and support provided to teachers, learners, and community members. It is important for the Ministry of Education to continue to support these centres to continue to provide this much needed educational resource.

www.edsnat.na Activities and Achievements

iNET and NIED worked together to enhance and expand the professional development and educational content available through the Ministry of Education websites. In particular, the project supported NIED to further develop www.edsnat.na and www.nied.edu.na. The www.edsnat.na website was originally developed under the USAID-funded LearnLink Project. As NIED's capacity expanded, the www.nied.edu.na website was also created.

During the LearnLink Project, www.edsnat.na hosted very little content. While NIED's *Online Publication Policy* encourages the publication of educational materials online, in practice, NIED management approval for online publication had not been forthcoming during LearnLink. For example, syllabi and many other official Ministry of Education documents and materials were only available as printed documents. This position remained in place as iNET began in early 2003 and the project initially felt unable to publish content online.

Through on-going discussions between NIED and the project, the Ministry of Education came to embrace the opportunity to make all official documentation available in electronic format. With iNET support, the website now boasts nearly all things NIED. These include broad curriculum documents, syllabus guides, BETD and schools syllabi, subject policies, textbook catalogues, lower primary readers and pronunciation sound clips along with many locally produced lesson plans. Since the inception of iNET, literally thousands of pages of content were added to www.edsnat.na. The significance of this shift should not be underestimated. As reported in the Urn's study on the Global eSchools and Community Initiative, a lack of local content hinders many education technology activities.⁷

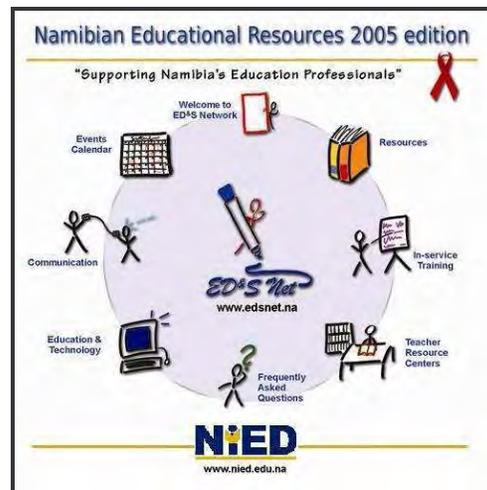


Figure 2: www.edsnat.na website and CD.

⁷ "Capturing the Promise of a Global eSchools and Communities Initiative," McKinsey & Company report to the UN ICT Task Force, 12 September 2003.

With support from the project, NIED has continued to aggressively address this deficit, in both online and offline formats. In order to more effectively make local content available to education stakeholders, iNET developed a CD of the www.edsn.net website. This CD allows all stakeholders to access www.edsn.net content without an Internet connection. Due to the high cost and slow speed of connectivity in Namibia, even those with dial-up and full-time connections will benefit. Also, NIED and the MOE have begun to utilise the CD to supplement the distribution of MOE documents, thus reducing overhead. The MOE Executive Management Team (EMT) officially endorsed the CD at the end of 2003. iNET and NIED launched 2004 and 2005 versions of the CD with the assistance of Minister Angula (in 2004) and Minister Angula, Minister Mutorwa, and US Ambassador Barr (in 2005)⁸. The 2004 CD had a production run of 1000, which was produced by a private company. In 2005, nearly 1000 CDs were also produced in-house by NIED. NIED utilised the CD/DVD duplicator procured by the project for all CD reproduction as well as their existing print reproduction facilities for all packaging.

Importantly, the 2004 www.edsn.net CD was distributed to key ICTs in education partners before the final CD was cut and produced. DireqLearn, SchoolNet Namibia, and various education officers at NIED reviewed the first copies of the CD to test the ease of use on different systems. iNET received very positive feedback regarding the initial attempts to make the website available on CD. DireqLearn's technical specialist said (via e-mail), "It has become such a standard part of my life to have to work around bad design decisions that when I encounter web-design work which does not break anything for us open-source guys, well, it's a like a rare and precious gift." The NIED staff who revised the CD also felt that the existing content was a good start and this process also encouraged them to provide additional content to the site.

Other improvements to the websites included the introduction of a more advanced site use counter, which allows usage of both sites to be evaluated on a page-by-page basis, thus ensuring a better understanding of how the sites are utilised. iNET also identified a pdf converter which allowed NIED to provide more content in html format. The use of html ensures quicker download times for online users.

These expansions and improvements did not go unnoticed. During the last month of the project, the website was nominated for a World Summit on the Information Society (WSIS) eContent award. These awards will be awarded and presented during WSIS 2005 in Tunis, Tunisia.

College of Education Activities and Achievements

Namibia has four Colleges of Education which train pre-service teachers over a period of 3 years. The colleges vary in size and course offerings.⁹ The Ongwediva College is the largest, serving over 900 student teachers. Windhoek College is the second largest, with about 625 student teachers, and Rundu and Caprivi Colleges each serve approximately 300-350 student teachers. iNET worked very closely throughout the project with NIED and the Colleges to install and maintain ICT equipment and train teacher educators to integrate ICTs into their teaching practice as well as to introduce ICT-related requirements for student teachers.

Installation of Computer Centres at the Colleges of Education

The iNET programme description indicated that the project should extend the LearnLink computer lab interventions to the Colleges of Education. The TRCs each received a networked computer lab with full time Internet connectivity which included 6 computers¹⁰, a server, a printer, and various other peripherals. The computer centres at the TRCs supplemented the other services supplied by the TRCs and were thus intended to serve a small number of teachers at a time. The Colleges of Education, by contrast, serve

⁸ See "Success Stories" at the end of this report for more details.

⁹ See <http://www.edsn.net/INSET/colleges/collegesindex.html>.

¹⁰ Ongwediva TRC received 12 computers since this TRC served two regions at the time of LearnLink.

between 300+ and 900+ student teachers and 30 to 60 teacher educators. With populations of this size, computer centres of 6 or 12 computers would have been insufficient. iNET, as the first ICTs in education project to work with all Colleges of Education in Namibia, was intended to start to assist the Colleges to integrate ICTs into research, planning, teaching practice, and student work. Based on project funding, iNET would have been able to provide no more than 10 computers per lab per College. It was clear that these small labs would be totally insufficient to support the College populations and thus iNET began working closely with variety of partners to identify other options for computer installations.

Early on in the project, the iNET team conducted multiple visits to all Colleges as well as to other key stakeholders to discuss requirements and requests in regards to site readiness, lab equipment (hardware/software), faculty training, and computer lab staffing. This process entailed extensive input from the College IT Committees to ensure appropriate interventions and expectations could be developed. Microsoft, SchoolNet/Namibia, NIED, and other stakeholders were approached to discuss possible options which reflected the MHETEC's desire to maximise the total number of workstations at each College. These options included a leased-lab solution that could be provided through a subcontractor, new computers and other equipment, as well as refurbished computers. Of all the discussions, the Microsoft proposal to install approximately 100 computers per College looked the most promising. This proposal was never completed and Microsoft eventually backed away from this idea, moving to a school pilot activity instead.

NIED then decided to develop a Ministry-funded proposal to install a 20-workstation, thin-client lab for student teachers and 10-workstation stand-alone PC lab for teacher educators at each College. iNET, NIED, and USAID/Namibia felt that iNET should work closely with NIED to support this proposal since it constituted a 300% increase for the provision of equipment when compared to iNET funding. iNET and NIED agreed that NIED would procure and install these labs and iNET would coordinate and assist with installations, fund full-time connectivity, network the teacher educator labs, network other areas of the Colleges (as much as possible), and utilise the additional cost savings for additional teacher educator ICT integration support.

The initial tender was developed by NIED (with iNET input), submitted, and approved by EMT and the Tender Board, and then submissions were received from local vendors. Eventually, NIED selected an appropriate proposal and a recommendation was made to the Tender Board. It was at this stage that major delays occurred, holding up a number of College activities for over six months. In bi-weekly meetings with Mr. Ilukena of NIED, the Tender Board indicated that the labs would be approved and rolled-out very soon. This went on for many months. Given the major advantages that the Ministry-funded labs would provide over the possible iNET solutions, the project continued to wait.

In anticipation of the approval of the NIED lab tender, the project worked closely with each College of Education to ensure that networking and connectivity would occur in parallel with the rollout of technology at each College. This included soliciting connectivity quotations from local vendors (64K and 128K leased line options), discussing location and lay out of existing and proposed technology, and developing Statements of Work for Computer Centre Assistants (CCA) with College IT/Media Committee input. The Colleges were encouraged to identify qualified candidates to fill the CCA posts in anticipation of the rollout of computer labs. Towards the end of 2003, the tender was finally awarded to Tsunami Networks.

With the approval of the NIED-lab tender, the project assisted each College of Education with final networking and connectivity preparations. Each College identified local contractors to ensure computer centres had adequate power supplies, appropriate security, furniture, as well as any other essential needs identified by College IT Committees in consultation with management. Shortly thereafter, the project procured and delivered all-in-one printers, digital projectors, and digital cameras to the Colleges to enable teacher educators to more readily integrate ICTs in their teaching and learning activities.

To ensure adequate Internet connectivity, iNET solicited quotations from various service providers in Namibia. Based on these quotations, it appeared that the cost involved was not only prohibitive to iNET, but also to the Colleges, since each College would be expected to take over the connectivity cost when

the project closed. Only one organisation was able to offer affordable connectivity: The Xnet Development Alliance Trust.

Xnet was established in Namibia as a public private partnership to deliver affordable connectivity to education and health institutions in Namibia. It was envisioned that, as the Alliance matured, the cost of Internet connectivity for educational institutions would come down dramatically. To support the development of the Trust, iNET signed a Memorandum of Agreement (MOA) with Xnet to provide connectivity to the Colleges of Education. The MOA concluded at the end of February 2005, the original end date for iNET field activities.

Xnet was intended to start as the SchoolNet/Namibia ISP and eventually become an independent organisation of which SchoolNet/Namibia would remain a partner. At project's end, this has yet to happen. Xnet continues to operate as the de facto SchoolNet/Namibia ISP and there is seldom mention of an independent Xnet. When the iNET/Xnet MOA concluded, the project continued to utilise SchoolNet/Namibia for affordable connectivity to the Colleges through the end of June 2005. At this time, the Colleges were to take over the connectivity expense themselves. While all Colleges understood and agreed to this arrangement, it is unclear as to whether this has yet happened. SchoolNet/Namibia continues to report great difficulty in receiving a firm commitment (and follow through) from the Ministry of Education in regards to College connectivity. (This is detailed in the iNET Evaluation available in Appendix 3.)

Though the project supported Xnet in order to help develop reliable, affordable connectivity in Namibia, great difficulties persist. The iNET evaluation says that:

All Colleges reported challenges working with the current Internet provider, SchoolNet/Namibia. The Windhoek College of Education was the only College of the four that could afford to change service providers. They used the commercial service provider Mweb, which charged three to four times the amount of SchoolNet/Namibia. Poor communication between SchoolNet/Namibia and the Colleges and TRCs resulted in unnecessary periods without connectivity.

In the end, all Colleges received full-time connectivity. Affordability was nearly achieved for all institutions while reliability was highly questionable. Unsurprisingly, these two factors seem to be inversely related in Namibia. Highlighting the importance of connectivity, a teacher educator from the Windhoek College went to Rundu College for a seminar recently and indicated, "The Rundu College connectivity is great. We were online, researching lessons, sharing ideas. It made me realise that we need to improve our connectivity so we can use the ICTs in our work more often." With their recent move to a commercial service provider, Windhoek College now reports greatly improved connectivity.

Reliable, affordable connectivity is essential for the Colleges of Education. As the iNET evaluation highlights:

Internet connectivity was critical for computer usage. At Ongwediva, for example, the lecturers' computer lab, which was not currently connected to the Internet, was seldom used. During the site visit, it was empty, while the student lab (with connectivity) next door was at capacity.

The Evaluator also found the student teacher Computer Centre at Caprivi College fully utilised. This observation corresponds with research conducted by iNET in the student teacher computer centres. We found that the centres were immediately filled to capacity upon installation. During the study, all four centres reported full-capacity usage over a period of 5 weeks. The Evaluation Specialist also indicated that student teachers appropriately utilising the computer centres to research and write their course assignments. It is obvious that even with the difficulties faced by the Colleges regarding rollout, connectivity, and operating systems, the computers are extremely well utilised and highly beneficial. This was especially well noted in the iNET Evaluation through discussions with the teacher educators,

many of whom indicated that student teacher work had improved dramatically through the integration of ICTs at the Colleges.

Computer Centre Assistants (CCAs) at Colleges of Education

The technology introduced at all Colleges of Education was quite new to all institutions. While each College had various numbers of computers prior to project start-up, none had large networked labs, cross-campus LANs, or full-time Internet connectivity. A small LAN with a networked printer was perhaps the largest ICT solution available. Given the advances posed by the introduction of ICTs, the Colleges needed staff to directly support the new equipment. It was not possible for the Colleges to identify and hire highly qualified technicians since this was beyond the means of the College budgets (and remains so). However, it was possible for the project to assist the Colleges to identify out-of-school youth who showed keen interest and aptitude with ICTs. This was accomplished at the TRCs under the LearnLink Project and iNET considered it important to utilise these lessons learned for our support to the Colleges.

After numerous discussions and job description revisions between the Colleges and the project, Caprivi College, Ongwediva College, and Windhoek College all hired young women to run their computer centres and provide IT support across the campuses while Rundu College hired a young man who had been a Rundu TRC Computer Centre volunteer for the previous year. CCAs attended three one- or two-week support trainings throughout the life of the project. The trainings entailed ICT foundation skills training, computer centre management, troubleshooting, networking and web-site development. At one training, each CCA also brought two student teachers to be trained as well. This collaboration allowed each College to develop local capacity for maintenance and support of the computer centres. All Colleges now report utilising student teachers on a voluntary basis to administer the labs. At another workshop, the CCAs worked with the project to develop a policy for the administration of the computer centres. The policy provides clear guidance for each College to address the daily operations, maintenance and support of equipment as well as developing the necessary ICT knowledge and skills.

iNET paid all CCA salaries through June 2005 at the government rate in order to ensure that the Colleges would be able to easily carry the cost involved with these posts. At the end of June 2005, after extensive discussions with College Rectors and the Ministry, the CCA posts were officially taken over by the Ministry at the end of the project, though at a lower rate and on a temporary basis through the end of November 2005. It is still unclear what will happen at the end of this period. The Rectors continually indicated their satisfaction and gratitude for the support provided by the CCAs and eventually worked collectively to submit letters of support and lobby for the approval of these posts through their Permanent Secretary. It is extremely disappointing that the Ministry has yet to appoint the CCAs permanently given the dedication of the CCAs and their importance to the success of the College ICT facilities.

Professional Development Support at the Colleges of Education

Prior to project start-up, faculty training had already begun at all Colleges and at NIED with technical support from WorldTeach. This support initially consisted of Harvard University's online professional development course, WIDE World (Figure 3). The course focuses on technology integration for improving participants' teaching practice. Though this activity was already planned and operational at the time the project began, project staff initially provided ad hoc technical support to the course and to the NIED-based course organiser from WorldTeach. This initial interaction proved very important, since the Ministry was interested in seeing this joint effort between NIED, Harvard, and the Colleges of Education continue. Following NIED's lead, the project continued to identify teacher educators from the four Colleges and education officers from NIED for enrolment in the WIDE World online courses. By project's end, 82 Namibian participants had enrolled in the course. Of these, over 80% successfully completed the course.

Throughout the project, iNET's Education Specialist and NIED's INSET Education Officer supported course participants throughout the twelve weeks of online study with ongoing face-to-face and distance support as well as after the course to assist participants to present unit plans they had developed. Additionally, WIDE World graduates participated in on-line discussions co-lead by Harvard GSE and iNET to discuss implementation strategies.

The project worked with course designers and lecturers at WIDE World to develop follow-on activities for Namibian course graduates in order to assist the Namibian participants to implement course activities. This also included developing a cadre of coaches to assist successive course participants. These graduates provided guidance and support to the Ministry of Education as well as course participants. By the end of the project, three course graduates had successfully coached course participants through online and face-to-face support.



Figure 3: <http://wideworld.pz.harvard.edu/eng/home/index.cfm>

Building from the WIDE World course, the project developed and delivered additional professional development activities for the Colleges to strengthen teacher educators' knowledge and skills through practical, classroom-based activities. Among other topics, ICT integration and web materials development provided a base for many discussions and activities. Workshops, meetings, and individual support took place at each College to ensure all interested teacher educators were able to fully participate. iNET also assisted the Basic Education Support Project: Phase 3 (BES Phase 3) to facilitate the following workshops and seminars: "Maths for teachers, regional advisors, and teacher educators"; "ICT Integration for Maths & Science"; and "Integrating ICTs for teacher educators". Each of these workshops provided complementary knowledge and skills for the teacher educators to further improve and expand their use of ICTs with student teachers.

Throughout these workshops, the teacher educators requested support to utilise ICTs to deliver their courses in an online format. This was well beyond the scope of iNET, though the project came up with a practical, robust solution to support this request. www.edsn.net can now host teacher educators' course materials. Every course at all four Colleges now has pages for posting course details, assignments, assessments, lecture notes, and resources, thus greatly improving teacher educators' ability to disseminate course materials to their students as well as to share information with one another. With NIED hosting the materials and providing uploads and updates, the teacher educators can focus on their core functions of course development, preparation, and delivery. This is a practical method for teacher educators to begin the process of developing BETD course materials for online delivery.

Teacher educators and student teachers were further supported through a partnership with William Paterson University of New Jersey. iNET was instrumental in the preliminary discussions between William Paterson University of New Jersey (WPUNJ) and NIED in preparation for delivering online professional development activities. The "Technology Across the Curriculum" course was revised to enable iNET, NIED, and WPUNJ to offer the course through WPUNJ's Blackboard learning management system with one lead-lecturer at WPUNJ and three co-lecturers at NIED. Four student teachers (one from each College in Namibia) took the course "alongside" WPUNJ student teachers. WIDE World graduates at each College acted as mentors to support Namibian students. (This support component was met with mixed success.) A face-to-face workshop was held with student teachers, mentors, and NIED online co-lecturers at NIED. The workshop introduced student teachers to the online medium in order to prepare them for the course. The MHETEC provided technical expertise to student teachers through Dr. Ella Black, an IFESH volunteer. All four students successfully completed the online course and Dr. Hillary Wilder from WPUNJ presented the paper, "Towards the Development of an Intercultural Technology Education for Pre-service Teachers' at the Society for Information Technology and Teacher Education

(SITE) International Conference.¹¹ The paper, co-written by Dr. Wilder and iNET COP Todd Malone, discusses the successes and difficulties faced by this pilot initiative.¹²

Additional support to the Colleges included BETD curriculum revision assistance to NIED. It has become quite clear that student teachers enrolled in the BETD programme require ICT foundation skills and ICT integration knowledge and experience. Thus, the BETD curriculum must reflect these dual needs. iNET and NIED worked closely with teacher educators to review and revise the IMTE (Integrated Media and Technology Education) course. The IMTE is a recently adopted core course required for graduation from the BETD pre-service programme. Based on the project's experiences with online learning, ICT integration, and computer centre maintenance and support activities, iNET provided valuable input to the restructuring of this course.

Finally, to encourage student teachers and teacher educators to integrate ICTs into their lessons, iNET supported and actively promoted the recent Lesson Plan competition.¹³ The competition was held in conjunction with Microsoft, IFESH, and NETA (Namibian Education Technology Alliance) to encourage teachers, teacher educators, and student teachers to produce lesson plans showing creative use of ICTs in the classroom. Prizes included refurbished computers and software which went directly to the participant, rather than the institution, thus increasing motivation to participate. iNET coordinated the inclusion of the competition on the www.edsnet.na website, produced posters for the Colleges of Education, and met with student teacher representatives and teacher educators to promote the competition. iNET also streamlined criteria for the competition and assisted with judging the entries. In the final results, lecturers from Ongwediva College, Rundu College, and Windhoek College won prizes and student teachers from Caprivi College won prizes as well. (See "Success Stories" at the end of this report for details). The collaboration between iNET, NETA, IFESH, and Microsoft to support NIED will hopefully ensure NIED's ability to run the competition in future years.

During the final stages of the project, the project evaluated the frequency with which teacher educators use ICTs with student teachers in the classroom as well as for preparations and research. (The full evaluation instrument is available in Appendix 3.) The questionnaire was piloted at Ongwediva College, where 23 lecturers were interviewed. The tool was then refined and interviews were administered at Windhoek, Rundu, and Caprivi Colleges of Education to collect the data. 41 teacher educators who worked with the project (out of 49 in all)¹⁴ were asked to report on their ICT activities. In addition, 16 other lecturers were also asked to complete the survey. A total of 57 lecturers were interviewed in the 4 Colleges of Education.

The project found that those teacher educator who had participated in project activities, showed a significantly higher frequency (54%) of using ICTs with student teachers when compared with those teacher educators who had not worked with the project (19%)¹⁵. Additionally, over 80% of all teacher educators reported using ICT facilities for preparations and/or research purposes. These results highlight

¹¹ See <http://site.aace.org/conf/>.

¹² See <http://www.edsnet.na/Edutech/iNETDocuments.htm> for full-text of paper.

¹³ See http://www.edsnet.na/Edutech/lpcompetition/lpcomp_index.htm.

¹⁴ A number of teacher educators have since moved onto other positions outside of the Colleges and were thus not included in the survey.

¹⁵ As noted above, many participating teacher educators are no longer with the Colleges. Many of these have received promotions, some of which have gone on to head ICTs in education projects and/or lead online development programmes and courses. We feel that, if these lecturers were to be taken into account, the difference between participating and non-participating teacher educators would become even more pronounced.

the dramatic impact of iNET's professional development support to the teacher educators at the four Colleges of Education.

Obstacles Encountered

While the project was quite successful in achieving the results detailed in the programme description and annual work plans, iNET encountered two key constraints to the implementation of project activities: administrative delays and access to technology. While these constraints are discussed throughout the narrative above, they are compiled here to highlight their importance to ICTs in education activities.

Ministry Hiring Procedures

Much of iNET's work involved capacity building within the Ministry of Education and NIED in particular. The project design included a major capacity building component through skills transfer to an Education Technology Education Officer at NIED. This post remained vacant throughout the project. In the early stages of the project, the PRESET education officer, INSET education officer, and IT training specialist positions at NIED were also vacant. Eventually, both the PRESET and INSET posts were filled though the IT post has remained vacant throughout the life of the project. Based on the lessons learned through the LearnLink project, it was imperative that iNET assist, rather than lead, the development of online content. While the project is aware of the difficulties faced by the Ministry of Education in filling many positions, when capacity building activities are underway, the Ministry should have a mechanism in place to streamline the related positions. This will ensure that the Ministry receives the full benefits of short-term activities.

Unreliable, Unaffordable Connectivity

Reliable, affordable connectivity remains elusive. Intermittent and/or slow connectivity caused considerable delays for the Colleges as they attempted to integrate ICTs into their lessons. As one educator noted, "Even in the best of times, you have an extremely limited amount of time with your class. Any delays and everything gets stuck." Slow connectivity is still a major cause for complaint by the teacher educators and student teachers. As noted earlier in the report (from the iNET Evaluation):

Internet connectivity was critical for computer usage. At Ongwediva, for example, the lecturers' computer lab, which was not currently connected to the Internet, was seldom used. During the site visit, it was empty, while the student lab next door was at capacity.

As was noted earlier, reliability tends to fall as affordability increases and as reliability falls, so do many ICT integration activities.

College of Education Lab Roll-out and Connectivity Delays

NIED's proposal to install 20-workstation, thin client labs for students and 10 PC labs for faculty was continually delayed by the Tender Board for over six months. Though the initial tender was approved, submissions were received, and a recommendation was made to the Tender Board, the final approval and release of funds remained held up for a considerable amount of time. Eventually, the contract for the NIED-sponsored labs to the Colleges of Education was approved and awarded by the GRN Tender Board. Tsunami Networks, a Namibian Black Empowerment Company, received the award of the tender, allowing iNET to more completely lead integration of technology activities at the Colleges of Education.

Of the four Colleges of Education, only Windhoek received full-time Internet connectivity through Xnet within 30 days of the project's request. While, iNET requested that all Colleges should be connected by the beginning of the second school term (early June), this timeline did not materialise. The delays in connectivity stalled the momentum for the WIDE online professional development courses as well as other planned activities. Eventually, Xnet connected all Colleges towards the end of the second term.¹⁶

¹⁶ In consideration of the discussion earlier in the report regarding the relationship between Xnet and SchoolNet/Namibia, it is important to note that these delays were primarily the result of Telecom Namibia.

Insufficient Access to Technology

The ICT Policy for Education states that all students should have reasonable access to a computer (better than 1 computer per 5 students/learners), and all staff should have access to a computer (1 computer per member of staff). The current access ratios at each College of Education are as follows:

Caprivi College:	1.8 lecturers for each computer 16 students for each computer
Ongwediva College:	3.9 lecturers for each computer 45 students for each computer
Rundu College:	1.2 lecturers for each computer 15 students for each computer
Windhoek College:	1.6 lecturers for each computer 15 students for each computer

It will take 86 computers to create a 1 to 1 computer to lecturer ratio and 339 computers to create a 1 to 5 ratio of computers to students. In all, just over 400 additional computers are required for all Colleges of Education to achieve recommended use ratios.

Nearly 90% teacher educators surveyed reported that lack of facilities prevented frequent use of ICT as a teaching tool. This is quite valid given that access rates for students are very poor (1 computer for every 15 students or more). Sufficient access promotes use. Many teacher educators have regular access to a computer and it is no surprise that over 80 % of teacher educators report using ICT for research, preparation, and planning.

Based on original project budgets and plans, the project was expected to provide no more than 10 computers per College with dial-up connectivity. This solution would have been wholly inappropriate for the Colleges (and rather absurd in the eyes of our partners) and made the project's achievements nearly impossible. The project was able to resolve these issues through creative collaborations with other stakeholders and thus able to deliver the full range of activities necessary at the Colleges.

Lessons Learned

iNET utilised the Ministry's ICTs in education framework which focuses on five key areas. These include: (1) Investigation and Development of Appropriate ICT Infrastructure; (2) Delivery of Infrastructure; (3) Maintenance and Support of Infrastructure; (4) ICT Foundation Skills; and (5) ICT Integration.¹⁷ This framework provides overall guidance for thinking about ICTs in education and includes (but fails to highlight) the psychosocial considerations necessary for working with people.

The project learned many lessons in relation to how the Ministry's education activities may be supported by ICTs. The key lessons learned by iNET are organised according to development, delivery, and maintenance of infrastructure and ICT integration. These lessons are provided here to inform the current, planned, and future ICTs in education activities in Namibia. While many readers may consider these obvious, our work has shown us that this is not always the case.

Participation Throughout the Procurement Process

The procurement process utilised by the project closely resembles aspects of the Government of the Republic of Namibia's (GRN) vision for decentralisation. Through the LearnLink project experiences, the project knew that project partners must be involved from the beginning of the procurement process in order to establish a sense of partnership and, in turn, ownership. iNET met with each target TRC to

¹⁷ See Foreword to the Namibian Ministry of Education ICT Policy for Education, 2005.

discuss procurement of resources towards improving and strengthening business-related services at the TRCs. During these initial discussions it emerged that, in order for TRC staff to clearly understand the ways in which additional resources can strengthen and improve business-related services, TRC staff need assistance in developing business plans and devising strategies towards these goals. Though the iNET project plan called for this assistance eventually, the initial discussions made it apparent that TRC staff should have this training *before* the procurement of resources. This provided TRCs with greater insight into their resource requirements towards their business plans and strategies. The procurement process thus proceeded only after the TRCs completed the business plan training.

Additionally, a similar process was utilised for the Colleges of Education. The project met with the College Rectors and IT committees to discuss infrastructure and personnel preparations as well as connectivity and networking options. These discussions led to the identification of local contractors by the Colleges with iNET technical oversight. This meant that, though the process was much “messier” than if iNET had identified one sub-contractor for all Colleges (likely based in Windhoek), instead each College was involved from the beginning with local contractors and able to understand the processes quite intimately. This built local capacity as well as relationships which we feel will continue after the completion of the project.

Online and Offline eContent

In the initial stages of the project, the Ministry of Education was extremely hesitant to make information available online. This was in spite of a number of internal policies as well as the development of an eGovernment strategy by the Office of the Prime Minister which, among other things, was intended to make government information available to the people. After a change in leadership at NIED, the directorate began to take up this challenge in earnest. Information was made available in online and then offline format, thus enabling anyone with access to a computer with a CD drive to have access to most all of NIED’s official school and college information. This included curricula, syllabi, readers, textbook catalogues, HIV/AIDS training materials, and a wealth of other resources. This decision to make information freely available was a major contributing factor to iNET’s success in making literally thousands of new pages of educational materials available online in a relatively short period of time.

Integration and Foundation Skills and Integration and Foundation Skills and Integration...

The integration of ICTs in education requires that educators know the foundation skills of word processing, spreadsheets, Internet, email, and operating systems. Based on lessons learned through the LearnLink project (as well as other ICT activities in Namibia), iNET was quite hesitant to start with a full complement of training in foundation skills. In the past, this approach had generally led to a distinct gap between knowing these skills and being able to use these skills to increase productivity.

Instead, we started thinking about the ways in which we could work with our partners to understand how to best utilise the power of ICTs for their work. This then led to the development of activities where ICTs complemented and enhanced existing processes such as lesson planning, record keeping, etc. We then helped our colleagues develop the skills they needed to accomplish these tasks, as well as to consider how to take them a step further. An iterative process developed whereby educators attempted to integrate ICTs into their work and thus identified the foundation skills needed to do so. As they developed these skills, they then took the integration process further, thus requiring new foundation skills and so on. This was in direct contrast to patterns we had seen (as well as utilised ourselves) where participants were only introduced to the concept of integrating ICTs into their work after they had been certified in the foundation skills. We have found that both ICT integration and ICT foundation skills are equally important should be presented in unison from the beginning of any intervention.

Access to Affordable, Reliable ICTs

Throughout the project, iNET partnered with organisations which were developing innovative, affordable ICT solutions for the Namibian education system. These organisations included SchoolNet/Namibia, Xnet, Microsoft, Oshana Connect, IFESH, Peace Corps, and World Teach, among others. All groups developed training programmes, while only the first three addressed technology development and installations.

In particular, both SchoolNet/Namibia and Microsoft have faced many exceptionally difficult obstacles time and again during technology installations. While both organisations have received numerous complaints about the reliability of their systems, it is important to note here that no other organisations have done more in Namibia to test, pilot, and roll-out appropriate, affordable educational ICT solutions.

This lesson learned by the sector through both of these organisations' experiences is that systems will fail and thus we all must be prepared. For clients (i.e. schools, colleges, etc.), budgets must be allocated for system support. For providers, client-relations strategies must be in place for negotiating the imminent complaints in a diplomatic matter. The failure of ICT solutions impacts classroom use, professional development, lesson preparation, as well as inter- and intra-institutional communication. This means that everyone will be affected and serves to highlight the importance of budgetary and management solutions to prepare and respond to these failures in a constructive, progressive manner.

Recommendations to the Ministry of Education

Given the project's target results, activities and achievements, obstacles encountered, and lessons learned, iNET is in a strong position to provide a set of key recommendations for current and future ICTs in education activities. These recommendations are intended to provide the Ministry of Education, as our primary partner, with specific input into the way forward for continuing ICTs in education activities. The recommendations presented below are a combination of the recommendations found in the iNET Evaluation (Appendix 4) and those of the project staff.

Gender and ICTs

The iNET Evaluation highlights the important gains made by iNET in regards to gender and ICTs. The evaluation indicates that the Ministry should "Continue to promote gender equity by maintaining gender balance among ICT staff at Colleges and TRCs."

Automated, Anonymous Computer Use Monitoring

iNET hoped to automatically monitor computer use at the target TRCs and Colleges to clearly understand how the technology is utilised. This proved difficult throughout the life of the project. While Internet traffic can be monitored automatically, individual computer use has proven more elusive. Various software packages have been tested at the NIED Resource Centre but were continually found wanting in their efficacy. Many of the solutions tested required a high level of technical support and the project feared that these systems would present administrative difficulties and thus hinder computer use. In the end, the centres continued to rely upon paper and pencil systems to monitor centre use.

Throughout the discussions with various organisations, there was great fear over the invasion users' privacy through computer use monitoring. iNET continually argued against this by developing options for anonymous user log-ins which allowed disaggregating of data by gender, grade level, teacher/student/learner, etc. By identifying a robust application to record centre usage through anonymous log-ins, the Ministry will be better able to exploit the resources available. Tracking application use by populations segment (i.e. teacher, student, learners, education officers, etc.), disaggregated for gender and grade, will allow the Ministry to know what the centres are utilised for and then expand and improve their services accordingly.

Identify, Develop, and Support Reliable, Affordable Connectivity

Throughout this report and the iNET Evaluation, connectivity costs and reliability are discussed again and again. The Ministry of Education should leverage their importance within the GRN structure (i.e. as the engine for Vision 2030 and as the largest employer in the country), to insist that reliable, affordable Internet connectivity must be made available to all educational institutions. Currently, prices for full-time connectivity remain beyond the reach of most Colleges and TRCs, let alone schools. While SchoolNet/Namibia should be commended for their efforts to bring down the cost of connectivity in Namibia, the Ministry of Education should take the lead in establishing reliable, affordable educational connectivity. Since the Ministry continues to utilise the TRC and College computer centres for various

workshops and meetings, financial support consistent with the amount of use should also be provided by the Ministry.

Online and Offline eContent

The Ministry of Education, and NIED in particular, should continue to make educational support materials available online through www.edsnet.na and offline through the CD version of the website. As shown in the iNET Evaluation, the CDs have proven especially popular throughout the country and more effort should be made to ensure timely, widespread distribution of updated CDs.

Clear Service Agreements

All educational institutions need to enter into contracts with service providers in which both parties clearly understand and agree to the terms of the agreement. The iNET Evaluation highlights that:

As mentioned in the findings and conclusions, the current status of Internet connectivity is tenuous at the Caprivi, Ongwediva, and Rundu College of Education and at all TRCs (with the possible exception of NIED). According to the service provider SchoolNet/Namibia, the Ministry has not provided payment for connectivity since iNET stopped paying at the end of June 2005. The Colleges and TRCs are under the impression that either the Ministry is paying, or they do not, in fact, know who is paying. This, coupled with historically difficult relations between SchoolNet/Namibia and Colleges and TRCs, does not give reason for optimism. Currently, the commercial providers are too expensive.

As SchoolNet/Namibia has highlighted time and again, the Ministry must take the lead in establishing and following through on service agreements. While iNET has facilitated numerous meetings in the past, room for improvement exists in regards to follow-through from Ministry and other partners.

Online Professional Development Commitment

iNET supported nearly 100 online course participants over the life of the project. At times, this support proved quite difficult. Many teacher educators successfully completed their coursework with little support; others required on-going (sometimes daily) interactions with iNET staff to keep up to date with their work. At times, connectivity went down for days or weeks on end, requiring teacher educators to move to other venues off-campus. At times, all systems worked but some participants failed to work on their course activities. During the online course for student teachers, the student teachers were quite diligent with their work but their College-based mentors were less supportive than expected. Through these experiences, the project found that various incentives and understandings should be agreed upon from the outset. Two options are presented below.

A reimbursement system could be introduced whereby teacher educators pay up front for courses and are then reimbursed only if they successfully complete the course. This would require the identification of Ministry of Education recognised courses for teachers to upgrade their skills. Alternatively, teacher educators can pay up front for courses and then receive a selection of resources upon successful completion of the course. These resources may include new or refurbished computers, software, connectivity discounts, etc.

Also, detailed memorandums of understanding should be developed to ensure course support whereby college management agrees to take responsibility to keep systems up and running or provide participants with alternative arrangements if the college system goes off-line. These MOUs should also detail the requirements of course mentors to support their colleagues and/or student teachers.

It is simply not enough to sign participants up for courses (especially online ones) with no provision to ensure their commitment and ability to participate throughout the full length of the course.

Access, Access, Access

Access ratios, as stated in the ICT Policy for Education, must be achieved if the Ministry of Education is to achieve the goals set out in Vision 2030 for Namibia to become an information-based society. Without

access to appropriate, reliable facilities, training and integration will be impossible. Sustainable funding is required to inject and maintain necessary ICTs. This should include provision for able staff in each region to maintain a large capital investment of this nature.

And to ensure these facilities continue to work reliably, the iNET Evaluation indicates that the Ministry should:

Hire “in-house” technicians. The cost of computer and server repair is significant, particularly in Caprivi, where the College or TRC need to cover not only the labour, but also associated travel costs such as flights and accommodation. Most managers, who are familiar with the budget and cost of repairs, feel in-house staff would be cost-effective in the long run.

This may also include the continuation of national trainings for the lab assistants and managers to bring those involved in ICTs in education in Namibia together to develop a collegial environment in which they can use each other as resources.

Support to Educators

A coordinated, sustainable approach to training should be implemented which allows student teachers and teacher educators to develop ICT foundation and integration skills. Currently, much of the support occurs in an ad hoc manner through projects such as iNET. This will prove insufficient in the long term to support the required development levels stated in the Policy.

As the iNET Evaluation highlights:

To advance ICTs in education in Namibia, the area of greatest need is teacher training. This was expressed across the board - from NIED officials to teachers themselves. While the Harvard online course did provide some training, additional training is particularly needed and perhaps best rewarded at the Colleges of Education where the lecturers can pass on their training to the newest cadre of Namibian educators.

Result 2 Activities and Achievements

“Structures and support systems will be developed to facilitate ongoing policy discussions on effective uses of ICT for education.”

Introduction

To address this objective, the project worked closely with a number of Namibian and international partners to provide advice for the uses of ICTs for education. iNET played a critical role in mediating sector partnerships as well as guiding the policy development process through support and facilitation of the ICT and Education Steering Committee.

Policy Support Activities and Achievements

iNET actively engaged with all key stakeholders across the ICTs in education sector. The project, through diplomacy and negotiation, was able to work with all players, culminating in the finalisation of a well-debated, well-respected ICT Policy for Education.

From the beginning of the project, iNET attempted to link with partners across the sector. This included participation on a number of boards and committees, such as the Namibian ICT coalition, Namibian Education Technology Alliance (NETA), NIED IT Committee, SchoolNet Board of Governors, and the ICT and Education Steering Committee and Working Groups. This ensured that the project actively participated within each group to provide comments and suggestions towards increasing access to and the creative and effective use of ICTs within the education sector.

ICT Policy for Education

The project worked closely with NIED to draft Terms of Reference for an ICT and Education Steering Committee. The committee was initially envisioned as a mechanism to help guide USAID-funded ICTs in education projects. During the first meeting of the committee, it was unanimously decided that the committee should serve the entire sector. The TOR were then revised and accepted. Shortly thereafter, the MHETEC developed an ICTs in education strategy document based on interest from the UN ICT Task Force’s work in a number of countries. The ICT and Education Steering Committee soon took up this strategy and the process of forging this document into the ICT Policy for Education began in earnest.

iNET facilitated these meetings with the MHETEC and MBESC over the course of the second year of the project and slowly a draft and then final version of the ICT for Education Policy was born. iNET provided in-depth input along with other ICT in Education stakeholders and the final policy articulates the comprehensive goals of the education sector in utilising ICT. After much revision and a public presentation, Minister Angula of MHETEC and Minister Mutorwa of MBESC approved the ICT Policy for Education. In one of President Nujoma’s cabinet’s last acts, the policy was endorsed and then later officially launched. It is no understatement to say that iNET closely facilitated, participated, debated, and assisted the Steering Committee throughout the entire policy development process.

Organisational Development at NIED

iNET also supported NIED in a number of ways in relation to effective use of ICTs in education. These take the form of improving IT services and infrastructure at NIED and staff training. After many years of irregular network and overall IT service, iNET assisted NIED to develop a formal agreement with NIED’s service provider to improve the provision of IT infrastructure throughout the NIED directorate. This resulted in more responsibility for the NIED Media Officer, a clearer understanding between NIED and AST, regular monthly meetings between the two organisations, and a more amicable working relationship. Other support to NIED included inputs to the following documents: the State of the Union education submission; the ICT curriculum development Terms of Reference; a motivation for the selection of PCs for NIED; and the ICT Policy for the Public Sector from the Office of the Prime Minister, among others.

Quite importantly, the project assisted with NIED's willingness to provide local content on-line. This has meant that much of the information previously available only in hardcopy, is now available to educators throughout the country via the Internet as well as on CD. In a joint presentation by iNET and NIED to the EMT, the Ministry enthusiastically endorsed this new approach.

Technical High School Feasibility Study

A consultant team was hired to conduct feasibility study for the creation of a pilot technical high school in Namibia. The consultant team spent 30 days conducting the feasibility study (3 weeks in-country and 2 weeks in US preparing report). The consultants gathered relevant information pertaining to: existing vocational education programmes in Namibia; industry research, training, and curriculum; performed cost analyses; and held extensive interviews and meetings with professionals in relevant sectors as well as with other key stakeholders. Research findings were presented to key USAID personnel and iNET staff in Namibia and the final report was eventually distributed to potential project stakeholders. iNET assisted the consultants with logistical support, in-country contacts, and extensive editing and detailed comments to the final report. The project also assisted NIED in developing an electronic presentation to explain the results of the study. The Under Secretary of Education received positive feedback from the EMT during the presentation of the report. The study was submitted to USAID/Namibia for wider distribution.

Publications and Presentations

A number of ICTs in education documents and research papers have been published and/or presented throughout the lifetime of the project. The policy proposal "*Encourage the Use of Free and Open-Source Software at NIED*" was completed at the request of NIED and the MBESC to serve as a potential model policy for the remainder of the Ministry and its offices. It was to be used to develop a framework and model to help Ministry offices to transition from the use of proprietary software to the use of more free and open-source software.

The iNET Chief of Party, Jeffrey Goveia, co-authored the article "*Why I Don't Want To Take a Course about a Pencil*" for the NIED Publication the Reform Forum. This piece was written to inform policymakers developing ICT and Education policy. It particularly emphasises the need see technology as a tool that helps meet higher purpose ends along with asking policymakers to avoid the "expert" trap as well as the "certification trap".

The iNET Chief of Party presented iNET's activities to representatives from all four Colleges of Education, the Director of Higher Education in the MHETEC, NIED, BES, and 15 recently arrived IFESH volunteers, resulting in a number of IFESH volunteers working closely with the project to develop and deliver materials and trainings throughout the country.

Dr. Hillary Wilder of WPUNJ and Mr. Todd Malone of iNET co-authored "Towards the Development of an Intercultural Technology Education for Pre-service Teachers" for submission to Society for Information Technology and Teacher Education (SITE) International Conference (<http://site.ace.org/conf/>). The paper presents a case study of the development of the "Technology Across the Curriculum" course with Namibian educator input. Dr. Wilder presented the paper, "Towards the Development of an Intercultural Technology Education for Pre-service Teachers" at the Society for Information Technology and Teacher Education (SITE) International Conference (<http://site.ace.org/conf/>). (See <http://www.edsnet.na/Edutech/iNETDocuments.htm> for full-text of paper.)

Obstacles Encountered

Limited Time to Document Project Activities, Achievements, and Lessons Learned

iNET completed a number of important activities and achievements which can serve to inform the sector in Namibia and other similar interventions elsewhere. The time available to produce lesson learned

documents, research articles, and other papers was always in short supply. The staff members worked hard to deliver all project results, while these important experiences were left undocumented (except for in the regular project reports). To ensure the key iNET activities and lessons are properly documented, AED, through dot-EDU, will share these key lessons through different publications after project close-out.

Lessons Learned

Explicit Development Levels Provide Clear Guidance

A World Bank study in 1990 found that unclear and unrealistic policy accounted for almost 30% of implementation difficulties in Africa.¹⁸ The three policy message criterion identified are substance, means specified for implementation, and how these substance and means are transferred. In other words, what you're going to do, how you're going to do it, and how you implement this "what" and "how" through everyone else. The paper indicates that:

Implementation is most likely if a policy is straightforward and if its goals and mechanisms are expressed precisely and explicitly. Complexity works against clarity and openness, and incoherence or vagueness can leave administrators without needed guidance and provide openings for those bent on obstruction. (p. 29)

The Namibian ICT Policy for Education provides explicit development levels and guidelines for all stakeholders to ensure that the development goals are clear to all stakeholders. The participation of a wide range of participants throughout the development of the policy also ensures that the goals are ambitious, yet realistic and achievable.

Diplomacy and Transparency

The successful development of the ICT Policy for Education can largely be attributed to the lengthy, inclusive, and transparent nature of the process. A wide range of stakeholders were invited to participate in all discussions and debates. This led to an, at times, slow and laborious process but ultimately resulted in a well-thought out, widely supported policy.

Recommendations to the Ministry of Education

ICT and Education Steering Committee

The iNET Evaluation indicates that the Ministry should:

Ensure smooth transition of coordination of the Steering Committee from iNET to GeSCI. As expressed by steering committee members, they all have fulltime jobs and cannot assume responsibility for the coordination. They need an outside body to assist. Three of the committee members interviewed have worked with GeSCI over the last several months and report supportive and promising exchanges.

Maintain current mix of stakeholders on the committee. As stated above, the committee is a diverse group, pulling across public and private agencies as well as donor and other groups, which is critical to its success and should be maintained.

Finalisation of Implementation Plan

At time of writing this final report, the Ministry of Education, with support from GeSCI is engaged with the development a comprehensive implementation plan for the ICT Policy for Education. This plan will allow the Ministry and other sector stakeholders to understand their roles and responsibilities in more detail for the coming years. It is important this process reflects the lessons learned through the policy development process. Simply put, the process is as important as the product. In many respects, the

¹⁸ Craig, J. (1990) Comparative African experiences in implementing educational policies. Washington DC: World Bank Discussion Papers no 83.

process is a large part of the product. While this may seem a cliché, it cannot be overstated. Participation and transparency go a long way to building ownership and commitment.

As the evaluation highlights:

With regard to the ICT Policy for Education, the Ministry needs to demonstrate its commitment through action, and to raise awareness on the purpose of this document. As noted earlier, education officials who were not involved in the development of the document, namely those in the northern regions of Namibia, express some scepticism over its lofty goals. There needs to be a Ministry statement about the intent and purpose of this document. It needs to be made clear to all Namibian educators and administrators that this is a guiding document, and a framework to be used as the country tries to embrace ICTs in education. Without this sort of awareness raising, frustration could mount at the regional and local-level around what may appear to be limited action on the part of the Ministry.

The finalisation of the implementation plan can provide a platform to begin to more widely publicise the ICT Policy for Education and the Ministry's ICTs in education current and planned activities.

Documenting the Namibian ICTs in Education Experience

iNET has produced various documents, papers, and reports regarding the ICTs in education sector in Namibia and the Academy for Educational Development will continue to do so after the end of the project. But from a quick scan of the international research available on ICTs in education in developing countries, it is apparent that the Namibian experience needs more coverage. The Ministry of Education, with support from other sector partners, should begin to document the different aspects of the sector and share these with the international community. This can include the work on teacher training, connectivity, hardware and software roll-out, total cost of ownership, computers in schools, wireless networks, wireless connectivity, and the list goes on and on. These can take the form of discussion papers, research, reports, etc. These publications do not need to be written by the actual implementers. Other partners, with adequate desk research and interviews, can ably produce this information to inform the international sector. The important point here is to contribute to the small base of knowledge available. If Namibia plans to be a producer of knowledge, as indicated in Vision 2030, this is one way to start the process.

Result 3 Activities and Achievements

“Improved MBESC policy and planning through decentralization of the Ministry’s Education Management Information System (EMIS) to all regional education offices as well as to all circuit offices within BES-supported regions.”

Introduction

As the Ministry of Education continues to decentralise educational services to better serve all populations, the Educational Management Information System will come to play a larger role in enabling regions to access, manipulate, and utilise vital educational information. iNET was expected to assist the Ministry to make EMIS data available online as well as to deploy ICTs in all regions for access to this online data. This also included a number of training programmes with planners and inspectors of education. While the project faced major delays towards this activity (generally in regards to vacancies at head office), the EMIS web-interface, regional local area networks, and training programmes were rolled out in due course to support all regional education planners and inspectors of education throughout the country. These activities are detailed below.

EMIS Activities and Achievements

From the very beginning of the project, EMIS faced great difficulty due to staff turnover in key positions at the Directorate of Planning and Development (PAD). The iNET programme description for this result was written up in close consultation with the EMIS Chief Education Officer (CEO) and Senior Education Officer (SEO). Shortly, before the project began, both of these officers resigned. Before these posts could be filled, the Director of PAD retired. This left the project with literally no one to work with regarding the development of the web-interface. Eventually, the CEO and Director positions were filled nearly one year into the project’s contract period, while the Senior Education Officer post remains vacant at project closeout.

Regional Networks and Connectivity

During the period of these vacancies, the project began to hold meetings, follow-up discussions, and site visits to all regions to establish the appropriate solutions for regional education offices and regional education planners¹⁹. These meetings highlighted the extremely different requirements for networking and connecting each regional office of education. While all regional education planners had a computer on their desk, knowledge, skills, and infrastructure varied extensively. Some offices had old, unused network cables hanging from their ceilings of which no one knew the history. Others had no cabling at all. And yet other regions had office wide networking with full-time Internet connectivity. No single standard existed.

Into these myriad systems, iNET was expected to identify a sub-contractor to serve all regions. We deemed that this would not be cost effective and thus sought other, more creative, solutions. Eventually, after discussions with project partners, NIED agreed to second the Ongwediva TRC (OTRC) computer centre administrator to assist the project with the regional office networks. The OTRC administrator had received training support under the LearnLink Project and was eager to upgrade his skills and experience further. (See “Success Stories” for more information). Also, the OTRC manager was eager to build capacity for his TRC as well as for the Oshana Region and thus the regional director was also quite supportive of this secondment. Thus, it was in this manner that, during the EMIS delays, the project continued with the rollout of networking and connectivity to all Regional Offices of Education.

¹⁹ The long form “regional education planners” is utilised here to distinguish these education officers from the education planners based in head office. iNET was tasked with working directly with the regional education planners, though, at times, we met with the education planners based at head office.

iNET conducted the preliminary needs assessments to determine networking and connectivity possibilities and requirements and then presented this information to the stakeholders in order to seek options regarding Internet connectivity and procurement of technology. Various options were necessary due to the different situation at each regional office of education. These included procuring 24/7 Internet connections to expanding existing leased-line connections to setting up dial-up accounts. The options were discussed and finalised at the national meeting of the regional education planners and shortly thereafter these different solutions were deployed.

Nearly all regional education planners, regional directors, and various support staff now have access to the Internet. In all, 74 individual offices in the regional offices are wired and 68 computers networked. To ensure that computers can be added and/or officers moved from one office to another, the project installed cabling in additional offices. The OTRC lab administrator installed cables and configured local area networks to enable shared printing and connectivity at all 13 regional offices. The project had hoped to install full-time connectivity to all offices though this proved cost-prohibitive. Xnet was approached as a possible solution but in the end regions utilised their existing connectivity solutions, which were then networked as needed, with regional variations for each office.

In order to further support the utilisation of these networks, connectivity, and training (discussed below), iNET also procured laptops for all regional education planners to ensure all regions have the necessary infrastructure, skills, and access to information necessary to more effectively deliver educational planning.

Development of the EMIS Web-Interface

While the project completed the networking and connectivity activities, various EMIS web-interface options were in discussion at head office after the appointment of the EMIS CEO and PAD Director. The web-interface was intended to make up-to-date EMIS data available online for use by regional education planners. The project and EMIS unit discussed Open Source and proprietary solutions as well as utilising existing and new applications. At one point, iNET worked with Edusol, a South African educational trust identified previously by the Ministry as a possible EMIS-support service provider, to develop a data gathering eForm for consideration by PAD and EMIS. While the concept was embraced, the CEO of EMIS requested iNET to continue development of the EMIS web-interface. The final Scope of Work (SOW) for the EMIS web-interface was completed and the project recruited a consultant to develop, pilot, and launch the EMIS web-interface. This SOW detailed an Open Source, browser-based solution, thus requiring no additional software for access to EMIS data.

The web-interface was developed by the iNET Programming Consultant utilising an Open Source back-end available through any browser. EMIS information is now available at <http://emis.edsnet.na> to give all regions quick access to available EMIS catalogues in HTML, PDF, and spreadsheet format, thus allowing them to develop ad hoc queries for regional data analysis. These various formats are utilised to provide planners with faster download times (HTML), true versions of the hard copy (PDF), and/or customisable reports (spreadsheet). The web-interface server was installed at NIED, running Suse Linux after EMIS requested this solution from the project.

The project designed a comprehensive training programme to exploit the use of networked communication tools to support decentralization for regional education office staff. This training programme was developed in conjunction with the USAID-funded Basic Education Support Project, Phase 2 (BES 2) project as well as with input from the regional education planners and PAD. iNET worked closely with BES 2 in order to target inspectors of education in BES-supported regions, as indicated in the programme description. This meant that parallel training programmes were developed for both regional education planners and inspectors of education.

The training focused primarily on spreadsheets using an activity-based pedagogy. Participants brought their work-related activities to monthly meetings to ensure that activities revolved around very specific participant needs (e.g. Annual School Census and 15th Day spreadsheet activities). Since training groups' levels of expertise varied dramatically, the training did not follow a typical, linear approach. The project

identified two training companies to deliver trainings and worked closely with the trainers to ensure the training stayed true to the activity-based design. The trainers were also available via email and phone in between training sessions to answer questions and provide ideas to course organisers and participants throughout the six-month training programme. (Eventually, one training company was utilised for all regions.) The training model brought planners and inspectors together once each month at a central location where they worked together to enter and manipulate education statistics from their respective regions and circuits. Some regions were combined to keep the activity more affordable. These trainings prepared planners and inspectors for the use of the networks, connectivity, laptops, and EMIS interface. After training programmes, the project surveyed planners, directors, and head office officials and found that the planners had increased their use spreadsheets for data capture and word processing for reports. Many regional planners also indicated increase use of the Internet for research purposes.

HIV/AIDS Prevention and Awareness

The project solicited information from organisations involved with HIV/AIDS prevention and awareness to make these important resources available to education planners and inspectors. NIED staff responsible for HIV/AIDS educational content helped coordinate this activity and iNET provided assistance in delivering content in electronic format. As noted in the iNET Evaluation, many planners report this information useful to their work. The availability of this website content via CD was reported as especially helpful. Many requests were made for increased distribution of CDs to ensure school-based use of these resources via laptops during site visits by planners.

Obstacles Encountered

Vacancies at Planning and Development Directorate

The key vacancies at PAD, as discussed above, created a number of difficulties towards the development and implementation of the EMIS web-interface. One especially important point was that neither of the key officials involved in the development of the iNET programme description were still with the directorate upon project start up. Once the EMIS CEO and the PAD Director had been appointed a year into the project, both worked extremely hard to support the project to achieve our results. They met often with the project to more fully understand the pros and cons of this activity and worked closely with the project to complete this component. iNET is quite grateful for their support and perseverance.

Distances and Differences Between Regions

To travel to all regional offices takes a vast amount of time in Namibia. The distances between these towns can be enormous and can form a major constraint for activities. The sheer amount of time it took to reach all thirteen regions meant that progress was slower than originally planned. These distances also affected the types of trainings we could offer. It was not feasible to bring all planners together often. Instead, the project worked closely with PAD to join in their annual/bi-annual planners' meetings. We also attempted as much as possible to hold training activities in the regions. This created some rather demanding administrative burdens on the project but ensured the planners were not away from their offices unnecessarily. Rather than ask the planners to come to us, we went to them.

Additionally, as noted earlier in the report, regions had very different needs in regards to training, networking, and connectivity support. This meant that our training model had to allow for variable presentation and coverage of content; our networking had to be flexible to allow for individualised site needs; and presentation of materials via the web-interface had to allow for different connectivity speeds. All of these were taken into account with project interventions through extensive consultation with all stakeholders.

Lessons Learned

An Improved Training Model

Much of the LearnLink experience indicates that use of technology is based on relevance and access. In order to encourage and model this type of learning environment, the project worked with local training

organisations to develop alternative models. Currently, the majority of ICT training activities are modular-based, requiring participants to work on non-work related activities during courses. After the completion of a course, participants return to their offices and only then attempt to integrate what they have learned. More and more stakeholders doubt that this approach is the most productive.

iNET developed a training model whereby participants bring their actual work to short, one day support activities. A master trainer was available to assist participants with their particular needs. Participants were then expected to go back to their work places and continue utilising the ICT tools. Participants returned again the next month for another one-day training. This went on for about six months for each region. Between trainings, participants could contact one another, the project, and/or the master trainer via e-mail or phone to pose questions and concerns. This model required a vital shift by trainers and participants. We worked closely with local training companies to develop this model rather than relying on their existing system. Thus, while our target audience is the education planners and inspectors, we also built capacity with local ICT trainers in order for this new model to succeed.

The follow up training activities were organised by the regional education planners in conjunction with the master trainers. This model, along with being an effective delivery method, could also prove to be a sustainable model since it requires little to no overhead beyond the cost of the trainer and transport for participants. (No meals were provided.) Should the Ministry develop the expertise within the established hierarchy, the planners can train the inspectors regularly and the inspectors can work with the principals, etc. While this may appear to emulate the traditional cascade system, we hope to distinguish this model by highlighting that it is on on-going process. The planners continue to work with the inspectors; the inspectors continue to work with principals (and can invite the planners to assist as needed).

Small Interventions Can Go a Long Way

After completion of EAS training, cabling, local area networks, and connectivity at the regional offices of education, both head office planners and regional education planners report using ICTs for reporting and communication at greater levels. With the delivery of laptops even greater increases in ICT use among regional education planners is evident. The iNET Evaluation states:

Across the board, planners cited increased efficiency with the use of their iNET-provided laptops. Many planners took their laptops home in the evenings, to off-site trainings, and to site visits. In the one region, the planner was able to transfer a secretary from an over-staffed school to his office to work on his desktop computer. He created what he calls his own “EMIS office”, whereby the secretary was able to maintain the data for the region. He said this was the best thing that has happened to his office in 10 years.

Recommendations to the Ministry of Education

Update EMIS Data

The iNET Evaluation states that,

With the key positions now filled at the Ministry, the EMIS website should be updated with more current data as soon as possible. The planners are now eager to see and use this data, fuelled in part by the skills provided to them under iNET. Hopefully EMIS will be able to capitalize on their current interest by providing 2003 and 2004 data via their website and on CD.

Support Your Planners

The regional education planners continually remarked that iNET was one of the few projects they had ever worked with on a regular basis. (GTZ also provided support over a number of years.) When the planners were provided training, networks, connectivity, and laptops, they indicated that this assistance extremely important for their work. These are relatively small interventions. The Ministry should consider ways in which similarly minor interventions can increase the productivity of planners in the regions. This can include enhancing connectivity and networking (see below) and on-going training (see model discussed above), among others.

As the iNET Evaluation indicates:

Though not a mandate of iNET, the planners reported a lack of skills in data analysis and long-term planning. Two Regional Education Planners expressed frustration by having the long-term goal of Vision 2030 without additional training on setting near and mid-term benchmarks. Even with access to EMIS data, some planners will need additional support to best help their regions achieve long-term educational goals.

Require All Regional Offices to Install Equipment to a Given Standard

All regional offices require upgrades. These can occur in a number of ways. The Ministry head office should allow regions to identify local sub-contractors to determine and install these upgrades, with head office providing guidance, support, and oversight. If relationships are fostered between regional officers and local sub-contractors, the regions will then be better able to understand their own systems and to maintain these themselves. This was a key lesson learned through iNET and one from which the Ministry can greatly benefit.

V. NOTES ON SUSTAINABILITY

These notes are taken from the iNET Evaluation.

For many of the computer centre assistants, TRC managers and staff, regional education planners, and college lecturers, the training and support through iNET provided them with information and skills that bolstered their confidence in working with ICT and in supporting ICTs in education in Namibia. ICT was recognized as an important new component in advancement for education in Namibia and the work under iNET contributed to a small body of skilled, and most importantly, interested and committed staff and educators at the Colleges, TRCs, and within the Ministry. If the Ministry can continue to support these individuals and to capitalize on the current momentum that is also bred from the newly approved policy, this will be one of the strongest, most sustainable components of iNET.

In developing the ICT Policy for Education, the effective partnership between iNET and the Ministry not only led to an approved and fully endorsed policy, but it fostered a positive, “can do” attitude among its members. Hopefully, GeSCI will be able to maintain this level of interest, enthusiasm, and commitment. GeSCI felt that the policy iNET facilitated in developing was a solid basis on which to move forward, as evidenced by high level Ministry support. The current Prime Minister and former Minister of Higher Education, Training, and Employment Creation, Nahas Angula, was one of the driving forces in the creation of the policy. On sustainability of ICTs in education in Namibia more broadly, the GeSCI representative added that sustainability was dependent upon the commitment of USAID/Namibia, particularly in content development and teacher training.

Within the Colleges, there was also strong support at the highest levels of the administration. Ongwediva College of Education Rector, F.B. Uahengo reported regularly presenting on ICTs in education for the lecturers and promoting the importance of ICT for the next generation of Namibian educators. Caprivi College of Educator Rector John Nyambe proposed to the College council a budget that for the first time included payment for an Internet service provider and acquisition of computers and software.

According to NIED, GeSCI, and based on site visits to the Colleges and TRCs, the Ministry has the will but not the financial means to reach the current ICT demands at its Colleges and schools. iNET worked closely with the College IT committees to convey realistic future costs associated with the labs. The Colleges and TRCs, however, are now struggling to maintain the computers and connectivity provided under iNET, thus putting the sustainability of elements of the iNET project at risk.

iNET led to considerable advancement of ICTs in education in Namibia as evidenced by both the policy-level achievements, and the exposure to and often times consistent use of ICTs by a wide range of education planners and practitioners. Though there remains some uncertainty about the future of ICTs and education, particularly with respect to funding, iNET not only met most of its ambitious targets but it fostered an environment of excitement and enthusiasm for the continued expansion of ICTs and education in Namibia.

SUCCESS STORIES

Teacher Resource Centres Improve, Expand, and Re-Launch Their Services

During November 2004, the Rundu and Katima Mulilo Resource Centres improved, advertised, and re-launched their services to local community members. The centres received business planning training, additional equipment, and advertising support from iNET in order to ensure the centres are able to offer timely, relevant services to education stakeholders in the regions. Some of the new equipment provided to the centres by iNET included new scanning, colour printing, and colour copying facilities; data projectors; digital video and/or still cameras; and laminating services, among others.

The re-launch days at both centres were extremely well attended by teachers, regional and local government representation, and the national media. The official re-launch days were followed by week-long open houses where free services were offered to entice new members to join the centres growing numbers. These free services included free black & white as well as colour printing, scanning, photos, lamination, Internet, self-guided typing courses, and various other educationally relevant activities.



Pictured (clockwise from left):

The Governor of the Caprivi Region and Mayor of Katima Mulilo become card-carrying members of the Katima Mulilo Teacher Resource Centre.

Rundu Headwoman and Regional Councillor experience some of the exciting new services offered by the Rundu TRC.

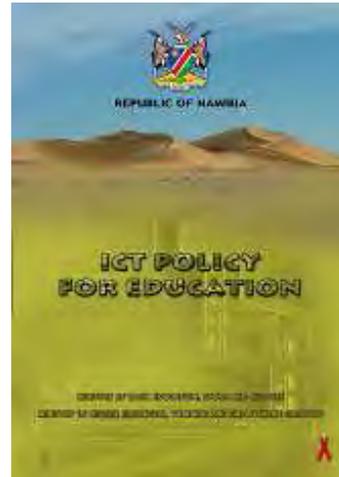
Learners use the Katima Mulilo TRC to create, print, and laminate ID cards for their school.

ICT Policy for Education Officially Adopted

On the 6 June 2005, Prime Minister Nahas Angula launched the ICT for Education Policy. This represents the culmination nearly two years of wide-stakeholder participation.

In the initial stages of growth of the policy, iNET worked with NIED to produce the Terms of Reference that were to guide the Steering Committee over the following months. While the original brief was to work with USAID-funded ICTs in education projects, the first meeting quickly highlighted the need to broaden the scope of the committee and the ICT and Education Steering Committee was born.

Although discussions and debates were heated throughout the process, iNET, through diplomacy and negotiation, actively engaged all key stakeholders across the ICTs in education sector, culminating in the finalisation of a well-debated, well-respected ICT Policy for Education.



The policy outlines developmental targets for all educational institutions, representing a clear guide for the ICTs in education sector. Although there are still pressing needs with regard to infrastructure and sustainability, the policy represents a positive step in the right direction.

2005 www.edsnet.na CD Launched

Honourable Minister Nahas Angula of the Ministry of Higher Education, Training, and Employment Creation (MHETEC), and United States Ambassador to Namibia Joyce A. Barr, officially released the Educational Resources CD 2005, during a ceremony at the Windhoek College of Education on Friday, January 21. Honourable Minister of Basic Education, Sport and Culture John Mutorwa also participated in the release ceremony.

The Educational Resources CD 2005 is a tool developed for Namibian educators to help them access educational resources. The CD contains the full range of information available in the Ministry of Basic Education's (MBESC) website (www.edsnet.na). The information is presented in a user-friendly "off-line" format. Namibian teachers can now access all the syllabi, teacher's guides, sample lesson plans, and information on HIV/AIDS prevention activities as well as many other teaching and learning resources through the CD.



This is the second CD developed by the Ministry's Initiative for Namibian Education Technology (iNET) Project utilizing technical assistance provided by the United States Agency for International Development (USAID). The CD has been created and produced in-house by the National Institute for Educational Development (NIED) with technical assistance from iNET. At least 1000 CDs will be distributed throughout the country's schools and education offices.

The USAID-funded iNET Project assists NIED in developing educational resources CDs and trains teacher-educators and pre-service student teachers at the four Colleges of Education in the use of these new technologies. The pre-service teachers are assisted in the use of electronic and Internet resources to enhance their job performance and transfer the skills to teachers and learners.

Others participating in the ceremony were the Director of NIED, Mr. Alfred Ilukena; the Rector of the Windhoek College of Education, Ms. Emma Kirchner; Teacher Educators from the four Colleges of Education, the Director of USAID/Namibia, Mr. Gary Newton; officials of the University of Namibia, and the Polytechnic of Namibia; as well as non-governmental organizations.

Capacity Building at OTRC

Hi, my name is Dennis Mwandangi, I am 27 years old and I got my start working with computers for the Ministry of Education in Namibia during the early LearnLink days in 2000. My skills have come very far, I've grown strong, and I have learned a great deal. I worked in the library where there were only four computers that were mainly used by the local teachers and student teachers from the nearby College of Education.



We were always having problems with the computers breaking down and we did not have local PC technicians to repair them. With the basic knowledge of computers that I had, I was forced to fiddle around and sometimes get them to work. It has primarily been through trial and error that I gained experience and my interest grew in computers. A year passed by as I alone struggled to give PC support to fellow staff members at the centre

Then the USAID-funded LearnLink project came along and I was offered training as part of a larger team to support the person who was to run the future computer lab. Since LearnLink ended, and iNET began, I have been giving support to the four computer labs/teacher resource centres, teacher and student labs at the colleges, and regional education offices in the north. In addition, I have also become skilled in setting up local area networks to share printers and an Internet connection for the education offices, and teacher computer labs. The most number of computers and offices I have connected so far is at a site in Swakopmund where there are 18 offices and 23 computers. I am constantly on the road in this country helping with the network set up and overall computer maintenance.

Colleges Succeed with Lesson Plan Competition

The recent Lesson Plan Competition, held in conjunction with NETA and NIED and sponsored by Microsoft, has met with great success at the Colleges of Education. The competition was initiated to encourage ICT integration in the teaching practices of teachers, student teachers, and teacher educators and was open to the 13 Parliament/Microsoft schools as well as the Colleges of Education. iNET and the Colleges worked together to promote wide participation in the competition.

Prizes were awarded to participants in all four colleges and iNET helped delivered computers and software to some very happy student teachers and teacher educators. The prize giving ceremonies were arranged at the Colleges, but all prize winners will be invited to NIED for a formal acknowledgement of their achievements. All lessons will be available on www.edsnet.na.

Student teacher Andrew Inambao from Caprivi College won the Best Lesson Plan from a student teacher with his excellent Maths lesson, while his fellow Caprivi College student, Justina Angula was the runner-up with her Natural Science lesson.



Andrew Inambao clearly delighted with his first prize computer.



Justina Angula proud of the computer she won

Other winners from the Colleges of Education included Phillemon Hangala of the Ongwediva College for Best Lesson Plan from a Teacher Educator at a College of Education; Olia Lopez for Best Lesson Plan from a lecturer at Ongwediva College; Erina Junius for Best Lesson Plan from a lecturer at Windhoek College; and the special iNET exceptional participant prize for Stephen Molta from Rundu College for his overwhelming involvement and participation.

Extra Support for Extraordinary Students

Andrew Inambao and Justina Angula have received a double helping of assistance from USAID. These two future teachers, currently at Caprivi College of Education, entered the Lesson Plan competition and have each just won a computer of their own! They were helped along their path to success by staff and projects funded by USAID.

Andrew (3rd year) and Justina (2nd year) are student teachers at Caprivi College of Education specialising in Maths and Science education grades 5-7, and Integrated Natural Sciences 8-10, respectively. They have both proven to be technology champions in a very short space of time. With little exposure to computers before enrolling at Caprivi College of Education, they have both shown that motivation and enthusiasm can lead to knowledge, skills, and success. Each school day, you'll find them at the iNET-supported computer lab (and often on weekends too!).

They are not alone in their drive to use Information Technology skills and integrate them in their teaching; computer centre assistant Astridah Samupwa and IFESH volunteer Janice Heckler have been invaluable in helping student teachers gain skills and confidence to use computers in their studying to become teachers.

Like many other schools and colleges in Namibia, Justina and Andrew have not had an easy time of becoming computer savvy. With only 20 computers to use for over 300 students, getting to a computer is no easy task. Even with these difficult access ratios and on and off power, these two manage to get to the computers and get to work.



Caprivi College Rector John Nyambe, Andrew, Justina, and IFESH volunteer Janice Heckler.

When Justina and Andrew saw that the Lesson Plan competition was open to everyone and they could win themselves a computer to take home with them, they saw an opportunity and jumped for it. The competition was designed to encourage the use of ICTs in teaching and was run at a national level through certain schools and all four Colleges. When asked for their reaction to hearing the good news that they had each won a computer and software, Justina said "I screamed for joy!"

They both have the firm belief that the prize will help them in the future: they will now be able to type their assignments and submit them in time, they will be able to explore and research in their own time, and get practice in planning and integrating ICT in their teaching for the future when they go into the field. Their knowledge and skills will be vital for their future learners, helping Namibia become computer literate for the 21st century.

Caprivi College of Education is very proud, as it should be, to have staff that encourage their student teachers' motivation and enthusiasm to participate in initiatives to encourage ICT integration. They are also proud to be sending out two computer savvy teachers into Namibia's schools. And iNET congratulates them!

Namibian Professional Development Goes Online!

A collaboration with the Harvard Graduate School of Education is changing perceptions and practices across the Namibian Education Sector.

The Teaching to Standards to New Technologies (TSNT) course offered by Harvard's WIDE World helps teachers consider how to integrate technology into their lessons to enhance student understanding. Teacher educators in the course design a series of lessons on a specific topic that they then teach. They focus on the ways in which integration of technology in their particular lessons enhance student understanding.

An important part of the course is the "HOW, WHEN, and WHY" of technology integration to leverage or enhance students' understanding within the context of specific teaching and learning objectives.

Gisele Siririka, Education Officer responsible for Broad Curriculum at NIED, says that her life will never be the same after WIDE. The impact of the course has changed her perceptions about ICT and education. Isabel Fourie, Education Officer for Life Skills, says that her own perceptions on learning have changed and she is enjoying the online experience.

All educators testify that the course is directly related to their work because they must write curricula in such a way that they can focus on teaching and testing for understanding. Others recognise that it challenges one to continually think about to integrate technology into the classroom.

For all participants, WIDE has been their first online professional development activity. This has been quite an adjustment, requiring each educator to work through the online environment and interactions offered in this asynchronous communication environment.

This particular online learning environment is clearly a space where some teacher educators felt comfortable honestly reflecting on their practice. The *Teaching to Standards with New Technologies* course requires educators to continuously reflect on their own practice and relate the course to their own unique experience.

Most of the teacher educators report direct links between the Teaching for Understanding framework and Learner-Centred Education. The general feeling of the NIED WIDE World participants and graduates is summed up by Gonnie Kruger, Senior Education Officer for Broad Curriculum: "What excites me, though, is that we can look at the course and realise how many new insights we gain about curriculum issues. Many of us want to subscribe to another online course after this one!"



Gisele (seated) and Isabel discuss online activities.

College of Education Computer Centres Officially Opened



Information and Communication Technology (ICT) integration is becoming a reality at the Windhoek College of Education thanks to the USAID-funded Initiative for Namibian Education Technology (iNET).

iNET supports the creative integration of new technologies across the education system. With the recent launch of three computer centers (two for students and one for faculty), the Windhoek College now boasts around the

clock internet connectivity and 40 computer workstations. Hon. Minister Nahas Angula officially accepted and opened the centers on behalf of the Ministry of Higher Education, Training, and Employment Creation on 27 July 2004.

The National Institute for Educational Development (NIED) and iNET worked closely over many months with the Windhoek College of Education to deliver the computer centers. NIED provided 30 new workstations to each College of Education in Namibia. iNET provided extensive cabling and networking throughout the college as well as a full-time staff member to ensure 24/7 Internet connectivity in all centers. In addition, College faculty receive on-going training and support to ensure these remarkable new resources assist all student teachers make the exciting transition from college student to classroom teacher.

For more information, check out the following websites: <http://www.nied.edu.na> and <http://www.edsnet.na/Edutech/iNET.htm>.

APPENDIX 1: FIELD STAFF POSITION DESCRIPTIONS

Chief of Party

The Chief of Party, based in Windhoek, Namibia, will provide overall leadership, direction, and coordination for the USAID dot-EDU/Namibia (iNET) programme and will manage all technical, financial, and administrative functions and activities in the field.

Qualifications

Masters required. 7 years of relevant experience required. Knowledge of networking and telecommunication fields and international development issues particularly with USAID projects in ICT and education sector in developing country context. Must possess field experience in design, development, and implementation issues of ICT project in developing countries.

Must have the ability to work in a team consisting of people with different technical backgrounds and with people with varying levels of technical training (both internal and external support staff, designers, networking and telecommunications professionals. Ability to design, develop, and implement programme monitoring and evaluation strategies, guidelines and tools for reporting results to clients. Excellent leadership, organisational, and administrative skills essential.

Main Tasks and Responsibilities

Manage all phases of the implementation of the programme, oversee, and direct quality control and ensure that the overall objectives are met in accordance with the work plan. Direct and coordinate project activities in accordance with USAID policies and procedures; keep all USAID technical staff and AED/Washington apprised of project activities and progress.

Coordinate with the US-based team at AED to ensure contract compliance, financial oversight, and administrative support. In conjunction with the overall dot-EDU/Namibia Deputy Director, ensure timely implementation of the project, adherence to deliverable and reporting schedules, and the fielding of all short-term consultants. AED's designated backstop/eLearning specialist will provide the Washington DC-based technical and logistical support and assistance.

Provide general supervision for all local project staff in Windhoek and the regional offices. Provide technical assistance to the project and on the ground implementation and coordination for all activities. All technical work shall be in accordance with the AED Contract and direction from USAID. This includes coalition building; capacity development and training, research, monitoring and evaluation, equipment procurement, training and project implementation; and direct work with the Namibian Colleges of Education various project partners.

Review project financial transactions and provide budget oversight.

Make detailed assignments to project staff and monitor all work under the contract. Prepare regular quarterly reports and work plan updates. Notify AED/Washington and USAID of any significant issues that arise during the project time frame.

Oversee timely preparation of all project reports and deliverable, including work plan, monthly and quarterly report, and all technical reports and deliverables, to be reviewed by Washington DC based AED/EDC staff prior to final submission.

Coordinate with partners, subcontractors, and USAID on and ensure that consultant travel is managed in accordance with AED's contract.

Work to represent AED's business interests, according to the following objectives: "Build AED's reputation by providing excellent technical quality of work, and excellent quality of service to clients, on a diligent full-time basis; foster AED's business interests by developing excellent working relationships with employees, consultants and subcontractors travelling to the Southern African region, providing them with excellent logistical services and minimising expenses; and avoid all conflicts of interest and appearance of conflicts of interest while working for AED.

Education Specialist

Purpose of the Job

Generally, to assist with the development and implementation of curricula for the Colleges of Education in general, and, more specifically, to assist with the process of creatively integrating the use of information Technology (IT) into the teaching practices at these Colleges.

Qualifications

Degree in one of the following areas: Education, Social Sciences, Education Technology. Highly competitive applications will have a Masters in Education, specialising in one of the following areas: education technology, curriculum design, or teacher education. 2 years of teaching experience. Demonstrable interest, experience, and/or qualifications in IT or IT training.

Main Tasks and Responsibilities

Assist all faculty members who agree to participate in project activities and training to produce, implement, and evaluate unit and/or lesson plans that explicitly use their college computer facilities with student teachers. This includes identifying the professional development needs, particularly related to IT and education, for teacher educators.

Ensure all faculty members trained by the project are able to report understanding how technology can be used to enhance learning and understanding.

Ensure 75% of trained faculty members report occasionally to frequently designing lessons that encourage their student teachers to use technology.

Ensure student portfolios will reflect student capacity to use computer technology (e.g., use of word processors, Internet research, spreadsheets, etc.)

Assisting with the coordination of organizational functions of the sub-division of Professional Development of Preservice Training at the National Institute for Educational Development (NIED).

Specific Technical Responsibilities

Working jointly with the iNET team, the NIED Division of Professional Development, and the Curriculum Coordinating Group (CCG) in the process of integrating IT throughout the BETD/PRESET curriculum.

Developing, implementing, and evaluating pilot training programs in education technology at the Colleges of Education.

Working collaboratively with the iNET team to design, deliver, and evaluate continuous professional development activities for the faculty at the Colleges of Education to encourage them to use technology in their teaching and to introduce their student teachers to the creative uses of technology in the classroom.

Assisting with the identification and/or development of print and multimedia instructional materials for use in iNET trainings.

Administrative Assistant

Purpose of the Job

The primary purpose of this position is to assist the Chief of Party and other project staff with administrative, financial, and personnel management tasks. This position will require a variety of administrative, basic accounting, secretarial, and clerical skills.

Qualifications

Requirements call for a highly skilled and dynamic individual to oversee the administrative functions within the AED-iNET Project office. The incumbent should be capable of working in a fast-paced and demanding environment with poise and diplomacy at all times. Grade 12 education is required. Completion of some tertiary education is highly desirable. Candidate must be able to type at least 40 words per minute. Namibian citizenship required.

Main Tasks and Responsibilities

Manages the AED-iNET Project main offices at NIED and, under the guidance and supervision of the Chief of Party, provides a variety of secretarial, logistical, clerical, administrative, financial, and personnel support functions primarily for the project. The incumbent will also provide assistance to other project staff in regards to personnel issues, administrative procedures, word processing, filing, and project documentation.

Specific Technical Responsibilities

Receives visitors and phone calls. Answers questions within his or her capability or refers callers to other more appropriate project staff.

Prepares documentation in final form and routes them to appropriate staff for review and signature if necessary. As necessary, hand carries such correspondence to USAID, GRN, NGO, and vendor offices to obtain signatures, clearances, or to insure delivery. Types letters, reports, tables, spreadsheets, web page information, faxes, miscellaneous other documents in draft and final form for the Chief of Party and for other project staff. Ensures that all correspondence is in proper form and in accordance with USAID, AED, and/or GRN regulations as appropriate. Proof reads his or her own work before submitting it to the supervisor for signature or approval and ensures that the format, spelling, grammar, punctuation, and phraseology are correct. Locates, obtains, and tracks appropriate clearances and signatures.

Manages all project correspondence. Receives, reviews, controls, and documents (when appropriate) all incoming and outgoing correspondence. Delivers mail to the post office or to courier service offices when necessary. Routes correspondence to supervisor or other appropriate staff members, including information copies as necessary. Tracks documents that have been sent to other offices and follows up when these appear to be in danger of becoming delinquent. Ensures the quality of outgoing correspondence. Keeps track of all actions forwarded to project staff and advises them when they are assigned specific tasks. Prepares a delinquent actions list for the supervisor on a weekly basis or more frequently as needed. Records and tracks other pending actions and informs the supervisor and other staff regarding this status.

As requested or in response to incoming requests, arranges appointments and conferences with officials from the USAID Mission, the Government of the Republic of Namibia (GRN), donor agencies, NGOs, volunteer agencies, and appropriate private sector groups. Reminds supervisor and staff of appointments and meetings. Arranges meetings, conferences, and training events. Makes arrangements with appropriate NIED staff for use of conference rooms and facilities as needed. Types agendas, notifies participants by fax and e-mail, and assures that appropriate refreshments are provided. Follows up to confirm attendance. Attends meetings to take notes and prepares summaries to include who attended, topics discussed, agreements reached, issues identified, and tasks assigned.

Develops, organizes, and maintains the project filing system. Ensures the integrity of the files by keeping originals and providing copies to project staff to use as their working files.

Monitors time and attendance for the office (taken from logs kept within NIED offices) and compares them against timesheets submitted.

Performs basic budgeting and bookkeeping functions and assists supervisor in preparation of monthly IMPREST fund reports. Maintains an inventory of all project equipment. Ensures that the project vehicle logs remain up to date and that the project vehicle is taken for service when necessary. Prepares invoices for payment approval by either his or her supervisor or by AED-iNET staff in D.C.

Researches Namibian employment and tax codes to assist project in recovering VAT payments, paying social security, and income taxes for project staff.

Prepares monthly paychecks and pay statements for project staff and submits them to the Chief of Party for review and signature.

Computer Centre Assistants

Purpose of the Job

The role of the College of Education Computer Centre Assistant (CCA) is crucial to the success of the project. The CCA is the first person that project clientele and stakeholders will encounter when visiting the project computer laboratories. As such, the person must be warm and welcoming, helpful, technically competent, *and* proactive in researching and demonstrating uses of technology for educational purposes.

While this position is an entry-level post, it is important as this person will be the only project staff member located full-time within the computer laboratories. They are, therefore, responsible for collecting project data concerning laboratory usage, for doing basic computer maintenance and troubleshooting, for keeping the centre neat and clean, for enforcing laboratory rules, and for providing basic one-on-one assistance and training to laboratory users.

Qualifications

Requirements call for a highly skilled and dynamic individual to oversee the College of Education Computer Centres. The incumbent should be capable of working in a fast-paced and demanding environment with poise and diplomacy at all times. Grade 12 education is required. Completion of some tertiary education is highly desirable. Demonstrable interest, experience, and/or qualifications in IT or IT training.

Main Tasks and Responsibilities

Warmly greet computer laboratory users.

Ensure that **all** laboratory users sign in and provide basic personal information to allow the project to obtain information about laboratory use and laboratory users.

As requested, assist project staff in collecting other relevant project related data.

Assist new users in becoming familiar with basic computer hardware and software functions and uses.

Assist laboratory users in their uses of the laboratories computer hardware, software, peripherals, and hard copy materials.

Assist laboratory users in basic troubleshooting.

Perform periodic computer maintenance and upkeep including but not limited to:

- cleaning computer hard drives of personal files and non-standard programs,

- defragmenting computer hard drives,

- checking computers for viruses,

- if necessary, reformatting hard drives, or performing clean installs of systems software.

Perform basic computer and computer networking troubleshooting.

Inform College of Education IT Committees and project staff when unable to successfully troubleshoot computer and computer network problems so that they may arrange for equipment to be repaired.

Appropriately label equipment as “Out of Order” and prepare it to be sent for service.

Assist the College of Education IT Committees, project staff, and project clientele groups in organizing and implementing formal and informal computer training programs or workshops that will utilise computer laboratories.

Participate in College of Education IT/Media Committees and assist with Committee documentation (i.e. reports, minutes, correspondence, etc.).

As requested by project staff, assist in the design and development of project websites and training materials.

Complete weekly activity reports that include confirmation that all required weekly activities have been completed and demonstrate active research related to the job of an education technologist. This may include, but not be limited to, research on web sites, design of forms and web pages, computer centre marketing, etc.

Enforce all computer laboratory rules and report all abuses of laboratory rules and equipment to the College of Education IT Committees.

Keep the computer equipment and laboratory neat and clean. This includes periodically cleaning (with appropriate cleaning materials that will not damage equipment) monitor screens, desks, and other equipment and keeping laboratory free of trash.

Ensure that the lab has appropriate supervision during all working hours.

APPENDIX 2: FINAL PROJECT INVENTORY

NIED

Quantity	Description of Property	Serial Number	Recommended Location	Value (N\$ est.)
1	Enhanced 2.4 GHz Wireless Router	BN1P129057947	NIED DH9	1 000
1	Colour printer/copies/scanner/fax	MY29JD3C9K	NIED MU2	6 000
1	Voltage Converter 100 Watt 220-110V	530969752	NIED DH9	450
1	Hewlett Packard network laser Printer	CNBD014744	NIED DH21	2 500
1	OMNI Pentium 4,2,4 GHz Computer	8034TYSZ4059	NIED DH9	10 000
1	OMNI Pentium 4,2,4 GHz Computer	2003050068	NIED DH9	10 000
1	Uninterruptible Power supply	333309270	NIED DH10	1 000
1	Uninterruptible power supply	333309269	NIED DH9	1 000
1	17" CRT Monitor	999117161531100372	NIED DH21	1 500
1	17" CRT Monitor	999117161531100372	NIED DH10	1 500
1	Office Software application suite (5 user license)		NIED DH9	800
1	Software application operating system	45136601807	NIED DH10	800
1	4 port USB hub	B106249000115	NIED RC	1 000
1	Digital camera	8532024518	NIED DH21	1 500
1	Mecer Laptop	SZS 75511840800081	NIED RC	11 000
1	CD/DVD duplicator	B4k182529	NIED RC	23 000
1	Telephone handset	7595	NIED DH21	500
2	Telephone handset	7599	NIED DH9	500
1	USB personal mobile theatre speaker system	AL0427120X	NIED DH9	230
1	UltraX Keyboard	5099206 973381	NIED DH9	230
1	Mouse	F22420658JP323R	NIED DH9	200
1	New Version	89473200004 5	NIED DH9	1 500
1	Mbay cradle	CNU450F323	NIED DH9	1 000
1	7-port USB 2.0	B106249000115	NIED DH9	2 000
1	8-port 10/100Mbps	333309269	NIED Server Room	2 500

CAPRIVI COLLEGE OF EDUCATION

Quantity	Description of Property	Serial Number	Recommended Location	Value (N\$ est.)
1	Epson LCD Projector	FNGG430420F	Caprivi College	5 000
1	Canon digital camera	8532024547	Caprivi College	1 500

1	Printer hp officejet (all in one)	MY3C8F30Y	Caprivi College	3 000
1	Fujitsu Siemens V2010 laptop	YSPB029018	Caprivi College	8 000
1	Microsoft Office 2003 Pro		Caprivi College	2 000

KATIMA TRC

Quantity	Description of Property	Serial Number	Recommended Location	Value (N\$ est.)
1	Printer hp officejet (all-in-one)	MY3CLF 20M	Katima TRC	3 000
1	Canon digital camera	254846563500	Katima TRC	1 500

RUNDU COLLEGE OF EDUCATION

Quantity	Description of Property	Serial Number	Recommended Location	Value (N\$ est.)	
1	Epson LCD Projector	FNGG430300F	Rundu College	5 000	1
1	Printer hp officejet (all in one)	MY3C8F319P	Rundu College	3 000	
1	Canon digital camera	8532024519	Rundu College	1 500	1
1	Fujitsu Siemens V2010 laptop		Rundu College	8 000	
1	Microsoft Office 2003 Pro		Rundu College	2 000	

RUNDU TRC

Quantity	Description of Property	Serial Number	Recommended Location	Value (N\$ est.)
1	Canon digital camera	8532067926	Rundu TRC	1 500
1	Canon digital video camcorder	245826469729	Rundu TRC	5 000
1	Printer hp officejet (all in one)	Q3434-90222Rev.A	Rundu TRC	3 000

ONGWEDIVA COLLEGE OF EDUCATION

Quantity	Description of Property	Serial Number	Recommended Location	Value (N\$ est.)
1	Canon digital camera	6622125589	Ongwediva College	1 500
1	Printer hp officejet (all in one)	MY3CNF 11VD	Ongwediva College	3 000
1	Epson LCD Projector	FNGG430410F	Ongwediva College	5 000
1	Fujitsu Siemens V2010 laptop		Ongwediva College	8 000
1	Microsoft Office 2003 Pro		Ongwediva College	2 000

ONGWEDIVA TRC

Quantity	Description of Property	Serial Number	Recommended Location	Value (N\$ est.)
1	Printer hp officejet (all in one)	MY3CLF20KP	Ongwediva TRC	3 000
1	Epson LCD Projector	FNGG430131F	Ongwediva TRC	5 000

WINDHOEK COLLEGE OF EDUCATION

Quantity	Description of Property	Serial Number	Recommended Location	Value (N\$ est.)
1	Canon digital camera	8532024559	Windhoek College	1 500
1	Printer hp officejet (all in one)	MY3CNF 11VV	Windhoek College	3 000
1	Epson LCD Projector	FNGG430417F	Windhoek College	5 000
1	Fujitsu Siemens V2010 laptop		Windhoek College	8 000
1	Microsoft Office 2003 Pro		Windhoek College	2 000

CAPRIVI REGIONAL EDUCATION OFFICE

Quantity	Description of Property	Serial Number	Recommended Location	Value (N\$ est.)
1	Laptop (Mecer)	SZS 7551841200880	Caprivi REO	11 000

KAVANGO REGIONAL EDUCATION OFFICE

Quantity	Description of Property	Serial Number	Recommended Location	Value (N\$ est.)
1	Laptop (Mecer)	SZS 75511840800349	Kavango REO	11 000

HARDAP REGIONAL EDUCATION OFFICE

Quantity	Description of Property	Serial Number	Recommended Location	Value (N\$ est.)
1	Laptop (Mecer)	SZS 75511840800053	Hardap REO	11 000

OMUSATI REGIONAL EDUCATION OFFICE

Quantity	Description of Property	Serial Number	Recommended Location	Value (N\$ est.)
1	Laptop (Mecer)	SZS 75511841200401	Omusati REO	11 000

KHOMAS REGIONAL EDUCATION OFFICE

Quantity	Description of Property	Serial Number	Recommended Location	Value (N\$ est.)
1	Laptop (Mecer)	SZS 75511841200628	Khomas REO	11 000

OHANGWENA REGIONAL EDUCATION OFFICE

Quantity	Description of Property	Serial Number	Recommended Location	Value (N\$ est.)
1	Laptop (Mecer)	SZS 75511841200595	Ohangwena REO	11 000

OSHANA REGIONAL EDUCATION OFFICE

Quantity	Description of Property	Serial Number	Recommended Location	Value (N\$ est.)
1	Laptop (Mecer)	SZS 75511841200801	Oshana REO	11 000

KUNENE REGIONAL EDUCATION OFFICE

Quantity	Description of Property	Serial Number	Recommended Location	Value (N\$ est.)
1	Laptop (Mecer)	SZS 75511841200681	Kunene REO	11 000

OTJOZONDJUPA REGIONAL EDUCATION OFFICE

Quantity	Description of Property	Serial Number	Recommended Location	Value (N\$ est.)
1	Laptop (Mecer)	SZS 75511841200609	Otjozondjupa REO	11 000

OMAHEKE REGIONAL EDUCATION OFFICE

Quantity	Description of Property	Serial Number	Recommended Location	Value (N\$ est.)
1	Laptop (Mecer)	SZS 75511841200586	Omaheke REO	11 000

KARAS REGIONAL EDUCATION OFFICE

Quantity	Description of Property	Serial Number	Recommended Location	Value (N\$ est.)
1	Laptop (Mecer)	SZS 75511841200523	Karas REO	11 000

ERONGO REGIONAL EDUCATION OFFICE

Quantity	Description of Property	Serial Number	Recommended Location	Value (N\$ est.)
1	Laptop (Mecer)	SZS 75511841200624	Erongo REO	11 000

OSHIKOTO REGIONAL EDUCATION OFFICE

Quantity	Description of Property	Serial Number	Recommended Location	Value (N\$ est.)
1	Laptop (Mecer)	SZS 75511841200276	Oshikoto REO	11 000

AED/NAMIBIA

Quantity	Description of Property	Serial Number	Recommended Location	Value (US\$ est.)
1	Jeep Cherokee	021TA86N	BES Project: Phase 3	125 000

APPENDIX 3: SURVEY OF ICT USAGE AT COLLEGES OF EDUCATION

Participant: _____

Job title: _____ College: _____

Do you have a computer:

1.1 at home? Yes no

Is it connected to the Internet? Yes no

1.2 in your office? Yes no

Is it connected to the Internet? Yes no

Please rate your expertise in the use of the following:

	Excellent	Very good	Good	Fair	No capability
Word processing	<input type="checkbox"/>				
Spreadsheets	<input type="checkbox"/>				
Presentation tools	<input type="checkbox"/>				
E-mailing	<input type="checkbox"/>				
Internet browsing	<input type="checkbox"/>				
Graphics	<input type="checkbox"/>				
Web page designing	<input type="checkbox"/>				

How often do you use ICT tools for the following purposes?:

	Very often (everyday)	Often (twice or more per week)	Seldom (a few times a month)	Never
Teaching subjects in class (details q.3)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Teaching computer skills (e.g. IMTE)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Preparing lessons (details q.5)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Making presentations to colleagues	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Communicating with students	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Preparing reports	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Preparing schedules/timetables	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Further professional development	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Others, please specify				
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

What types of ICT activities have you used &/or assessed in your classroom? \please tick all that apply and list any others.

	Assignment/activity	Assessment
E-mail	<input type="checkbox"/>	<input type="checkbox"/>
Word processing	<input type="checkbox"/>	<input type="checkbox"/>
Electronic presentations	<input type="checkbox"/>	<input type="checkbox"/>
Spreadsheets	<input type="checkbox"/>	<input type="checkbox"/>
Internet searches	<input type="checkbox"/>	<input type="checkbox"/>
Computer games	<input type="checkbox"/>	<input type="checkbox"/>
Others, please specify		
	<input type="checkbox"/>	<input type="checkbox"/>

What constraints do you have when trying to use ICT in the classroom? Please tick all that apply.

- Not enough facilities
- Computers/connection too slow
- Computers do not have the required programmes
- No computer lab time available in my timetable
- Lab frequently closed./already booked
- Internet not working
- I don't feel comfortable with my own basic ICT skills
- Students' computer knowledge not good enough
- I don't know enough about using ICT for teaching
- Not enough time to prepare

Other: _____

How do you use computers for research/lesson preparation?

	Very often (everyday)	Often (twice or more per week)	Seldom (a few times a month)	Never
Typing worksheets/handouts for students	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Typing tests/exams	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Recording grades/attendance on a spreadsheet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Internet searches for classroom activities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Internet searches for ready-made lesson plans	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Finding accessing information and educational materials	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Collaboration with colleagues at another institution	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Others, please specify				
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

What further training would you be interested in?

- Integration of ICT into the classroom
- Using the Internet as a research tool
- Database management
- Basic Computer Skills
- Web page design
- Putting course materials on the Web
- Advanced word processing
- Advanced presentation tools
- Advanced spreadsheets
- Basic Computer Maintenance

Other: _____

Appendix

	WIDE participants	Non WIDE participants	All
ICT usage in class with student teachers	54%	19%	44%
frequency:			
very often	2%		2%
often	22%		16%
seldom	29%	19%	26%
never	46%	81%	56%
Main constraints			
Lack of facilities	88%	63%	88%
Connectivity	39%		40%
Access	33%	6%	37%
Student skill level	34%		37%
Lecturer skill level	28%	6%	34%
ICT usage for preparation, research & planning	83%	88%	84%
frequency:			
very often	19%	25%	24%
often	32%	31%	33%
seldom	32%	31%	27%
never	17%	13%	16%

Preparation activities			
research for classes; activities; handouts	80%	78%	74%
administration; reports; schedules	74%		71%
professional development; research	72%		64%

APPENDIX 4: iNET EVALUATION

DOT -COM Alliance

dot-EDU/Namibia

**Initiative for Namibian Education Technology
iNET**

Final M&E Report

August 2005

Conducted by Julie Maurin
for Education Development Centre, Inc.

Contract No: GDG-A-00-01-00011-00

A Digital Opportunities for Technology-Education (dot-EDU) Project

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GLOSSARY OF TERMS

AED	Academy for Educational Development
CCA	Computer Centre Assistant
COP	Chief of Party
EDC	Education Development Centre, Inc.
EMIS	Education Management Information System
GeSCI	Global e-Schools and Community Initiative
ICT	Information and Communication Technologies
INET	Initiative for Namibian Education Technology
M&E	Monitoring and Evaluation
MBESC	Ministry of Basic Education Sport and Culture
MOE	Ministry of Education
NGO	Non-Governmental Organization
NIED	National Institute for Educational Development
PAD	Planning and Development (in MBESC)
TRC	Teacher Resource Centre
USAID	United States Agency for International Development

EXECUTIVE SUMMARY

Building on the success of its predecessor *LearnLink*, Initiative for Namibian Education Technology (iNET) was designed, “to assist countries in strengthening learning systems to improve quality, expand access, and enhance equity through application of digital and broadcasting technologies”¹. This report intends to conclude the extent to which the iNET project met its results as detailed in the Monitoring and Evaluation Plan within the Annual Work Plan for 2005. Education Development Centre, Inc. (EDC) is the dot-EDU prime grantee. This activity was implemented by the sub-grantee, Academy for Educational Development (AED), from October 1, 2002 through August 31, 2005.

This report finds iNET made substantial progress is attaining each of its three results (see Annex D for full Monitoring and Evaluation Plan). iNET met almost all of its targets and sub-results, often surpassing its indicators for success. Of particular note is the work under Result 2: Structures and support systems will be developed to facilitate ongoing policy discussions on effective uses of ICT for education. The sub-results specify support of education policy dialogue and ICT working groups. iNET well exceeded this sub-result. Through significant coordination support from iNET, the Ministry of Education’s ICT Policy for Education was recently approved and launched. Based on interviews conducted for this report, the policy was well received at all levels and an active and enthused Steering Committee is now developing an implementation plan.

The trainings provided by iNET, under Result 1: Improved standards of professional development for Ministry of Education officials (teachers, Advisory Teachers, principals, Inspectors, and regional and head office staff) will be achieved through expanded and sustained use of ICT and Result 3: Improved Ministry of Education policy and planning through decentralization of the Ministry’s Education Management and Information System (EMIS) to all regional education offices as well as to all circuit offices within BES supported regions, are standout achievements. The Ministry now has computer lab assistants at each of the Colleges of Education and four TRCs who are equipped to trouble-shoot general hardware and networking glitches and who can train students and teachers in basic computer use. Through training on the use of ICTs, Regional Education Planners and TRC managers are now better able to plan, and to use their resources more efficiently.

Through its achievements, iNET provided considerable momentum for ICTs in education in Namibia from students and learners through high-level Ministry officials. How the Ministry will carry this momentum and build on the successes of iNET remains unclear, as there are a number of hurdles that need to be addressed. These include formal hiring of the lab assistants, including basic ICT costs in the College budgets, establishing a working relationship between the main Internet service provider, SchoolNet, and the Colleges and TRCs, and perhaps most notably, provision of additional computers at the

¹ Program Description Initiative for Namibian Education Technology (Annex C)

Colleges. These and other challenges are discussed in each result section and in “Notes on Sustainability”.

BACKGROUND

The Initiative for Namibian Education Technology (iNET), supported by USAID/Namibia, the offices of Energy and Information Technology (EIT) and Women in Development (WID) in the EGAT pillar bureau, and the expertise of partner organizations in dot-EDU and other dot-COM cooperative agreements, builds on the significant advances in ICTs in education of two previous activities in Namibia.

The first activity, Global Communications and Learning Systems (*LearnLink*), supported the National Institute for Educational Development (NIED) to establish computer centres in four Ministry of Basic Education, Sports, and Culture (now combined with the Ministry of Higher Education, Science, and Technology to form the Ministry of Education) resource centres; develop the www.ednset.na website and other online professional training materials; foster the development of teams of “technology champions” located in four of the Ministry’s 13 education regions (now thirteen regions); and develop policies related to ICT, education, and training. The second activity worked with the MBESC’s Planning and Development (PAD) Unit to provide assistance to the Education Management Information System (EMIS) in the form of a small grant to the Rössing Foundation, a local Non-Governmental Organization (NGO).

iNET was designed, “to assist countries in strengthening learning systems to improve quality, expand access, and enhance equity through application of digital and broadcasting technologies”². Education Development Centre, Inc. (EDC) is the dot-EDU prime grantee. This activity was implemented by the sub-grantee, Academy for Educational Development (AED), from October 1, 2002 through August 31, 2005.

The iNET project has the following three results:

Result 1: Improved standards of professional development for Ministry of Education officials (teachers, Advisory Teachers, principals, Inspectors, and regional and head office staff) will be achieved through expanded and sustained use of ICT.

Result 2: Structures and support systems will be developed to facilitate ongoing policy discussions on effective uses of ICT for education.

Result 3: Improved Ministry of Education policy and planning through decentralization of the Ministry’s Education Management and Information System (EMIS) to all regional education offices as well as to all circuit offices within BES supported regions.

² Program Description Initiative for Namibian Education Technology (Annex C)

PURPOSE AND PROCESS

With iNET scheduled to closeout later this month, this report intends to conclude the extent to which the iNET project met its results, as written above, and as detailed in the Monitoring and Evaluation Plan within the Annual Work Plan for 2005. The Monitoring and Evaluation Plan was developed in consultation with USAID/Namibia and approved as listed in Annex D. It was updated regularly throughout the project. This report also identifies areas where Ministry officials, teachers, and those involved in the iNET project would like the Ministry of Education to focus current and future ICTs in education efforts.

In Washington, initial meetings were held with William Wright, dot-EDU Program Director, Nadya Karim-Shaw, Program Manager, Lindsay Crinklaw, Project Assistant, and Julie Maurin, Evaluation Consultant. Issues discussed were M&E work to date, the project closeout, and the need for a final M&E report. EDC provided the Program Description and description of deliverables as outlined in the original contract. Todd Malone, COP of dot-EDU/Namibia³, provided the 2005 Annual Work plan, which includes the Monitoring and Evaluation Plan. Upon review of this document as well as quarterly reports and information obtained off the Internet (namely via www.edsnet.na), Julie Maurin developed a workplan (see Annex B) and methodological approach. The interview protocol consisted of questions aimed at addressing directly the extent to which the project met its intended indicators, targets, sub-results and three overarching results. Each interviewee was asked the series of questions relevant to his or her involvement with the three results throughout the iNET project's duration.

Per the scope of work for this evaluation, and as discussed with Todd Malone and William Wright, interviews were held with the *direct* beneficiaries for each sub-result and target. When possible, the evaluator tried to meet with students, community members, and secondary or tertiary beneficiaries to assess impact, though this was not the primary focus of the report. It should be noted that all interviews were held in absence of iNET staff, and that the evaluator emphasized repeatedly that information gathered was to assess the iNET project, not to plan or design a follow-on activity.

Upon arrival in Windhoek, the evaluator first reviewed both the workplan and methodological approach with Todd Malone and William Wright. There was a briefing at the USAID/Namibia Mission to explain the purpose of the TDY and to ensure USAID/Namibia's needs and requirements were addressed. With the imminent closeout of iNET, the Mission asked that in addition to evaluating the project on the basis of its results, that this report also identify areas where the Ministry should focus its efforts to promote ICTs in education. This information can be found in the recommendations section. USAID/Namibia requested that lessons learned through the project also be presented on ICTs in education. Both the evaluator and COP decided lessons learned are

³ The terms "dot-EDU/Namibia" and iNET are used interchangeably throughout the report.

best placed in the Final Report, and that this M&E report should focus specifically on achievements of iNET according to its M&E plan.

The evaluator met with individuals directly involved in assessing achievement of all sub-results. This included USAID/Namibia staff, Ministry of Education headquarters staff, Policy Steering Committee members, NIED staff, Regional Education Planners, College lecturers, rectors, computer lab staff, TRC staff and managers, the Global e-Schools and Community Initiative⁴ (GeSCI) representative, and key partner organization, SchoolNet/Namibia. Interviews were held with all four Teacher Resource Centres (TRCs) – NIED, Katima Mulilo, Ongwediva, and Rundu, and at all four Colleges of Education – Caprivi, Ongwediva, Rundu, and Windhoek. With the exception of Rundu interviewees, all TRC and College interviews were held in person. Rundu was contacted via phone since it was not possible to visit all four TRCs or Colleges given the distances between these locations. Also, the evaluator was not able to meet with representatives of EMIS due to their travel schedules, though more than half of the Regional Education Planners were interviewed. Please see Annex A for a full list of interviews.

An exit briefing was held at USAID/Namibia at the end of the TDY. Please see Annex E for the USAID/Namibia Debrief Handout.

⁴ The Global eSchools and Community Initiatives is a Dublin-based NGO whose mandate is derived from the UN ICT Task Force. In Namibia, this organization is now working with the ICT and Education Steering Committee to develop an implementation plan and schedule based on the ICT and Education Policy for Namibia. GeSCI's primary contribution to ICTs in education in Namibia is the placement of a Country Programme Facilitator based at the Ministry of Education. There is some funding for demonstration projects.

FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

As explained in the “Purpose and Process” section, the interview questions focused on testing the extent to which iNET achieved its results. The findings, conclusions and recommendations are grouped by result.

RESULT 1: IMPROVED STANDARDS OF PROFESSIONAL DEVELOPMENT FOR MBESC OFFICIALS (TEACHERS, ADVISORY TEACHERS, PRINCIPALS, INSPECTORS, AND REGIONAL AND HEAD OFFICE STAFF) WILL BE ACHIEVED THROUGH EXPANDED AND SUSTAINED USE OF ICT.

FINDINGS AND CONCLUSIONS

Expanded and sustained use of ICTs for Ministry officials was an ambitious undertaking. *LearnLink* laid the early groundwork by educating a number of officials on the use of ICTs and education in Namibia and by providing some commodities. Result 1, which according to the COP demanded approximately half of the staff time over the life of the project, required that iNET build upon the successes of *LearnLink* to achieve the following sub-results: enhance the capacity and sustainability of the TRC computer centres, expand the quality and scope of online profession development and distance learning materials, extend *LearnLink* innovations to the Colleges of Education, and support pre-service teacher training through ICT applications.

Overall, iNET was successful in attaining each of these sub-results. Of notable success were development and use of the Resource Use Plans for the TRCs, updates to the www.edsnet.na website including HIV/AIDS resources and syllabi, training of computer lab staff, and increased use of computers at the colleges and TRCs.

With respect to enhanced capacity and sustainability of the TRC computer centres, iNET met its targets of enhanced and sustainable services, expansion according to the requested needs of the clients and increased monthly revenues. Development of the Resource Use Plans, a target itself, was particularly successful.

Most TRC managers reported the development of Resource Use Plans for the TRCs as highly beneficial. Bringing the managers together at NIED to develop these plans led to three main positive outcomes. First, the development of the plans was often their first exposure to institutional development and various business planning models and processes. The plans allowed the managers to maximize their support to teachers and other clients, and to think carefully about the sustainability of their centres. Second, it created a network among managers to share ideas and problem solve collectively. This is important, as managers do not have regular contact with their counterparts. Third, the plans resulted in increased revenues for some TRCs.

In Rundu, the project exceeded its indicator for success, set at a 20% increase in revenue. The development of the Resource Use Plan along with needs assessments for current and

new customers, led to nearly triple the monthly revenue for the TRC (from \$300-\$400 per month to \$1000-\$1100 per month). The Lab Assistant reported heavy usage of the TRC throughout their hours of operation (9am-4:30pm), in comparison to lulls in usage before iNET.

In Caprivi, the manager reported that since implementing improvements to centre services and management because of iNET, the TRC could now cover costs such as maintenance and supplies with their increased monthly revenues. Increased revenues were attributed mostly to Internet fees, renting of digital cameras and color printing.

The NIED TRC reported that it is challenging to bring in paying customers as workshops were frequently held in the room that houses the computers. TRC equipment was also borrowed by Ministry officials for business purposes and therefore usage fees were waived. The NIED TRC manager, though she did not have hard figures, reported that the number of users had greatly increased since 2003 and she believed this was because of the new iNET-funded ICT resources available.

The Ongwediva TRC similarly supported College staff and Advisory Teachers who do not pay fees for work-related use. When the Internet was connected, teachers frequently used the computers for work, thereby reducing the number of fee-paying customers able to use the lab. They had not been able to repair, replace, or purchase equipment with their monthly revenue, but they were able to support themselves by replacing consumer goods such as paper and toner. The Ongwediva TRC Manager would like to see the Ministry provide financial support for the Ongwediva TRC, as the Regional Education Officer saw the centre as a work place for Advisory Teachers who could not be accommodated at the regional office. This placed a heavy demand on the centre. The manager believed that since the centre began receiving assistance under *LearnLink*, it should, by now, be self-sustaining. However, with Advisory Teachers using the centre as a workplace, their business model did not work.

iNET partially met its indicator of internet capabilities in place at each of the Colleges. There were three significant problems with regard to connectivity at the TRCs and Colleges. First, bad weather and an inconsistent power supply can cause severe damage to the machines, particularly those without UPS protection. Without power, the TRCs faced an obvious shortage of customers. According to TRC staff in Rundu and Caprivi, as well as former iNET Education Specialist Tamsin Bowra, lack of power and an inconsistent power supply were problematic over the past year.

Second, no formal payment plan had been established between Internet provider SchoolNet/Namibia and the Ministry of Education. As of July 1, 2005 connectivity at the TRCs was supposed to be paid for by the Ministry. SchoolNet/Namibia's Joris Komin reported having never received payment from the Ministry, except possibly NIED, and if payment is not received by the end of August he claims he will cut the connection.

Third, Colleges and TRC generally reported poor relations with SchoolNet/Namibia. During the iNET project, there was frequent confusion between SchoolNet/Namibia and the TRCs and Colleges over the cost of equipment repair and of how to resolve connectivity problems. COP Todd Malone was critical in maintaining a working relationship between SchoolNet/Namibia and the computer labs. His absence will be a significant challenge to maintaining functioning, networked labs.

Training of TRC Lab Assistants was a significant asset to the centres. The Assistants were often the only staff person with an understanding of how the computer labs work and basic trouble-shooting. Dennis Mwandangi, the lab assistant at the Ongwediva TRC was an especially exceptional case. Through iNET, Dennis was trained on cabling and networking. He traveled to the Rundu and Katima TRCs to perform these tasks (as well as at nearly all Regional Offices of Education). Both of the computer labs at these TRCs are now fully functioning. The Lab Assistants and Managers generally felt confident that the Ministry will pick up their salaries. However, there was still some uncertainty and there is currently a delay in payment.

The Computer Centre Assistants (CCAs) at the College labs were equally important to their institutions. Through iNET they received training relevant to the maintenance and daily operations of their labs. The trainings were thoughtfully held over school holidays. The CCAs were in employment situations similar to their counterparts at the TRCs. While they too felt confident payment would eventually begin from the Ministry, there were uncertainties about the salary amount and the duration of their contracts. At the Windhoek College of Education, for example, the CCA was given only a temporary contract through November 2005, at N\$1000/month less than her the iNET salary (though iNET did work closely with the Colleges to establish an appropriate pay scale for CCAs). All CCAs were hired at the level of clerks as recommended by the College rectors. In Caprivi and Ongwediva, the CCAs had not received any formal commitment from the Ministry. In both cases, the CCAs and their respective rectors felt confident the Ministry paperwork will be processed soon.

Contributing to the gender equity component of the iNET project, three of four of the CCAs were female. It is also worth noting here that during site visits at the Caprivi and Ongwediva Colleges of Education, approximately equal numbers of female and male students were using the computer labs.

The updated www.edsn.net.na website was a significant, positive achievement. According to NIED's Media Officer, all syllabi were made available on the website and were converted into HTML. This format is easier to download than their previous pdf format. This well exceeded the project's target of 25 syllabi available online. The updated www.edsn.net.na information is also available on CD, but duplication of this year's CD has been slow and there was a shortage of CDs available for Regional Education Officers, Planners, Circuit Inspectors, and teachers. The duplicator was held up in customs in South Africa, leading to a delay of CD reproduction. Now there was no apparent reason

for the delay, and the NIED staff in charge of duplication were unaware of the shortage at the regional level.

The PRESET education officer only recently joined NIED and had limited involvement with iNET. An Education Technology Specialist was not appointed during the life of the project. These factors limited the project's ability to meet its target of developing the capacity of NIED staff to produce training materials for online delivery.

Over 80 lecturers participated in Harvard Graduate School of Education's WIDEWorld online course through iNET with an overall completion rate of 80%. All of the four lecturers interviewed who participated in the Harvard online course, "Teaching to Standards with New Technologies" found it beneficial to their theoretical and practical understanding of how to integrate ICTs in education into their teaching. New skills gained include lesson planning with ICT and using the Internet to develop new assignments. One participant particularly appreciated the national-level collaboration with Namibian educators from other Colleges of Education. For another participant, the course prompted him to think about how to use ICT for education in sustainable ways. He has since received a grant from the UN to further study this topic and became an online coach for new participants in the Harvard online course, by completing their apprenticeship program. Unfortunately for one participant in Caprivi, she was unable to maintain regular access to the Internet and could not complete the end of the course. According to iNET quarterly reports, inconsistent Internet access was the leading reason for failed completion.

The iNET project met its targets of providing computer facilities to all four Colleges of Education. There was a delay in delivering the computers, for which NIED takes responsibility. In cooperation with iNET, NIED agreed to pay for the lab computers while iNET supported installations, networking, and peripherals. Receipt of NIED's funding took longer than anticipated, thus resulting in considerable delays in equipment installations. Each College now had at least 30 workstations - 20 for student use and 10 for lecturers. The computers at Colleges could not read floppy or flash drives. This posed significant challenges for the students who had no choice but to save their work on the hard drive. The CCA reported that these documents were often tampered with or erased by other students. This also required students to use the same computer each time s/he visits the lab. This was difficult to ensure given the high number of students who needed to access relatively few machines.

During site visits to the Ongwediva and Caprivi Colleges of Education, the computer labs were being used at maximum capacity. The Windhoek College of Education lab was also busy, though not full. The CCAs reported these usage rates as standard. Almost all students were using the computers for education purposes. At the Caprivi College, it is required that all assignments be typed, as confirmed by the rector. He noted that computer literacy at the College had increased significantly among students. Additionally, he, as well as other lecturers have seen an improvement in the quality of

student work because of access to the Internet for research. At the Ongwediva College, some lecturers tried to institute the policy of typing all assignments, but there were too few workstations to make this feasible for the students.

While these were significant achievements for ICTs in education at the Colleges, the student:computer ratio still prevented many students from accessing computers. This was particularly the case in Ongwediva where approximately 900 students were expected to share 20 computers. The lecturers interviewed reported regularly accessing the Internet for their research, preparation and planning. This was consistent with an iNET study finding that 80% of lecturers used the Internet for their teaching. However, this same iNET report found that nearly 90% of teacher educators reported a lack of facilities prevented frequent use of ICT as a teaching tool.

All Colleges reported challenges working with the current Internet provider, SchoolNet/Namibia. The Windhoek College of Education was the only College of the four that could afford to change service providers. They used the commercial service provider Mweb, which charged three to four times the amount of SchoolNet/Namibia. Poor communication between SchoolNet/Namibia and the Colleges and TRCs resulted in unnecessary periods without connectivity.

Internet connectivity was critical for computer usage. At Ongwediva, for example, the lecturers' computer lab, which was not currently connected to the Internet, was seldom used. During the site visit, it was empty, while the student lab next door was at capacity.

The Integrated Media and Technology for Education (IMTE) course, which iNET helped NIED to revise, met with mixed success. According to the IMTE lecturer at the Ongwediva College of Education, computers were a regular part of students' homework assignments. He was able to use skills gained from the Harvard online course to design his IMTE lessons. It was challenging for all students to complete these assignments however, because of the small number of computers. At the Caprivi College of Education, however, the CCA reported that the IMTE teacher simply brings the students to the lab and asks her to "show them how to use computers". Demonstrating commitment to ICTs in education at the national level, NIED would like to see IMTE as a core subject, and computer study as a specialization. For this, NIED recognized an intensive professional development program for lecturers would be needed.

Work under Result 1 required regular communication with upwards of 30 beneficiaries. Central to the success attained for Result 1 was the considerable visibility of the COP throughout the country's project sites, and his timely response to problems as they arose. Where the project did not meet its targets or sub-results, it was generally attributable to external factors. These included disruption in connectivity due to poor infrastructure, personality conflicts with the main service provider, and unfilled positions at NIED. There was also a slow response on the part of the Ministry to assume responsibility when

fair warning was given about iNET's end (e.g. salaries for CCAs and lab assistants, payment of connectivity).

RECOMMENDATIONS TO THE MINISTRY UNDER RESULT 1

- To advance ICTs in education in Namibia, the area of greatest need is teacher training. This was expressed across the board - from NIED officials to teachers themselves. While the Harvard online course did provide some training, additional training is particularly needed and perhaps best rewarded at the Colleges of Education where the lecturers can pass on their training to the newest cadre of Namibian educators. Selma Imene-Schutt, Associate Peace Corps Director, recommends IT Peace Corps Volunteers work with Circuit Inspectors or clusters of schools with computers to train teachers. Teacher training will also be critical if IMTE is to become a core subject for the College of Education.
- Colleges and TRCs need to enter into clear contracts with service providers in which both parties understand completely the terms of the agreement. As mentioned in the findings and conclusions, the current status of Internet connectivity is tenuous at the Caprivi, Ongwediva, and Rundu College of Education and at all TRCs (with the possible exception of NIED). According to the service provider SchoolNet/Namibia, the Ministry has not provided payment for connectivity since iNET stopped paying at the end of June 2005. The Colleges and TRCs listed above are under the impression that either the Ministry is paying, or they do not, in fact, know who is paying. This, coupled with historically difficult relations between SchoolNet/Namibia and Colleges and TRCs, does not give reason for optimism. Currently, the commercial providers are too expensive.
- Hire "in-house" technicians. The cost of computer and server repair is significant, particularly in Caprivi, where the College or TRC need to cover not only the labor, but associated travel costs such as flights and accommodation. Most managers, who are familiar with the budget and cost of repairs, feel in-house staff would be cost-effective in the long-run.
- Additional computers are greatly needed. There is a severe shortage of computers, namely at the Colleges, to match both the demand of students and the goals of the ICT Policy for Education.
- Continue national trainings for the lab assistants and managers. Being such a nascent field in Namibia, it is important to bring those involved in ICTs in education in Namibia together to develop a collegial environment in which they can use each other as resources.

- Distribute www.edsn.net CDs. For those familiar with the CDs, there is a strong demand at the regional and local level. Because of the iNET project, the CD contains HIV/AIDS information that could be helpful for educators in their classrooms.
- Continue to promote gender equity by maintaining gender balance among ICT staff at Colleges and TRCs.
- Sensitize Colleges and TRCs to working directly with service providers. This is particularly critical in working with the service provider, SchoolNet/Namibia, where relations between the office and Windhoek and all of the Colleges and TRCs are strained. iNET played a strong coordination role and without them, it is critical that Colleges and TRCs be able to solve problems independently.
- If the Ministry plans to regularly send its employees to use the TRCs for work-related purposes it should provide support, consistent with the amount other customers would pay.

RESULT 2: STRUCTURES AND SUPPORT SYSTEMS WILL BE DEVELOPED TO FACILITATE ONGOING POLICY DISCUSSIONS ON EFFECTIVE USES OF ICT FOR EDUCATION.

FINDINGS AND CONCLUSIONS

With respect to its policy work, the iNET project exceeded its targets. Through significant coordination support from iNET, the Ministry of Education's ICT Policy for Education was approved by the Cabinet on March 15, 2005 and officially launched on April 6, 2005.

The Steering Committee, comprised of a representative mix of stakeholders was active, engaged, and enthusiastic throughout the project, and the committee members interviewed generally felt confident their momentum will continue. According to NIED's Alfred Ilukena, Head of the ICT Steering Committee, the coordination role of iNET in the process of policy development, namely the work of COP Todd Malone, was excellent. The mix of those involved in drafting the policy, and the sense that this was an inclusive process were important to having open dialogue and to creating a policy reflective of countrywide needs and challenges.

While iNET provided guidance, support, and did perform a substantial coordination role, the Ministry felt empowered by the process resulting in considerable investment and sustainability. This was attributed to the way in which the iNET team coached but did not force the Ministry through the process. Also relevant was the Ministry's strong will and commitment to the process. How this will and commitment will play out in financial

terms remains to be seen, though given the already constrained budget and based on conversations with GeSCI regarding the implementation plan, heavy donor support will continue to be needed, as has been the case throughout the developing world for ICTs in education.

The working groups, which were subcommittees of the steering committee, all met their deadlines throughout the process, confirming their commitment to and on-time delivery of the policy. Currently, the steering committee is developing an implementation plan to match a timeline and resources to the policy. GeSCI is overseeing this process. Please see additional notes on GeSCI in the sustainability section.

At the regional level, most planners were aware of the policy and some had read the document. Those who had read the policy generally found it to be well written and on-target. Those working at the regional and local level, however, do express some skepticism about the implementation of such an ambitious document.

The www.edsnet.na website and CD were familiar to approximately half of the Regional Education Planners interviewed. Those who had seen the CD or had limited copies were eager to get additional CDs to distribute to the Circuit Inspectors, Advisory Teachers and other teachers throughout their region. iNET, through the www.edsnet.na web site, made available resources on HIV/AIDS. This included an article titled, “The Impact of HIV/AIDS on Education in Namibia” by Abt Associates South Africa Inc., a poster gallery, The National Policy on HIV/AIDS for the Education Sector and other resources. Few of the Regional Education Planners were aware this HIV/AIDS information was available on the CD or through the www.edsnet.na website.

iNET met its target of conducting a feasibility study for a technical high school, which was accepted by USAID/Namibia. iNET did not meet its indicator of publishing lessons learned papers.

RECOMMENDATIONS TO THE MINISTRY UNDER RESULT 2

- Ensure smooth transition of coordination of the Steering Committee from iNET to GeSCI. As expressed by steering committee members, they all have fulltime jobs and cannot assume responsibility for the coordination. They need an outside body to assist. Three of the committee members interviewed have worked with GeSCI over the last several months and report supportive and promising exchanges. Please see additional notes on GeSCI in the sustainability section.
- Maintain current mix of stakeholders on the committee. As stated above, the committee is a diverse group, pulling across public and private agencies as well as donor and other groups, which is critical to its success and should be maintained.

- With regard to the ICT Policy for Education, the Ministry needs to demonstrate its commitment through action, and to raise awareness on the purpose of this document. As noted earlier, education officials who were not involved in the development of the document, namely those in the northern regions of Namibia, express some skepticism over its lofty goals. There needs to be a Ministry statement about the intent and purpose of this document. It needs to be made clear to all Namibian educators and administrators that this is a guiding document, and a framework to be used as the country tries to embrace ICTs in education. Without this sort of awareness raising, frustration could mount at the regional and local-level around what may appear to be limited action on the part of the Ministry.

RESULT 3: IMPROVED MBESC POLICY AND PLANNING THROUGH DECENTRALIZATION OF THE MINISTRY'S EDUCATION MANAGEMENT AND INFORMATION SYSTEM (EMIS) TO ALL REGIONAL EDUCATION OFFICES AS WELL AS TO ALL CIRCUIT OFFICES WITHIN BES SUPPORTED REGIONS.

Findings and Conclusions

Despite key position at PAD and EMIS being unfilled for 9 month, iNET made significant inroads to improved policy and planning through decentralization of EMIS. iNET shifted its focus to the Regional Education Planners in order to continue to make progress on this result. The Regional Education Planners felt genuinely supported by iNET and appreciated the consistent contact with the COP throughout the project.

The Regional Education Planners received trainings on Excel, spreadsheets, and other tools with which to collect and report their data. Feedback on the quality of training was generally positive. All planners reported gaining some useful information, though there was a wide range of skills among the group, and the training was cited as too advanced for some and too basic for others. According to the planners, the trainings included Circuit Inspectors, many of whom did not have computers, and the trainings did not include secretaries and data collectors who would have benefited from new skills presented.

Across the board, planners cited increased efficiency with the use of their iNET-provided laptops. Many planners took their laptops home in the evenings, to off-site trainings, and to site visits. In the Kunene Region, the planner was able to transfer a secretary from an over-staffed school to his office to work on his desktop computer. He created what he calls his own "EMIS office", whereby the secretary was able to maintain the data for the region. He said this was the best thing that has happened to his office in 10 years.

iNET met its target of piloting and testing the EMIS web-based interface. Because of the vacancies at the Ministry, only 2002 EMIS data is currently available (both in hard copy

and online). The EMIS Chief Education Officer has been trained to upload the EMIS data as it becomes available. Only some of the planners were aware of EMIS' web-based interface. It should be noted that the Ministry asked iNET not to do a public launch of the interface, since the data available is from 2002.

Caprivi was the only regional office without Internet access. This resulted in significantly less understanding of the EMIS web-based interface compared to officials at offices with regular Internet access. The Caprivi office was unable to be connected due to unpaid phone bills.

Despite the hurdles of vacant PAD and EMIS position, iNET made considerable progress in reaching Result 3 and its associated sub-results. As an indication, almost all of the Regional Education Planners were anxious to receive the 2003 and 2004 data electronically. Through their laptops, Internet connectivity at their offices, and training provided by iNET, they generally expressed improved agility in finding and using ICTs for planning.

RECOMMENDATIONS TO THE MINISTRY UNDER RESULT 3

- With the key positions now filled at the Ministry, the EMIS website should be updated with more current data as soon as possible. The planners are now eager to see and use this data, fuelled in part by the skills provided to them under iNET. Hopefully EMIS will be able to capitalize on their current interest by providing 2003 and 2004 data via their website and on CD.
- Though again not a mandate of iNET, the planners reported a lack of skills in data analysis and long-term planning. Two Regional Education Planners expressed frustration by having the long-term goal of Vision 2030 without additional training on setting near and mid-term benchmarks. Even with access to EMIS data, some planners will need additional support to best help their regions achieve long-term educational goals.

V. NOTES ON SUSTAINABILITY

For many of the CCAs, TRC managers, Regional Education Planners, and College Lecturers, the trainings and support through iNET provided them with information and skills that bolstered their confidence in working with ICT and in supporting ICTs in education in Namibia. ICT was recognized as an important new component in advancement for education in Namibia and the work under iNET contributed to a small body of skilled, and most importantly, interested and committed staff and educators at the Colleges, TRCs, and within the Ministry. If the Ministry can continue to support these individuals and to capitalize on the current momentum that is also bred from the newly approved policy, this will be one of the strongest, most sustainable components of iNET.

In developing the ICT Policy for Education, the effective partnership between iNET and the Ministry not only led to an approved and fully endorsed policy, but it fostered a positive, “can do” attitude among its members. Hopefully GeSCI will be able to maintain this level of interest, enthusiasm and commitment. GeSCI felt that the policy iNET facilitated in developing was a solid basis on which to move forward, as evidenced by high level Ministry support. The current Prime Minister and former Minister of Higher Education, Training, and Employment Creation, Nahas Angula, was one of the driving forces in the creation of the policy. On sustainability of ICTs in education in Namibia more broadly, the GeSCI representative added that sustainability was dependent upon the commitment of USAID/Namibia, particularly in content development and teacher training.

Within the Colleges, there was also strong support at the highest levels of the administration. Ongwediva College of Education Rector, F.B. Uahengo reported regularly presenting on ICTs in education for the lecturers and promoting the importance of ICT for the next generation of Namibian educators. Caprivi College of Educator Rector John Nyambe proposed to the College council a budget that for the first time included payment for an Internet service provider and acquisition of computers and software.

According to NIED, GeSCI, and based on site visits to the Colleges and TRCs, the Ministry has the will but not the financial means to reach the current ICT demands at its Colleges and schools. iNET worked closely with the College IT committees to convey realistic future costs associated with the labs. The Colleges and TRCs, however, are now struggling to maintain the computers and connectivity provided under iNET, thus putting the sustainability of elements of the iNET project at risk.

iNET led to considerable advancement of ICTs in education in Namibia as evidenced by both the policy-level achievements, and the exposure to and oftentimes consistent use of ICTs by a wide range of education planners and practitioners. Though there remains some uncertainty about the future of ICTs and education, particularly with respect to funding, iNET not only met most of its ambitious targets but it fostered an environment

of excitement and enthusiasm for the continued expansion of ICTs and education in Namibia.