

*Fourth Quarterly Progress Report, 1 March 2003 - 31 May 2003
Center to Bridge the Digital Divide, Washington State University*



Fourth Quarterly Progress Report to Internews Network
1 March 2003 to 31 May 2003



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ACRONYMS

ICT	Information, Communication Technology
P2P	Peer-to-Peer
C2C	Community-to-Community
NARUC	National Association of Regulatory Utility Commissioners
ARICEA	Association of Regulators of Information and Communication for Eastern Africa
NCC	Nigerian Communications Commission
WATRA	West African Telecommunications Regulators Association
KELP	Knowledge Exchange and Learning Partnerships
WSU	Washington State University
NSF	National Science Foundation
CBDD	Center to Bridge the Digital Divide, Washington State University
UDSM	University of Dar es Salaam
AFRALTI	African Advanced Level Telecommunications Institute
ITU	International Telecommunications Union
TRASA	Telecommunications Regulators Association of Southern Africa
KEWL	Knowledge Environment for Web-based Learning
QAR	Quality Assistance Review
Dot-GOV	“Digital Opportunity through Technology and Communication Partnerships-Policy Project”
SIPRS	“Southern Africa Development Community Information Policy Reform Project”
SADC	Southern African Development Community
BTC	Botswana Telecommunications Commission
PUC	Public Utilities Commission
COMESA	Common Market for Eastern and Southern Africa
FCC	U.S. Federal Communications Commission
DFID	Department for International Development (U.K.)
HRD	Human Resource Development
AVOIR	“African Virtual Open Initiative Resources” Project
4-H T-4	“Today’s Teens Teaching Technology” Project
KPMG	KPMG Consulting
CATIA	“Catalysing Access to ICTs in Africa” Project

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When the webs of the spider join, they can trap a lion.”
--Ethiopian Proverb

I. INTRODUCTION

The Network for Capacity Building and Knowledge Exchange in the Information, Communication and Technology (ICT) and Telecommunications Sector (NetTel@Africa) project has four components:

- 1. Teaching and Learning Program in ICT/Telecommunications Policy and Regulation**
- 2. Peer-to-Peer (P2P) Exchanges**
- 3. Community-to-Community (C2C) Applications**
- 4. Research Program** on the relationships between capacity building, telecommunications sectoral performance and how ICT/telecommunications policies affect other sectors.

This Fourth Quarterly Report (1 March 2003 – 31 May 2003) also serves as the first Annual Report of the NetTel@Africa Project (hereafter referred to as both “NetTel@Africa” or “NetTel”). Following the format of the Third Quarterly Report, a summary of NetTel@Africa’s cumulative results for the first year is provided to show how the interdependence of each component contributes to the success of the project.

The Africa-based **Teaching and Learning Program in ICT Policy and Regulation component** features a Post-Graduate Diploma, a Masters Degree and a seminar-style capacity building event or stand-alone training activity known as NetTel@Africa Telecoms Safari (an intensive interactive learning environment similar to the “boot camp” run by the National Association of Regulatory and Utility Commissioners-NARUC).

The 2003 Fourth Quarter highlights include:

- The conclusion of an extensive review process designed to ameliorate gaps and overlaps in the training curriculum.
- The rollout of the first NetTel Telecoms Safari with the dual role to provide training to junior level regulatory staff members and provide the developers of the courses with crucial feedback from expert practitioners and potential students.

Outstanding issues to be handled in the immediate future include the resolution of reciprocal agreements among higher education institutions, formalization of the modes of course delivery, standardization of course format, and the inclusion of participant’s

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feedback from the NetTel Telecoms Safari. A meeting for the course developers is planned for 1-5 September 2003, in Pretoria, South Africa. The roll-out for the post-graduate diploma is scheduled for October 2003.

The newly formed Association of Regulators of Information and Communication for Eastern Africa (ARICEA) is planning a NetTel Safari on 22-28 November 2003, in Kampala, Uganda, hosted by Makerere University and the Uganda Communications Commission. The Nigeria Communications Commission (NCC) also is planning a NetTel Pilot Session in November 2003 to introduce the NetTel curriculum to the West African Telecommunications Regulators Association (WATRA).

The **Peer-to-Peer component** focuses on three types of relationships among Africans and between Africans and the U.S.:

- Academic-to-academic (closely tied to the teaching and learning program above).
- Regulator-to-academic (also linked to the teaching and learning program).
- Regulator-to-regulator (fostering reciprocity agreements for capacity building and knowledge sharing between regulatory bodies in Africa and the U.S.).

The P2P is a loosely structured arrangement of formal and informal exchanges that have emerged between regulatory professionals, academics, and members of the private sector.

During the Fourth Quarter, the main venue where many of these exchanges took place was at the NetTel Telecoms Safari. Of the 72 persons who attended the Safari, there were 28 academics, 20 regulatory staff members, five associates from regional regulatory associations, nine representatives from various governmental offices, six representatives from nongovernmental organizations, and four individuals from the private sector. In total, eighteen countries from three continents were represented. During the 12 day Safari several formal networking events were held. As well, an unknown number of informal networking meetings occurred throughout the Safari period.

Another P2P Network highlight was the ICT Simulation Workshop held at the campus of the University of Maryland. Attending this workshop were representatives from Makerere University (Uganda) and the University of Zambia. The results of this workshop were pilot tested at the NetTel Safari and will be incorporated in the course concerning on the ICT Industry and Markets.

The **Community-to-Community applications component** illustrates the essential connections that ICT and telecommunications policy and regulation have on other sectors in society (i.e., transportation, trade, education, etc.). In addition to the five Knowledge Exchange and Learning Partnerships (KELP) out of South Africa, the “Network for Teaching, Learning and Technology” was formally launched in April 2003. This project is a joint effort by Washington State University (WSU) and the University of

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Witwatersrand and is funded by the Association Liaison Office for University Cooperation in Development.

Anticipated next steps for the C2C include the development of a community-level knowledge exchange between an association of teen technology clubs from the U.S. and corresponding teen programs in Africa. A proposal for this potential initiative is still in the formative stage.

The **NetTel Research Program component** focuses on monitoring and evaluating the progress of the Teaching and Learning Program component and also provides a mechanism for collecting and analyzing new content that will be added to the various courses that comprise the Training Program. It is anticipated that additional funding will be leveraged to conduct research on two key impact questions:

- Does policy make a difference in the performance of the telecommunications sector?
- Does improved performance of the telecommunications sector translate to benefits at key sectors, especially education, at all levels?

Three major developments occurred during the Fourth Quarter:

- The Afric.Dot.Edu book was finalized and submitted for printing.
- The NSF grant proposal submitted by the WSU Center to Bridge the Digital Divide (CBDD) was advanced to the next level of review at National Science Foundation.
- Refinements to NetTel's Monitoring and Evaluation Plan were made in collaboration with the IMPACT, an evaluation consulting group recommended by USAID/RCSA.

Future activities of the Research Program include two book projects currently being pursued by the CBDD. The first book addresses global approaches to universal service for ICT and Telecommunications. The second book is collaborative effort between the CBDD and the NetTel partners to describe how the collaboration that drives the NetTel project is sustained.

Section II is a summary of prior accomplishments for each project component, followed by an update on the current quarter activities and an overview of the next steps forward.

Section III highlights the key management actions completed by Washington State University and key coordination tasks undertaken by the University of Dar es Salaam (UDSM).

Section IV restates the network principles that govern implementation of the NetTel@Africa project and includes remarks from the Director on key project implementation challenges.

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II. PROGRESS ON PROJECT COMPONENTS

1. Teaching and Learning Program in ICT/Telecommunications Policy and Regulation

A. First, Second and Third Quarter Accomplishments: Highlights

[Prior to June 2002] Identification of the topics to be covered in the ten courses (previously referred to as modules) at the basic level for a post-graduate diploma and ten courses at the advanced level for a master's degree in ICT policy and regulation at African universities. The course titles and responsible lead universities are listed below:

Course 1: *Macro Environment and Implications of Telecommunications*
(University of Fort Hare, South Africa)

Course 2: *ICT Technologies* (University of Botswana)

Course 3: *ICT Industry and Markets* (University of Zambia)

Course 4: *Spectrum Management- previously referred to as Provider Resource Allocation, Assignment, Registration, and Enforcement* (University of Western Cape, South Africa)

Course 5: *Financial Analysis* (University of Dar es Salaam, Tanzania)

Course 6: *Approaches to Regulation* (University of South Africa)

Course 7: *Universal Access and Quality of Service* (University of Witswaterstrand, South Africa)

Course 8: *Service Pricing* (African Advanced Level Telecommunications Institute- AFRALTI, Kenya)

Course 9: *Policy, Law, and Institutions* (University of South Africa)

Course 10: *ICT Applications* (University of Zambia)

[September 2002] Mr. Tom Wilson from WSU helped AFRALTI develop Course 8 on Service Pricing. AFRALTI serves as an International Telecommunications Union (ITU) Center of Excellence.

[September 2002] The NetTel@Africa Working Group met in Cape Town, South Africa to discuss the project's timetable and work plan, and coordination with the Telecommunications Regulators Association of Southern Africa (TRASASA).

[September 2002] The project website is re-launched following harmonization with African partners, with a new website address: <http://www.nettelafrica.org>

[November 2002] Completion of the draft prospectus detailing the outcomes and assessment criteria for each course. An updated prospectus can be downloaded at the following link: <http://www.nettelafrica.org>

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[September-November 2002] Collection of relevant on-line resources to help course developers design their syllabi and reading assignments around freely available digital content rather than trying to locate expensive printed materials. A list of these resources can be viewed at: <http://www.nettelafrika.org>

[September 2002] Program timetable finalized (see Table 1 below)

ACTIVITY	2002 09	10	11	12	2003 01	02	03	04	05	06	07	08	09	10	11	12	2004 01	03	04
Complete Course Development																			
Program Approved by Univ. Authority																			
Workshop for Course Trainers																			
Pilot Test Courses																			
Launch Post-Graduate & Masters Diploma Programs																			
Design Logo																			

[November 2002] Sub-agreements with African and U.S. universities and training institute were completed by the end of the Second Quarter

[January 2003] CBDD began building a course on Research Methods. This course will be offered to the Masters Degree students as a required course.

[Jan-Feb 2003] Planning for the first NetTel@Africa Safari (loosely based on Camp NARUC, for regulators and staff in the U.S.), where the ten courses will be pilot tested. Also planned are workshops on “hot topics.”

[January-February 2003] On-site training concerning use of the “Knowledge Environment for Web-based Learning” (KEWL) was provided by a two-person team from the University of Western Cape to all eight institutions. Bandwidth issues were flagged as an obstacle that need to be overcome. To resolve this issue, whenever possible a mix of information and communication technologies will be used: CD-ROM for static content that does not change every year and the Internet for online discussion forums.

[February 2003] All advances dispersed to partner institutions.

[February 2003] A Quality Assurance Review (QAR) team initiated site visits to assess progress made on the courses focusing on three criteria: content, learning activities, and institutional commitment of the eight African higher education partners. The team was

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headed by Mr. Dale Hatfield, (University of Colorado-Boulder, Interdisciplinary Telecommunications Department) and included Dr. Mathew Mitchell (WSU) and Dr. Maria Beebe (WSU) who participated as a virtual team member.

The team was joined by different colleagues from the NetTel coordinating institution – University of Dar es Salaam. Professor Beda Mutagahywa joined the team at University of Fort Hare and University of Western Cape; Professor Mayunga Nkunya joined the team at the University of Botswana and University of Witswatersrand; and Professor Hashim Twaakyondo joined the team at the University of Zambia and University of South Africa.

[February 2003] Training by University of Western Cape was provided to the University of Botswana, University of Zambia, AFRALTI, University of Dar es Salaam, University of Witswatersrand, University of South Africa, and University of Fort Hare. Additional training was provided to Kenya Communications Institute.

B. Fourth Quarter Accomplishments (1 March – 31 May 2003)

Of the three interrelated training curricula being developed by NetTel, the training program curriculum for the Post-Graduate Diploma is the most prepared for implementation rollout in October 2003. Following closely behind is the curriculum for NetTel Telecoms Safari. More development work is still needed on the Masters Degree curriculum. As the network moves towards delivery, a rigorous effort to assure quality is being concurrently implemented. An extension of the QAR was the pilot testing of the Post-Graduate curriculum during the first NetTel Telecoms Safari.

i. Course Development

At the Post-Graduate Level, most of the courses need to tighten their link to ICT and telecommunications policy and regulation. In some cases, this requires removal of non-essential materials; in other cases this requires addition of specific content areas important to ICT and telecommunications regulation.

Only three institutions have completed their course materials for the Masters Degree level. However, these course materials will not be needed until January 2005. Those course developers who still need to complete their advanced-level materials are aware of their responsibilities to meet deadlines.

Agreement on a standard for course design has been reached. Standardizing the design will help the student be more attuned to the learning outcomes, learning objectives, assessment procedures, and course expectations.

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ii. Course Delivery

Despite good computer labs in all of the institutions, low bandwidth and lack of peering in Africa continue to be challenges to on-line delivery of the courses. There are a number of options for distributing the curricula that correspond to the availability of bandwidth.

For those with high bandwidth, the online environment provided by KEWL accessed over the Internet is the primary option.

For those with moderate bandwidth, static content from KEWL can be downloaded onto a local server where students can access their courses on an intranet and need only access the Internet when posting assignments (when the course instructor is remote) or participating in discussion fora.

For those with low bandwidth and without access to a computer lab, CD-ROMs and thumb drives can be sent to the students so they can access their course material in a non-networked environment and need only access e-mail to reply to other students and instructors who are at a distance.

In each option, interactivity is maintained, though the lower the bandwidth, the less robust interactivity will be.

The learning environments through which the NetTel curriculum will be delivered requires both collaboration and interactivity. The pilot testing during the NetTel Safari demonstrated that the learning activities that were learner-centered (including interaction and group work) were clearly more successful than those that were passive and teacher-centered. This analysis is based upon participant's reactions and to the courses and the expert observers at the Safari.

While some interactivity can be delivered with bandwidth intensive activities, course delivery will require a minimum level of face-to-face interaction for all courses (even those courses they are not responsible for delivering). Course developers are being advised to build interactive learning activities as much as possible and are reminded that part of their responsibility includes the provision of certain "learning resources" for all courses offered by their institution. These learning resources include computing equipment, a learning facilitator, a classroom, and access to reading materials.

iii. Quality Assurance Review

Between 16 February and 15 March 2003, a series of Quality Assurance Review visits were conducted at the locations of NetTel's course developers. The purposes of these visits were to:

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- Determine the readiness of the ten NetTel courses for pilot testing.
- Establish the level of support within each of the partner institutions for participating in the NetTel training program.
- Resolve any outstanding issues affecting course development and program implementation.

The QAR Team visited seven of the eight current network partner institutions; due to security issues, country clearance was cancelled for the QAR Team to visit AFRALTI in Nairobi, Kenya. During each visit, the QAR Team met with the course development teams and the institution's administration.

The process for these seven QAR visits began at the University of Fort Hare (Alice, RSA) and terminated at the University of Dar es Salaam. Between these two visits, additional institutions visited include the following (in chronological order of visits): University of Western Cape, University of Witwatersrand, University of Botswana, University of South Africa, and the University of Zambia. The average length of each visit was approximately 2.5 days. The format for the QAR visits varied depending on the agenda set by the host institution. The QAR Team produced a report after each visit that was sent to the respective course development team.

There were six members on the QAR Team, which was led by Dale Hatfield from the University of Colorado. Other members included Beda Mutagahywa, Mayunga Nkunya, and Hashim Twaakyondo, all from the University of Dar es Salaam. Also participating on the QAR Team were Matthew Mitchell and Maria Beebe, from WSU.

Based on the findings from these QAR visits, the overall assessment of the NetTel@Africa training program the quality of NetTel courses is positive and the outlook is optimistic. Considerable work has been accomplished by most of the course developers. In some cases, the course developers are nearly done with developing their content and learning design as well as having their course uploaded onto KEWL. In other cases, more serious work is needed. Comments regarding specific courses have been provided in the official QAR Visitation Report (see **Attachment 1**). The QAR Team provided recommendations to all course developers for improvement.

Two particularly important findings emerged from this QAR process. First, there were no irresolvable problems presented by the course development teams or their respective institutional administrations. In this respect, the QAR team and respective partner were able to collaboratively devise workable solutions for all concerns and potential problems uncovered during the QAR process.

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The second important finding is that the goal of having all courses ready and uploaded onto KEWL by the first NetTel Safari pilot-testing was obtainable. However, considerable work was required by both the QAR and the course development teams to accomplish this goal.

iv. NetTel Telecoms Safari

By many measures, the NetTel Telecoms Safari was a success. This event, which was convened by TRASA, Botswana Telecommunications Authority, and the University of Botswana on the university campus in Gaborone, Botswana began on the evening of 25 May and ended on the evening of 6 June 2003 (see **Attachment 2** for NetTel Safari program). During the event, there were 12 days of structured activities; the only day without structured activities was Sunday, 1 June 2003. A total of 72 delegates attended this event, with 32 attending all 12 days; the remaining attendees were limited by previous obligations (see **Attachment 3**: List of participants). Seventeen countries were represented, including Angola, Botswana, Ethiopia, Lesotho, Malawi, Mauritius, Mozambique, Nigeria, Rwanda, Seychelles, South Africa, Swaziland, Tanzania, U.K., USA, Uganda, and Zambia.

In addition, evaluators included current regulators and operators in telecom's regulatory sector. These policy makers were able to provide valuable feedback on course presentations and could affirm their value to the future of the industry. Finally, another dot-GOV project supported by USAID/RSCA, the Southern Africa Development Community Information Policy Reform (SIPRS) project provided essential logistical and technical support to the Safari.

There were five objectives of the NetTel Safari; although each was ambitious, either the objective was accomplished or major progress was made on the objective. The structure of the NetTel Safari was designed with each of these objectives in mind, which are described below. (See **Attachment 4** for a NetTel Safari postmortem report).

- The first objective was to provide a forum in which each of the ten Post-Graduate Diploma courses could be assessed. This assessment focused on a) the appropriateness of the course materials for training members of the ICT and telecommunications regulatory community in the region, b) the academic quality of the course materials, and c) the feasibility of the course work requirements for working professionals.
- The second objective was to expose members of the NetTel network to emerging issues (hot topics) relevant to ICT and telecommunications regulation.
- The third objective was to create an enabling environment for interdisciplinary networking (e.g. mixing academics, regulators, donor organizations and private sector stakeholders at the same function for 12 days).

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- The fourth objective was to conduct a series of meetings for the course developers to vet their concerns and seek solutions to technical issues regarding the structure and delivery of the NetTel training program.
- The fifth objective was to explore possibilities for extending the NetTel network beyond the SADC region.

The activities engaged in during the NetTel Safari were designed to help meet the five objectives.

Objective One. Each weekday morning began with a two-hour overview of one of the NetTel courses, and each of the ten weekdays was dedicated to a specific course (a schedule of courses is available on the NetTel informational web site <http://www.nettelafrica.org>). The overview was followed by a two-hour sample lesson from the same course. The course developers presented their overview and sample lesson in a computer lab to an audience of academic peers and representatives from governmental agencies, regulatory bodies, and private sector vendors of ICT-related services. During this combined four-hour period, the course developers received constructive feedback on the content and design of their respective courses.

Objective Two. Each weekday afternoon, the NetTel Safari reconvened in a lecture hall for a “hot topic” presentation. These presentations were hosted by invited experts from a variety of sectors. For example, members of different regulatory communities discussed topics such as universal access, consumer empowerment, financial analysis, service pricing, etc. One of the guest presenters from the private sector described the wireless movement and another presentation from a U.S. university demonstrated the use of simulation for solving potential conflicts in licensing.

Objective Three. During the weekday evenings and on Saturday (31 May 2003), time was set aside for formal and informal meetings. On three occasions, NetTel’s academic partners formally met to discuss issues such as reciprocal agreements, course delivery, and a standardized course format. On one occasion, NetTel’s regulatory partners formally met to discuss opportunities for peer-to-peer networking (minutes from these formal meetings are also available on the NetTel information web site, <http://www.nettelafrica.org>).

On 31 May, the group also ventured out for a “team building” experience: a drive through a wildlife refuge and a celebratory dinner. Numerous informal side meetings occurred in which new relationships between universities, development projects, and regulatory bodies were explored.

Objective Four. Course developers had ample time to discuss their concerns during the Safari and concluded that a separate meeting needed to be held to address these needs. A meeting is planned for September 2003 at the University of South Africa, Pretoria.

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Objective Five. As noted earlier, Safari attendees came from all over the continent. A tangible result of the attractiveness of the pilot courses and the proposed means of delivery is the interest expressed by ARICEA and WATRA to host similar events within the Eastern African region and the West African Region, respectively.

C. Future Actions for the Training Program

i. Senate approval for Post-Graduate Diploma and Masters Program Development at African Partners (October 2003)

The University of Western Cape and University of South Africa succeeded in obtaining approval for a post-graduate diploma and masters program from their Faculty Senate. The four South African higher educational institutions involved with NetTel have agreed to prepare a joint submission to the Council for Higher Education in South Africa. The universities of Botswana, Dar es Salaam, and Zambia have initiated discussions about their proposed new programs with their respective faculty senates. In East Africa, AFRALTI needs to begin discussions with either Nairobi University or Jomo Kenyatta University for Agriculture Technology regarding possible joint degrees.

ii. Course Developer's Meeting (September 2003)

Building on the momentum created during the NetTel Safari, a meeting for the course developers is being planned for September 2003. This meeting will focus on ensuring that feedback received during the NetTel Safari is considered by the course developers, assuring the quality of the modified course content and design. Decisions will also be made on course delivery and reciprocal agreements. This meeting is scheduled to be hosted by University of South Africa in Pretoria. Prior to this meeting, a series of group discussion *fora* (on KEWL) will be conducted to identify real and perceived barriers and begin a process of amelioration. These *fora* will help focus the September meeting on tangible actions.

iii. Next NetTel Telecoms Safaris (November 2003)

The first NetTel Telecoms Safari served two roles: to train junior regulatory staff members and to pilot test the NetTel Post-Graduate Diploma curriculum. The next NetTel Safari will move from pilot testing curriculum to the intensive training of regional ICT and telecommunications regulatory staff. ARICEA would like to host one in Kampala, Uganda (22-28 November 2003) and the Nigerian Communications Commission would like to host one for WATRA (3-8 November 2003). TRASA will have to set a date for the next NetTel Safari.

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2. Peer-to-Peer (P2P) Exchanges and Network

A. First, Second and Third Quarter Accomplishments: Highlights

[pre-June 2002] The Maine Public Utilities Commissioner, Mr. Tom Welsh attended the NetTel@Africa launch in Botswana in April 2002 and met with the Botswana Telecommunications Commission (BTC). Using their own funds, staff from BTC followed up by visiting the Maine Public Utilities Commission (PUC) shortly thereafter.

[July 2002] The launch of the NetTel@Africa P2P component in Portland, Oregon was conducted during the biannual NARUC meetings. Productive meetings were held with NARUC staff, and five representatives from TRASA: Susan Mulukita (Zambia), Colonel Nalingigwa (Tanzania), Thapelo Mogopa (TRASA Program Manager), Kagiso Baatswana (TRASA Program Economist) and Victoria Byoma (Commissioner from Uganda): also attending the meeting were Gilbert Maeti (Common Market for Eastern and Southern Africa - COMESA), Francis Kituto (USAID/REDSO and COMESA), and representatives from Morocco.

[October 2002] Field visits by Ms. Funlola Akiode (NCC) with the Washington D.C. PUC and the Oregon PUC, including the Canby Telecommunications Cooperative Association.

[November 2002] Individual commissioners, regulators, and staff have identified the course development team they will join and provide expert/peer advice on resources, case studies, and other on-line materials, review courses, and, subject to availability of funding from resource partners, act as co-facilitators of the courses during the NetTel@Africa Safari.

[November 2002] Dr. Bill Gillis, Director of the WSU Center to Bridge the Digital Divide presented the P2P Network design to NARUC at their 2002 annual meeting in Chicago, Ill.

[December 2002] A sub-agreement with NARUC was signed to continue the P2P activities and finalize a relationship with NetTel@Africa.

[January 2003] Participation in an on-line survey to assess the interest and relevant skills for specific regulatory staff members of NARUC was launched. All U.S. State Commissions were notified by NARUC by email of the opportunity to register as a potential regulatory peer resource. An announcement was also made at the recent NARUC meeting in Washington, D.C. (February 2003). To date, 33 U.S. regulators have completed the on-line survey.

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A similar survey will be conducted with African regulators and their staff. A working draft of this survey can be viewed at the following link:

http://cbdd.wsu.edu/networks/other/p2p_survey_v1.htm

[February 2003] Dr. Gillis met with NARUC staff and Commissioners, a U.S. consulting firm Computer Frontiers, Inc, (a key implementer of the USAID/Africa Bureau Leland Initiative), and the management of the USAID/Africa Bureau Leland Initiative to discuss coordination of P2P activities.

[January 2003] Dr. Beebe participated in the launch of the new ARICEA at Addis Ababa, Ethiopia. The meeting ended with a draft regional approach to capacity building consistent with the ICT Regulatory Harmonization Programme.

[January 2003] Mr. Paul Margie from the Federal Communications Commission (FCC) visited the University of Western Cape to help develop Course Four, *Spectrum Management*. He also visited Nairobi University and Africalaw.com, and attended the launch of the new ARICEA in Ethiopia.

[January 2003] Two staff from the New Jersey PUC, the Commissioner Mr. Fred Butler, and Mr. John DeLucca also attended the ARICEA launch. Commissioner Butler discussed NARUC programs and willingness to participate in the P2P program; he also initiated discussions for a P2P relationship with the Uganda Communications Commission.

[January 2003] TRASA is checking with its membership on interest in participating in the P2P component with other NetTel@Africa partners.

[February 2003] A donor coordination meeting was held at Johannesburg sponsored by TRASA. The purpose of the meeting was to identify joint activities among NetTel@Africa, the USAID/RCSA funded dot-GOV SIPRS project of Internews Network, and the new ARICEA. Representatives from USAID/RCSA, USAID/REDSO, Commonwealth Telecommunications Organization, the U.K. Department for International Development (DFID), the ITU, the Development Bank of South Africa, African Connections, Internews Network, COMESA, and ARICEA attended the meeting, with Dr. Beebe representing the USAID/Africa Bureau Leland Initiative. Commitments were made to coordinate work on Key Performance Indicators and Statistics, Consumer Protection, and course post-pilot testing during the NetTel@Africa Safari scheduled for May 2003.

[February 2003] The NCC hosted a stakeholder consultation with the higher education community to identify approaches to capacity building in the telecommunications sector. Mr. Joseph Nwude (Washington DC PUC), Mr. Derek Keats (University of Western Cape Town) and Mr. Toks Oyedemi (University of Fort Hare) were invited by NCC to Nigeria for further discussions.

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B. Fourth Quarter Accomplishments (1 March – 31 May 2003)

The P2P Network is designed to accommodate the international and regional networking needs of those who work toward more effective regulation in the ICT and telecommunications sector. While academics and representatives from the private sector are supported by this network, most of the work in developing the P2P Network during the Fourth Quarter has been focused on regulators. Bill Gillis, Director of CBDD, secured the commitment of senior members of the U.S. ICT and telecommunications regulatory community to participate in the NetTel Telecoms Safari. Progress has been made in developing relationships with the Montana Public Service Commission, Montana State University Burns telecommunications Center, NARUC, the New Jersey PUC, the Alaska PUC, the National Telecommunications Information Administration, and the FCC.

Exploratory meetings were initiated by the CBDD with various organizations and initiatives. A series of strategic conversations have been conducted with NARUC regarding the possibilities for future exchanges between U.S. and African regulatory commissions. A series of informational briefings were conducted with representatives from the new U.S. Government Digital Freedom Initiative, Montana State University Burns Center, the Washington State's Governor's Office, and the Gates Foundation.

A unique P2P activity took place during May 2003. The University of Maryland hosted, with support from the CBDD, a training workshop for two of NetTel's academic partners, Makerere University and the University of Zambia. The purpose of the workshop was to develop a simulation for mediating the resolution of licensing disputes in the ICT and telecommunications sector.

Strong connections between TRASA, other non-SADC regulatory commissions (ARICEA and WATRA) and members of the U.S. regulatory community were forged during the Fourth Quarter. In most instances, many of these relationships were started during the NetTel Telecoms Safari. In other instances, previously developed P2P connections were strengthened during the Safari. A formal meeting of the ICT and telecommunications regulators was conducted during the Safari; minutes from this meeting are available on NetTel's information web site (<http://www.nettelafrika.org>).

C. Future Actions for the P2P Networks

During the TRASA meeting in Cape Town with NetTel during 2002, the following actions were discussed and will need to be implemented during the next quarter.

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- Request membership to develop capacity building and Human Resource Development (HRD) plans which indicate where P2P can be beneficial.
- Develop criteria for sponsorships (also linked to attendance in ICT Policy and regulation courses and NetTel Safari).
- Develop criteria for internships.
- Develop criteria for P2P, field attachments, and secondments from relevant institutions.
- Coordinate HRD training program with academics for non-certificate programs.
- Facilitate requests for P2P, field attachments, and secondments.
- Develop standards for the regulatory profession.
- Provide an electronic platform for virtual interactions.

3. Community-to-Community Networks (ICT Applications)

A. First, Second and Third Quarter Accomplishments: Highlights

[August 2002] Dr. Beebe and Dr. Mitchell presented a three-day e-learning workshop for the Kenya Education Network, and conducted a stakeholder meeting for potential new members to the NetTel@Africa project in Nairobi, Kenya.

[September 2002] Agreements reached to continue funding the five KELPs in South Africa.

[October-November 2002] Dr. Beebe agreed to work with USAID/South Africa and the Department of Education in South Africa to draft an e-education policy framework and White Paper for general and further education within South Africa.

[November 2002] A proposal was submitted by the University of Witwatersrand and CBDD to the U.S. Liaison Office for University Cooperation in Development.

[December 2002-January 2003] Sub-agreements with all the four of the KERP South African Universities were signed (University of the North, University of Pretoria, University of Fort Hare, and University of Zululand).

The four networks based in South Africa, pursue the following goals:

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- To establish a Management Sciences Network at the Faculty of Management Sciences, the University of the North (contact Peter Franks: franksp@unin.ac.za).
- To establish a Public Affairs Network at the Faculty of Economics, School of Public Management and Administration, University of Pretoria (contact Jerry Kuye: kuyej@hakuna.up.ac.za).
- To establish a Transformed Agricultural Education Network at the University of Fort Hare (contact Gavin Fraser: gfraser@ufh.ac.za).
- To establish a Recreation and Tourism Network at the University of Zululand (Umlazi) (contact Lindisizwe Magi: llmagi@uz.ac.za).

[January 2003] A proposal for a Network for Teaching Learning and Technology was approved for funding. This activity is focused on improving teacher training and teacher training colleges and institutes. The University of Witwatersrand and the CBDD will collaborate to share expertise among faculty to create a common knowledge base, work on the training of teacher-trainers, and initiate collaborative activities among students.

[January 2003] An outcome of Mr. Derek Keats' participation in the Policy Round table on strategies for US-developing country collaboration in distance education was the development of a proposal on the African Virtual Open Initiative Resources (AVOIR). AVOIR was approved for funding by USAID/Africa Bureau Leland Initiative for US\$50,000 of goods and services, provided by Computer Frontiers, Inc. Co-funding will be provided by the Shuttleworth Foundation and the Carnegie Foundation.

[December 2002-February 2003] The CBDD has initiated discussions with South African Technical Colleges on the adoption of the successful "4-H T4" (Today's Teens Teaching Technology) program active in Washington State. The program involves teens learning from other teens and adults on how to build computers, troubleshoot computer problems, work with various software, Internet ethics and safety, learn digital applications, and teach other youth and adults about computers, providing a valuable community service.

[November-December 2002] Dr. Beebe developed a White Paper on e-Education in South Africa in partnership with the Department of Education with concurrence from USAID/South Africa. e-Education is the ability to apply ICT skills to access, manage, integrate, evaluate, and create information that enhances teaching, learning, and the ability to function in an electronically knowledge-based society. The White Paper focuses on the benefits from e-Education; transforming exchange of information to a range of learning activities that meet educational objectives, as NetTel@Africa is attempting through the KEWL and the ten courses.

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B. Fourth Quarter Accomplishments (1 March – 31 May 2003)

i. Policy Development

- Work continued on drafting an e-Education Implementation Strategy with colleagues from the South African Department of Education as a companion piece to the e-Education White Paper.
- Dr Beebe developed a concept paper on ICTs for Education in Ethiopia in partnership with the Ministry of Education.

ii. Network for Teaching, Learning, and Technology.

The objectives of the Networks for Teaching, Learning, and Technology include improving the practice of using educational technologies, the development of relationships at multiple levels (i.e., universities and high schools, teachers and students), the completion of projects, the rollout of a curriculum, and the planning of a high-tech High School located in Africa. The Network for Teaching, Learning, and Technology was launched in April 2003 and hosted by the University of Witwatersrand. Dr. Alison Olzendam, Director of the Gates Foundation-funded “Connecting Schools and Communities” from the CBDD and Peter Lewis, a school principal visited with their counterparts in South Africa.

C. Future Actions for C2C Networks

- University of Pretoria’s School of Public and Management Administration is holding its 10th anniversary in August 2003. One of its showcases will be its KELP achievements on online teaching and learning.
- A meeting for the Network for Teaching, Learning and Technology is scheduled for September 2003 and will be hosted by CBDD in Spokane, WA. The focus of this meeting will be the creation of an on-line curriculum designed to train teachers how to integrate technology into instruction. This process will require the pre- and post- testing of teachers who participate in a pilot workshop as well as an independent assessment of the curriculum.
- A proposal for developing a community technology project is being prepared by the CBDD that would be housed as part of the C2C Network. The objective of this potential project will be the training of youth to design, develop, and provide community instruction in technology. This project will be based on the 4H-T4 initiative currently piloted by the CBDD.

4. Research Component

A. First, Second and Third Quarter Accomplishments

[August 2002] Dr. Beebe convened a week-long workshop for writers contributing to the forthcoming book *Africa.Dot.Edu.*, to be published by Tata McGraw Hill, India. The book provides baseline studies of the state of ICT in various sectors within selected African countries.

[January 2003] Dr. Gillis, CBDD, is lead editor of a book project that is titled “Accessing Universal Service.” This book will include case studies from Africa and the U.S. Dr. Gillis is lining up authors and preparing a production schedule.

[January 2003] The CBDD submitted a proposal to the NSF on “Impact of Information Technology Policy and Regulation on Socioeconomic Development,” which will build on NetTel@Africa project activities. This proposal has the support of the USAID/Africa Bureau Leland Initiative Manager and NetTel@Africa Cognizant Technical Officer, Mr. Lane Smith. The research will analyze pro-competition and universal access regulatory issues regarding modern ICT. The objective is to determine how these ICT regulatory actions affect ICT diffusion of and access to infrastructure and services.

B. Fourth Quarter Accomplishments (1 March – 31 May 2003)

i. Africa.Dot.Edu

The editors met in Spokane, Washington during March 2003 to review the galleys and finalize the book for publication. Dr. Madanmohan Rao gave a final review to the galleys during May 2003. The book is scheduled for release in June 2003.

ii. Research on the NetTel@Africa Process

An outline for a book describing the NetTel experience from the standpoint of a learning organization was drafted during one of the NetTel@Africa Safari side meetings.

iii. NetTel’s Monitoring and Evaluation Plan.

This new iteration specifies key indicators for project goals. A South African organization specializing in monitoring and evaluation, IMPACT, has been selected to refine the initial NetTel monitoring plan and to provide evaluations of the project.

C. Future Actions for Research Program

- Online discussion forum on finalizing outline and tasking out writing of the various chapters of the NetTel@Africa Process book.

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- If the NSF proposal is rejected, the CBDD is ready to begin the process of redrafting and resubmitting the proposal to another potential funder.

III. WSU MANAGEMENT AND UDSM COORDINATION

1. Washington State University Management

A. First, Second and Third Quarter Accomplishments

[June 2002] Development of a web site and document archive for the NetTel@Africa project.

[June-July 2002] Drafting and issuing of sub-agreements between WSU and seven African universities, two U.S. universities, and one U.S. regulatory association. AFRALTI funding is provided by ITU, therefore there was no sub-agreement executed between WSU and AFRALTI.

[August 2002] In Nairobi, Kenya, Dr. Mitchell presented an overview of the NetTel@Africa project to AFRALTI and the first COMESA meeting addressing telecommunications and ICT policy.

[June-October 2002] Sub-agreements to implement aspects of the Training Program in ICT Policy and Regulation were signed with the following organizations:

University of Botswana: Development of the *ICT Technologies* course and the delivery of NetTel@Africa curriculum.

University of Dar es Salaam, Tanzania: Development of the *Financial Analysis* course and the delivery of the NetTel@Africa curriculum; and coordination of NetTel@Africa activities.

University of Fort Hare, South Africa: Development of the *Macro Environment and Implications of Telecommunications* course and delivery of the NetTel@Africa curriculum.

University of South Africa: Development of the *Policy, Law, Regulation, and Institutions* course, the *Approaches to Regulation* course and delivery of the NetTel@Africa curriculum.

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University of Western Cape, South Africa: Development of the *Provider Resource Allocation, Assignment, Registration, and Enforcement* (later renamed as *Spectrum Management*) course and the delivery of NetTel@Africa curriculum.

University of Witwatersrand, South Africa: Development of the *Universal Access and Quality of Service* course and delivery of NetTel@Africa curriculum.

University of Zambia: Development of the *ICT Industry and Markets* course and the *ICT Applications* course, and delivery of NetTel@Africa curriculum.

AFRALTI: Development of the *Service Pricing* course and delivery of NetTel@Africa curriculum. (This is a no-cost memorandum of understanding as funding for AFRALTI is provided by ITU).

University of Colorado-Boulder: Providing development support to the universities of Dar es Salaam, Western Cape Town, and Zambia; development of joint Masters Degrees with qualified NetTel@Africa academic partners; and development and implementation of a quality assurance plan for the courses.

University of Florida-Gainesville: Providing development support to the University of South Africa.

[January 2003] Sub-agreement to implement aspects of the P2P component signed with NARUC.

[December 2002-January 2003] Sub-agreements to implement the KELPs signed with South African universities: University of Fort Hare, University of the North, University of Pretoria, and University of Zululand

[January-February 2003] As described in **Section II**, NetTel@Africa participated in the launch of the new ARICEA organization, and participated in the donor coordination meeting for joint activities to be undertaken by TRASA (through the SIPRS project), ARICEA, and NetTel@Africa.

B. Fourth Quarter Accomplishments (1 March – 31 May 2003)

- The sub-agreement for Makerere University processed.
- Quality assurance review of initial courses completed.
- Uploading of content of draft courses on KEWL.
- Planning and implementation of the NetTel Telecoms Safari (done in concert with the UDSM Coordination Team).

2. University of Dar es Salaam Coordination

The Africa-based NetTel Coordination Team is led by Dr. Hashim Twaakyondo and Dr. Beda Mutagahywa, both from the University of Dar es Salaam.

A. Accomplishments

- The new NetTel@Africa website has been replaced and the hosting server is at the University of Western Cape: <http://www.nettelafrika.org>
- The template for the online directory for NetTel@Africa partners is completed. Partners now need to complete the information requested.
- The draft research agenda framework is complete.
- Progress made with reciprocity agreements under negotiation with partner institutions.

B. Next Steps

The most pressing tasks for the UDSM Coordination Team include modifying the “Experts Database” so it is easily searchable, the completion of the Reciprocity Agreements, and the planning of the roll-out of the postgraduate-diploma degree.

3. Implementation and Management Challenges

The administration and management of the NetTel Project is atypical. There is no central secretariat for the network. Instead, there are interrelated nodes of responsibility and accountability. The Washington State University CBDD is responsible for the management of the NetTel Project, including the execution of sub-agreements, the tracking of financial resources, the provision of quality control, and reporting to Internews Network. The University of Dar es Salaam is responsible for, among other tasks, the coordination of academic activities, the maintenance of NetTel’s web sites, and the development of reciprocity agreements between NetTel partners.

For CBDD, the following factors are constantly being worked on to improve project implementation:

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i. WSU bureaucracy

One of the central goals of the WSU Management team is to continually develop mechanisms to work smarter and reduce implementation delays. Because WSU is a large educational institution with established policies and procedures designed mainly for domestic academic routines, the WSU Management Team has been challenged to execute a few critical functions due to a combination of the international aspect of NetTel and the sometimes abbreviated timeline in which certain tasks must be accomplished. By combining more comprehensive planning, the use of globally accessible communication technologies, and the building of better relationships with key administrative offices at WSU, NetTel's Management Team at WSU has had success with finding better ways to meet the daily demands of managing the NetTel network.

Examples of these improvements include the development of better financial tracking mechanisms, the refinement of the reimbursement process, the nurturing of relationships with strategic WSU administrators, and the use of more web-based technologies to support the clerical and communication needs of the CBDD office. For example, in working with the WSU Office of Grants and Research Development and the Special Projects Office the acceptance of digital copies for receipts has facilitated the process. Additionally, a conscious and successful effort has been made to communicate regularly with Internews Network.

ii. African Leadership and American Support

NetTel@Africa project management staff works daily to increase African leadership in developing the NetTel activities, while the American partners play a supportive role. This is a delicate balancing act that is improving over time and with experience.

iii. Performance

Early reports from the Quality Assurance Team suggested that one or two partner institutions may not have had a clear understanding of how much content, including learning activities should be made explicit in the on-line learning materials. However, progress was made during March and April of 2003 so that the appropriate content was delivered during the NetTel Safari. As the project proceeds, the management staff are guided by the concept of *ubuntu*; that is “*We are who we are through others.*”

iv. Collaboration with other role players

DFID has selected the consulting firm KPMG to implement the new “Catalysing Access to ICTs in Africa Project” (CATIA). The CATIA project includes expansion of the NetTel@Africa concept in East and West Africa. A challenge will be how to work with

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this expansion and with KPMG who is a new partner to NetTel, so that the project continues to be integrated as a whole, yet incorporating ideas from new partners.

Thus far there has been excellent collaboration among various networks and projects working on telecommunications and ICT capacity building across the African continent to support NetTel. Based on the track record thus far, there is every reason to believe that the WSU management team will succeed in collaborating with the DFID-funded activities that come through the CATIA project.

4. Future Roadmap Summary

The actions that need to be implemented during the next quarter are summarized below. In addition, please refer to **Attachment 5** (pdf timelines).

A. Teaching and Learning Program in ICT Policy and Regulation

- Senate approval for Post-Graduate Diploma and Masters Program Development at African Partners (October 2003).
- Course Developer's Meeting (September 2003).
- Roll-out of revised courses (October 2003 – January 2004).
- NetTel Telecoms Safari (November 2003).
- WATRA – 3-8 November 2003 preferred dates (to be hosted by Nigerian Communications Commission).
- ARICEA - 22-28 November 2003 preferred dates (to be hosted by Uganda Communications Commission).
- HRD plans which detail capacity building requirements (October 2003).

B. Peer-to-Peer Networks

- Request membership to develop capacity building and HRD plans which indicate where P2P can be of most benefit.
- Develop criteria for sponsorships (also linked to attendance in ICT Policy and regulation courses and NetTel Safari).

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- Develop criteria for P2P internships.
- Develop criteria for peer to peer, field attachments, and secondments.
- Coordinate HRD training program with academics for non-certificate programs.
- Facilitate requests for P2P, field attachments, and secondments.
- Develop standards for the regulatory profession.
- Provide an electronic platform for virtual interactions.

C. Community-to-Community Networks

- University of Pretoria's School of Public and Management Administration is holding its 10th anniversary in August 2003. One of its showcases will be its KELP achievements on online teaching and learning.
- Network for Teaching, Learning and Technology will meet in September 2003 and will be hosted by CBDD in Spokane, WA. The focus of this meeting will be the creation of an on-line curriculum designed to train teachers how to integrate technology into instruction.
- A proposal for developing a community technology project is being prepared by the CBDD that, if funded, will become part of the C2C Network. The objective of this potential project will be the training of youth to design, develop, and provide community instruction in technology.

D. Research

- Online discussion forum on finalizing outline and tasking out writing of the various chapters.
- If the NSF proposal is not accepted, the CBDD is ready to begin the process of redrafting and resubmitting the proposal to another potential funder.

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IV. PROJECT DIRECTOR FINAL NOTES

*"I am because we are."
Ubuntu*

The success of NetTel@Africa during its first year of implementation is due to the daily practice of fundamental network principles:

- The impetus for activities is African-led within a web of mutually accountable interrelationships. The teams from the African partner institutions drive the process within their institutions. University of Dar es Salaam as the NetTel academic coordinator drives the inter-institutional actions between African academic institutions. WSU as the executing agency drives the interrelationships between the African and American partners. These interrelationships are based on trust which operates is the basis of teamwork.
- Most activities are based on connections among peers-between policy makers and regulators, academics, trainers, public and private sector, and citizens, across national boundaries through a combination of face-to-face meetings and virtual interactions. These connections are based on mutual respect.
- The cross-fertilization among academics, regulators, public sector officials and operators continues to be a source of inspiration and energy for the project. The synergy from the diversity of participants and view points has led to discussions that engage each other actively and help resolving problems.
- Peer-to-peer network exchanges or community-to-community interactions are based on reciprocal exchanges. This give and take allows each participating partner institution to gain something and to offer a benefit to the NetTel.
- CDBB staff strive to maintain excellent relationships with the donor, USAID, and the subcontracting organization, Internews Network.

Although the NetTel@Africa project has only completed its first year of implementation, much has been achieved in fostering collaboration among network partners to achieve their shared objectives.

Dr. Maria Beebe, NetTel@Africa Program Director
WSU Center to Bridge the Digital Divide
31 May 2003

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ATTACHMENT ONE

NetTel@Africa

Quality Assurance & Assessment Review (QAR)

Final Report – 24 March 2003

I. Synopsis of QAR

The purposes of the Quality Assurance & Assessment Review (QAR) visits were to a) determine the readiness of the ten NetTel@Africa modules at both the basic and advanced levels for pilot testing, b) establish the level of support within each of the partner institutions for participating in the NetTel@Africa training program, and c) resolve any outstanding issues affecting module development and program implementation. The QAR Team visited seven of the eight current network partner institutions; due to regional instability, country clearance was cancelled for the QAR Team to visit AFRALTI in Nairobi, Kenya. During each visit, the QAR Team met with the module development teams and the institution's administration.

The process for these seven QAR visits began on 16 February 2003 at the University of Fort Hare (Alice, RSA) and terminated on 15 March 2003 at the University of Dar es Salaam (Tanzania). Between these two visits, additional institutions visited include the following (in chronological order of visits): University of Western Cape, University of Witwatersrand, University of Botswana, University of South Africa, and the University of Zambia. The average length of each visit was approximately 2 ½ days. The format for the QAR visits varied depending on the agenda set by the host institution. The QAR Team produced a report after each visit that was sent to the respective module development team.

There were six members on the QAR Team, which was led by Dale Hatfield from the University of Colorado. Other members included Beda Mutagahywa, Mayunga Nkunya, and Hashim Twaakyondo, all from the University of Dar es Salaam (UDSM). Also participating on the QAR Team were Matthew Mitchell and Maria Beebe, both from Washington State University. At any given QAR visit, only three of the six members participated in real time. At each visit, one member from UDSM joined Dale Hatfield and Matthew Mitchell. Maria Beebe participated in each visit using distance means (i.e., e-mail and teleconferencing).

II. Findings

Based on the findings from this QAR, the overall assessment of the state of the NetTel@Africa training program is positive and its outlook is optimistic. Considerable work has been accomplished by most of the module developers. In

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some cases, the module developers are nearly done with developing their content and learning design as well as having their module uploaded onto KEWL. In other cases, serious work is needed. Comments regarding specific modules are provided in the section titled "Assessment of Modules" below. The QAR Team did provide recommendations to all module developers for improvement. The date of 30 March 2003 was used as the final deadline for module completion in preparation for the pilot-testing event scheduled for May 2003.

Two important findings emerged from the QAR process. First, there were no irresolvable problems presented by the module development teams or their respective institutional administrations. Said differently, of all the concerns and potential problems uncovered during the QAR process, workable solutions for all were collaboratively developed by the QAR and the various module development teams. For more details on these possible solutions, please see the section titled "Recommendations" below. The second important finding is that the goal of having all modules ready and uploaded onto KEWL by the time of the pilot-testing event is obtainable. Undoubtedly, considerable work will be required by both the QAR and the module development teams to accomplish this goal.

III. Assessment of Modules

It is difficult to separate the development of modules from the teams that are responsible for the work; therefore, this assessment of modules includes an assessment of the module development teams. Some module development teams are further along than others. The QAR Team assessed each module development team on the basis of the quality of content, the quality of the learning design (e.g., activities, assignments, assessments, interface, etc.), and the level of institutional support provided to the module development team from its administration. As of the dates of the QAR visits, only one university partner (i.e., University of Western Cape) had obtained approval from their faculty senate to offer the NetTel@Africa training program. The Full reports of each assessment are available. The order of the following assessments reflects the chronology of the QAR visits.

The **University of Fort Hare** (UFH) is developing *Module 1: Macro Environment and Implications of Telecommunications*. At the time of the QAR visit (17-19 February) this module was less than 20% complete. The completed work reviewed was of good quality and reflects the apparent fact that UFH has the ability and intention to complete this Module. Significant work is required by the Module Development Team (UFH Team) to meet the 30 March, 2003 deadline for module completion. The UFH Team indicated that they will be able to complete the only the basic level of this Module by the March deadline, leaving the advanced level outstanding. The QAR Team confirmed that UFH has the administrative support of their Quality Assurance Officer and the Dean of the relevant faculty; however UFH has not yet gained approval by their faculty senate to offer this program.

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The **University of Western Cape** (UWC) is developing *Module 4: Provider Resource Allocations, Assignment, Registration and Enforcement*. At the time of the QAR visit (21-25 February) this module was approximately 75% complete. The content developed by the UWC module development team (UWC Team) was generally well done and had good coverage. However, there were a few content areas missing from the materials presented and the depth of the content needed to be increased. The learning design of this module was well organized and well supported with visual aids. Greater diversity in additional learning activities with detailed instructions for implementation and assessment would strengthen this module. Additionally, the QAR Team confirmed that the UWC Team has broad endorsement from the various levels of the university's administration, including the Academic Planner, the Quality Manager, and the Vice Chancellor.

The **University of Witwatersrand** (WITS) is developing *Module 7: Universality and Quality of Service Regulation*. At the time of the QAR visit (27-28 February) this module was approximately 85% complete. While the module's content is close to being complete, a number of specific issues need to be addressed; the WITS module development team (WITS Team) is aware of these issues and is taking steps to augment the module. The learning design for the module is near completion, a series of ideas for strengthening have been discussed with the WITS Team. Finally, the process of appropriating adequate support from the university's administration has begun, but additional work on this aspect is still needed.

The **University of Botswana** (UB) is developing *Module 2: ICT Technologies*. At the time of the QAR visit (3-5 March) this module was approximately 60% complete. The purpose of this module is to provide a systems perspective of relevant ICT technologies to professionals whose work involves telecommunications regulation. The QAR Team recommended that the UB module developers (UB Team) focus first on the completion of the content, second on the development of an effective learning design, and third on the posting of the module onto KEWL. The work so far completed by the UB Team is good and demonstrates that this module will be of high quality. A key criterion for quality in this module is the appropriateness of the content for telecommunications regulation. Based on a series of meetings, the QAR Team was convinced that that UB Team has the commitment and support from various levels within the university's administration.

The **University of South Africa** (UNISA) is developing two modules - *Module 6: Approaches to Regulation* and *Module 9: Policy, Law & Institutions*. At the time of the QAR visit (6-7 March) these modules were approximately 60% complete. The modules as presented demonstrated a basic organization and a majority of the content. The quality of the content was very good, although, critical content was missing from both modules. Significant work is needed to pull together the modules' contents to be presentable to the NetTel@Africa program. The module developer noted that this module will be edited and revised to ensure its contents are placed into the context of telecommunications regulation and provide a consistent and easy-to-follow format that "hangs together." As demonstrated by the Dean and Department Chair, the

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institutional support UNISA will provide the NetTel@Africa program appears to be strong.

The **University of Zambia** (UNZA) is developing two modules - *Module 3: ICT Industry and Markets* and *Module 10: ICT Applications*. At the time of the QAR visit (10-11 March) these modules were approximately 2% complete. Due to a lack of completed work by the module development team at the University of Zambia (UNZA Team), the QAR Team was unable to respond to the content or learning design of the Modules for which the UNZA Team is responsible. Based on a series of meetings, the QAR Team confirmed that the UNZA administration supports the involvement in the NetTel@Africa program. As the QAR visit at UNZA progressed, so did the general sentiment of the QAR Team. The QAR Team has temporarily backed-away from its strong recommendation that the contract between UNZA and Washington State University be immediately terminated. For a limited time the QAR Team is willing to give UNZA a final opportunity to demonstrate its willingness and ability to complete a major portion of the one of their modules. As of 19 March 2003, the UNZA Team had submitted part of Module 3 that focused on interconnection. The QAR Team is very in the process of reviewing these materials.

The **University of Dar es Salaam** (UDSM) is developing *Module 5: Financial Analysis*. At the time of the QAR visit (13-15 March) this module was approximately 80% complete. The module development team at the University of Dar es Salaam (UDSM Team) has done an excellent job with their module. Work to be done on this module includes sharpening the focus on the telecommunications regulation aspect of financial analysis, the development of presentation materials (e.g., Powerpoint slides), the addition of learning activities, and the uploading of the materials onto the KEWL learning management system (LMS). Overall, the quality of the module's content and learning design was very good and close to completion. In terms of institutional support, it is clear that the University of Dar es Salaam has broad support from the administration ranging from the level of the department to that of the Vice Chancellor.

IV. Recommendations

A number of important concerns emerged during the various QAR visits. With the help of the module development teams, the QAR Team explored possible recommendations for these outstanding issues. Below are listed some of the more pressing issues along with the recommendations for resolution offered by the QAR Team.

1. NetTel@Africa pilot testing event – The original choice for the location of the pilot test was Lusaka, Zambia. Based on the findings during the QAR visit to UNZA, it appears that Zambia may not be the best choice due to a number of reasons (e.g., reliable connectivity, availability of facilities, institutional stability, country clearances, etc.) The QAR Team recommends that the pilot test be located in South

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Africa or Botswana where a university facility with reliable broadband connectivity is available.

2. Modalities for delivery – As agreed to in previous meetings, the NetTel@Africa training program will be delivered via two instructional modes: face-to-face and on-line. As was discovered by both the QAR and KEWL Teams, not all of the partner institutions in this network have the reliable broadband connectivity that is needed to support on-line instruction. Additionally, not all of the module delivery teams currently have sufficient experience to teach purely on-line courses. Therefore, the “on-line option for instruction” might be better framed as an ICT-enhanced learning environment that is taught by an expert-at-a-distance and assisted by a local learning facilitator. The QAR Team recommends that the modalities for module delivery be expanded beyond face-to-face and on-line to include a third option that uses ICT technologies and a collaborative teaching partnership between the original module developer and a local instructor.
3. Curriculum – A few issues related to the overall design of the curriculum emerged during the QAR visits.
 - a. First was the importance for all modules to touch on key concepts such as 1) communication as a human right, 2) transparency in regulation, and 3) the reduction of regulatory risk. The QAR Team recommends that the network identify those key concepts that need to be treated by all modules and develop a strategy for addressing each.
 - b. Related to the above point, the QAR Team discovered that the NetTel@Africa training program curriculum offers a valuable and effective environment for addressing the subject of gender in the context of socio-economic development. The QAR Team recommends that the network review the training program curriculum to be sure that gender is addressed in a coordinated and effective way. Specifically, those modules dealing with social issues should be closely examined for innovative approaches to address the subject of gender. Examples of modules that have the most gender-relevant topics include Modules 1, 3, 6, 7, 9, and 10. The topics of Modules 2, 4, 5, and 8 do not seem to be as relevant.
4. Reading materials – Some of the module developers have designed their modules to be dependent on expensive reading materials. This concerns the QAR Team in that costly reading lists could present an unnecessary barrier to future students and may inhibit the sustainability of the NetTel@Africa training program. The QAR Team recommends that the network renew its commitment to building a curriculum around free or inexpensive reading materials.

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5. Network governance –Some network members are unclear as to how the NetTel@Africa network is governed. This ambiguity could be due partly to the fact that the NetTel@Africa network is in transition. Currently the network, which has been focused on module development, is organized such that it is governed by an advisory board and a steering committee. However, as the network transitions from module development to module delivery, the network needs to define its organization. The organization of the network largely determines the structure of its governance. The issue of network governance has direct implications on quality control, dispute resolution, network expansion, as well as various minor management concerns. The QAR Team recommends that as the network transitions, it should continually redefine its structure, organization, and mechanisms for governance.
6. Future expansion – From a sustainability perspective, it appears that the NetTel@Africa training program will deplete the available student pool if it only targets staff members of telecommunications regulatory commissions. During previous NetTel@Africa meetings (i.e., Arusha and Gaborone) this issue has been handled by the agreement that the training program will focus on private and public telecoms operators, interested stakeholders and other students interested in pursuing a career in the telecoms sector. However, it seems that this agreement has been obscured and may need to be revitalized and affirmed. The QAR Team recommends that soon after its formal launch, the NetTel@Africa training program reaffirm its intention to expand the target student market beyond the staff members telecoms regulatory commissions.
7. Intellectual proprietary issues – The question of who owns the NetTel@Africa training program curriculum has been raised by several module development teams. The common answer is that the curriculum is owned by the network and is provided to NetTel@Africa partners as “open content.” If so, two additional questions need to be answered: Is the network enough of an entity that it can claim ownership of anything? Does “open content” require some type of protective license to keep it from being copyrighted by a third party?

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ATTACHMENT TWO

NETWORK FOR CAPACITY BUILDING AND KNOWLEDGE EXCHANGE IN THE TELECOMMUNICATIONS SECTOR

NETTEL@AFRICA SAFARI 26 MAY -7 JUNE 2003, Gaborone, Botswana

26 May 2003 (Monday)

OFFICIAL OPENING

Director of Ceremonies: Joseph Chuma - UB /Richard Mwanza - TRASA

08:00 - 0:815 Arrival of invited guests

08:15 - 08:25 Welcome remarks
Professor B. Otlhogile
University of Botswana Vice-Chancellor

08:25 - 08:40 Keynote address
Mr. J Jorge/ C.M Lekaukau
Chairman, Telecommunications Regulars'
Association of Southern Africa (TRASA)

08:40- 08:50 Statement
Mrs. Dawn Thomas
Deputy Director, United States Agency for
International Development, Regional Centre for
Southern Africa

08:50 - 09:00 Vote of thanks
Convenor of HRD Committee- TRASA

09:00 - 09:15 Group Photo Session/ Tea Break

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- 0930 - 11:30 TR 501 Macro Environment and Implications of Telecommunications: Overview
Toks Oyedemi and University of Fort Hare Team
- 11:30 - 13:30 TR 501 Lesson
University of Fort Hare Team
- 13:30 - 14:30 Lunch
- 14:30 - 16:30 Hot Topic Workshop: The Challenges of Globalization
on
Telecommunications: Trends and Policy Implications
Panel: James McConnaughey, U.S. Department of Commerce; Richard Mwanza, TRASA and Nanette Thompson, Commissioner Alaska PUC

27 May (Tuesday)

- 09:00 - 11:00 TR 510 ICT Applications: Overview
University of Dar es Salaam Team
- 11:00 - 11:15 Tea/Coffee Break
- 11:15 - 13:15 TR 510 Lesson
University of Dar es Salaam Team
- 13:15 - 14:30 Lunch
- 14:30 - 16:30 Hot Topic Workshop: Elements of Public Policy
Supporting
ICT Applications - Bill Gillis, Washington State
University

28 May (Wednesday)

- 09:00 - 11:00 TR 502 ICT Technologies: Overview
Joseph Chuma and University of Botswana Team
- 11:00 - 11:15 Tea/Coffee Break
- 11:15 - 13:15 TR 502 Lesson

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University of Botswana Team

13:15 - 14:30

Lunch

14:30 - 16:30

Hot Topic Workshop:
Wireless and Broadband
Carel van der Merwe, Global Hotspot

29 May (Thursday)

09:00 - 11:00

TR 507: Universal access and quality of service
Charles Lewis and University of Witwatersrand Team

11:00 - 11:15

Tea/Coffee Break

11:15 - 13:15

TR 507 Lesson
University of Witwatersrand Team

13:15 - 14:30

Lunch

14:30 - 16:30

Hot Topic Workshop:
Consumer Protection
Nanette Thompson, Commissioner Alaska PUC

30 May (Friday)

09:00 - 11:00

TR 506 Approaches to Regulation: Overview
Marcia Wilson and University of South Africa Team

11:00 - 11:15

Tea/Coffee Break

11:15 - 13:15

TR 506 Lesson
University of South Africa Team

13:15 - 14:30

Lunch

14:30 - 16:30

Hot Topic Workshop:
Simulations for Teaching about Price Controls
Mark Jamison, University of Florida
Public Utilities Research Center

31 May (Saturday)

Peer to peer networking: Regulator to regulator

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Academic to regulator
Academic academic

1 June (Sunday)

Teambuilding activities and breakout meetings

2 June (Monday)

09:00 – 11:00

TR 505 Financial Analysis: Overview
Dr Marcelina Chijoriga and University of Dar es

Salaam Team

11:00 – 11:15

Tea/Coffee Break

11:15 – 13:15

TR 505 Lesson
University of Dar es Salaam Team

13:15 – 14:30

Lunch

14:30 – 16:30

Hot Topic Workshop:
Real Options, Investment and Regulation
Scott Savage, University of Colorado
Interdisciplinary Telecommunications Department

3 June (Tuesday)

09:00 – 11:00

TR 508 Service Pricing: Overview
Angelus Rutainurwa and AFRALTI Team

11:00 – 11:15

Tea/Coffee Break

11:15 – 13:15

TR 508 Lesson
AFRALTI Team

13:15 – 14:30

Lunch

14:30 – 16:30

Hot Topic Workshop:
Interconnection and Service Pricing
Brett Perlman, Commissioner Texas PUC

4 June (Wednesday)

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09:00 – 11:00	TR 503 ICT Industry and Markets: Overview Alec Malichi and University of Zambia Team
11:00 – 11:15	Tea/Coffee Break
11:15 – 13:15	TR 503 Lesson
13:15 – 14:30	Lunch
14:30 – 16:30	Hot Topic Workshop: Rural Access, James McConnaughey, Department of Commerce

5 June (Thursday)

09:00 – 11:00	TR 504 Spectrum Management Andy Bytheway and University of Western Cape Team
11:00 – 11:15	Tea/Coffee Break
11:15 – 13:15	TR 504 Lesson University of Western Cape Team
13:15 – 14:30	Lunch
14:30 – 16:30	Hot Topic Workshop: Economics of Spectrum Management Dale Hatfield, University of Colorado

6 June (Friday)

09:00 – 11:00	TR 509 Policy, Law and Institutions Marcia Wilson and University of South Africa Team
11:00 – 11:15	Tea/Coffee Break
11:15 – 13:15	TR 509 Lesson University of South Africa Team
13:15 – 14:30	Lunch

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14:30 – 16:30

Hot Topic Workshop:
ICT, Telecoms and International Law
Brad Ramsay, NARUC

7 June (Saturday)

Evaluation
Next steps



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ATTACHMENT THREE

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ATTACHMENT FOUR

NetTel@Africa Telecoms Safari Post-Mortem Report

I. Summary of Event

The NetTel@Africa Telecoms Safari (NetTel Safari) has successfully concluded. This event, which was convened on the campus of the University of Botswana located in Gaborone Botswana, began on the evening of 25 May and ended on the evening of 6 June 2003. During the event, there were 12 days of structured activities; the only day without structured activities was Sunday, 1 June 2003. Of the 72 delegates who attended this event, 32 attended all 12 days; the remaining attendees were limited by previous obligations. The table (below) illustrates the breakdown of participants.

Countries Represented (N = number of persons)	Angola (2), Botswana (15), Ethiopia (2), Lesotho (2), Malawi (2), Mauritius (1), Mozambique (5), Nigeria (3), Seychelles (2), South Africa (9), Swaziland (1), Tanzania (5), Uganda (2), Rwanda (3), United Kingdom (1), United States (11), and Zambia (4).
Sectors Represented (N = number of persons)	Higher Education (28), Regulatory Commissions (20), Governmental Offices (9), Regional Regulatory Associations (5), NGOs (6), and Private Sector (4)

II. Objectives

The five objectives of the NetTel Safari were ambitious and each was accomplished with a considerable margin of success. The structure of the NetTel Safari was designed with each of these objectives in mind. Additionally, these objectives informed the creation of a feedback survey for the event (compiled results from the survey are included in the *Feedback* section below). These five objectives are described below.

- The **first objective** was to provide a forum in which each of the 10 NetTel courses could be assessed. This assessment focused on a) the appropriateness of the course materials for training members of the ICT and telecommunications regulatory community in the SADC region, b) the academic quality of the course materials, and c) the feasibility of the course work requirements for working professionals.
- The **second objective** was to expose members of the NetTel network to emerging issues relevant to ICT and telecommunications regulation.

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- The **third objective** was to create an enabling environment for interdisciplinary networking (i.e., mixing academics, regulators, donor organizations and private sector stakeholders).
- The **fourth objective** was to conduct a series of meetings for the course developers to vet concerns and seek solutions to technical issues regarding the structure of the NetTel training program.
- The **fifth objective** was to explore possibilities for extending the NetTel network beyond the SADC region.

III. Overview of Activities

The activities engaged in during the NetTel Safari were designed to help meet the five objectives. Each weekday morning began with a two-hour overview of one of the NetTel courses (each of the ten weekdays was dedicated to a specific course; a schedule of courses is available on the NetTel Informational web site <http://www.nettelafrika.org>). The overview was followed by a two-hour sample lesson from the same course. The course developers presented their overview and sample lesson in a computer lab in front of an audience of academic peers and representatives from governmental agencies, regulatory bodies, and private sector vendors of ICT-related services. During this combined four-hour period, the course developers received constructive feedback on their respective course content and course design. Through this process, the first objective (i.e., quality assessment of courses) was largely accomplished. While most of this feedback was captured in writing by the attendees, which the course developers now have in their possession, there persists a need to compile the feedback into a usable table that will help guide NetTel@Africa's on-going Quality Assurance Review. After concluding the morning session, the entire group adjourned for lunch where informal networking took place.

Each weekday afternoon, the NetTel Safari reconvened in a lecture hall for a "hot topic" presentation. These presentations were hosted by invited experts from a variety of sectors. For example, members of different regulatory communities discussed topics such as universal access, consumer empowerment, financial analysis, service pricing, etc. One of the guest presenters from the private sector described the wireless movement and another presentation from a U.S. university demonstrated the use of simulation for solving potential conflicts in interconnection. The second objective (i.e., exposure to emerging issues) was achieved through this series of "hot topic" presentations. During the weekday evenings and on Saturday (31 May 2003), time was set aside for formal and informal meetings. On three occasions, NetTel's academic partners formally met to discuss issues such as reciprocal agreements, course delivery, and a standardized course format. On one occasion, NetTel's regulatory partners formally met to discuss opportunities for peer-to-peer networking. Minutes from these formal meetings are also

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available on the NetTel Information web site. During Saturday, the group ventured out for a “team building” experience: a drive through a wildlife refuge and a celebratory dinner. Numerous informal side meetings occurred in which new relationships between universities, development projects, and regulatory bodies were explored. By way of these formal and informal meetings, the third, fourth and fifth objectives described above were achieved. The success in achieving the third objective (i.e., interdisciplinary networking) is indicated by the many positive comments collected by the “event evaluation.” The accomplishment in meeting the fourth objective (i.e., course developer meetings) is evidenced by the progress made in outlining the challenges of and solutions for the rollout of the training program (please refer to the *Way Forward* section below). The fifth objective (i.e., exploring new networking possibilities for NetTel) is harder to assess due to the fact that this objective focuses on the future of NetTel. However, based on the many informal meetings with representatives from Eastern and Western Africa, it appears that the NetTel@Africa program has caught the attention of ARICEA and WATRA as well as other development initiatives with similar objectives (e.g., CATIA). The real proof of how well the fifth objective was met will become evident when NetTel is expanded beyond the SADC region.

VI. Way Forward

NetTel is not without imperfections. The central purpose of the NetTel Safari was to pilot test course materials and identify areas where the content needed improvement. As a result of this event, it became clear that the NetTel courses can be improved in the following ways:

1. Some courses need to tighten their focus on ICT and telecommunications regulation. In some cases, this will require the stripping out of non-essential materials; in other cases this will require the addition of specific content areas important to ICT and telecommunications regulation. With an exception or two, every course reviewed during the NetTel Safari requires a tightening of focus on regulation. As a way forward, a summary of feedback for each course is being compiled in collaboration with NetTel’s coordination team, the course developers, and members from the regulatory community.
2. A standard for course design needs to be implemented and adhered to. While most of the courses are well laid out, the level of variation in course design is distracting to the student who will be exposed to the entire series. Standardizing the design will help the student to be attuned to the learning outcomes, learning objectives, assessment procedures, and expectations. As a way forward, a standard for course design has been agreed to by the course developers. Considerable work is needed to implement these changes by September 2003.

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3. The learning environments in which the NetTel curriculum will be delivered requires collaboration and interactivity. During the NetTel Safari, those learning activities that included interaction and group work were clearly more successful than those that were passive and teacher-centered. While some interactivity can be delivered where bandwidth is available, course deliverers need to be committed to providing a minimum level of face-to-face interaction for all courses (even those courses they are not responsible for delivering). As a way forward, course developers are being advised to build interactive learning activities as much as possible and course deliverers are being advised that part of their responsibility includes the provision of certain “learning resources” for all courses offered by their institution (i.e., computing equipment, a learning facilitator, a classroom) and for learning activities that require face to face interaction (e.g. interview a regulator or form a learning community to discuss a topic and report back via email or online discussion forum) .
4. The topic of course delivery is a challenging issue for NetTel. This is due mainly to constrained bandwidth among the current institutions designated to deliver these courses. As a way forward, a number of options for distributing the curricula were agreed to. These options correspond to the availability of bandwidth. For those with high bandwidth, the online environment provided by KEWL accessed over the Internet is the primary option. For those with moderate bandwidth, static content from KEWL can be downloaded onto a local server where students can access their courses on an intranet and need only access the Internet when posting assignments (when the course instructor is remote) or participating in online discussion *fora*. For those with low bandwidth and without access to computer lab, a CD-ROM will be created and sent to the students so they can access their course in a non-networked environment and need only access e-mail to reply to other students and instructors who are at a distance. In each option, online interactivity is maintained, though the lower the bandwidth, the less robust online interactivity will be.

V. Course Development Actions

Below are three important steps each course development team needs to take as soon as possible. A timeline for course finalization is specified below. A separate email will be sent to regulators and how they could provide input and assist in the process.

Step One: Each course development team needs to compile the feedback they received during their presentation of the course overview and sample lesson. Please compile your feedback into a single document and send to Matthew and Maria by the end of next week (20 June 2003). Once this feedback is compiled and submitted, each course development team needs to be immediately incorporating the necessary changes into your course. Please make your changes directly on the KEWL platform (<http://elearn.nettelafrika.org>).

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Step Two: As seen during the NetTel Safari, learning activities that are collaborative and project-centered are very popular and effective. Course development teams need to think through ways to add interactive learning designs to their courses. The NetTel courses need to move beyond the e-book model and embrace the full potential of e-learning. Make no mistake, designing interactive learning activities is hard work, but vital to the continuing success of NetTel.

Step Three: During the “academics’ meeting” in Botswana, a standard for course design was agreed to. Course developers need to reformat their courses to conform to this standard.

Here is a brief review of what was agreed to:

1. The term “Module” is now to be called “Course.” The organization of items within the course will be called a “module.” Conceptually, here is how the overview of these different levels should be presented:

- The Course Level will have explanations of 1) the general course objective, 2) the general course outcome, and 3) the overall assessments.
- The Module Level (unit within a course) will include descriptions of 1) the learning objectives, 2) the learning outcomes, and 3) a description of the learning activities to be encountered.

2. On KEWL, the Chapter 0 will be dedicated to a description of the “Course Information,” this will include information that is already included in the course syllabus but might need some fine-tuning:

- Rationale: Why the course is relevant to those who want to learn more about ICT policy and regulation (i.e., scope, context, and theory)
- Course Overview
- Course Objectives
- Course Outcomes (At the end of this course, the learner should be able to:
- Course Structure
- Assessments to be used in course
- Explanation of course prerequisites

3. Regarding KEWL, the Chapter 1 will be about course 1, Chapter 2 will be about course 2 and so on will include the following materials:

- Introduction to Module (i.e., How is this course relevant to the course objectives and what is the duration of the module?)

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- Course Learning Objectives
- Course Learning Outcomes (At the end of this module, the learner should be able to:)
- Course Assessment
- Summary of Learning Activities (individual or group)
- e-Lectures, that is the content most of you have already developed, however, learning activities or exercises (whether to be done by individuals or groups) need to be embedded
- Core Reading Materials & References (preferably online, including pdfs, ppt, documents, etc)
- This model for will be repeated for each Module in the Course.

4. Timeline for these modifications of course is as follows:

June 20: Summary of feedback received on course needs to be submitted by course development team to Matthew and Maria

June 25: Maria and Matthew will highlight changes that need to be made for each course

July 5: Feedback from the NetTel Safari needs to be incorporated into course content.

July 12: Changes in content needs to be uploaded onto the KEWL platform by each course developer (When you are ready you will be given permission to make changes on KEWL)

July 26: Interactive learning activities for each course's module needs to be planned out and incorporated into the course design on KEWL.

Aug 9: Courses need to be reformatted on KEWL to conform to standard course design.

Aug 18-22: Course Developer's meeting in Spokane, WA (subject to concurrence by relevant parties). Other venue suggestions are welcome.

Sept 13: Changes recommended from Course Developer's Meeting needs to be incorporate in the course on the KEWL platform.

Oct 6: The first NetTel program is ready for roll-out.

Nov 17-21: Second NetTel Safari in Kampala, Uganda (Priority will be hot lessons and hot topics).

To continue the momentum created during the NetTel Safari, a meeting for the course developers is being planned for August 2003. This meeting will be dedicated to assuring

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the quality of the modified course content and course design as well as focusing on the outstanding issues regarding course delivery and reciprocal agreements. Prior to this meeting, a series of discussion group *fora* (on KEWL) will be conducted to identify real and perceived barriers and to begin the process of amelioration.

VI. Feedback

During the last two days of the NetTel Safari, a survey was circulated among the participants to record their impressions of the event. A copy of this survey is available on the NetTel Informational web site. Below are some of the highlights from these feedback surveys.

28 participants provided written feedback on the NetTel Safari. Not all of these participants responded to all of the questions posed on the survey. For the purposes of brevity, only those responses that can be described as nominal or ordinal data are reported here. In summary, the following observations can be drawn from this feedback:

- Participation in the NetTel Safari was perceived as beneficial to all respondents and the event was valued enough that the participants endorse its being offered again.
- Of the five main components included in the NetTel Safari, the “hot topics” was reported as being the most popular, followed by peer-to-peer networking, sample lessons, overview of courses and informal activities.
- A large majority of the respondents do not think the NetTel courses are not yet ready for distribution. The implication is that more course development work is required.
- For the most part, all of the ten courses were perceived as being relevant to the purposes of the NetTel training program. It appears that those courses with weaker presentations received lower relevancy scores.

Question 1: “Did you benefit from participating in the NetTel@Africa Telecoms Safari?”		
N=28	Yes	No
N	28	0
%	100	0
Question 4: “Should the NetTel@Africa Telecoms Safari be convened again?”		
N=27	Yes	No
N	27	0
%	100	0
Question 5: “If the NetTel@Africa Telecoms Safari is offered again, which of the following five components should it include?”		
Overview of all ten courses	15	Rank 4
Sample lessons from all ten courses	17	Rank 3
“Hot topic” presentations	23	Rank 1
Peer-to-Peer networking	18	Rank 2
Informal Activities	14	Rank 5

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Question 6: "Is the NetTel@Africa Training Programme ready to be offered to students?"		
N=28	Yes	No
N	8	20
%	29	71

Question 7: "Please rank the relevance of each course."						
Course Number	Highly Relevant	Relevant	No Opinion	Irrelevant	Highly Irrelevant	N
TR501	16	6	3	0	0	25
TR510	16	7	2	0	0	25
TR502	17	7	1	0	0	25
TR507	20	3	2	0	0	25
TR506	16	8	1	0	0	25
TR505	13	10	2	0	0	25
TR508	15	6	3	1	1	26
TR503	17	7	2	0	0	26
TR504	24	3	0	0	0	27
TR509	14	4	1	0	0	19

Question 8: "Please rank the relevance of each hot topic presentation."						
Presentation Title	Highly Relevant	Relevant	No Opinion	Irrelevant	Highly Irrelevant	N
The Challenges of Globalization on Telecommunications (Panel of Experts)	14	2	5	0	0	21
Elements of Public Policy Supporting ICT Applications (Bill Gillis)	16	5	1	0	0	22
Wireless and Broad Band (Carel van der Merwe)	10	9	3	2	0	24
Consumer Empowerment (Nan Thompson)	19	4	3	0	0	26
Simulations for Teaching about Price Controls (Mark Jamison)	18	7	1	0	0	26
Real Options, Investment and Regulation (Scott Savage)	19	7	0	0	0	26
Interconnection and Service Pricing (Brett Perlman)	14	6	2	0	0	26
Rural Access (Jim McConnaughey)	5	15	3	0	0	22
ICT, Telecoms and International Law (Brad Ramsay)	11	4	1	0	0	16

Question 9: "Were you satisfied with the accommodations at the Sun Hotel?"		
N=25	Yes	No
N	20	5
%	80	20

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VII. Conclusion

To conclude this report of the NetTel Safari, three emergent themes can be used to describe the present state of the NetTel training program: Coalescence, Commitment, and Realignment. The first is coalescence. Having spent prolonged time together, members of the NetTel network are forming relationships that enable honest and open communication. Due to the loosely structured condition of NetTel as a network (i.e., as opposed to a strong secretariat), the challenges facing this network can only be solved when network partners work together, and much of this work is done across vast distances through electronic communication. The NetTel Safari offered a rich opportunity for the diverse members of the NetTel community to coalesce into a community of practice.

The second theme is commitment. Increasingly, members of the NetTel network are beginning to have a vision of how the NetTel training program will work and their level of commitment is growing. The NetTel Safari provided an opportunity for members to witness the investment of time and energy by other members and in turn promotes a stronger impetus to be committed to the success of the program. This is an important development, as the success of the program is dependent on the level of commitment each network member dedicates to the NetTel program.

The third theme is realignment. NetTel is a response to a need expressed by the regulatory community. The NetTel Safari offered a much needed opportunity for the course developers to get constructive feedback from the regulatory community on what is needed in the courses. As a result, the course developers have been able to realign their efforts with the needs of the regulatory community.

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ATTACHMENT FIVE

See attached pdf files