

- Communications/Technology Strategic Plan – FINAL DRAFT

UNH Cooperative Extension 10/2001

Introduction

In 1994, the University of New Hampshire Cooperative Extension Strategic Planning Team developed Extension's first strategic plan. This plan identified the following as a key issue facing UNHCE in the future: "How can UNHCE become responsive to the significant emerging issues in a changing society?" In response to this question, the team established a goal "to demonstrate efficient and effective delivery methods and evaluation systems congruent with the technological future and a changing society." Three strategies identified to meet this goal were: 1) determine and incorporate the most effective delivery system/technologies for responding to issues and needs promptly; 2) develop a system to provide all clients access to information superhighways and other technologies; 3) provide staff development opportunities in program delivery methods, new technologies, facilitation skills, expanding knowledge base, etc.

The Strategic Planning Team identified specific actions, which led to the formation of a Communications and Technology Strategic Planning Team. In 1996, the Communications and Technology Strategic Planning Team (Comm/Tech Team) developed a communications/technology strategic plan titled "Navigating the Course." The 1996 plan is the basis for this revised strategic plan which coincides with Extension's efforts to update its master strategic plan and University of New Hampshire efforts to conduct business as an "engaged institution" under the umbrella of "resource centered management."

Section I: Mission

UNH Cooperative Extension provides New Hampshire citizens with research-based education and information, enhancing their ability to make informed decisions that strengthen youth, families and communities, sustain natural resources, and improve the economy.

Section II: Vision

We envision communications/technologies playing a vital role in assisting UNH Cooperative Extension in accomplishing its mission.

Program Delivery - We envision UNH Cooperative Extension staff will use appropriate electronic technologies to deliver local, state, regional, and national programs to diverse clientele.

Electronic Access to Resources - We envision UNH Cooperative Extension staff will have local access to the resources, i.e. hardware/software, networks, databases, libraries, satellites and information, necessary for professional development, effective communications and program development.

Training and Support - We envision all UNH Cooperative Extension staff will be successfully trained and supported by the Extension CIT Staff and other available resources.

Technology Outreach - We envision UNH Cooperative Extension CIT Staff in conjunction with Extension Educators will assist traditional and “virtual” electronic communities in realizing the benefits and intricacies of establishing networks linked together through the Internet, and will train community leaders and volunteers to utilize them effectively.

Section III: Delivery/ Communication Strategies

In 1986, Cooperative Extension established one of the first statewide computer networks in the state. Based upon single 8088 computers located in the counties and campus departments, connected through campus telephone lines and a single 800 long distance line, this system provided enhanced communication capabilities through long distance line, this system provided enhanced communication capabilities through electronic mail. It was not long before staff realized one hour of access per day through a shared computer was not adequate and requested unlimited access time through computers located on their desks. Efforts were made to place a computer on all staff persons’ desks and increase the number of network telephone lines, but the costs of providing modems and telephone lines for each staff person to connect to the network were always prohibitive.

Today, advances in technology and reduced costs have made it feasible to provide both local and wide area simultaneous network access to staff through computers located “on their desks” via frame relay network access lines, wireless satellite-based systems and tools encompassed by the Internet. However, a need exists to continue to evaluate new technologies and to recommend appropriate technologies for incorporation that will further enable Extension to accomplish its mission efficiently and effectively.

Infrastructure - Electronic Delivery of Information and Educational Resources to Staff and Clientele through Communications Technologies

Goal 1

Maintain and upgrade appropriate computer and other electronic delivery/access systems congruent with UNH systems and those employed by other educational institutions, organizations, consortia, businesses and networks.

Strategy (1.1) – Maintain and upgrade *internal* local and wide area networks (Intranet)

Action 1: The CIT Manager in conjunction with the CIT Staff and UNH Computing/Network Staff will establish and maintain the necessary hardware/software and related equipment for providing efficient and reliable internal communication systems for staff to communicate with one another and to access instruction, research and administrative resources.

Action 2: The Wide Area Network Manager will install, maintain and upgrade network hardware/software, servers, and related equipment to ensure the wide area network (Intranet) is functioning properly and efficiently.

Action 3: Local Area Network Managers will regularly visit local area network sites to install new equipment, maintain existing hardware/software, and to work with users to ensure the local area networks are operating reliably and efficiently. Local Area Network Managers will work with the Wide Area Network Manager to ensure the local area networks are functioning properly and are integrated to form Extension's internal wide area network (Intranet).

Action 4: The CIT Manager in conjunction with Wide and Local Area Network Managers, County Office Administrators and Extension Administration, will conduct annual needs assessments of office hardware/software, support, training and network needs. Local and wide area networks will be upgraded as needed.

Action 5: The CIT Manager in conjunction with the UNHCE Business Administrator and County Office Administrators will develop plans and identify and allocate resources for replacing obsolete network and PC hardware/software and related equipment.

Strategy (1.2) – Establish, maintain and upgrade *external* wide area networks (Internet)

Action 1: The CIT Manager in conjunction with the CIT Staff and other network administrators and consortia members, will establish and maintain the necessary hardware/software and related equipment needed for providing efficient and reliable external communications and distribution of information and educational resources to Extension clientele and staff.

Action 2: The Wide Area Network Manager will install, maintain and upgrade network hardware/software, servers, and related equipment to ensure the wide area network (Internet) is functioning properly and efficiently.

Action 3: The Wide Area Network Manager in conjunction with the CIT Manager, will conduct periodic assessments of network hardware/software and related equipment and upgrade systems as needed.

Strategy (1.3) – Evaluate and recommend appropriate new electronic technologies for incorporation

Action 1: The CIT Manager in conjunction with the CIT staff and the UNHCE Comm/Tech Team will evaluate and recommend for incorporation appropriate new electronic communications/technologies and applications as they emerge.

Goal 2

Design, develop, maintain and upgrade appropriate administrative and management computing systems for efficient and effective communications and the processing of administrative and management information and data.

Strategy (2.1) – Design, develop, maintain and/or upgrade *internal* administrative and management information systems

Action 1: The CIT Manager in conjunction with the CIT Staff, the Communications/Technology Team and other appropriate staff will design, develop, maintain and upgrade administrative and management information systems, i.e. Time Effort Reporting Systems (TERS), Plan of Work (POW), Strengths, Weaknesses, Opportunities and Threats (SWOT), Position Applications, etc.

Action 2: CIT Staff in conjunction with appropriate Extension Educators and staff will design, develop, maintain and/or upgrade program area and Extension specific applications software, i.e. Cmail, Blue Ribbon, HSFPP, FHG Center database, surveys, etc.

Distance Education and Public Accessibility

“Distance Education” is a broad term which includes computer mediated instruction, video instruction through satellite, cable, interactive television (ITV), streaming video and video cassette, multimedia, and correspondence courses based on electronic mail and/or ordinary paper. Distance education can make it possible for learners who are widely spread apart geographically to have access to many of the resources of a central institution and/or to a “virtual” on-line university in which the institution itself is comprised of several institutions linked together electronically.

Distance education allows the participation of learners who cannot access traditional programs due to other commitments such as work or family. It allows students to access distributed resources such as those available on the World Wide Web (WWW) and increases the educational options available to those who are mobility-impaired or handicapped in some other way.

Current UNH Distance Education Activities.

Several departments at the University of New Hampshire are currently involved in meeting educational, training and informational needs of clientele through distance education technologies. UNH Cooperative Extension, through grant funding, has installed satellite uplink and downlink systems on campus and at county office locations. As a member of the American Distance Education Consortium (ADEC), these counties and the UNH campus have been downlinking educational programs on a regular basis. UNHCE has been instrumental in the establishment of the Granite State Distance Learning Network (GSDLN), a network based on two-way interactive television technology. In addition, UNHCE has piloted delivery of educational programs via the Internet using course delivery software (Blackboard).

The following goals, strategies and actions pertain to the need of UNHCE to address the delivery/access of information, research and educational programs from a distance.

Goal 3

Enhance public accessibility to Extension information, research and educational programs and materials through electronic technologies.

Strategy (3.1) – Identify and establish WWW-based and Electronic Resources

Action 1: The Extension Webmaster will work with staff to place Extension information, research and other educational materials and programs, calendars, forms, news, etc. on the UNHCE website (ceinfo.unh.edu).

Action 2: The Extension Webmaster will work with the CIT Manager, CIT staff, UNH CIS staff and other appropriate individuals and organizations to identify new resources, applications, hardware/software and technologies which will enhance Extension's world wide web presence and meet user needs.

Strategy (3.2) – Establish public access and training sites through existing and future partnerships

Action 1: The CIT Manager will collaborate with other Extension, university, government and business technology leaders to establish public access and training sites to enhance public accessibility to information, research, educational programs and training resources.

Action 2: CIT staff, in conjunction with Extension Educators, will conduct training sessions on how to utilize various electronic technologies to access information, research, educational programs and training resources.

Action 3: The CIT Manager, in conjunction with the Communications/Technology Team, will investigate the feasibility of using train-the-trainer and/or Master Internet Volunteer-type programs to enhance staff and public training opportunities in the areas of communications/technologies, computer literacy and distance education.

Goal 4

Establish and maintain appropriate distance education, video and other electronic delivery/access systems congruent with UNH systems and those employed by other educational institutions, organizations, consortia, businesses and networks.

Strategy (4.1) – Collaborate with UNH and USNH information technology departments, committees, and units to maximize resources.

Action 1: The CIT Manager will represent Extension on appropriate UNH and USNH distance education and technology committees to ensure resources are maximized in the establishment and maintenance of distance education, video and other electronic delivery/access systems both on and off campus.

Strategy (4.2) – Establish new and maintain existing distance education partnerships with external units, institutions, universities, colleges, and consortia.

Action 1: The CIT Manager will act as the principle contact officer for maintaining distance education partnerships with New Hampshire Public Television (NHPTV), American Distance Education Consortium (ADEC), Granite State Distance

Learning Network (GSDLN), etc. and seek new opportunities for collaboration when appropriate.

Goal 5

Enhance staff access to information and training resources and delivery of educational programs, information, and research to their audiences through distance education and television-based technologies.

Strategy (5.1) – Establish and update distance education-based resource libraries and calendars

Action 1: The CIT Office will maintain lending libraries of videotaped training programs, meetings, etc. for staff use.

Action 2: The CIT Office will provide staff and clientele with electronic access to pertinent satellite, two-way interactive video, streaming video, and WWW-based training resources and calendars.

Strategy (5.2) – Seek additional resources for the production and distribution of programs via distance learning and television-based technologies.

Action 1: The CIT Manager will work with Extension staff and partners to identify resources/grants to enhance the delivery of programs, information and research through distance learning and television-based technologies, including two-way interactive video, streaming video, videotape, CD-ROM, satellite, WWW, cable, broadcast television, etc.

Strategy (5.3) –Train and support staff in the utilization of distance learning and television-based technologies including instructional design and delivery techniques.

Action 1: The CIT Office Staff will conduct/coordinate periodic training sessions for staff in the utilization of distance learning technologies and related hardware/software, networks, peripherals and equipment.

Action 2: The CIT Office Staff, in conjunction with other UNH staff and partners will conduct/coordinate periodic training sessions for staff in instructional design and production including the adaptation of traditionally delivered classes/workshops to delivery at a distance.

Technology Outreach/Education

The goal of UNHCE's Strengthening Communities initiative is "to position Cooperative Extension to assess and respond to the needs of the communities of the State of New Hampshire. Individuals, families, school, organizations, or economic enterprises exist as entities within a community. Because of this, there is a mutual relationship between each entity and the larger community. Cooperative Extension is in a unique position because of its experience and its technical expertise to assist all parties within a community to support and strengthen each other. This does not mean that the strengthening of a community is a one-way effort, but rather an understanding and an acknowledgment of each party's needs, expertise and limitations as well as the importance of all of the complex relationships within a community. Another aspect of the goal of this initiative is to establish a distinction between the subjective components of community development and the process components of community development that tend to transcend program areas."

Three of the Strengthening Communities' areas of emphasis concentrate on a community's ability to develop infrastructure, increase technological literacy and understand important public issues - Community Infrastructure, Capacity Building, and Public Issues Education. In the recent past, several communities have sought the assistance of Extension in helping them to understand the impact of developments in communication technologies on their communities. Other communities have requested public policy education assistance in raising awareness within their communities on the need for community electronic network planning and development, while still other communities have sought unbiased technical information and education to assist in their understanding of the complex issues facing them as they build their communities' electronic infrastructures.

As individuals gather electronically to form groups, coalitions and consortia centered on a common interest or issue, they form "virtual communities." These "virtual communities" often transcend traditional geographic boundaries, and although they may seldom meet face-to-face, they are able to develop strong bonds, communicate effectively and initiate change. Cooperative Extension assistance is increasingly sought to help educate and facilitate group discussion on the mechanics of establishing the infrastructure necessary for "virtual community" development, implementation and support.

The following goal, strategies and actions pertain to the need of UNHCE to continue to assist traditional communities, virtual communities, and established organizations as they address problems associated with information technology infrastructure development, capacity building, utilization and education.

Goal 6

Strengthen communities and organizations in the areas of infrastructure development, capacity building, and utilization as they relate to communications technology education.

Strategy (6.1) – Educate and advise communities and organizations on electronic technology infrastructure, capacity building, and utilization.

Action 1: The CIT Manager, in conjunction with other assigned staff, will develop educational materials for use by communities and non-profit organizations to assist in their understanding of the technology and issues related to development and utilization of their electronic communications infrastructure.

Action 2: The CIT Manager, in conjunction with other UNHCE/UNH staff and partners, will assist community and organization leaders through group meetings, presentations and/or educational programs and materials to become literate in the areas associated with communications technologies infrastructure, capacity building and utilization.

Section IV: Staff Development

Past UNHCE staff surveys have highlighted the need for staff development opportunities in the areas of communications and technology. Some staff prefer classroom training, some prefer individual training, while others prefer self-study materials. In an era when staff and clientele are increasingly using electronic technologies to communicate, it is clear UNHCE needs to maintain a core set of staff technology competencies and establish the means for which staff can attain them.

Training of staff in electronic technology utilization

Goal 7

Enhance UNHCE staff understanding and usage of electronic technologies in instruction, administration, and delivery of information and research.

Strategy (7.1) Initiate/maintain staff development in communications /technology utilization

Action 1: The CIT Staff will conduct periodic training sessions for staff in the areas of communications/technology.

Action 2: The CIT Staff will acquire and make available self-paced training aids, videotapes, WWW-based resources, CD-ROMs, etc., for staff development in communications /technology.

Action 3: Program Leaders, County Office Administrators and supervisors will ensure adequate time and resources are allotted for professional development in the area of communications/technology using both internal and external resources.

Action 4: All staff will seek appropriate staff development opportunities in communications/technology and technological skills development and include them in their staff development plans.

Strategy (7.2) Maintain a current core set of staff technology competencies and establish the means for which staff can attain them.

Action 1: The Communications/Technology Team will maintain, update and distribute to staff an outline of minimum “communications/technology” competencies.

Action 2: The Communications/Technology Team, in conjunction with the CIT Staff, will identify the means (staff development resources and paths) to which staff can attain the minimum competencies.

Strategy (7.3) Ensure new employees have or will attain minimum communications /technology competencies as a condition of hiring.

Action 1: Program Leaders, County Office Administrators and supervisors will ensure new position descriptions and vacant position announcements will contain minimum communications and technology competencies and qualifications.

Action 2: Program Leaders, County Office Administrators and supervisors will ensure new employees have or will acquire minimum communications and technology competencies and qualifications as a condition of hire.

Strategy (7.4) Provide the means for staff self-assessment in electronic technology competencies.

Action 1: CIT Staff will identify and/or establish self-assessment tools for staff to determine their electronic technology skills and qualifications as related to those listed as minimum communications /technology competencies.

Action 2: All staff persons will periodically assess their communications/technology competencies to ensure they are maintaining and upgrading the skills necessary for effective communications.

Section V: Standards

Hardware/Software Recommendations and Network Standards

It is important for UNHCE to establish, and update regularly, hardware/software recommendations and network standards for each office/department and for groups of individuals. An organization that does not keep up with the developments in hardware/software and network technologies will compromise its ability to communicate and deliver information and programs efficiently and effectively.

Goal 8

Establish hardware/software recommendations and network standards for each office/department and for groups of individuals.

Strategy (8.1) – Establish and update hardware/software recommendations and network standards.

Action 1: The Communications/Technology Team, in conjunction with the CIT Staff, will establish and update hardware/software recommendations and network standards for offices/departments and for appropriate groups of individuals (Administrative staff, Educators, Operating Staff, etc.).

Strategy (8.2) – Secure resources to maintain and upgrade hardware/software and network technology congruent with established standards and recommendations.

Action 1: The CIT Manager, in conjunction with County Office Administrators and Extension Administration, will seek ways to fund hardware/software and network technology necessary for ensuring effective and efficient communications, processing of administrative data, access to WWW resources, and delivery of information and research to clientele.

Section VI: Support Services

As Extension staff experience the benefits of new modes and methods of teaching, learning and communicating via electronic technologies, they require the tools, training and support which will enable them to be efficient, productive and effective. Simply placing a new PC on a staff person's desk, without providing support services, training, and network connectivity, will not maximize an organization's investment. Regional support services were identified as a key need in the 1996 UNHCE Communications/Technology Strategic Plan. Subsequently, a LAN Manager position was established to meet the support needs of staff located in county offices.

The following goals, strategies and actions pertain to the need of UNHCE to continue to identify and secure the resources necessary for UNHCE support and training as they pertain to communications/technologies.

Goal 9

Identify and secure the resources necessary for UNHCE support and training in the many areas of communications/technologies.

Strategy (9.1) Ensure staff have the tools which will enable them to be efficient viable and competitive.

Action 1: Extension Administration will identify and allocate appropriate resources to ensure staff have the tools necessary for success.

Strategy (9.2) Ensure the CIT Office has the staff resources necessary to meet identified campus, county, and community needs.

Action 1: Extension Administration will identify and allocate appropriate resources to ensure the CIT Office is adequately staffed.

Strategy (9.3) Ensure the CIT Office has the resources necessary to meet the needs identified in special projects and grants.

Action 1: Extension Administration and staff involved in special projects and grant development, will work with the CIT Manager to identify, secure and allocate communications/technology resources necessary for successful completion of the project and or grant.

The following have been identified as key areas requiring communication/technology support and training. Functions are distributed among staff. Full time equivalents (fte's) represent total time required within the category.

Software Support (1.0 fte)

- Telephone "Hot Line" (Help Desk Services)
- On-Site and On-line support services
- Manual/Instructions development
- Systems backup and disaster recovery

Hardware Support (1.0 fte)

- Recommended hardware list; purchasing assistance
- Hardware installation
- Hardware trouble shooting, repairs and upgrades

Emerging Technology Assessment and Pilot Testing (.25 fte)

- Network projects (ATM, bandwidth expansion, digital voice, etc.)
- Multimedia (CDROM and WWW)
- Distance Education (Satellite, Interactive Video, Blackboard and WWW)
- Streaming Video and Audio

Staff Development and Training (.25 fte)

- One on One training
- Classroom training workshops
- On-line resources, videotape library, computer-based training (CBT)
- Computer competency assessment tools

Local and Wide-Area Network Infrastructure & Management (1.75 fte)

- LAN and WAN Planning and Development (campus and county sites)
- LAN and WAN Installation, Training and Support
- LAN and WAN Management

Information Access /Delivery and Distance Education(1.75 fte)

- WWW high speed access (Routers, Servers, Browsers, etc.)
- Instructional Design and Development
- WWW delivery systems (Servers, Extension home page, Program Area pages, and Administration pages)
- Video access and delivery (Satellite uplink/downlink, Interactive Television, Streaming Video, Videotape and WWW)
- Multimedia systems (CDROM and WWW)
- On-line Delivery Tools (WWW, Blackboard, etc.)

Administrative Support (.5 fte)

- Email systems
- WWW-based Calendar Systems, Policies and Procedures

- Management Information Systems [MIS] (TERS, GPRA, POW and Publications Inventory)
- Administration Presentation Support
- Program Area Administrative Systems Support (Youth and Camps software; ES237; GIS, EFNEP etc.)
- Special Projects and Grants Support
- Project tracking and strategic planning
- Computer Based Telephone Systems (CBT at FHGEC)

Information Collection and Statistical Analysis (.25 fte)

- Survey Design Analysis
- Computer Programming Support (Database Design, Forms Generation, Data Entry and Report Generation)
- Database Development (Coldfusion, Access, Cmail, Surveys, etc.)
- WWW page data collection and analysis

Telecommuting Support (.25 fte)

- Dial-in and broadband access for home-based and laptop computers
- Communications software installation, support and training

Technology Outreach/Education (.25 fte)

- Partnership establishment and maintenance
- Technology workshops, presentations and demonstrations

VII. Resources

Many of the resources needed to accomplish goals outlined in this plan have already been identified and allocated. In some instances, resources will need to be redirected or generated through grant opportunities to ensure UNH Cooperative Extension staff have the tools which will enable them to be efficient, viable and competitive and the organization is able to accomplish its mission effectively.

Resources needed for Goal 1 – To maintain and upgrade our electronic delivery systems, to remain congruent with UNH systems and those employed by other educational institutions, organizations, consortia, businesses and networks, staff and financial resources will need to be allocated to maintain and upgrade Extension’s Intranet and Internet systems. Five of our ten counties have recently received grants to upgrade network services to ATM technology. ATM technology will provide the bandwidth necessary for two-way interactive video, high speed Internet access and digital voice services. The remaining five counties, in conjunction with the CIT Manager and/or Extension Administration will need to identify funds or secure grants to establish high-speed network links. Similarly, resources need to be identified to cover recurring line charges post grant funding. Campus offices connected to the UNH backbone currently have

access to adequate bandwidth. However, there are a few campus offices not currently connected to the backbone or to the Internet via alternate broadband technologies. Resources for these connections will need to be identified and allocated.

Resources needed for Goal 2 – To maintain and upgrade appropriate administrative and management computing systems for efficient and effective communications and the processing of administrative and management information and data, hardware/software, network, and staff resources will need to be allocated to meet current and future needs.

Resources needed for Goal 3 – To enhance public accessibility to Extension information, research and educational programs and materials through electronic technologies, Extension CIT staff, in conjunction with Extension Educators, will need to maintain and upgrade World Wide Web-based resources and related network systems. Staff time will need to be allocated to insure information, programs and materials are available in digital formats. In addition, staff resources will need to be allocated to maintain existing and develop new partnerships. Public access and training sites will need to be established/maintained and training sessions conducted.

Resources needed for Goal 4 – To establish and maintain appropriate distance education, video and electronic delivery systems will require both financial and staff resources. Resources to maintain two-way interactive video, satellite uplink/downlink and on-line systems are needed to insure Extension remains competitive and meets the growing distance education needs of staff and clientele. These resources include funds to maintain ADEC and GSDLN partnerships, maintain servers and network connections and purchase software. Staff resources are needed to maintain the electronic delivery systems and to deliver the classes, information, and research via the networks.

Resources needed for Goal 5 – To enhance staff access to information, training resources and calendars, that assist in the delivery of programs, information, and research to audiences through distance education and television-based technologies, resources are needed for training staff in instructional design and production including the adaptation of traditionally delivered classes/workshops to delivery at a distance. In addition, resources for distribution of programs via two-way interactive video, satellite, streaming video, and WWW-based training modules need to be identified.

Resources needed for Goal 6 – To strengthen communities and organizations in the areas of infrastructure development, capacity building, and utilization as they relate to communications technology education, staff resources are needed to develop educational materials and assist community leaders and organizations through group meetings, presentations and/or educational programs and materials.

Resources needed for Goal 7 – To enhance staff understanding and usage of electronic technologies in instruction, administration, and delivery of information and research, professional development resources need to be identified. CIT Staff need to allocate time for the development and delivery of training sessions for staff in the areas of communications/technology. All staff need to commit time to assessing and maintaining technology competencies.

Resources needed for Goal 8 – To establish hardware/software recommendations and network standards for each office/department and for groups of individuals, resources to maintain and upgrade electronic technologies need to be identified. Plans need to be developed and resources need to be identified to replace one third of the organization's PC hardware on a rotating basis every three years.

Resources needed for Goal 9 – To identify and secure the resources necessary for UNHCE support and training in the many areas of communications/technologies, the CIT Manager, in conjunction with Extension Administration, County Office Administrators, and other appropriate staff need to allocate time to identifying and securing resources necessary for accomplishing the goals outlined in this strategic plan.

VIII. Summary

UNH Cooperative Extension developed a communications/technology strategic plan titled "Navigating the Course," in 1996. Although many of the goals outlined in 1996 are still pertinent today, the tools have changed significantly. In conjunction with other UNH strategic planning efforts, this revised plan insures Cooperative Extension is positioned to use communications and technology to accomplish its mission both efficiently and effectively.

It is envisioned UNHCE staff will use appropriate electronic technologies to deliver local, state, regional, and national programs to diverse clientele; staff will have local access to the resources, i.e. hardware/software, networks, databases, libraries, satellites and information, necessary for professional development, effective communications, and program development; staff will be successfully trained and supported by Extension CIT Staff and other available resources; selected staff will assist traditional and "virtual" electronic communities in realizing the benefits and intricacies of establishing networks linked together through the Internet, and will train community leaders and volunteers to utilize them effectively.

To achieve this vision, goals, strategies and action plans have been developed in four key areas - delivery and communications strategies, staff development, standards and support services.

Delivery / Communications Strategies

Delivery and communications strategies encompass both internal and external communications as they relate to computer networks, distance education and technology outreach. The first goal identified in this area is to maintain and upgrade appropriate computer delivery and access systems (networks) congruent with UNH systems and those employed by other educational institutions, organizations, consortia and businesses. Strategies identified to accomplish this goal involve maintaining and upgrading both internal (Intranet) and external (Internet) networks and evaluating new technologies as they emerge.

The second goal identified is to develop administrative and management computing systems for efficient and effective communications and the processing of information and data. Strategies to accomplish this goal include the development of management information systems (MIS) and software to meet specific program and administrative computing needs.

The third goal is to enhance public accessibility to Extension information, research and educational programs and materials through electronic technologies. Establishing World Wide Web- based (WWW) resources and developing public access and training sites through partnerships were identified as strategies for attaining this goal.

The fourth goal calls for Cooperative Extension to establish and maintain distance education, video and other electronic delivery systems congruent with those used by other institutions. **“Distance Education”** is a broad term which includes computer mediated instruction, video instruction through satellite, cable, interactive television (ITV), streaming video and video cassette, multimedia, and correspondence courses based on electronic mail and/or ordinary paper. Distance education can make it possible for learners who are widely spread apart geographically to have access to many of the resources of a central institution and/or to a “virtual” on-line university in which the institution itself is comprised of several institutions linked together electronically. Collaboration with new and existing partners from both in and outside the University to maximize resources and build distance education networks, is one strategy for reaching this goal.

The fifth goal is to enhance staff access to information and training resources through distance education and television-based technologies and to enhance staff usage of these technologies to deliver programs. Strategies call for the training of staff in the utilization of distance learning and television-based technologies, including instructional design and delivery techniques, and seeking additional resources for the production and distribution of programs via these technologies.

Technology Outreach / Education

As individuals gather electronically to form groups, coalitions and consortia centered on a common interest or issue, they form “virtual communities.” These “virtual communities” often transcend traditional geographic boundaries, and although they may seldom meet face-to-face, they are able to develop strong bonds, communicate effectively and initiate change. Cooperative Extension assistance is increasingly sought to help educate and facilitate group discussion on the mechanics of establishing the infrastructure necessary for “virtual community” development, implementation and support. Similarly, UNHCE is often requested to assist traditional communities, virtual communities, and established organizations as they address problems associated with information technology infrastructure development, capacity building, utilization and education. Hence, the sixth goal is to strengthen communities in these areas. The strategy is to educate and advise communities and organizations as they make important decisions regarding their electronic technology infrastructure.

Staff Development

Staff surveys have highlighted the need for staff development opportunities in the areas of communications and technology. Some staff prefer classroom training, some prefer individual training, while others prefer self-study materials. In an era when staff and clientele are increasingly using electronic technologies to communicate, it is clear UNHCE needs to maintain a core set of staff technology competencies and establish the means for which staff can attain them. The goal in this area is to enhance staff understanding and usage of electronic technologies in instruction, administration, and delivery of information and research. Strategies to reach this goal include maintaining a core set of staff technology competencies, and providing the means for staff self-assessment in electronic technology competencies.

Standards

It is important for UNHCE to establish, and update regularly, hardware/software recommendations and network standards for each office/department and for groups of individuals. An organization that does not keep up with the developments in hardware/software and network technologies will compromise its ability to communicate and deliver information and programs efficiently and effectively. The goal is to establish hardware/software and network standards for each office/department and for groups of individuals. The strategy and challenge is to secure the resources necessary to maintain and upgrade hardware/software and network technology in an ever changing environment.

Support Services

Staffs require the tools, training and support which will enable them to be efficient, productive and effective. Simply placing a new PC on a staff person's desk, without providing support services, training, and network connectivity, will not maximize an organization's investment. Regional support services were identified as a key need in the 1996 UNHCE Communications/Technology Strategic Plan. Subsequently, a LAN Manager position was established to meet the support needs of staff located in county offices. The goal is to identify and secure the resources necessary for UNHCE support and training as they pertain to communications/technologies. Strategies include ensuring the CIT Office has the staff resources necessary to meet identified campus, county and community needs and ensuring staff involved in special projects and grants build the funding necessary to meet their information technology needs into the grant.