Second White Paper on Extension, Engagement, and Economic Development

“Recommendations for Enhancement of the Commitment of NC State to Serving the People of North Carolina”

Prepared by Professor Ellis Cowling

At the Request of NC State University’s University Standing Committee on Extension and Engagement and Extension Operations Council

October 2005
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October 7, 2005

**Memo to:** Members, University Standing Committee on Extension and Engagement  
Members, Extension Operations Council

**From:** Ellis Cowling  
**Subject:** Second White Paper on Extension, Engagement, and Economic Development  
“Enhancing the Commitment of NC State University to Serving the People of North Carolina”

It was an honor to receive your request to revise and update the 1999 White Paper on Extension and Engagement at our University. Thus, with your request in mind, as in 1999, interviews were held with deans, associate deans, and faculty in all 10 colleges, with selected department heads, Chancellor Oblinger and several Vice-Chancellors, staff in the UNC Office of the President, and leaders in other universities that also are innovative, inclusive, and effective in meeting important needs of humanity.

Authoritative articles on the future of higher education and translation of scientific findings into useful public policies were read and reread. Vision Statements for the future of our university were sometimes volunteered or prepared at my request by deans and several leaders of campus-wide extension and engagement programs.

Ruben Carbonell and I invited 20 innovative faculty to join in a “Faculty Conversation on the Future of NC State” on March 1, 2005. We also prepared a summary of “Perspectives and Recommendations” from the ideas put forward at this meeting. Consultations also were held with members and staff of the NC Progress Board regarding their recent analyses of national and regional rankings for 51 of 84 aspects of the quality of life of the people in our state.

On February 9, 2005 Chancellor Oblinger announced his decisions that: 1) a search should be undertaken for a new Vice-Chancellor, and 2) the responsibilities and title for this position should include Economic Development as well as Extension and Engagement.

From these sources of insight, a series of short summary documents were assembled and used to prepare three “**General Recommendations for Enhancement of NC State’s Commitment to Serving the People of North Carolina.**” Some of these documents also contain a few more specific comments and recommendations. Earlier versions of many of these ideas are in the memos Ruben Carbonell and I sent to your two committees and to the Nomination Committee on May 15 and June 1, 2005. They are in addition to the five recommendations in the 1999 White Paper – most of which are still relevant in 2005.

Your critical review of the three **General Recommendations** and more specific comments and recommendations in various parts of this Second White Paper are invited earnestly! Your individual and/or collective assessment will be most heartily welcome – especially regarding the merit of these ideas for consideration by the faculty, deans, associate deans, Chancellor, other leaders in our university, and especially the new Vice-Chancellor for Extension, Engagement, and Economic Development! I also hope that some parts of this Second White Paper will be useful as all of us interact with the five nominees and formulate our advice and counsel to Chancellor Oblinger as he makes his final decisions about this important position.

I have an appointment with Chancellor Oblinger on October 24, 2005 and look forward to benefiting from your further advice and counsel before that time. You can reach me by E-mail at ellis_cowling@ncsu.edu or by phone at 515-7564.

I also hope we can continue to learn from each other and seek consensus views that will enable each of us to do our part, together with the new Vice-Chancellor for Extension, Engagement and Economic Development, and thus help NC State University make further progress toward becoming an “Exemplary Land-Grant University!”

*1) NC needs a Vice-Chancellor to lead extension and engagement (E&E) programs campus-wide, 2) Additional support is needed for E&E programs in all 10 colleges, 3) NC State needs to redefine scholarship so that contributions in extension and engagement are recognized and rewarded on a par with scholarship in teaching and research, 4) Infrastructure is needed for E&E that is both bottom-up and top-down, and 5) NC State needs to build collaborative partnerships with many organizations willing to help improve the quality of life for the people of our state, region, nation, and the world.
Extension and Engagement Mission and Vision Statements

-- These excellent statements were prepared by the EOC in December 2004.
-- They need much wider distribution and understanding by faculty, staff, and students as well as university, college, and department administrators!

The **mission** of NC State University Extension and Engagement is to partner the resources of the university and communities to produce mutual benefits. As a research extensive higher education institution in the land grant tradition we value and are committed to:

- Bringing the intellectual resources of the university to bear on the contemporary needs of society
- Integrating the scholarly contributions of teaching, research and service
- Transferring technological, managerial, and artistic innovation to enhance the economic and social systems of the state, nation and world
- Integrating knowledge of all forms to establish an environment of co-learning between the university and community
- Forging reciprocal, collaborative and mutually beneficial relationships whereby the university and community partners contribute to and share responsibility for decision making
- Developing practices that strengthen faculty effectiveness and enhance student learning while providing impacts to relevant societal issues
- Diversity and active listening to diverse audiences
- Designing and delivering curricular experiences to prepare educated, engaged and responsible citizen leaders
- Developing a national reputation for engagement with “real people, and real issues, in real time”
- Building an awareness of and customer-friendly access to university partners and services
- Assessing the qualitative and quantitative results of extension and engagement through traditional measures of academic excellence as well as the impact and outcomes on communities
- Creating a respectful and inclusive work environment that facilitates the increase and diffusion of knowledge, wisdom and the moral dimensions of intelligence

The **Vision** of NC State University Extension and Engagement is to model excellence as the nation’s university leader in partnering with communities and organizations that seek educational advancement, research applications and positive social change.
Preface

“Our outstanding universities are one of the greatest hopes for intellectual and civic progress in this country. For this hope to be fulfilled, the academy must become a more vigorous partner in the search for answers to our most pressing social, civic, economic, and moral problems, and must affirm its historic commitment to what I call the scholarship of engagement.” Ernest Boyer.

“Collaboration and partnership with the community produce solutions to society’s most vexing problems. Service is, after all, the ethical imperative driving research and teaching as well as a principal product of these enterprises. Discharging this duty in an ever-changing world requires radically rethinking “service,” finding innovative ways to leverage academe’s intellectual capital to transform lives for the benefit of society.” Richard Cherwitz

“The notion of engagement or public service is a characteristic that made public higher education in America unique in the world. The land grant principle asserted that no part of human life and labor is beneath the notice of the university or without its proper dignity. Both by virtue of the character of their scholarship and whom they serve, the Land Grant universities were established as people’s universities.” George McDowell.

“The publicly engaged institution is fully committed to direct, two-way interaction with communities and other external constituencies through development, exchange, and application of knowledge, information, and expertise for mutual benefit.” American Association of State Colleges and Universities.

Enhancing Extension, Engagement, and Economic and Community Development

Every land-grant university in America has three primary missions:
1) Teaching and associated learning by undergraduate and graduate students,
2) Discovery of new knowledge through basic and applied research and other creative scholarly activities, and
3) Advisory services to citizens, economic enterprises, governmental and non-governmental organizations, cultural and social organizations, and other groups in society.

How a university spends its money is one way to think about the extent of our University’s commitment to these three primary functions:

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There appear to be some discrepancies and uncertainties about the figures for 2004 in light of the attached summary of “Progress in Extension, Engagement, and Economic Development at NC State 1999-2005.”

Nevertheless, these data suggest that during at least most of the past 45 years, the teaching mission at NC State increased about seven-fold and currently commands about 42-46% of our total budget. The research budget also increased about five fold and has commanded about 34-38% of our total budget since 1960. By contrast, expenditures for extension, engagement, and associated economic development have increased only about 2.5 fold; and since 1990 this mission has commanded only about 19 or 20% of total investments in support of all three primary functions.

In essence, we are currently a little more than half the university we were in 1960 in terms of commitment to serving the people of North Carolina!

**General Recommendations for Enhancement of NC State’s Commitment to Serving the People of North Carolina – 1999**

1) NCSU needs a visionary, vigorous, and articulate full-time leader for campus-wide and state-wide engagement with the people of North Carolina.

2) NCSU needs dependable, stable, and long-term increases in financial support for outreach, extension, and engagement activities both at the university level and in all 10 colleges.

3) NCSU needs a mutually agreed upon re-definition of "scholarship" and a reward system that proactively encourages innovative faculty and student involvement in programs to enhance the quality of life in our society.

4) NCSU needs an "executive taskforce" or "upper-level strategy group" that is advisory to the Vice Chancellor or Vice Provost for outreach and extension activities. Its primarily purpose should be to identify (and possibly also help implement) a limited number of primary goals and strategies for university-wide engagement of NCSU with the people of North Carolina.

5) NCSU's Extension Operations Council (EOC) and NCSU's University Standing Committee on Outreach and Extension (USCOE) should work closely with the proposed Vice Chancellor or Vice Provost, the North Carolina Progress Board, the Emerging Issues Forum, and the International Programs Office. Both the EOC and the USCOE should strive to improve the infrastructure for Extension and Engagement activities at NCSU and to increase cooperation with other institutions and organizations in North Carolina, the southern region, the nation, and abroad.
General Recommendations for Enhancement of NC State’s Commitment to Serving the People of North Carolina – 2005

1. NC State needs to develop or update a university-wide strategic plan that embraces extension, engagement, and economic development. In addition to addressing university-wide issues, the plan should integrate well with comparable college and department-level strategic plans.

   This recommendation is especially critical in light of the decision to add economic development as an explicitly defined goal of our university. This emphasis inevitably means that our faculty, staff, students, and departmental, college, and university administrators will have to shift some of their intellectual and creative energies from other worthwhile teaching, research, extension, and engagement activities in order to give careful attention to economic development.

   Some faculty and other leaders believe that plans for economic development initiatives should be conceived from the beginning as “economic and community development initiatives.” In order to be successful, these initiatives will require multi-disciplinary perspectives. University leaders will need to give careful thought to how to support, encourage, and reward faculty cross-disciplinary teams.

   Special attention in development of strategic plans also should be given to the criteria used in selecting areas that are to be emphasized and those to be de-emphasized. As Kingman Brewster indicated in his 1964 inaugural address as President of Yale University: “Institutions should grow in areas of maximum inherit comparative advantage.” This principle is equally valid not only in making decisions about new faculty hires, or selecting among alternative capital fund projects, but also in selecting the mechanisms of funding that are most likely to be successful in maximizing economic, cultural, or other benefits for society.

   Further, the university will need to develop mechanisms for developing increased external funding in the engagement and economic development arena. Growing trends indicate that these funds are likely to come from short-term grants, contracts, and fee-for-service funding mechanisms. They also could come from scholarship of engagement funds from “dissemination” categories in traditional research grants.

2. In order for the new Vice-Chancellor for Extension, Engagement, and Economic Development at NC State to succeed in helping NC State become an exemplary Land-Grant University, he or she will need a much larger and stable university-based budget than is currently planned.

   Universities that are national leaders in economic development and engagement invest in the outreach infrastructure within their university systems. In addition to acquiring infusions of new money, part of this effort includes finding ways to overcome existing structural barriers in order to stabilize existing programs and increase efficiency in the use of existing resources.

   NC State needs to develop much more transparent and university-wide financial and human-resource allocation processes than the present Compact Planning processes. This is necessary in large part because existing Compact Planning guidelines emphasize new initiatives sometimes to the exclusion of meritorious (high priority) existing programs. These financial and human-resource allocation processes must be flexible enough to meet appropriate changes in priorities among “categories of concern by the people of North Carolina” but steady enough to ensure maximum short-term and long-term effectiveness and benefit for the people of North Carolina.
3. NC State needs to develop and apply appropriate criteria for determining how our university as a whole, our various colleges, departments, specialized centers, institutes, laboratories, and other units are meeting their obligations to serve the people of North Carolina, the southern region, the nation, and the world.

The following general questions are suggested for use in evaluating the performance of land-grant universities and their various colleges, departments, and other units in meeting their societal obligations. These questions are based in part on the “Seven-Part Test of Engagement” in the Kellogg Commission’s “Returning to our Roots” — Responsiveness, Respect for partners, Academic neutrality, Accessibility, Integration, Coordination, and Resource Partnerships — and the similar criteria advanced in the American Association of State College and University’s “Stepping Forward as Stewards of Place.”

1. Is “societal engagement” included in the mission statements of the university, its colleges, and departments?

2. Do university leaders at all levels articulate the importance of societal engagement functions of the institution? Do they offer frequent and visible praise for notable achievements in service to society?

3. Do the criteria for recruitment and hiring of senior leaders at the university, college, and department-levels include experience and commitment to societal engagement activities?

4. Does the university, college, or department have appropriate external advisory committees and panels to provide valuable consultative and evaluative input?

5. Has the university and its constituent units identified those external constituencies with which they aspire to develop or sustain already-existing mutually beneficial working relationships?

6. Is information about the special features of the region in which the university is located (demographics, economics, technological and industrial development trends, cultural and recreational life style considerations, etc.) included in the development of strategic plans?

7. Do the reward systems of the university (including its hiring, reappointment, promotion, and tenure decision-making processes and traditions), identify “service to constituencies outside the university” as a realm of faculty responsibility equivalent in importance to research and teaching and encourage integration of extension and engagement activities with teaching and research responsibilities?

8. Does the university and its constituent units have a process in place to critically examine their infrastructure and policies to ensure efficient, timely, and harmonious working relationships with external constituencies?

9. Does the university and its constituent colleges and departments have well-defined budgets for their societal engagement functions and responsibilities?

10. Do these budgets and financial allocation practices and traditions include both revenue streams and cost-reimbursement systems that encourage significant achievements in extension, engagement, service learning, and other forms of outreach and community development?

11. Are the societal engagement activities of the university and its colleges and departments well integrated with both tenure and non-tenure track faculty involved in classroom instruction and both basic and applied research programs of the institution? Or are these activities conducted primarily in specialized units or mainly by non-tenure-track faculty?

12. Are the societal engagement activities integrated in the very fabric and key processes of the university—including personnel hiring practices, reappointment, promotion and tenure decisions, resource acquisition and allocation processes, salary and reward systems, student graduation requirements, and curriculum review and approval processes?

13. Do evaluations of university leaders include perspectives of external organizations and agencies with which the university and its colleges and departments have developed durable and significant working partnerships?

14. Are the societal engagement functions of the university well integrated with those of other public and private institutions including the community colleges of the state and region?

15. What are the most significant impacts of the university and its colleges and departments on the quality of life in the community in which the university has its roots and draws its students.
Progress in Extension, Engagement, and Economic Development at NC State 1999-2005

In 2000, the first six pages of the 1999 “White Paper on Extension and Engagement” were presented by Chancellor Fox, Provost Kermit Hall, and Vice-Chancellor for Research Charles Moreland as recommendations for consideration by the Commission on the Future of NC State. The commission was co-chaired by Drs. William Friday – former President of the University of North Carolina System, and Dr. Norman Hackerman -- former President of Rice University and the University of Texas. Members of the Commission included leaders of many of our most distinguished sister institutions of higher education throughout the United States. The five recommendations in the 1999 White Paper were:

1) NCSU needs a visionary, vigorous, and articulate full-time leader for campus-wide and state-wide engagement with the people of North Carolina.

2) NCSU needs dependable, stable, and long-term increases in financial support for outreach, extension, and engagement activities both at the university level and in all 10 colleges.

3) NCSU needs a mutually agreed upon re-definition of "scholarship" and a reward system that proactively encourages innovative faculty and student involvement in programs to enhance the quality of life in our society.

4) NCSU needs an "executive taskforce" or "upper-level strategy group" that is advisory to the Vice Chancellor or Vice Provost for outreach and extension activities. Its primarily purpose should be to identify (and possibly also help implement) a limited number of primary goals and strategies for university-wide engagement of NCSU with the people of North Carolina.

5) NCSU’s Extension Operations Council (EOC) and NCSU’s University Standing Committee on Outreach and Extension (USCOE) should work closely with the proposed Vice Chancellor or Vice Provost, the North Carolina Progress Board, the Emerging Issues Forum, and the International Programs Office. Both the EOC and the USCOE should strive to improve the infrastructure for Extension and Engagement activities at NCSU and to increase cooperation with other institutions and organizations in North Carolina, the southern region, the nation, and abroad.

These five recommendations were endorsed by the Commission and significant progress was made especially in response to the first, third, fourth, and fifth of these five recommendations.

In response to the first recommendation, Dr. Stephen Jones was selected in 2001 as NC State University’s first Vice-Chancellor for Extension and Engagement. His responsibilities were to:

1) Provide leadership and encouragement for extension and engagement activities in all 10 colleges,

2) In cooperation with Robert Geolas, Centennial Campus Coordinator, facilitate further development of NC State’s Centennial Campus with its major focus on partnerships with private-sector organizations that join together with NC State faculty, students, and staff in integration of the educational, basic and applied research, and the extension, engagement, and economic development missions of the University,

3) In cooperation with Denis Jackson, Assistant Vice-Chancellor for the McKimmon Center for Extension and Continuing Education, encourage further development of the applied research, extension, continuing education, and professional development programs headquartered within the McKimmon Center, and

4) Through all of the above activities, to significantly enhance NC State’s performance as an agent of constructive change and progress in economic development, educational attainment, and improvement in the social and cultural life in our state and region.

Soon after his selection as Vice-Chancellor, Steve Jones asked Jon Ort, Director of the Cooperative Extension Service, and Terri Helmlinger-Radloff, Director of the Industrial Extension Service at NC State, to accept additional appointments and responsibilities as Associate Vice-Chancellors for Extension
and Engagement. This decision was made in part because Drs. Ort and Helmlinger were leaders of the most generously-supported and longest-established extension and engagement units at NC State. Dr. Jones also asked Ort and Helmlinger to join with him in pursuing two important goals:

1. Organizing biannual extension planning and celebration conferences in 2002 and 2004 in which joint activities between CES and IES and collaborative activities with extension and engagement activities in other NC State Colleges would be featured, and

2. Facilitating more active collaboration and integration of CES and IES extension and engagement programs with those in: a) all 10 colleges and other university-wide programs within NC State, b) the other 15 units in the University of North Carolina System, c) the 59 units in the North Carolina Community College System, and d) other institutions and organization elsewhere in this country and abroad.

Despite the handicap of essentially no increase in university-based funding and his short (three-year) tenure as Vice-Chancellor, much was achieved by the Extension and Engagement Team that was assembled under Jones’ leadership. The most important achievements of this period (2001-2004) were:

1) Establishment of the Biomanufacturing Training and Education Center with a $36 million capital fund grant from the Golden LEAF Foundation to provide new facilities for training and education of both technical and leadership personnel in the rapidly developing biotechnology industries of North Carolina. This capital fund grant from Golden LEAF was supplemented by the NC General Assembly in 2005 with $2.9 million in first-year operating funds that are expected to become continuing annual operating support for this “B-Tech Center.”

2) The Food Systems Leadership Institute with a $3.7 million grant from the Kellogg Foundation to provide improved quality and safety of food products for the people of our state and region;

3) Establishment of the “Gateway Communities Model of Engagement” by which Cooperative Extension Offices in each county serve as focal points for engagement and reciprocal movement of knowledge, skills, needs, and opportunities identified by community partners, faculty, students, and staff in all 10 NC State colleges, local K-12 educational institutions, and nearby Community Colleges. The goal of each community-based “Gateway” partnership is to identify the real issues in each community and then build appropriate responses to them from whatever knowledge, financial, cultural, and institutional resources can be brought to bear on the specific regional and community issues of concern. Twelve pilot counties have so far been selected and about two-dozen collaborative projects have been developed together with local business and civic organizations, county and municipal governments, educational institutions, and appropriate units within the NC Department of Commerce.

4) Adoption of new Criteria and Procedures for reappointment, promotion and tenure decision-making processes that include preparation of “Statements of Mutual Expectations” by faculty and department leaders at NC State and definition of three specific “Realms of Faculty Responsibility” that embrace the extension, engagement, and economic development missions of NC State including: a) Technological and Managerial Innovation, b) Service to Constituencies Outside the University, and c) Service to Professional Societies and Within the University Itself.

5) Establishment of the first county-based initiative and associated county-based funding arrangement for a field office in the 50-year history of the Industrial Extension Service. This field office was established in Martin and Bertie counties on the recommendation of leaders within a “Committee of 100” businesses and industry organizations in these two counties. The specific objective of this unique field office is to ensure that the businesses and industries in these counties will become leaders rather than casualties of the “digital divide;”
6) Establishment of the Economic Development Partnership Program and the Wake County Precision Marketing Partnership under the leadership of Ted Morris, and establishment of a unit of the North Carolina’s Small Business Technology Development Center under the leadership of Mike Seibert on our Centennial Campus. The objectives of all three of these programs are to assist with recruitment of companies, government agencies, and non-profits organizations to North Carolina based on research, education, and technological collaborations with NC State University.

7) Establishment of the General Hugh Shelton Leadership Development Forums at NC State. These annual forums are designed to increase understanding of values-based leadership skills by students, faculty, staff and administration at NC State and leaders in corporate, government, education, non-profit, and youth development organizations. These Forums benefit greatly from hands on leadership by General Hugh Shelton, himself – the former Chief of Staff for the US Armed Services.

8) Development of a wide variety of exciting Service Learning Projects by students and faculty in many NC State colleges – all working together with local communities and organizations in the “real world” outside our campus. The NC State Service-Learning Program has grown into a nationally recognized model for integrating community-based experiences into the curriculum. A “student engagement initiative” also has been designed to systemize a full range of opportunities for NC State students to grow as citizens and scholars through their involvement in community-based service projects and programs. This program is led by Patti Clayton in the NC State Faculty Center for Teaching and Learning.

9) Development of a course within the University Honors Program to engage honors students in creative projects in local communities. Exemplary projects to date include: a) creation of a web site of policy alternatives to support sustainable economic development, b) public policy analysis projects in two developing countries, c) creation of leadership lesson plans for use by K-12 educators, and d) development of environmental education trails at a public park.

10) During 2001-2004, a period marked by economic malaise, NC State’s Centennial Campus maintained occupancy at more than 90% and grew by more than 400,000 square feet in new buildings. Approval also was obtained for naming the Partners IV Building for Governor James B. Hunt, Jr., who enabled the original and subsequent transfers of Dorothea Dix property to NC State. The Governor James B. Hunt Building, scheduled for construction in 2005-06, is being designed to house such units as the North Carolina Progress Board, the Institute for Emerging Issues, the Institute of Political Leadership, and other organizations that address economic and community development issues in North Carolina.

11) Development of a web-based version of the second edition of the *Living in Our World* social studies series of textbooks for 4th-, 5th-, 6th-, and 7th-grades developed by Humanities Extension and Publications in cooperation with North Carolina classroom teachers. Unlike the curriculum materials in textbooks created by national publishers, all the classroom activities on this web site conform to the goals and objectives for NC Standard Course of Study for Social Studies and are provided free of charge for use by NC teachers, 4-H Leaders, after school programs, and others.

12) Reinstitution of the “Office of Extension, Engagement, and Economic Development Seed Grant Program” of financial awards for innovative extension and engagement activities by NC State faculty and students. About $100,000 is provided annually for these seed grants. These funds have been provided by contributions from the Cooperative Extension Service, Industrial Extension Service, and overhead receipts from the McKimmon Center programs and the Office of the Vice-Chancellor for Research.

13) Establishment of “Extension Assistantships” in parallel with the longstanding traditions of “Teaching Assistantships” and “Research Assistantships” for graduate students at NC State,
14) Attractive modernization and upgrading of physical facilities within the McKimmon Center. The number of conference and educational events coordinated by the McKimmon Center’s Office of Professional Development increased from 1,825 events in 2000-01 to 2135 in 2004-05. The economic development value of events at this facility now exceeds $7 million per year.

15) Completion of a 2003 case study of the “Climate for Extension and Engagement at North Carolina State University.” The report deriving from this study contains findings and recommendations for enhancement of reappointment, promotion, and tenure processes for extension and engagement scholarship at NC State, and

16) Completion of the final “Report of the Joint Committee on the Scholarship of Extension and Engagement at North Carolina State University.” This report includes specific recommendations for updating and revision of NC State University’s REG05.20.8 titled: “Guidelines for the Evaluation of the Scholarship of Extension and Engagement.”

On April 9, 2005 Chancellor Oblinger announced his decisions that:
1) A search should be undertaken for a new Vice-Chancellor, and
2) The responsibilities and title for this position should include Economic Development as well as Extension and Engagement.

A broadly based Nominating Committee was established under the leadership of Vice-Chancellor John Gilligan, and a group of five finalists are currently making visits to our campus and meeting with a broad array of campus constituencies. The final selection of a new Vice-Chancellor for Extension, Engagement, and Economic Development by Chancellor Oblinger is expected during November with the selected person possibly assuming leadership responsibilities before the end of 2005.
Recent Assessments of Critical Needs, Aspirations, and Opportunities for Enhancement in the Quality of Life for the People of North Carolina

Two notable initiatives were undertaken in recent years here at NC State – one to consider emerging issues in our state and nation, and the second to assess in some detail the present “state of the State of North Carolina” and to identify specific target goals or “imperatives” for improvement in the quality of life for our people.

The summary publications from the 20 different Emerging Issues Forums held here at NC State during 1986-2005 helped significantly to define important challenges that lie ahead for our state, region, nation, and the world. Until the 2005 Emerging Issues Forum titled “My Health is Your Business: Making Healthcare Work in North Carolina,” however, follow-up activities after these very successful annual forums had only limited impact on extension, engagement, and economic development activities at NC State or on the research and teaching functions pursued in most NC State colleges and departments.

The second and much more well-focused initiative began with creation of the North Carolina Progress Board by the NC General Assembly in 1995. The 1997 report of the NC Progress Board -- “Measuring Our Progress: Targets for the Year 2010,” -- was a very good start even though it dealt with only four (see bold items below) of the General Assembly’s original eight “categories” of concern by North Carolina citizens:

1) Healthy Children and families,
2) Safe and Vibrant Communities,
3) Quality Education for All,
4) High Performance Workforce,
5) A Sustainable Environment,
6) A Prosperous Economy,
7) 21st Century Infrastructure, and
8) Active Citizenship/Accountable Government.

Former Governor Jim Hunt and former President of the University of North Carolina System, William Friday, provided initial leadership for the NC Progress Board. The North Carolina Department of Commerce provided logistical support for the meetings of the Board and its staff. After publication of the 1997 report, Governor Hunt and President Friday recommended that the budget and continuing activities of the NC Progress Board should be transferred to the campus of NC State University.

The subsequent 2000, 2001, and 2005 reports of the NC Progress Board dealt thoroughly with all eight of the General Assembly’s original “categories” of concern. They also defined specific goals, targets, and measures of progress for the future of our state. These later reports of the Progress Board were four in number; they are titled:


The 2005 “NC Progress Scorecards” and “North Carolina 20/20 Update Report” are especially noteworthy because they include detailed descriptions and analyses for 51 of the 84 societal target goals defined by the Progress Board in “NC20/20: A Report About the Future of North Carolina.”
Each of these descriptions and analyses include:

- Definition of the measure used in assessing progress toward each societal goal,
- The national ranking of NC compared to the other 49 states in the nation (1 best, 50 worst),
- The regional ranking of NC compared to the other 9 states in the southern region (1 best, 10 worst),
- A letter grade (A, B, C, D, or F) for our state’s current performance (to be assigned later after further review of the method of grading to ensure fairness and objectivity),
- Description of the current trend of progress (declining, improving, or mixed),
- A chart showing historical trends in performance of NC compared to the nation as a whole, and
- Narrative descriptions of “highlights,” “relevance,” and “related links” that further explain the ranking of NC or reasons why this particular societal goal is important to the people of our state.

Some of our state’s national and regional rankings were pleasing high. For example North Carolina was ranked:

- 3rd nationally and 1st regionally in workplace safety,
- 4th nationally and 1st regionally in child health care,
- 4th nationally and 1st regionally in child care,
- 4th nationally and 1st regionally in math/science proficiency of school children,
- 5th nationally and 2nd regionally in economic climate,
- 7th nationally and 4th regionally in agricultural vitality,
- 8th nationally and 2nd regionally in manufacturing vitality,
- 11th nationally and 4th regionally in state government stewardship,
- 12th nationally and 2nd regionally in access to primary health care,
- 16th nationally and 5th regionally in reading/writing proficiency of school children,
- 16th nationally and 5th regionally in state government efficiency,
- 18th nationally and 2nd regionally in energy efficiency,
- 18th nationally and 4th regionally in short term growth, and
- 18th nationally and 6th regionally in access to higher education.

By contrast, however, altogether too many of our state’s national and regional rankings revealed serious shortcomings and needs for improvement in the quality of life for our people. For example, North Carolina was ranked:

- 45th nationally and 10th regionally in clean air,
- 45th nationally and 6th regionally in secondary schools,
- 44th nationally and 9th regionally in clean lakes and streams,
- 44th nationally and 8th regionally in child poverty,
- 44th nationally and 9th regionally in transportation efficiency,
- 43rd nationally and 6th regionally in college preparedness,
- 42nd nationally and 6th regionally in private technology access,
- 40th nationally and 6th regionally in family income,
- 40th nationally and 5th regionally in basic educational attainment,
- 39th nationally and 7th regionally in property crime,
- 39th nationally and 6th regionally in natural gas access,
- 39th nationally and 7th regionally in public technology access,
- 39th nationally and 8th regionally in community service,
- 37th nationally and 3rd regionally in longevity,
- 37th nationally and 6th regionally in weight,
- 36th nationally and 9th regionally in safe drinking water,
- 36th nationally and 10th regionally in home ownership,
- 36th nationally and 5th regionally in personal income,
- 36th nationally and 6th regionally in pollution control,
- 35th nationally and 4th regionally in advanced educational attainment,
nationally and 5th regionally in voter participation,
34th nationally and 4th regionally in smoking,
34th nationally and 7th regionally in health insurance,
32nd nationally and 6th regionally in employment,
31st nationally and 7th regionally in violent crime,
30th nationally and 6th regionally in elementary schools,
30th nationally and 3rd regionally in highway quality,
30th nationally and 9th regionally in power access,
30th nationally and 3rd regionally in local government performance,
28th nationally and 7th regionally in housing availability,
28th nationally and 5th regionally in competitive wages,
24th nationally and 2nd regionally in long term economic growth,
23rd nationally and 5th regionally in home affordability,
23rd nationally and 3rd regionally in teacher recruitment,
23rd nationally and 3rd regionally in local government stewardship,
20th nationally and 6th regionally in government efficiency, and
20th nationally and 2nd regionally in university resources,

Many connections and interdependencies of progress among societal target areas are discussed in the 2001 and the two 2005 reports of the Progress Board.

The most important general conclusions and recommendations for the future of NC State from the NC Progress Board “Scorecard” and “2005 Update” analyses are:

1) A large number of these quality of life societal target areas for the people of NC are within the areas of special competence of NC State University’s faculty, staff, and graduate and undergraduate students. Thus, many of these target areas (but most especially those with national rankings of 45th through 20th) are worthy of close attention, scrutiny, and consideration as motivations and goals for “Innovation in Action” by all of us at NC State – faculty, graduate and undergraduate students, staff, department heads, deans of all 10 colleges, vice-chancellors, Provost, and our new Chancellor.

2) Progress in essentially all of these areas of societal need in NC will involve ripple effects within many other societal target areas. Thus, progress toward any of these interrelated and interdependent societal targets will require effective partnerships and collaboration among expert persons in many scientific, technological, engineering, and social science disciplines within NC State University, in small and large business and commercial enterprises, in local state, and federal government agencies, and in many non-government organizations.

3) Progress will also require that many different expert persons at NC State join with those in other collaborating institutions and organizations to: a) listen carefully to the needs and aspirations of the people, b) reason together with colleagues in our own and related fields of competence, and then c) go back again and again to listen and plan together with the people -- how to help improve the quality of life in our state, region, nation, and the world.
Need for Clear Cognizance of our Land Grant Mission, Heritage, and Culture

Many of us are very pleased with the recent progress in Extension, Engagement, and Economic developments here at NC State and the relevance of this progress to some of the Critical Problems, Aspirations, and Opportunities outlined earlier in this report. We are also convinced that further progress toward our full potential as a “Model Research-Extensive Land-Grant University” will require much enhanced performance by all of us at NC State -- especially in the realms of extension, engagement, and economic development for which our national and regional rankings are low or not acceptable.

The importance of- and potential for- Land-Grant Universities to contribute to the solution of many of these contemporary problems and aspirations of American and North Carolina society were presented very persuasively in the Kellogg Commission’s seminal publications on the Future of State and Land-Grant Universities: “Returning to Our Roots” and “Renewing the Covenant: Learning, Discovery, and Engagement in a New Age and Different World.” Some of these general ideas also were presented in a more recent and explicit study by the American Association of State Colleges and Universities: “Stepping Forward as Stewards of Place.”


A very succinct and visionary summary of these ideas and ideals is also outlined in Thomas Malone’s notion that the State of North Carolina and its various universities should be regarded as a “Microcosm and Potential Model of the World” and that NC State should undertake a “Proof of Concept Demonstration” for a “Knowledge Based Society” as summarized below:

“As we pass through the Information Age and enter an era in which knowledge will become the organizing principle for society, a new vision for society will be within reach. Successful pursuit of this vision will have profound implications for the mission and disciplinary structure of universities.

This vision is a society in which essentially all basic human needs and an equitable share of human “wants” can be met by successive generations while maintaining indefinitely a healthy, physically attractive, and biologically productive environment. No longer just a moral and ethical imperative, exploding human knowledge has made this kind of society a practical possibility.

Unprecedented collaboration among the physical, biological, health, and social sciences, engineering, and the humanities will be necessary to harness this knowledge explosion.

Effective application of this integrated knowledge will require forging new modes of cooperation among business and industry, academia, the several levels of government, and non-governmental organizations. NC State’s Centennial Campus is a unique venue for creating these links.

This state has all of the attributes necessary for national and international leadership in addressing the challenges and seizing the opportunities of the knowledge era.”

Thus, it is essential that all of us — students, faculty, staff, alumni, members of our Board of Trustees, and other friends of our University — should join together in a lively dialog with the people of North Carolina about probable, possible, and preferable futures for this institution and for North Carolina, the southern region, the nation, and the world.

But it then will be even more imperative that all of us work together diligently with our new Chancellor and Provost, our other Vice-Chancellors, the Deans of all 10 colleges, and leaders of all 63 Department Heads and Chairs — to understand these linkages and ensure continuing outstanding performance in those aspects of the critical problems of our state and region that are within the special competence of our faculty, staff, and students in all parts of our University.
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A Vision for the Future of NC State and its College of Veterinary Medicine

By Warwick Arden, Dean, College of Veterinary Medicine

My vision for the future of NC State and its College of Veterinary Medicine is conditioned more by a sense of shared potentials than by history. That is why I came here. The world has emerged into the 21st Century. This is the Information Age. NC State is North Carolina’s and the southern region of the United States’ strongest and most innovative university with a major and balanced focus on science, engineering, technological development, and the humanities. Thus, we have a large potential to help make constructive adjustments in the quality of life in our state, region, nation, and the world – especially through carefully focused societal engagement – which is much needed in my newly adopted home state of North Carolina.

As I see it, NC State’s largest challenge is to make wise choices about how, where, and with whom (which organizational partners and visionary leaders) we focus our growing intellectual competence and organizational resources. Our principal focus should be on: 1) Identifying critical needs within our society that are within our institution’s areas of special competence, and 2) Helping define optimum societal outcomes – sustainable goals and dreams that are congruent with the natural and human resources available within our society.

My vision of the future of the College of Veterinary Medicine is more limited in scope but equally well-focused on the relationship between the special competence of our faculty, staff, students, and administration – and critical needs of our society in the realms of animal-health and the related biomedical sciences.

The animal-health (and related human-health) issues of concern within our college include:

- Companion Animal Health
- Equine and Performance Animal Health
- Agricultural Animal Health-including livestock disease investigation, public health and biopreparedness
- Environmental Medicine-including ecosystem health and sustainable agriculture
- Comparative Biomedical Sciences-including genomic studies of diseases common to domestic animals and man
- Animal Welfare-including studies on public policy development regarding companion, agricultural and laboratory species

Success in all six of these general areas of responsibility requires a heavy commitment of financial and human resources to outreach, extension, and societal engagement functions of our university and its College of Veterinary Medicine. Societal engagement with constituencies outside our university by veterinary college faculty, staff, students, and administration will require pro-active, sustained, and mutually beneficial, two-way interchanges and exchange of ideas that lead to innovation and action programs designed to meet compelling societal needs.

For this reason, the evaluation, recognition, and reward systems for societal engagement achievements by faculty, staff, students, and administration must be fully equivalent to the evaluation, recognition, and reward systems for achievements in discipline-guided scholarly research and in teaching and mentoring of undergraduate and graduate students.

Nothing less than excellence and distinction in societal engagement can assure further progress toward our aspiration to be the leading land-grant university of the 21st Century.
The Engaged Liberal Arts: The College of Humanities and Social Science’s Commitment to Extension, Engagement and Economic Development

The College of Humanities and Social Sciences is the home of multiple liberal arts disciplines and programs. The College seeks to provide students with a sound liberal arts education and a firm foundation for intellectual and critical thinking that transcends the college-years experience. It also seeks to improve the quality of life of all citizens through teaching, research and public outreach. The College of Humanities and Social Sciences accomplishes these goals through strong academic curricula, excellent teaching, basic and applied research programs, and public service.

Our students, faculty, and staff greatly benefit from NC State’s intellectual and technologically rich campus environment. We make college accessible for more students and we strive to shape the university environment in ways that ensure these students succeed. We provide the infrastructure needed for faculty and staff to flourish in their commitment to teaching and research. To be sure, it is the responsibility of the institution to develop and support both the knowledge producers and knowledge consumers in the academic community. We firmly embrace the broader public purposes of our endeavors and believe we have a social responsibility to benefit all citizens and communities by providing direct and indirect access to the wealth of knowledge created by our academic community.

Frank Rhodes, a former president of Cornell University, has described the 19th and 20th century mission of the land-grant institution as developing the natural resources of our nation—which we accomplished through the creation of agriculture and engineering experiment stations and cooperative extension programs. These innovative concepts continue to serve the needs of the American people. In the 21st century, we believe people are America’s most important natural resource. Our institutions are now challenged to provide the knowledge and educated citizenry essential to economic development, prosperity, and social well-being—building on the land-grant infrastructure and experience that served us so well during the 19th and 20th centuries. The humanities and social sciences, whose disciplines are defined in terms of the human and the social, are essential to meeting these needs.

Draft Prepared: July 15, 2005
Linda P. Brady, Dean
Student Civic Engagement: A Defining Characteristic of the NC State Experience

“Service-learning is a delicate balance of stewardship and scholarship. It is a responsibility that has so many benefits and is really a joy. We can be more involved in our community and not isolated on campus. We can be out there and see what’s going on and see what we can do to help. That’s what we’ve done in this project, and we’d like to see more students experience it.”

These words serve as a call to action to our university. The students who issued this challenge had just completed a semester-long service-learning project in which – as part of a course -- they solicited and installed donated computers and taught residents of assisted living facilities to use them; in the process, they came to better understand the perspectives different generations bring to technology, their own assumptions about aging, and the complexities of organizational change. These undergraduates and the residents they worked with are among the many beneficiaries of projects that bring students together with instructors and community members and connect academic study with community issues through critical reflection. Whether teaching the elderly or tutoring children, assessing air quality or designing databases, civically-engaged students come to better appreciate both their ability and their responsibility to contribute to their communities, and they begin developing the knowledge, skills, dispositions, and perspectives needed to undertake such work with excellence throughout their lives. In addition, the faculty who mentor them find new outlets for their commitments as citizen-scholars, and community members have access to additional resources and a stronger voice in the education of future leaders. An important element of our goal of becoming a premiere engaged land-grant university is to position such civic engagement activities at the heart of the NC State experience.

As a land-grant institution, NC State has a long history of service to the state. Recently, however, we have begun thinking of “engagement” in terms of mutually transformative relationships among students, faculty, and members of the broader community who, in Chancellor Oblinger’s words, “collaboratively attempt to transform society through mutual discovery, application, and learning”; and we have begun to explore the implications of a model of engagement in which student learning is central. In his comments at the 2005 Symposium on the Engaged University, Chancellor Oblinger offered as part of his vision for “engagement” the challenge that we “be known to students as the university that invites their direct participation in its land-grant mission, the university that offers them intentionally designed learning experiences through which they can contribute in meaningful ways to the community and the university.” Fulfillment of this vision requires comprehensive, integrated, developmentally-sensitive, and systematic approaches to learning through a wide range of engagement experiences, including not only service-learning but also volunteer service activities, internships and co-ops in the public sector, leadership roles in campus-community partnership efforts, and community-based research. Imagine, by way of examples,

- Students in all colleges having opportunities to experience service-learning in their curricula, often in a vertically-integrated fashion
- A cadre of trained student leaders serving as peer mentors, cultivating community partnerships, facilitating critical reflection, managing complex community projects, and conducting and disseminating research
- Students and faculty mentors designing customized international service-learning projects
- Cooperative Extension offices across the state developing projects for students to undertake in their home communities during semester and summer breaks
- Cohorts of trained faculty serving as focal points for curricular transformation and scholarship within each college and helping to create multidisciplinary collaborations across colleges
- Collaboration with national organizations and with other universities to develop best practices for student learning through civic engagement
It is both timely and vital that we capitalize on the contributions our students can make in addressing the educational, economic, and environmental challenges facing our state, nation, and world – indeed, that we position them as full colleagues with us in this work. Doing so will not only require but also foster rethinking of the relationships among the various components of our institutional mission and the role of student learning as an integrative focal point among them. In the words of national civic engagement scholar John Saltmarsh, “Focusing on teaching and learning to educate students for active participation in a diverse democracy, to build their capacity as democratic actors, to develop their skills in community-based public problem solving, to provide them with the civic learning opportunities—this has the potential to truly transform the university.” The NC State Service-Learning Program is a leading example of such institutional change. Integrating Academic Affairs, Student Affairs, and Extension, Engagement, and Economic Development, the Service-Learning Program supports students, faculty, and community partners in undertaking a wide range of civic engagement activities—from Hillsborough Street to Siberia; its models for student learning through civic engagement were recently noted by Dr. Edward Zlotkowski, a leader in the field, as having “the potential to help the university move to the most effective, most comprehensive level of engagement envisioned today.”

Through this and other initiatives, NC State is creating a new model for engagement at the land-grant university, one with student learning at its center. Our challenge is to tap the promise and potential of this effort so that every student will have the opportunity to work meaningfully at the interface of classroom and community. The university’s role as citizen and steward of North Carolina will be advanced as more young people become civically engaged as students and develop into responsible leaders and civic-minded professionals as graduates.

Prepared by Patti H. Clayton
Coordinator, NC State Service-Learning Program
Assistant Director, Faculty Center for Teaching and Learning
The College of Textiles is proud to be part of an outstanding land-grant university. The college views education, research and outreach critical components of our mission. Outreach, economic development, engagement and extension are integrally coupled with our research and teaching. The College of Textiles was founded to support the textile industry and has a long and distinguished history of partnership with the textile industry in North Carolina, the region and the nation. We have become leaders in the creation of the “New World of Textiles.” The College of Textiles continues to be a global leader in the basic and applied sciences, engineering, and technology transfer in our field. The college serves as an engine for economic development in a wide range of field related to the textile industry. The College is home to three major centers supporting our industrial partners: the Textile Protection and Comfort Center (T-PACC), the Nonwovens Cooperative Research Center (NCRC), and the ITT/NCSU Textile and Material Research Consortium. NCRC is the largest State-Industry-University Cooperative Research Center in the nation, a testimony to our commitment to engagement and economic development.

The College of Textiles offers a remarkably diverse array of ongoing outreach and extension activities. The College serves a very diverse, broad and rapidly changing industry. The textile industry of the 21st Century is radically different from the traditional industry we have served for the last century. Our vision for the College of Textiles is to lead the emergence of the new World of Textiles by identifying the critical skills and knowledge base necessary to compete in this new world. We must provide the intellectual foundation and new technologies for our partners to compete in global markets.

The College of Textiles has achieved its position as the leading institution of its kind in the United States over the past 104 years through excellence in teaching, research and extension, engagement, and economic development. To maintain that leadership the college has created state-of-the-art capabilities in rapidly emerging new segments of the textile industry while continuing to support traditional industries that provide the support necessary for the college to continue to maintain its position. Although the textile and apparel industries are engaged in ferocious international competition, many of the world’s leading companies are still headquartered in North Carolina or nearby in the Southeast. For example, the world’s two leading cotton spinning companies, the largest yarn texturing company, two of the largest apparel companies, the North and South American headquarters of the largest nonwovens company in and two of the largest sewing thread companies are all in North Carolina. Across the border in South Carolina are the world’s largest household furnishings company and largest and most successful textiles company overall. The largest carpet companies are nearby in Georgia and Tennessee. North Carolina now has twice as many companies in the rapidly growing nonwovens industry than any other state. Last year nonwovens were a $3 billion industry in North Carolina, and the United States continues to lead the world in nonwovens with a strong positive trade balance.

The College of Textiles has been moving into the “New World of Textiles” at a rapid pace. There are however, many areas where we must continue to develop new capabilities for research, teaching and support to our growing industries. We must continue to build new capabilities to support our world-leading position in nonwovens research. We must quickly develop a center of excellence in medical textiles and biotextiles. We must take advantage of our leadership position in protective textiles and comfort testing to take a leadership position in several areas of new homeland securities initiatives. We must develop new capabilities in nanotextiles working closely with other nanosciences and nanotechnologies initiatives on campus and in partner universities. We must continue to grow our new design programs and facilities and add new strengths in design and merchandising. We must expand our
leadership in color sciences to areas of application far outside of dyeing and finishing. We must quickly build our new management sciences lab to support new product development, branding, supply-chain-management initiatives, e-commerce, and market research.

Although the College of Textiles is the largest school of its kind in the United States, it is far too small to accomplish the above agenda alone. We place considerable emphasis on the wide variety of partnerships we have created and must grow both within the university and worldwide. Our reputation enables us to attract leading partners. We must continue to learn how to work better with other colleges, other universities, and with industry. We believe that by focusing on these new, emerging areas of the textile industry and by building the capabilities (both facilities and staff) to excel in these areas, we will be able to meet our other goals of diversity, undergraduate and graduate growth, increased research funding, and service to the state, the region, the country, and the world.

Recognition of and rewarding of excellence in engagement and economic development is key to our future success. To fully address the needs of the College with respect to engagement and economic development, and to demonstrate our full commitment to these activities, the College created a new position of Associate Dean for Industry and Extension last year, a first on campus. We have also created a new position of Director of Textile Education, Extension, and Economic Development. We are revamping all our lab facilities to provide even better support to our industry partners. We believe that it is only through a true and real and complete engagement, we can be assured of leading NC State’s industry partners in the 21st Century.
Service to Society in Natural Resources

NC State College of Natural Resources, Statement on Extension, Engagement and Economic Development

By Interim Dean J.B. Jett and Interim Associate Dean for Research and Extension Daniel J. Robison

The NC State College of Natural Resources is composed of three departments, Forestry and Environmental Resources; Parks, Recreation and Tourism Management; and Wood and Paper Science. These departments have a long and dedicated history of extension and engagement activity – public service. Each department has a formal Cooperative Extension component, and each has active formal and informal engagement efforts, ranging from educational outreach, to industrial testing and service, to community planning with local and state agencies. Some of the College programs in this regard are: The American Home, Forest Industry Cooperatives, Recreation Resources Service, Center for Earth Observation, Community for Diversity in Natural Resources, Distance Education in Paper Science, among others.

The College of Natural Resources remains committed to advancing the public service mission of the University, both in terms of effectiveness and efficiency, and to promoting scholarship in these activities. The College vision is to more fully integrate the teaching, research and service missions of NC State, to continue and enhance the programs with positive impact for the people, communities, workplaces and landscapes of NC, to foster economic development, and to develop new programming to meet emerging needs. The College works in all regions of NC, and beyond.

The College of Natural Resources is currently undergoing a strategic assessment and planning effort for its extension and engagement efforts. This exercise will lead to a renewal of existing programs as well as to new focus areas for public service growth. One outcome will be to find more ways for teaching and research faculty to participate in the service enterprise, and for the extension and engagement faculty to more effectively contribute to teaching and research missions. The College administration recognizes the many push-pull aspects of faculty commitments, and will work with individual faculty and faculty groups to facilitate the interactive growth that is required. Another outcome will be to maintain our intense commitment to Cooperative Extension and to participate in new-related initiatives like the Gateway project efforts. It is imperative that the College build new bridges and partnerships in its service efforts, foremost with other NC State colleges, and also with other outreach components of NC State, such as the Solar Center, Industrial Extension Service, Natural Resources Leadership Institute, and state and federal land management agencies, among many.

Extension and engagement in the College of Natural Resources is focused on the core values of our disciplines. These include,

* Conservation and land stewardship  
* Maintaining a clean environment  
* Healthy lifestyles  
* Vitality of forest land ownership  
* Sustainability of landscape use  
* Renewable energy development  
* Sustainable tourism development  
* Vital use/enjoyment of forest and freshwater resources by people  
* Forest productivity and ecological sustainability  
* Restoration-remediation of the environment  
* Sustainable rural economies  
* Deployment of advanced science and technology  
* Water quality and watershed management  
* Collaborative environmental problem solving  
* Support for limited-resource landowners
* Provision of quality of life amenities through recreation and leisure activities at the community level and in urban and rural environments
* Vital industrial sector for traditional and nontraditional forest products
* Advancing engineering and technology for the wood using and biotechnological sectors
* Economic development for small landowners and natural resource based manufacturers
* Conservation and management of wildlife and fish

The College of Natural Resources recognizes that its evolving mission must address the changing demographic and environmental realities across North Carolina, the nation, and the world. In an increasingly urban and populated world, with ever increasing globalization of trade and land use pressures, we must be prepared to adapt and innovate in every aspect of the work we do. Our extension and engagement efforts are an integral and interactive part of this work.
The Scholarship of Relevance in the Design Domain of Knowledge

Marvin J. Malecha, FAIA
Dean, NC State University College of Design

The vitality of an academic community is measured by its curiosity and its commitment to engender that curiosity in students through teaching and practice. This is even more critical to a community dedicated to professional preparation and education. The fundamental importance of scholarly inquiry to teaching is critically evident in the context of disciplines that measure success by the application and integration of information. It is vital to the desire of the College of Design community that we become a center of influence for the study and practice of design and that we foster the search for new knowledge encouraging evidence-based decision-making in the design process. And, ultimately our efforts must be reflected in teaching that engages individuals from the most fundamental awareness of design and design practice to life-long learning strategies. This can only be accomplished in a community that is committed to teaching as scholarship where pedagogical discourse is vital to understanding the new ways and means of design.

A fundamental realization is emerging in the understanding of design. For generations we have accepted the in-between nature of the study of design. We have understood ourselves to be between the humanities and the sciences, not of either, yet of both. We have assumed that if it were desirable to engage in research and advanced academic work, it would be necessary to enter the disciplines of the sciences or humanities to do so. Yet this has left the design disciplines with an entirely unsatisfactory result, a body of knowledge that is derivative at best. The study of design and our understanding of it have now matured to the point that we can see the fundamental error of the assumption. The design domain is not derivative or dependent on other domains. It is a distinct domain with a tradition, language, and manner of investigation that is its own. It involves a distinct pedagogy that effectively leads the methods and means of teaching. The design domain of knowledge is positioned as a distinct third domain fully interactive with the scientific method and the convergences investigated in the humanities.

We in design have a responsibility to foster the development of this body of knowledge. We must accept that it is our responsibility to build and enhance the knowledge base that defines design thought. As we in the College of Design seek to be a center of influence in design education, we must accept the responsibility to build and enrich this domain through faculty and student scholarship. It is our mission to aggressively pursue scholarship through our Ph.D. Program and the research that relates to the work of this community. We must engage the needs of society bringing our understanding to the university cooperative extension responsibility, and we must encourage the development of a reflective practice community that includes our faculty but also regularly engages with design professionals.

A life in design is characterized by hypersensitivity to the ceremonies of life. It is a way of proceeding that is made vital by engagement with the issues of life. It is the means to connect disparate pieces of information and make them whole. The essence of design thought is defined by the belief that it is possible to make the ordinary sublime. At the core of design action is the possibility to enrich the human experience. It is driven by cultural legacies and personal experiences as diverse as the species of the plants that comprise our planet. It must have at its foundation empathy for others. Design is therefore not a noun defined by a precious artifact; rather, it is a verb measured by its actions.

Apart from engagement with life, in the hands of talented and intelligent practitioners, there is a temptation for design strategies to become self-indulgent. Engaged with life, Design has meaning.
The Morrill Act of 1862 established the land-grant college with the intention to engage higher learning with the needs of agriculture and manufacturing in order to enhance the quality of life for the citizens of the nation. The land-grant act is a contribution to higher learning as important as the classical studies of the English university and the research tradition of the German institution. It is the American contribution to the evolution of attitudes about the life of a university and the needs of society. Within the context of a land-grant institution, it is imperative that citizen design be a first priority. It is in this context that an investigation of relevance in the design act be undertaken.

The need for design talent beyond the lights, the periodicals, and the affluent client is great. Rural communities are struggling to maintain a way of life that is as essentially American as any other characteristic of our country. Children and family environments demand our attention from school to home in a time of uncertainty and transformation. Universal design strategies inspire solutions that address physical challenges by introducing products that are better for everyone.

The manifestations of relevance in design thought and action can be found all around in the form of products, buildings, and environments. It can be seen in the public art that inspires us as we pass and in the newspaper we read. Design strategies make places accessible as we grow older and signal an inclusive view of our society. It is a test of our relevance and therefore of our importance in society as designers. If we wish to be valued as designers we must see to it that design is a strategy to address the most basic needs of our communities. If we wish to be valued, we must reach out beyond the circle of the effete to those who need our energy and our talents.

Relevance is a commitment to conscience. It is the insurance that the College of Design is a center of influence in society.
College of Engineering Commitment to Outreach, Extension and Economic Development

By Nino Masnari, Dean, College of Engineering

The mission of a modern land-grant institution should be to generate knowledge (research), disseminate knowledge (education), and apply that knowledge in a practical way (outreach) for the betterment of society. The College of Engineering (COE) fully subscribes to that concept as reflected in its mission statement:

The mission of the College of Engineering is to provide students with a sound engineering education, advance the understanding and application of scientific principles, enhance economic development, and improve the quality of life of the citizens of North Carolina through teaching, research, and outreach programs.

In addition to ensuring that students are well grounded in modern engineering principles and have access to modern equipment and technology to support their educational experience, the College seeks to create an environment in which the expertise of faculty is applied to assist industry in the solution of problems and implementation of new technologies to make companies competitive. In order for the University to be successful in those areas, it must develop realistic and effective interactions with industry that result in the creation of intellectual property leading ultimately to technology transfer that is mutually beneficial.

Historically, the College has been an active participant in outreach programs that impact economic development throughout the state. Fifty years ago the Industrial Extension Service (IES) was established for the purpose of supporting NC industry by providing educational workshops and by assisting companies to solve technical problems. The guiding principles of IES are captured in its mission to partner with NC industry and serve as a catalyst for the transfer of knowledge and technology in support of economic development. Its impact has been monitored annually by a national third-party market research agency. The most recent survey revealed that IES had provided assistance to NC industry in 2003-04 that resulted in economic gain as reported by those industries served in excess of $80M.

One example of the many important IES activities has been the North Carolina Manufacturing Extension Partnership program (NCMEP) that has been jointly supported by the National Institute of Standards and Technology (NIST) and the State of North Carolina. The NCMEP program expands traditional IES services to North Carolina manufacturers by utilizing the resources of partner organizations, additional campuses, adding engineering manpower, and building working linkages. During the past 10 years NCMEP has provided critical assistance to North Carolina manufacturing firms that has favorably impacted their competitiveness. Most recently, the 2003-04 NCMEP activities included 428 MEP projects that supported manufacturing firms throughout North Carolina.

Another component of the College’s extension activities is the Minerals Research Laboratory (MRL) located in Asheville. The primary focus of MRL involves beneficiation of industrial minerals for local mining companies. MRL exemplifies the effective partnership of industry, government, and academia to assist industry in becoming more economically competitive. Its mission is to be a recognized world leader in research, development, and implementation of mineral processing and other separation techniques: to
enhance the technical and educational services provided by North Carolina State University’s Engineering Program; and to complement the University’s mission to enrich the educational opportunities and lives of students, faculty, industry, and the general public of the state.

The North Carolina Solar Center (NCSC) was created in 1987 to advance the use of solar technologies throughout North Carolina in the residential, commercial, and industrial sectors. The Center provides North Carolina citizens with the education and information they need to make sound use of solar energy. NCSC provides an array of extension services that include information dissemination, technical assistance, demonstration projects, training sessions and educational workshops, and other services directed to the effective development and use of renewable energy.

The Ergonomics Center provides occupational ergonomics consulting, training programs, and cost-effective ergonomic solutions for corporations, facilities, and individuals to support and enhance ergonomics efforts of NC industry. The Center provides a full range of consultative and training services tailored to meet specific ergonomic needs and corporate goals. With extensive experience in ergonomics research, consulting, and training, staff members understand the challenges of managing ergonomics and minimizing ergonomic risk factors in today's complex industrial and office environments.

As a land grant institution, NC State must continue its commitment to outreach, extension and economic development. The College of Engineering recognizes the importance of that mission and is committed to bring its considerable expertise to the solution of problems encountered by NC corporations on a daily basis. The new knowledge emanating from the research efforts of its faculty can provide valuable assistance to industry, lead to technology transfer for the creation and support of new industries, help in the development of the economy, and improve the quality of life for citizens throughout North Carolina.
College of Education Vision for Extension, Engagement and Economic Development

By Kathryn M. Moore, Dean

We in the College of Education embrace the statewide mission of NC State University, and we are committed to doing our part to serve the students, teachers, local schools, 2-year and 4-year colleges and other adult learning networks in the state. The College of Education has crafted a new mission statement that commits us to being “a voice of innovation in learning across the lifespan. We prepare individuals who educate and lead. Our inquiry and practice reflect integrity, a commitment to social justice, and the value of diversity in a global community.” We believe a focus on innovation is essential as we face the problems and opportunities that lie ahead. We cannot be content with 20th century solutions to 21st century challenges. We must generate new ideas and approaches, test them for their applicability and scalability and share them as broadly as possible. This requires one key element above all others, collaboration. Our faculty members know that as they work to find new solutions to today’s and tomorrow’s pressing problems they often need to work side-by-side with other faculty, educators and leaders, corporate and government personnel and with communities. Crafting an educational enterprise suited to serve people in the 21st century cannot be carried out in isolation. We must seek to involve a broad range of constituents and knowledge experts in order to find the best, most applicable solutions.

The PreK-20 system of education in North Carolina is a large and complex enterprise. Its success is highly dependent upon the communities in which schools and colleges are located as well as upon the businesses and other organizations that will eventually employ the students. While it is very important to focus resources and expertise directly on the education enterprise itself, part of the College viewpoint is to see education in context and to help those who work in and lead the enterprise to make decisions and arrange opportunities with community and workplace contexts also in mind. This in itself is no easy matter because not only is the education enterprise undergoing constant change but so also are the communities and businesses that surround it. Hence, our interactions must be dynamic and attuned to local conditions and the changes that are occurring not only in North Carolina but also in the world.

This requires our faculty to develop a distinctive competence—a set of skills and approaches that connect and interweave deep scholarly knowledge and insight with effective applications and approaches tailored to contemporary educational contexts. Such a distinctive competence is rooted in the land grant tradition but requires a sophisticated understanding of the broader global context as well. Moreover, this distinctive ability to connect teaching and research expertise to a public service capacity requires that resources be committed and deployed strategically for greatest impact. It requires that the University itself constantly builds and sustains this capacity, and that internal mechanisms nurture and reward the faculty who carry it out.

In order to engage with the education community of North Carolina and beyond, the College has developed a growing number of important research-based, outreach initiatives. Among them are the following:

1. We have created the William and Ida Friday Institute for Educational Innovation. The Institute is located on Centennial Campus adjoining a Wake County public middle school. It is housed in a state-of-the-art facility that has been built solely by private donations. The Institute staff and affiliated faculty will be engaged in aggressive, targeted outreach work to address the serious educational inequities too many students, teachers and communities experience. The Institute will open in fall 2005.
2. We will soon offer an innovative elementary education degree. The program will admit 60 students each year to work with top faculty and master teachers in selected public schools. This program will join forces with our Middle Grades Academy that is already pioneering new approaches to preparing teachers with innovative uses of technology for teaching and learning.

3. We are participating in a campus-wide STEM initiative to improve teaching and learning in science, technology, engineering and mathematics (STEM). By joining forces with colleague faculty across the campus, in partnership with teachers and schools across the state, NC State University will address the critical need for better workforce and academic skills preparation among K-12 students.

4. We are working with the community colleges of North and South Carolina to better prepare their faculties in science and technology. We are also offering workshops for department chairs to support their efforts to improve overall efficiency and effectiveness. The College has had a longstanding partnership with community colleges that remains a vital part of our mission.

5. The College is one of the largest providers of distance education in the University. Distance education is an important element of engagement, particularly in addressing geographic and other access issues. At this time, we offer many courses, certificates and some degrees in an online format. We also are providing direct instruction to cohorts of school leaders in school districts that are convenient to the principals and central office personnel in training. We work to ensure that our courses are infused with the direct and specific challenges particular school systems are facing. Our interns work full-time as part of their preparation on problems at their school sites. As part of our commitment to lifelong learning, we also are beginning a doctoral program in the Charlotte area, which is designed to meet the needs of adult and community college educators.

NC State University and the College of Education are committed to doing all we can within the resources we have to prepare North Carolinians for the challenges and opportunities of the 21st century. Chief among those challenges is to assist the broader education community to provide students of all ages with the very best educational opportunities and experiences that we can. The inequities of the past can be overcome. The excitement and promise of lifelong learning can be extended to all who desire it if we are innovative, collaborative, and committed to the challenge.
College of Physical and Mathematical Sciences (PAMS) Perspective On North Carolina State University’s (NCSU’s) Outreach, Extension and Engagement Enterprise

By Daniel Solomon, Dean, and Len Pietrafesa, Director of External Affairs, College of Physical and Mathematical Sciences

PAMS believes that the goal of NCSU’s OEE enterprise should be the University’s evolution into a preeminent 21st Century, Land Grant University (LGU). Such an institution would be a leader in the basic and applied sciences, engineering, and technology transfer. This institution would also serve as an engine for an expanded economy and as a contributor to societal progress in North Carolina (NC), the Region, and the Nation. Now let us examine the national perspective for a next generation Land Grant University.

Dr. C. Peter McGrath, President of the National Association of State Universities and Land Grant Colleges (NASULGC) wrote, "The new model for higher education involves extending and linking universities with business, with community, social, state and federal agencies and with volunteer organizations in order to deal with environmental and other social challenges.” These words present a clear and bold challenge for public institutions of higher learning. Yet, the specifics of the blueprint for OEE, especially as it relates to economic and community development (ECD) are not obvious. Moreover, the global stage is changing rapidly and NCSU must become more anticipatory and visionary. Now is the time to tap the potential of NCSU to fulfill its great promise as a modern Research Extensive University in the LGU Tradition, providing service to the state, region, nation and world.

In the 1990’s, the NCSU Watauga Group discussed NCSU’s future in Alvin Toffler’s terms. In Future Shock, Toffler identified three kinds of futures that innovative institutions and societies should consider. The 1st is termed "probable futures" wherein the aspirations of institutions or society are largely an extension of business-as-usual. This is an approach that positions the University in a perpetual response mode, an uneven, uninspiring incremental march, sometimes forward and sometimes back. This was where NCSU was perceived to be. The Watauga Group considered this future undesirable, at best. Toffler’s 2nd scenario is in the realm of "possible futures" in which all possible outcomes that a given institution or society might wish to explore are evaluated. This is a promising choice for a modern University. The 3rd possibility is in the arena of "preferable futures" in which optimal outcomes, achieved as a result of focused and well-disciplined efforts, are pursued. The choice of the 3rd possibility requires that mutually agreed upon goals consistent with the natural and human resources available to an institute are pursued. It requires people who must be recognized for the intrinsic value of the role they are playing, with their potential harnessed for engagement and directed towards preferred outcomes. It also requires partnerships with industry, state and federal agencies and county and local community governments. This 3rd possibility connects people to people, fosters innovation, and requires action. The Watauga Group found this option to be the most attractive. This is the PAMS preferred future as well. While this choice would lead to improved benefits to the society which the institution was created to serve, it must be clear from the outset that only a subset of societal issues can and should be addressed by NCSU. Choices must be made and that is where NCSU must have a well conceived, campus-embracing plan.

Key elements of the OEE plan that PAMS perceives for NCSU are as follows:
- Enhance learning by providing more experiential learning opportunities via EEO internships and community service
- Expand interdisciplinary research capacity and visionary initiatives
- Expand student access to EEO/ECD through expanded financial incentives
- Ensure faculty and staff participation in EEO through compensation and supportive resources; some competitive
- Accept and embrace OEE as a core opportunity for faculty
- Inform faculty as to the value and opportunity presented by ITPP (intellectual property and technology transfer)
- Strengthen the university's infrastructure as it relates to OEE, especially tele-conferencing and information technology facilities
- Partner with K-12; perhaps following the Science House model
- Partner with Community Colleges with specific NCSU/Colleges and Community College connectivity
- Engage government and business leaders to advance economic development
Facilitate people-to-people interactions at all levels between the University and the engaged communities

Challenge university faculty, staff and students to be innovative, pro-active and inter-active

Employ a VC for OEE and ECD who is an innovative visionary who takes action and who is committed to helping make NCSU the preeminent driver of NC’s economy and targeted community development

Employ a VC for OEE who understands that recent advances in communications and technology transfer imply that an additional 3 billion people have been brought into the workforce to compete directly against the NC/US workforce

An engaged Research Extensive University that makes OEE and ECD opportunities for faculty, staff and students; that educates students for productive careers as leaders in economic enterprises; and that is geared to spin-up discovery and spin-off high-tech development, will inexorably fuel NC’s economy and lead to social advancement. Traditional foci of NCSU OEE in agriculture, textiles, industrial engineering and forestry can be used to provide a sound foundation for future OEE and ECD programs. However the successes of SAS and CREE and Red Hat map a clear route for the University to focus on as well. The University’s stated goal to become world-class in the sciences, engineering and technology should build on the original deep traditions while acknowledging our present and future advanced technology and service-based society.

NCSU’s institutional plan, particularly as it relates to OEE and ECD, must also take into account the fact that NC has moved toward a more differentiated system of higher education. No university or campus can meet the needs of all the people of NC, with some better served at private institutions, some at UNC regional campuses, and many in the community college system. As such, NCSU has the opportunity to creatively partner with institutions of varying types to help foster the economic engine of NC.

At the K-12 level, NCSU should carve out its own niche by partnering directly with the schools in the rural communities of NC via the establishment of Science House like nodes, which might be located at existing Cooperative Extension facilities. The node locations would be based on expressed needs of county superintendents, principals and teachers. Subject areas such as science, mathematics and social studies would be of central focus. Teachers would receive instructional materials and learning aids and face-to-face personal instruction on how to use the resources most effectively. Here, the NCSU Office of International Programs and NCSU Spanish speaking faculty could be engaged to work with the public school teachers on how to effectively provide instruction to the burgeoning Latino population in rural NC.

Beyond K-12 NCSU should assess the OEE and ECD plans of its UNC sister institutions and the Community College campuses to determine where OEE and ECD voids exist and as such where opportunities for NCSU may present themselves. For example, Carteret Community College might be a candidate for developing a pre-NCSU enrollment program in Basic Aquaculture or Environmental Forecasting of Marine Weather or Marine Fisheries; 2 years at the community college and 2 years leading to a BS at the university. All of those degrees could result in new companies in Carteret County such as fish farming with sustainable environmental practices or weather derivative enterprises focused on the needs of a maritime consumer base.

NC has experienced more billion dollar weather related events in the past 26 years than any other state in the United States. Here a partnership between NCSU’s world class environmental resource economics program, the Office of the State Climatologist and the National Weather Service Office, which is co-located on Centennial campus in Research III and also in Carteret County, would extend NCSU’s environmental forecast capabilities into economic development and social impacts applications. Another example is UNC-Charlotte, which might be a candidate for a cooperative MS program in Financial Mathematics and Banking, an emerging strength in Mathematics at NCSU.

Primary goals for OEE and ECD at NCSU should be that in five years NCSU will be a better institution in terms of mission, reputation and impact. It will be more strategically focused, more engaged with NC, the region, the nation and the world. The goal for NCSU should be nothing less than preeminence as the economic driver of NC.
A Vision for the Future of Graduate Education at NC State

By Robert S. Sowell, Dean of the Graduate School at NC State University

Our vision for graduate education at NC State is to serve the state, the nation and the world through internationally preeminent doctoral programs and nationally and regionally significant master’s programs that prepare graduates to lead in the creation of new knowledge and in the implementation of acquired knowledge in response to problems and opportunities as we move into the 21st century.

The mission of the Graduate School is to foster excellence in all dimensions of graduate education at NC State, from the recruiting, admission, matriculation, and graduation of individual graduate students through the development, maintenance, evaluation, and improvement of graduate programs. This requires administering programs at the university level efficiently and effectively; maintaining uniformly high standards for graduate education across all programs; facilitating graduate program development, with emphasis on fostering appropriate program development in interdisciplinary areas; supporting colleges and departments in their efforts to enhance graduate education; helping colleges and departments to recruit and retain the most promising graduate students; developing sources of financial support for graduate education; evaluating degree programs in terms of nationally recognized standards of excellence; and facilitating university-wide discussion about new directions in graduate education.

Traditionally graduate students at NC State have had minimal formal interaction with the Extension, Engagement and Economic Development activities of the University. Prior to Dr. Stephen Jones’ tenure as Vice Chancellor for Extension and Engagement, a few graduate students were appointed to Graduate Research Assistantships funded by Extension and Engagement resources. Through a collaborative effort involving the Graduate School and Extension and Engagement, the Graduate Extension Assistant position was created to be parallel to Graduate Teaching Assistant and Graduate Research Assistant positions. This decision also had the input and approval of the Administrative Board of the Graduate School and the Extension Operations Council. The expectation of all parties was that the existence of the extension assistant position would result in more graduate students becoming involved in extension and engagement as part of their graduate education at NC State. Unfortunately, this was not the outcome. In Fall 2005, there are only three graduate students who have Graduate Extension Assistantship appointments.

Given the increasing role universities are playing in extension, engagement and economic development it is critical that graduate students get exposure to these areas. Graduate students aspiring for careers in research are mentored by highly qualified researchers while at the University. Through formal courses and/or professional development activities graduate students have opportunities for training and experience in teaching at the university and college level. Most graduate students who aspire for faculty position upon completion of their graduate degree build their teaching portfolio while students by participating in one or both of these activities. Unfortunately similar opportunities do not exist at NC State, and probably at most universities, for graduate students who aspire for academic careers with a focus on extension, engagement and economic development. Graduate students should be given opportunities, and encouraged to take advantage of such opportunities, to include in their formal graduate curriculum or their portfolio of professional development educational experiences in extension, engagement and economic development.
A Vision for Internationalization at NC State

By George Wilson, Vice-Provost for International Affairs and Professor of Horticultural Science

In the new environment of the post-cold war (and post 9/11) world, those who want to survive and thrive need to understand that they are no longer merely citizens of nation states, but members of an interdependent world where nations are no longer masters of their own fate, and where individuals are part of an increasingly global community. This means that leading educational institutions like NC State must provide students, faculty, and staff with as many opportunities as possible for greater interaction with a complete range of diverse societies and different cultures to prepare them as full members of the global community. Quality education in the twenty first century must embrace, reflect and encompass knowledge of diverse societies and cultures and their global interdependence. We must promote internationalization as a core value of NC State.

Most of our 59 NC State centers, institutes, and laboratories include international components. While 22% of faculty and 15% of staff at NC State were born outside the USA, many more value their ethnic and cultural roots in other countries. Our diverse University family is a vital resource for NC State -- advising the Office of International Affairs (OIA) on potential alliances and helping our campus host visitors from their home countries.

International programs is one of the most important focus areas demanding University attention. NC State has a university-wide vision of internationalization, supported by University administration. This vision is built on the connectedness and networking of the Office of International Affairs (OIA) across campus, and throughout the community, the state, the USA, and around the world. In addition to increasing our study abroad programs and serving the immigration and cultural adjustment needs of our more than 2,000 international students and scholars, the OIA will continue to initiate and coordinate University-wide international programs, leveraging the renowned strengths of individual colleges, and providing leadership for a comprehensive, strategic planning approach for the internationalization of NC State by:

- Facilitating faculty development through seed grants and other diverse and innovative funding
- Assessing, initiating, and implementing beneficial international linkages and partnerships
- Strengthening the international engagement of the University in partnership with community, government, and business groups in NC
- Utilizing insights and advice of dean-appointed members of the International Operations Council

As a component of our commitment to internationalization, our vision includes the formation of an NC State Institute for International Affairs that will facilitate the international engagement of our students and faculty by:

- Demonstrating our commitment to internationalization and our global outlook
- Housing all international units -- for improved visibility, accessibility and management efficiency, including: OIA, OIS, SAO, International Studies, the NC Japan Center, IAESTE USA, international student associations, and the International Academic Collaborative of the ACC
- Providing a “home” for international students and scholars to receive assistance, share expertise, and participate in special programs including English Conversation Club, Culture Corps, and ISSERV, etc.
- Promoting internationalization at home, through welcoming student, faculty, staff, and community visitors to interact with internationals, explore international resources -- newspapers, news broadcasts via SCOLA, etc.
• Streamlining access to international resources for students, faculty, and staff interested in global research and related grant opportunities
• Encouraging and enabling more American students to study abroad
• Enhancing program coordination for attracting: external funding, external partnership opportunities, and international alumni relations
• Capitalizing on University-wide strengths in teaching, research, and service in science, technology, engineering, social sciences, and education
• Housing Ambassadors in Residence & Diplomats in Residence
• Hosting thought-provoking seminars and prominent international speakers
• Reinforcing our unique contexts, such as Centennial Campus, Research Triangle Park, sister Research I universities, Duke and UNC-Chapel Hill, and the relevance of our Land Grant oriented state-wide missions of teaching, research, and extension
The Future of the College of Management at NC State

Ira Weiss, Dean of the College of Management, wisely declined to prepare a vision statement for the future of the College of Management for inclusion in this Second White Paper on Extension, Engagement, and Economic Development at NC State. He made this choice because he had just appointed a select committee of faculty to prepare a strategic plan for the future of the College of Management. Dean Weiss thought his faculty, “who will be the creative force behind the future of this college,” should not be handicapped with a vision statement from the Dean just as they begin their deliberations on a strategic plan for the future of their College.

In declining to prepare a vision statement, Dean Weiss called attention to an article published in the August 26, 2005 issue of the Triangle Business Journal. This article was based on an interview by one of the editors of the Triangle Business Journal, Mr. Lee Weisbecker. The following excerpts from that article provide some insights about the future of the College of Management that are relevant to the future of extension, engagement, and economic development at NC State:

“At 13 years of age, NCSU’s College of Management is a virtual babe in the world of academia, but Weiss believes it has most of the elements needed to move forward. What the school doesn’t have is “recognition, reputation, and reach.

To get all three, Weiss is after three key tools: cash, connections, and professors:

As part of NCSU’s $1 billion fundraising campaign, the College of Management is going for $30 million. The school now has 100 professors and lecturers – a number Weiss wants increased to 125, including five or six “major name” senior professors to help guide key areas in the curriculum.

As for establishing strong connections, Weiss has initiated talks with officials at Cisco Systems, IBM, and the Environmental Protection Agency, among others, in the Triangle. Not so close to home, he’s also in conversation with Duplin City University, located in a city known as one of Europe’s developing technology hubs, to set up a program in which both institutions will exchange faculty members first and, later, students. It’s the “global piece” of Weiss’ plan.

But the agenda doesn’t stop there.

The dean has started implementing curriculum changes that will see the school offer focused MBA degrees, with a biotech-pharma concentration for the first time this fall. … Longer term, he wants the College of Management’s graduate studies to be based in a separate building on Centennial Campus. Parts of [this] plan were on the school’s agenda before Weiss took the job – focused MBA programs that play to the school’s strengths, for example. “It was bubbling,” Weiss said. I said, “‘Go ahead, let’s do it.’”

… [T]hat sort of decision making … has made faculty members feel they’ve been given a stake in the changes [yet] to come.

[Weiss] believes NCSU’s program can set itself apart from the likes of Fuqua [at Duke] and Kenan-Flagler [at Chapel Hill] by leveraging the university’s strong points in areas such a supply chain management and technology.

Weiss believes that the groundwork for success has been laid.

“The First 13 years at this school have been spent pulling together the programs, the faculty, and the infrastructure,” he says. “It’s time for the next phase now. It’s time to reach out.”

Dean Weiss later added a postscript to these published “excerpts” indicating his plans to open a campus for the College of Management’s MBA program in the Research Triangle Park next fall. Also he is putting significant efforts into building an executive education arm (non-degree programs) as part of the programmatic thrust of the college – both of these are major outreach efforts.
A Vision for the College of Agriculture and Life Sciences’ Extension, Engagement and Economic Development Programs

By Dr. Johnny C. Wynne, Dean, College of Agriculture and Life Sciences

The College of Agriculture and Life Sciences has long been an engine for North Carolina’s progress, helping make agriculture and agribusiness our state’s leading industry, creating opportunities for life sciences industries; deepening the scientific understanding of our natural environment and resources; and providing students and our state’s citizens knowledge and skills to improve their quality of life. We are, and aspire to remain, a premier land-grant college recognized by those we serve and our peers for excellence in teaching, research and extension.

As we look ahead, we see the North Carolina Cooperative Extension Service, headquartered in the College, as a powerful resource for our state and communities in times of economic, environmental and demographic transition. Cooperative Extension is a partnership of our state’s land-grant universities, county governments and the U.S. Department of Agriculture. It is supported by 20,000 advisers and 80,000 volunteers working hand-in-hand with Extension educators on campus and in all 100 counties and on the Cherokee Reservation. It is a network that uniquely positions Cooperative Extension to be:

- The state’s best catalyst for a stronger, more profitable and environmentally sustainable agricultural sector. Agriculture and agribusiness contribute 20 percent of our state’s jobs and income, but it is undergoing a challenging transformation. To ensure long-term profitability and a secure, safe and affordable supply of food, fiber and forestry products, producers need alternative crops, enterprises and markets. While continuing to support traditional commodity programs, Extension programs, backed by research, will enable North Carolina producers and entrepreneurs to launch profitable, high-value agricultural alternatives for a strong state economy.

- A partner for the advancement of life sciences industries. Working with public schools, community colleges, local decision makers and entrepreneurs, Extension can increase scientific literacy of young people and workers and can connect entrepreneurs with a rapidly expanding knowledge base for pharmaceuticals, biotechnology, agri-science and related industries.

- A highly trusted knowledge resource and partner for environmental stewardship. Cooperative Extension’s educational programs and expertise in water, air and soil quality; nutrient and poultry waste management; land use planning; conflict resolution; and conservation of forest, wildlife and fisheries resources can enable individuals and citizens to adopt scientifically sound practices that protect the environment while balancing economic development and quality of life.

- A builder of human capacity through programs focused on building strong, healthy families; fostering resiliency for families in transition; developing leadership and community capacity; promoting safe and healthy environments; and helping 4-H’ers and other young people learn life skills through hands-on learning and involvement in community service and decision making.

The Extension network is also a catalyst for connecting communities with research-based knowledge beyond the College of Agriculture and Life Sciences. A Gateway County initiative aims to engage the broader university with communities in two-way exchanges that lead to problem-solving and innovation addressing high-priority local needs. The pilot has made a measurable impact, but long-term statewide success will depend on whether the broader university’s ability to encourage, support and reward faculty, staff and student success in extension, engagement and economic development.

To achieve its mission, N.C. State must remain relevant, responsive and results-oriented, addressing high-priority needs of the state’s communities. With its statewide reach and grassroots network, Cooperative Extension is uniquely positioned to ensure that its extension, engagement and economic development programs are catalysts for economic prosperity, environmental stewardship and a better quality of life.
Perspectives and Recommendations from a Faculty Conversation
Regarding the Future of North Carolina State University
Tuesday, March 1, 2005  Research Building III, Room 230

Participants:
Commentaries received from: David Stein, Thomas Malone

Individual Faculty Perspectives:

NC State needs a much improved and clear vision of its mission and goals. Our University will benefit greatly from a strategic planning process that obtains more input from faculty, both undergraduate and graduate students, and university staff.

During the past few years, NC State’s senior administration appears to be more concerned about avoiding embarrassment than by strategic planning that includes careful identification of critical issues in North Carolina society coupled with bold and steady efforts to deal with issues that are within the special competence of our institution.

Many faculty see “command and control” as the dominant theme of administrative management within NC State rather than a philosophy of “servant leadership” devoted to maximizing faculty, student, and staff achievements and professional satisfaction.

Since faculty creativity is the principal source of excellence in the teaching, research, and societal engagement functions of the University, administrative policies and procedures should be designed to encourage and reward such creativity. This means that faculty should play a much larger role in the governance of our University.

The goal of university administration should be to improve the management environment to facilitate the objectives of innovative faculty. In the process, the university should seek ways to remove all managerial impediments to progress.

The university should build on its strengths and not try to be all things to all people. We should find ways to differentiate ourselves by what we do well over the long haul, and not by following the latest fads or concentrating just on “adjustments at the margin.”

Most innovative faculty finds ways to accomplish great things in spite of what the university administration does or says, rather than because of university policies and procedures.

The administrative structure of our university is not poised as well as it should be to take advantage of multi-disciplinary opportunities that very often are the keys to future success. Other universities are organizing themselves around important areas of strength rather than along department and college lines. This is sometimes reflected in new buildings or functional alliances that house or facilitate integrated centers of excellence in research, education, and societal engagement. Faculty members from various departments are encouraged to form multi-disciplinary teams focused around specific scientific or societal problems.

Other universities are doing a better job of developing outstanding programs in the humanities and social sciences that are well integrated with science, technology, and engineering initiatives. Centers are needed in such areas such as the environment, professional ethics, public policy, functional materials, biotechnology, nanotechnology, etc.
NC State University’s extension and engagement mission should be enhanced to include contributions from all colleges and departments. It is important to develop integrated societal engagement programs that involve faculty, students, and staff.

Historically, faculty rewards for research performance have been dominant, with teaching second, and extension a distant third. NC State University needs to reward scholarship and innovation in both teaching and societal engagement, on a par with its rewards for scholarship in research.

NC State has a wonderful opportunity to integrate our research, teaching and extension programs by engaging undergraduate and graduate students in service learning activities. We have an opportunity to make this one of the unique features of an NC State University undergraduate and/or graduate education.

The roles, tactics, and promising strategies of extension and societal engagement have changed markedly over the last century. This is true for many reasons – especially because of demographic and distribution-of-wealth changes in American society; urban, suburban, and rural development patterns; globalization of commerce; changes in management/labor relationships; and development of new methods of information and technology transfer. Societal engagement is no longer a one-way flow of information from the university to the outside world.

NC State University needs to find out what the people, business interests, and state and local governments expect from us and then develop the best ways of productive engagement together with these constituencies within our state, southern region, the nation, and abroad. This will require development of new partnerships and working relationships with the public, with business, commercial, non-profit, and volunteer organizations, with government agencies, and with the state legislature.

Extension and engagement should be viewed not only as economic development activities, but also as community development functions that include other quality-of-life concerns – including environmental quality, K-16 education, health care costs and accessibility, conservation of natural resources, and recreation and cultural opportunities.

Other universities known for their science and technology focus have a more clearly defined sense of connection with the business enterprises and governmental organizations of their states than NC State has at present.

NC State needs to develop a clear vision at the state level of what our university can do excellently in the arenas of economic and community development and how our university’s special contributions may be different from- and/or related collaboratively with- those of other parts of the UNC and Community-College Systems of our state.

**Improve the Reward Structure for Faculty**

Better ways need to be found to formally institutionalize a reward system for faculty scholarship and innovation in research, teaching, and societal engagement. The university needs to recognize and reward success in applications and education as well as purely academic pursuits. Within a land grant institution, outstanding scholarship and innovation in public service achievements and publications should be placed on the same plane as outstanding research accomplishments and publications. This could be encouraged by establishment of clinics for professional programs, and by encouraging faculty active in extension to publish and obtain external resources for these activities.

**Remove Impediments to Success**

The university needs to improve the support structure for faculty, including the Office of Technology Transfer, and the Office of Legal Affairs. These offices tend to be overly bureaucratic and slow in
responding to both faculty and external client needs; they seem to be administered in a risk-averse manner that gets in the way of important activities – including the processing of research contracts and both the filing and licensing of patents.

The university should consider alternative methods for handling patents to empower faculty entrepreneurs and to minimize the size and cost of the Office of Technology Transfer operations. Since the university does not have the resources to either file or defend patents, it is reasonable to question the university’s involvement in these activities beyond assisting faculty in finding potential corporate partners interested in their inventions.

NC State should streamline the way that colleges share resources in ways that encourage the development of multi-disciplinary research and societal engagement programs. Examples of such impediments include sharing of credit hours for teaching of cross-disciplinary courses, and sharing of indirect costs recovered from research and extension grants and contracts. In making these improvements, faculty need to know that their concerns are being addressed. There should be a drive for more faculty governance in these areas.

**Strengthen the Office of Vice Chancellor for Extension and Engagement**

The responsibilities and financial resources of the Office of Vice Chancellor for Extension and Engagement should be clearly defined by a detailed strategic planning process that defines and provides adequate resources to fulfill these well-defined aspects of the university’s mission. Economic and community development should be major activities both managed and encouraged by this office in all 10 colleges. In addition to economic development, the societal engagement mission of the university should include shaping public policy, especially in areas of technology, environmental sustainability, health care costs and accessibility, and social, educational, cultural development within communities.

The university also should consider helping the State of North Carolina develop a much stronger State-wide Science and Technology agency that would have a broad impact across the state, facilitated by university infrastructure and human resources.

**General Recommendations**

**Establish a Strategic Planning Process**

Since both financial and human resources are not infinite, NC State University needs to recognize that we can’t be all things to all people. Our institution should concentrate our resources in areas of maximum inherent comparative advantage. We are already possibly spreading ourselves too thin in the extension arena.

A carefully designed strategic planning process for extension and engagement will help our university in at least four major ways: 1) Understand that institutional specialization is essential to maximize our impact within the state, region, nation, and abroad; 2) See clearly the areas of society in which our university can make an important difference; 3) Steadfastly devote our substantial human and financial resources to dealing with these carefully selected critical issues; and 4) Help establish better communications between faculty, administration, and external constituencies as we strive to organize our university more effectively for the future and to optimize our performance in societal engagement.

NC State University should put additional resources into public relations with the goal of increasing public recognition of the importance of NC State contributions to the to the people, business enterprises, both local and state government, and non-government organizations throughout North Carolina. The
public relation mission is one of the major responsibilities resting with the Chancellor and other top officials in the administration. Our public relations products and programs should adhere to the state motto – “Esse quam videre” – “to be and not to seem.” They should be both a source of pride in shared accomplishments and honest about what we are actually accomplishing for the benefit of the state and its people.

Our new Chancellor should also strive to develop search processes for top administrators that identify and select the most talented and outstanding leaders available – leaders who will determine what it will take, not only in collective leadership, but also in creative performance by the rest of us at NC State – faculty, staff, and our undergraduate and graduate students – to achieve our full potential as a world-class land-grant university.

In recent years, NC State faculty generally have shown a remarkable degree of loyalty to NC State University – this, in spite of modest salaries, an institutional self-image of being of second rather than first rank, and some of the institutional frustrations outlined above. Increasingly, however, more and more faculty are feeling alienated by the continuing “top down” rather than also “bottom up” tendencies of past administrations. As a result, many faculty do not have a clear sense of “belonging” to the university. This is true in part because they do not see a clear connection between their lives within their specific department or college and the all too rarely articulated general mission, vision, and goals of the university. Many faculty have come to feel more like “contractors” that our university may very well lose to other university competitors across the country.

Allocate Resources for Excellence

The excellence of university programs is strongly dependent on the excellence of its faculty, students and staff. Attracting the top individuals in all of these categories is a continuing problem, given that we do not rank highly in faculty and staff salaries and benefits. We also do not have a large number of graduate fellowships and undergraduate scholarships; in addition, recruitment funds are scarce.

NC State does not present a coherent and exciting honors/scholars program, and we do not have an established operation to help our extremely talented undergraduates compete effectively at a national level for distinguished graduate scholarships such as the Rhodes and the Marshall Scholarships. As a result, we put ourselves at a disadvantage in attracting the most outstanding out-of-state students in the country and we do not get the recognition associated with these awards. Many of these problems are resource driven, and difficult as they may be, it is important that our administration address them – in part by reallocating resources from other areas, and in part also by finding ways to eliminate waste, inefficiencies, and duplication in university expenditures and curriculum offerings.

As in other areas covered in this conversation, faculty-driven initiatives consistent with areas of excellence of the university as a whole should be encouraged and enhanced by university resources. Excellent faculty members need to be mentored and supported by having the proper infrastructure in place to support innovative research, teaching, and societal engagement activities, and by providing them with outstanding staff and student colleagues.

The flow of financial resources that come to the university through tuition and fees, indirect costs, royalties and licenses should all be as transparent as possible so that all interested faculty, staff, and students can have the opportunity to understand and evaluate the expenditures being made and suggest alternatives that would be either more cost-effective or higher priority in terms of the university’s mission.

A larger extent of faculty involvement in the governance of our university will lead to a larger shared sense of responsibility for making our university a true “community of scholars” devoted, above all, to excellence in education, research, and genuine engagement with the quality of life in our society.
Partial List of Issues Yet to be Resolved Regarding the Future of Extension, Engagement, and Economic Development at NC State

1) Role of the Vice-Chancellor for Extension, Engagement, and Economic Development in the continuing development of the Centennial Campus – especially with regard to the Centennial Campus Partnership Office, -- but also more broadly, with regard to shared responsibility for the Centennial Campus among all NC State Executive Officers -- including the Provost and Executive Vice-Chancellor for Academic Affairs, and the Vice Chancellors for Finance and Business, Research and Graduate Studies, University Advancement, and Student Affairs.

2) Role of the Vice-Chancellor for Extension, Engagement, and Economic Development in promotion and tenure decision-making processes at NC State.

3) Role of the Vice-Chancellor for Extension, Engagement, and Economic Development in developing new time-limited or continuing funding arrangement for extension and engagement activities through:
   a) Change Budget requests to the NC General Assembly,
   b) NC State University Capital Campaign,
   c) Public and private foundation grants or contracts such as those provided by the Kellogg and Golden LEAF foundations,
   d) Federal, state, and local government or foundation grants for research and teaching activities that also involve significant extension, engagement, and economic development activities.

4) Relationship between the Directors of the Cooperative Extension Service and the Industrial Extension Service, the Deans of the College of Agriculture and Life Sciences and the College of Engineering, and the Vice-Chancellor for Extension, Engagement, and Economic Development.

5) Role of the Vice-Chancellor for Extension, Engagement, and Economic Development in facilitating further development of the “Gateways Community Model of Extension” through the 100 field offices maintained by both the Cooperative Extension Service and the 11 field offices maintained by the Industrial Extension Service.

6) Roles of the Vice-Chancellor for Extension, Engagement, and Economic Development and the deans and associate deans in all 10 colleges in facilitating the further development and stability of college-based extension, engagement, and economic development programs and activities such as:
   a) Science House in PAMS,
   b) University-Industry cooperative programs such as the Forest Nutrition Cooperative in CNR,
   c) Animal and Poultry Waste Management Center in CALS,
   d) Technology, Education, and Commercialization (TEC) program in the College of Management, and
   e) Full utilization and funding of Graduate Extension Assistantships in all 10 colleges.

7) Nature and quality of the advice and counsel provided to the Vice-Chancellor for Extension, Engagement, and Economic Development by the faculty in the University Standing Committee on Extension and Engagement (USCOEE) and the administrators in the Extension Operations Council (EOC). Influence of the Vice-Chancellor for Extension, Engagement, and Economic Development on the selection of faculty who serve on the USCOEE and the EOC.

8) Definition of “Economic Development” -- particularly with regard to the extent to which non-economic factors such as social, cultural, environmental, public health, aesthetic, artistic, and other quality of community life issues are considered in “Economic Development” programs and activities.

9) Role of the Vice-Chancellor for Extension, Engagement, and Economic Development in ensuring efficient performance in service to faculty involved in extension, engagement, and economic development activities by various the NC State University Offices such as:
a) Office of international Affairs,
b) Office of Technology Transfer,
c) Trademark Office,
d) Office of Legal Affairs, etc.

10) Role of the Vice-Chancellor for Extension, Engagement, and Economic Development in assisting faculty, department heads, and deans of colleges in “filling in the gaps” between time-limited grants, contracts, cooperative agreements, and fee-for-service arrangement that support important extension, engagement, and economic development programs and activities.

11) Role of the Vice-Chancellor for Extension, Engagement, and Economic Development in helping leaders in campus-wide and college-based based programs make optimal choices between:
   a) Tenure-track faculty appointments, and
   b) Time-limited contract-staff appointments for personnel engaged in extension, engagement, and economic development programs and activities within the various colleges and departments at NC State.

12) Distribution of overhead receipts from research grants, contracts, cooperative agreements, and fee-for-service arrangements that include significant extension, engagement, and economic development activities.

13) Possible use of faculty Statements of Mutual Expectations as a basis for understanding:
   a) The fractional part of faculty and staff time and other resources involved in extension, engagement, and economic development activities, and
   b) Changes in these faculty and staff time and human resource allocations over time in various NC State departments, colleges, and in the university as a whole.

14) Provide leadership for diversity (both within the university community and within the communities NCSU engages, in order to ensure that all North Carolinians are considered and served.

15) Recognize and respond to the issues that coincide with globalization and the global economy, including an emphasis on international understanding and cultural pluralism.

16) Provide leadership for addressing economic and health/well-being disparities among the people and communities of North Carolina including:
   a) Lingering impacts of racism on the African-American community,
   b) Continuing changes in the demographics of NC -- especially the increasing Hispanic/Latino population in NC and increasing numbers of senior citizens and retirees within the state,
   c) Disparities between rural and urban areas within the state and region, and
   d) Other disadvantages experienced by limited-resource individuals and/or communities.

17) Provide leadership for sustainable economic development, ensuring that environmental protection and natural resource conservation are assessed and proactively considered as part of economic and community development initiatives.

18) Making final administrative decisions regarding the recommendations contained in the final “Report of the Joint Committee on the Scholarship of Extension and Engagement at North Carolina State University.” This report includes specific recommendations for updating and revision of NC State University’s REG05.20.8 titled: “Guidelines for the Evaluation of the Scholarship of Extension and Engagement.”

19) Need for an updated assessment of the climate for extension, engagement, and economic development activities by faculty following up on the 2003 report on the “Climate for Extension and Engagement at North Carolina State University” – particularly from the standpoint of recommendations for enhancement of reappointment, promotion, and tenure processes for extension and engagement scholarship and entrepreneurship by faculty and staff at NC State.
Addendum to Second White Paper on Extension, Engagement, and Economic Development

Since questions will surely arise about “where am I coming from, under whose authority did I proceed, with whom have I consulted, and what do I expect to get out of this effort,” I am prepared to answer each of these questions in whatever detail may be helpful in considering the merit of the recommendations outlined in this Second White Paper. In the mean time, I hope the following brief statements will be helpful to any who are interested.

Where am I coming from?

My first introduction to outreach and extension occurred soon after I arrived in North Carolina in 1965. At that time, my principal expertise was in the biochemistry of wood deterioration. Although simple and cost-effective means to prevent decay in wooden buildings had been known for more than a century, decay losses in homes, churches, and farm and commercial buildings were occurring with remarkable frequency all over North Carolina. Thus I began a campaign to add an extension specialist on prevention and control of decay in wooden buildings in the Departments of Plant Pathology, Wood and Paper Science, and Forest Resources Extension. Dr. Michael Levi was hired in 1971. He became an internationally recognized expert in his special field at the interface between science and society.

My work together with Mike Levi was the first in a long series of collaborations in outreach and extension activities at NC State. During the past 40 years, approximately one third of my publications have involved some kind of dissemination of research findings to users and/or testimony or advisory and consulting services on natural resource, environmental, and public policy issues. These issues have included acid rain, soil biology, government/university interactions, air pollution standards, value returns from public investments in science, societal constraints on management, land and conservation ethics, excellence in graduate education, the role of scientists and engineers in public decision making, and, most recently, saving the Cape Hatteras Lighthouse from the sea.

Two special assignments forced me to learn in depth about the current state of the State of North Carolina. The first was a request in 1986 for a paper on "Science, Technology, and North Carolina's Economic Future" for presentation during the inauguration of Dixon Spangler as the President of the UNC System. The second was a similar request in 1999 that I be the one “local yokel” in an otherwise distinguished group of national leaders for a symposium on “The Future of US Research Intensive Universities” during the installation of Marye Anne Fox as the 12th Chancellor of NC State University.

Since 1999, I have been even more committed as an advocate for the extension, engagement, and economic and community development responsibilities of universities in general and land-grant universities in particular. It was particularly impressive to me when Michael Hooker as a new Chancellor of the University of North Carolina at Chapel Hill traveled our state sounding for all the world like the Chancellor of a Land-Grant University rather than UNC-CH and when Nan Koehane as President of Duke University strongly urged her faculty to take a special interest in the quality of life in Durham county.

Under whose authority did I proceed?

The 1999 White Paper on Extension and Engagement was prepared under the authority of my own conscience and conviction about the responsibility of public universities to society. Recommendations in that paper were presented by Chancellor Fox, Provost Kermit Hall, and Vice-Chancellor Moreland for consideration by the Commission on the Future of NC State in 2000. Endorsement of these ideas by Commission led to appointment of Dr. Stephen Jones as NC State’s first Vice-Chancellor for Extension and Engagement.

In 2005, I was asked by the University Standing Committee on Extension and Engagement and the Extension Operations Council at NC State to prepare a Second White Paper on Extension and Engagement. After Chancellor Oblinger announced his decisions that a search should be undertaken for a new Vice-Chancellor and that the title for this position should include Economic Development, the title and scope of the Second White Paper were expanded accordingly.
With whom have I consulted?


The following persons in other institutions and organizations also were very helpful in formulating these recommendations: “Pete” Andrews, Eugene Allen, John Bachmann, Mary Barber, Marc Basnight, Gretchen Battaille, Bo Beaulieu, Alice Bordens, George Bugliarello, William Chameides, William Clark, Charles Coble, Nickolas Didow, Amy Driscoll, Alex Farrell, John Fulkerson, William Friday, James Goodnight, Paul Hawken, Tom Helms, Ted Hullar, Edward Hundert, James Hunt, Terry Keating, James Leutze, C. S. Kiang, Robert Kates, Eva Klein, Peter Lange, Russell Lea, Gene Likens, Quentin Lindsey, Scott McVay, James Meagher, David Mobley, George McDowell, Mack Pearsall, Juanita Pilgrim, Paul Risser, Milton Russell, John Saltmarsh, John Simon, Gordon Streeb, Jim Thomas, Tim Valentine, James Votruba, Conrad Wiser, Robert Zabel, and Edward Zlotkowski.

What do I expect to get out of this effort?

My sole purpose in this effort is the satisfaction that I have done my best to share my personal convictions about the responsibilities of public universities to society. My hope is to encourage the faculty and leadership of NCSU to join together with the other institutions and organizations of our state to improve the quality and performance of NCSU in service to North Carolina society.

Finally, I hope to encourage all of us at NC State to remember and act on the principles Alvin Toffler put forward in his famous book, *Future Shock*. Toffler (1970) identified three different kinds of futures he believed innovative democratic societies should consider very carefully:

1. "Probable futures" -- hopes and aspirations of society that are largely an extension of a "business as usual" sense of what the future might hold;
2. "Possible futures" -- exploration of all possible outcomes that a given society might wish to explore as possibilities for its future; and
3. "Preferable futures" -- optimum outcomes that probably can be achieved only as a result of focused and well-disciplined efforts to fulfill mutually agreed upon goals and dreams that are consonant with the natural and human resources available to society.