

STRATEGIC PLANNING FOR COOK COLLEGE AND THE NEW JERSEY AGRICULTURAL EXPERIMENT STATION

In this document, we offer strategic plans for Cook College and the New Jersey Agricultural Experiment Station (NJAES) as the major products of a 15-month Visioning and Planning Initiative. The initiative is a key step in reassessing the mission, vision and goals of Cook College and the NJAES, and in applying the land-grant concept philosophy of teaching, research, and outreach¹ to the evolving needs of the 21st century.²

The Process

The Visioning and Planning Initiative grew out of several years of discussion by faculty, staff, and stakeholders who were concerned about perceived gaps between expectations, funding support, and outcomes, and about problems in leadership, including the lack of clear policy direction. The need to reaffirm our core values, redefine our missions, clarify our vision, and create strategic plans for Cook College and the NJAES was clear and compelling.

The Cook College Planning Committee advised the Executive Dean of the need for a new plan and consulted with the administration about the process. Dean Carlton gave the charge to a Steering Committee for the Cook and NJAES Visioning and Planning Initiative on December 16, 1999. Led by Professors Bonnie McCay and Daniel Kluchinski, and Dean Adesoji Adelaja, the Steering Committee includes on-campus and off-campus faculty, faculty from other units at Rutgers, The State University of New Jersey, and students, staff, and external stakeholders. A major goal of this effort was to provide guidelines for a new administration beginning July 1, 2001. The process behind the vision and mission statements and the strategic plans that follow was designed to be as transparent, participatory, and consensus-based as possible. Moreover, it was led by faculty, reflecting Cook College's long tradition of strong faculty governance. The timelines and reports that have come out of the process are in Appendices 1 and 2 and available on the Visioning and Planning Initiative Web-site: www.cookvision.rutgers.edu. This effort was informed by the larger Rutgers visioning and planning process

¹ The terms "teaching," "research," and "outreach" refer to activities that support and crosscut the general university functions of education, scholarship, and service. See Appendix 5 for an explanation of these terms as used in this document.

² The Land Grant system of higher education, research, and outreach in the United States developed out of an 1862 act of Congress that provided federal aid for colleges whose leading object should be "without excluding other scientific and classical studies...to teach such branches of learning as are related to agriculture and the mechanical arts" and to engage in research and outreach in those areas. In 1864 Rutgers became New Jersey's "land grant" school, and in 1880 the New Jersey Agricultural Experiment Station was created. Cook College and the NJAES are the heirs to Rutgers' "land grant" functions. See Carl Raymond Woodward and Ingrid Nelson Waller. 1932. *New Jersey's Agricultural Experiment Station 1880-1930*, New Brunswick, NJ, New Jersey Agricultural Experiment Station, pp. 24-25.

(www.president.rutgers.edu/stratplan.html), as shown in the Cook College strategic plan below.

In the rest of this introduction, brief reviews of the two phases of the process--visioning and strategic planning-- document the vision, mission, values, and guiding principles that were agreed upon by the faculty and the overarching themes and issues of the strategic plans created for Cook College and the NJAES. As the discussion of overarching themes and issues shows, Cook College and the NJAES are interdependent parts of the same institution. However, they have somewhat different missions and mandates. Hence the creation of separate strategic plans, which follow in the next two chapters of this report.

Visioning Phase

The first phase covered the period between February and October 2000. It included ten visioning and listening workshops consisting of Cook faculty, professional staff, students, members of the Cook College Board of Managers, and other external stakeholders.³ In addition in-depth interviews were conducted with external stakeholders. The results of these workshops and interviews formed the basis of discussions at a Visioning Conference held April 8, 2000. Additional stakeholder input was obtained through dialogue sessions held in each county and through a session for Cook College alumni. A website was also established (www.cookvision.rutgers.edu) to gather further input from faculty, staff and students as well as stakeholders and also to act as a vehicle for everyone to have the opportunity to review the process, read reports and be informed of upcoming events. The result was a vision and mission document accepted by the faculty on October 11, 2000.

Vision and Mission of Cook College and the NJAES

Following are the vision and mission statements, key assumptions, and core values agreed upon by the faculty for Cook College and NJAES. They provide the basis for the strategic plans that follow:

Our vision for the future:

"Cook College and the NJAES will be known throughout New Jersey and beyond as synonymous with solutions."

Our mission statement:

³ A consulting group, Tecker Associates of Trenton, NJ, assisted in designing the first phase of the process, facilitating the workshops and conference of the spring, 2000, and carrying out telephone interviews. Thereafter the process was guided solely by the Steering Committee and its Executive Committee.

"Integrating teaching, research, and outreach to anticipate and respond to issues and challenges in agriculture, food systems, environment and natural resources, and human and community health and development, in order to empower people to improve their lives, the lives of others, and the environments on which they depend."

At this stage of the process, we also identified several assumptions we could make about the future with some confidence. The full list of assumptions appeared in our October 11, 2000 report. A key assumption of our vision and planning is that:

"...we assume that New Jersey will continue to be at the forefront of the nation and the world in experiencing the challenges of population pressure, industrialization and changes in the valuation and uses of the earth's resources--land, sea, air, water. Consequently, Cook College and the NJAES will continue and strengthen a leading role in anticipating and responding to these and related challenges."

In addition, we reaffirmed the following core values of Cook College and the NJAES:

*Knowledge
Learning
Service
Community
Diversity
Integrity
Sustainability*

Elaboration of what is meant by these values and how they relate to the vision is found in the document "Visioning Process and Document" available via www.cookvision.rutgers.edu.

Guiding Principles

The guiding principles outlined in the October, 2000 Visioning document that the Cook and NJAES community agreed upon are consistent with our vision, mission, and values:

- Be fully engaged with the larger community
- Be leaders in teaching, research, and outreach in the areas of agriculture, food systems, environment and natural resources, and human and community development
- Value and support the teamwork approach to problem-solving and institutional development

- Attract a diversity of students, faculty, staff, and constituents who share the institution's vision and are enthusiastic about participating in its activities
- Be an institution where everyone, at all levels, understands and acts on behalf of the Cook College and NJAES missions to serve the needs of society and environment
- Seamlessly integrate teaching, research and outreach, where appropriate to the creation of knowledge and service to society

As will be seen in the Cook College strategic plan below, we also incorporate the guiding principles of Rutgers.

Strategic Planning Phase

The second phase of our visioning and planning effort was the strategic planning phase. It began in September 2000 when "strategy teams" were created and given the charge to develop strategic goals and recommendations in the following five areas:

Teaching and the Learning Community,
Scholarship and the Research Community,
Communication and the Engaged Community,
The New Jersey Agricultural Experiment Station (NJAES), and
Organization and Leadership.

Team leaders, coordinators, and members (Appendix 3) worked through the fall to gather input; determine strengths, weaknesses, opportunities and threats; and to incorporate the Cook and NJAES mission and vision statements and core values into the goals and recommendations they developed. Leaders of each team presented their interim results to faculty and stakeholders at a meeting in November 2000 and their final results to the Steering Committee on December 14, 2000.

At that point the Steering Committee began to put together strategic plans for the next five years using the Strategy Team reports and visioning process document as major sources of information and guidance.⁴ The Committee decided to create two distinct plans, one for Cook College and one for the NJAES. Although the two institutions are closely intertwined, the NJAES--including Rutgers Cooperative Extension-- has different legal mandates, specifically to serve the people of New Jersey in broad but well-defined

⁴The Strategy Team reports are available through the Web-site www.cookvision.rutgers.edu. They are valuable documents in and of themselves; not all of the recommendations made in them are in the Steering Committee's strategic plan because of the need to pare the plan down to a workable and focused set of strategies and actions. However, the reports remain important public records of creative and thoughtful ideas about the future of Cook College and the NJAES, and administrators, faculty committees, and other groups should use them accordingly.

areas ranging from agriculture to youth development.⁵ However, reflecting the fact that they are within the same overall institution, there are several overarching and shared issues that were identified and are described here.

Overarching and Shared Issues

Monitoring and Evaluation of the strategic plan and its assumptions and contexts is extremely important. One of the biggest concerns of faculty, staff, students, and outside stakeholders is whether strategic planning will make any difference. Too often such plans simply collect dust, or they are implemented without much participation and feedback from those affected. Accordingly, our first strategic planning task is to ensure that the two strategic plans make a difference, that there is adequate feedback, and that there are mechanisms in place for amending them as the need arises.

The Cook College Planning Committee, made up of elected members of the teaching, research and outreach faculty (Appendix 4), has the responsibility to present the Steering Committee's strategic plan document to the faculty and stakeholders for review. We propose that they also have the charge of monitoring progress of both the Cook College and the NJAES strategic plans and of reporting annually to the faculty. Moreover, five years after this strategic long-range plan is adopted, the Cook College Planning Committee should initiate a process to consider a new strategic plan for Cook College and the NJAES that reflects changes in our rapidly evolving world, progress to date, and needs of our constituents.

As soon as the strategic plan document is accepted by the faculty, the Cook College Planning Committee should begin working with other committees, administrators, and other units to develop specific frameworks for implementation and evaluation, including who is responsible, specific actions, timelines, and measures of accomplishment.

One of the few structural recommendations of our strategic plans is the creation of a stakeholder-based advisory committee to the Executive Dean of Cook College and the Director of the NJAES. It will monitor and evaluate progress in consultation with the Cook College Planning Committee, which is also advisory to the Executive Dean. This committee will consist of representatives from the agriculture, food, and environment communities; other constituent groups including those that represent related human and community development areas; from the Board of Managers and the Board of Trustees Committee for Cook College; from student leadership; and the Cook/CAES Alumni Association. Whereas the Board of Managers has a legislative mandate to advise on the NJAES, this new committee will have a broader task, incorporating Cook College as well as the NJAES. The Cook College Planning Committee and the Committee on Rules and Procedures should meet with the Executive Dean to design this committee

⁵ See Stephen A. Decter. 1975. "The Authorized Research Mission of the New Jersey Agricultural Experiment Station; A Response to the Report by the New Jersey Office of Fiscal Affairs, September 1975. 54 pp. Typescript.

as soon as this plan has been accepted. Among the advantages of forming and meeting with such a group are that it will formalize the necessary and critical process of involving stakeholders in the planning and operations of Cook College and the NJAES.

The planning process is designed to be flexible and responsive. This planning document summarizes our current thinking and aspirations, but it also includes mechanisms to review, update, and amend the plan. Based on experiences, new circumstances or new opportunities that arise, additional recommendations can and will be made. Any modifications or amendments to the plans can be brought forward by individual faculty, departments and committees, and stakeholders through the Cook College Planning Committee and through the new advisory committee. These mechanisms and procedures will allow for participatory and transparent implementation of the strategic plans.

Engaging the Larger Community is extremely important to the whole endeavor. Another of the strong messages that has come out of the visioning and planning process is the need for stronger interaction and communication between these institutions and their many and highly diverse stakeholders. Consequently, an advisory committee of stakeholders is a key step in the direction of more fully engaging the larger community in the activities and plans of Cook and the NJAES and thereby improving their ability to serve. We also recommend that departments, centers, institutes, and NJAES programmatic areas create similar advisory bodies if they do not already have them, and we offer many other recommendations that involve strengthened linkages, partnerships, and communication with stakeholders as well as institutions outside Cook College and the NJAES.

In this regard, another overarching message is the need for stronger and new partnerships with other units at Rutgers, the state and federal governments, other research and teaching institutions in New Jersey and the larger region, and private businesses and non-profit entities. Neither Cook College nor the NJAES can achieve excellence in education, scholarship and service without partnerships and collaborations with other organizations.

Communication and Outreach are key components of community-building and major foci of the strategic plans. One of the messages we received early in the process from stakeholders was that Cook College and the NJAES are "the best kept secret in New Jersey," a clear signal that communication and outreach are less than they could be. Another signal is the fact that so many of the undergraduate students at Cook College elect majors that have little to do with the college's traditional strengths and mission, suggesting that we have not adequately communicated who we are and what we offer to the young people and families of the state and the region. Legislators and others who influence policy and funding also are not fully informed about our institutions. Moreover, communication is two-way: our teaching, research, and outreach programs can only benefit from greater information and feedback from present and future clientele, stakeholders, and members of the public. In addition, internally there appear

to be troublesome gaps in knowledge about what is being done in research, teaching, and outreach.

Consequently, in both strategic plans we give strong emphasis to the urgency of addressing the need for improved internal and external communication and public outreach. Important recommendations include pulling together resources for a "marketing" study of students, stakeholder groups, and the general public, followed by major efforts to improve communication and outreach to such groups; enhancing the use of the Office of Communication and Public Relations; developing improved databases and computer web-sites that incorporate the latest technology in searchable information and interactive communication; and creating a new faculty standing committee on Communications and Outreach, which will oversee and guide these and other efforts.

Community Building is implied in all of the above strategies. The Steering Committee feels that it is the single most important way to achieve the vision and goals of Cook and the NJAES. There are many ways that this will happen, including interactive processes such as this visioning and planning initiative. Greater attention to the importance of helping faculty and staff learn about the history, values, mandates, and programs of the two institutions is another way recommended in both plans. We explicitly recognize the importance of culture, of shared knowledge, values, and symbols of identity and purpose. Yet another is designing awards, creating endowments, and guiding merit pay and promotion processes to reward people for community-building activities such as, for instance, leadership service; teamwork in multidisciplinary research and outreach programs; and working closely with students to enrich their undergraduate and graduate experiences. Processes such as the development and use of "social contracts" whereby members of the faculty agree upon expectations and obligations, rights and responsibilities, can also be community-building as well as helpful in restoring some flexibility to the system. Creating events where faculty, students and staff can come to know each other socially as well as professionally is community building. More generally, our intent is to emphasize the need for changes in culture that lead to the communication and trust that constitute the foundation for collaboration and team-building. Collaboration and team building are necessary to help us achieve the goals of excellence and service that are central to Cook College, the NJAES, and Rutgers.

Culture versus Structure: In the strategic plans that follow we have stopped short of recommending specific changes in the administrative and departmental structure of the Cook College and NJAES system even though creative ideas for such changes arose during the strategic planning process. We advocate a more incremental approach and recognize the role of the incoming Executive Dean in designing administrative structure. These strategic plans focus more on mechanisms that will positively impact the culture of the organization, our actions, and our abilities to carry out our missions than on organizational changes.

The three structural changes we do recommend are the greater incorporation of outside

stakeholders through the advisory group mentioned above; the development of a strong "programmatic" emphasis in the organization and administration of the NJAES research and outreach activities, described in the NJAES strategic plan that follows; and a change in the Cook College by-laws to create a standing committee on communications and outreach because of the major need for improvement in that area, as explained in the Cook College strategic plan that follows.

Conclusion

Finally, the strategic plans are intended to provide a compass for the future. They are not intended as substitutes for detailed annual operating plans. They do not detail all the initiatives, programs, and activities that Cook College and NJAES will undertake in the course of serving our students, clientele, and other stakeholders. Nor can they foresee changes to the underlying assumptions on which key strategic choices were based. Instead, the Cook College and NJAES strategic plans identify what we think we must do in the near future to be successful in achieving our mission and vision, given what we know now and what we can imagine about the future.

February 16, 2001

The Steering Committee for the Visioning and Planning Initiative

Co-Chairs:

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Daniel Kluchinski, Department of Agricultural and Resource Management Agents

Adesoji Adelaja, Dean/Director of Research, Cook College and NJAES

Committee Members:

David Bart, Graduate Student, Dept. of Landscape Architecture

Stacy Bonos, Graduate Student, Dept. of Plant Science

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Jim Etsch, Board of Managers

Maurice Hartley, Dept. of Agriculture, Food, and Resource Economics

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Strategic Plan for Cook College

Introduction and Background

Cook College⁶ is the Land Grant college of Rutgers, The State University of New Jersey. It was created in 1973 and named in honor of George Hammel Cook (1818-1889), a renowned geologist and teacher at what was then called the Rutgers Scientific School. Cook College expanded the focus of its predecessors, including the College of Agriculture and then the College of Agriculture and Environmental Science. From 1973 to 1982 Cook was a multi-purpose college that offered liberal arts curricula such as chemistry and anthropology as well as specialized programs related to agriculture, food, natural resources, and the environment. It was designated a professional school by the Board of Governors of Rutgers in 1982 as part of a major reorganization of the New Brunswick campus. As a professional school, Cook refocused its curricula on the land grant mission of educational scholarship designed to develop knowledge and skills that will enable students and the public to address challenges facing society in the areas of agriculture, food, the environment and natural resources.⁷ In contrast to the other colleges of Rutgers at New Brunswick, which are now served by a central Faculty of Arts and Sciences, Cook College has its own faculty as well as student body.

Cook College is closely affiliated with the New Jersey Agricultural Experiment Station (NJAES), which is mandated by the State to conduct mission-oriented research and outreach to address the needs of its residents as they relate to agriculture, natural resources and human and community development. Although they are technically separate institutions, Cook and NJAES (which includes Rutgers Cooperative Research, RCR, and Rutgers Cooperative Extension, RCE) are part of a national Land Grant system of colleges and universities that, by virtue of the 1862 Morrill Act, have a mission and mandate to serve residents, businesses, and communities through teaching, research and outreach.

Faculty, staff, and students are the core of Cook College's community. There are about 210 on-campus faculty appointments, and about 3,100 undergraduate and 460 graduate students. About 160 faculty members are partly or fully supported by the Cook teaching budget (in most cases, the faculty lines are divided into IDR [Instruction and Departmental Research] and AES components). Another 50 on campus are supported entirely from other sources.⁸ In addition, 120 faculty are associated with

⁶The term Cook College refers to the administration, faculty, staff, and students at the Cook campus of Rutgers who are involved in teaching, research, and outreach. In this plan, we have separated it from the New Jersey Agricultural Experiment Station (NJAES) because of somewhat different, although often intertwined, mandates, missions, and budgetary sources. However, we must emphasize that most of the administration, faculty, and staff play some part in the NJAES.

⁷The Cook College Planning Committee developed the statement about Cook as a professional school in 1999.

⁸ The number of faculty involved in the teaching program does not map exactly on the allocation of resources. Most faculty are on "lines" that have more than one budgetary source. As of January 2001

Rutgers Cooperative Extension and Rutgers Cooperative Research and funded through combinations of federal, state, and county contributions. All faculty are involved in teaching, scholarship, and service, although the specific weights vary.

Cook College, as part of Rutgers, The State University of New Jersey, performs the three functions of teaching, scholarship, and service. It does this through its various instructional, research, and outreach programs, some of which are also part of the research and extension components of the NJAES.

Education

A primary function of Cook College is educational: the personal and professional development of its students in a small college campus setting within the larger New Brunswick campus of Rutgers; and the instruction that takes place off-campus through the efforts of Rutgers Cooperative Extension (RCE) and through the Office of Continuing Professional Education (OCPE). The faculty at Cook College consider education so central to the college's mission that in 1993 they adopted, "A Commitment to Instruction," which includes the expectation that all campus-based faculty participate in some way in the undergraduate and/or graduate teaching programs.⁹

The On-Campus Teaching Programs

As of fall 2000, 92 percent of Cook's undergraduate student body were full-time students, 61 percent of who lived on campus in dormitories, apartments, or the cooperative Helyar House. As is true for Rutgers in general, the huge majority of Cook undergraduates (93 percent) are New Jersey residents. The student body is diverse: In the fall of 2000 about 67 percent of the Cook undergraduates were classified ethnically as White, 14 percent as Asian, 6 percent as African-American, 6 percent as Latino, and the remainder as "Other" or "Unknown." The gender ratio was about 49 women to 51 men. Cook's undergraduate and graduate instructional programs are closely tied with the rest of Rutgers. Cook students, like other Rutgers students, take many of their courses on other campuses and/or with faculty from other units. In this and other ways they are part of the larger Rutgers community. In recent years about one-third of the instruction of Cook students has been done by Cook faculty.¹⁰ The Cook faculty also

there were 95.48 occupied Instruction and Departmental Research faculty lines, 58.93 Agricultural Experiment Station lines, and 11.80 SBR (Separately Budgeted Research) lines. These figures do not include Rutgers Cooperative Extension. The number of budgeted faculty lines is considerably higher (117.5 for IDR), as some are committed for faculty searches and used to hire part-time faculty. Individual faculty positions may have combinations of line resources from both the College and Experiment Station.⁹"A Commitment to Instruction; A Social Contract Developed and Adopted by the Cook College Faculty, Spring 1993," 8 pp. Modes of participation include teaching lecture or laboratory course(s), supervising practica, or participating in other experiential learning opportunities. This "contract" specifies expectations for faculty on IDR lines, for department chairs, and for deans.

¹⁰ Equivalent Credit Hours (ECHs) are the measure; prior to reorganization in 1982 up to 60% of the ECHs were generated in courses taught by Cook faculty. This has declined, particularly since 1993, and has recently stabilized in the range of 35-36%. However, non-Cook students also enroll in courses taught

teaches large numbers of students from other colleges at the New Brunswick campus of Rutgers.

Twenty-four bachelor's degree programs, many with several areas of further concentration ("options"), are available to Cook College undergraduates (Table 1).¹¹ Cook has administrative responsibility for 9 graduate programs (Table 2), although Cook faculty also teach and supervise students in several other graduate programs in the University. During 1999-2000, 58 percent of the 460 graduate students involved in the Cook-administered programs were full-time students. Of these full-time students, 46 percent were international students. The gender ratio for full-time students was 53 women to 47 men.

Faculty are responsible for the on-campus teaching program, and they exercise this responsibility through their courses, the development of curricula, their departments and curriculum committees, and the college-wide Academic Forum. Faculty play a major role as members of standing committees that review and implement policies, including among others Curriculum and Educational Policy, Admissions and Scholastic Standing, Student Life and Services, and the Cook College Planning Committee.

The Programmatic Areas of Cook College

To implement Rutgers' Land-Grant mission, Cook's undergraduate and graduate programs are designed to promote the study of challenges facing society in the areas of agriculture, food, the environment and natural resources. This is accomplished through the integration of the life, earth, and physical sciences with the social sciences and humanities and by using conceptual frameworks that explore human interactions with the earth's system. Cook College emphasizes the roles of interdisciplinary and liberal arts instruction and practical experience in an undergraduate professional education. Following the 1993 curriculum review by the faculty, the curricula are designed to include not only competence in a field of concentration, but also in relevant quantitative skills, computer competence, and professional ethics; interdisciplinary/ethical analysis; introductory life and physical sciences; the arts; human diversity; economic and political systems; oral and written communication; and experience-based education.

A Cooperative Education program offers students the opportunity to gain on-the-job experience related to their majors and career goals. Faculty and peer advisors provide strong support to students. The Dean of Academic and Student Affairs directs the following services: undergraduate and graduate curriculum planning, academic advising and services, counseling, EOF and special programs, honors programs, career

by Cook faculty. As of the fall of 2000, about 77 percent of the ECHs generated by Cook faculty represented teaching provided to Cook students; the rest were to non-Cook students.

¹¹ The curricula offered at Cook College are indicated in Table 1. However, in recent years, at any given time a large percentage of the undergraduate students at Cook have not indicated their choice of curricula because they are waiting for entrance into programs that are restricted, such as Computer Science.

development programs, and all student life and leadership development activities.

Off-Campus and Continuing Education Teaching Programs

Teaching is also part of the mission of the New Jersey Agricultural Experiment Station (NJAES). Within the NJAES, Rutgers Cooperative Extension personnel in New Jersey's counties teach over 500,000 people a year in many ways. Examples are one-on-one consultations at the homes, farms, and businesses of New Jersey residents; through educational programs, demonstrations and research; via home study courses and technology based teaching methods; the training of volunteers; the creation of fact sheets and other written educational materials, videos and computer web-sites; and also on-campus participation in teaching.

The Rutgers' Office of Continuing Professional Education has its roots in the Short Course program developed at the New Jersey College of Science and Agriculture in 1906, when the first course taught 22 farmers. Today the program has expanded, annually teaching 15,000 professionals from around the world in courses on topics such as agribusiness, environmental management, life sciences and youth development.

Scholarship

As part of a major research university, Cook College strives for excellence in scholarship. Scholarship is expressed in many ways within the activities of instruction and outreach as well as research (Appendix 5).

Research is conducted through the 13 "discipline" departments (Table 3) and the multidisciplinary centers and institutes, including outlying research and extension centers (Table 4). The research mission of Cook College includes but also extends beyond the mission-oriented and problem-solving research contributions to New Jersey that are emphasized by the NJAES, which focus on agriculture, food, natural resources, the environment, and related human and community development issues. The research expertise of Cook faculty and students is also directed at other scientific and policy questions and at regional, national, and international as well as state and local issues and clientele.

The research done by Cook College faculty ranges from very basic inquiries in the life, physical, and social sciences to developmental and applied research programs. In addition to general University and NJAES funding, faculty support their research endeavors by aggressively competing for external grants and contracts. Cook College faculty were successful in obtaining approximately \$36 million in grants and contracts during AY1999. Through the licensing of intellectual property, Cook faculty generated \$2.8 million in royalty payments to the University. Cook College faculty often work closely with faculty in other units at Rutgers as well as in partnership with researchers at other institutions in the region, exemplified in the Mid-Atlantic Consortium, co-sponsored by the W.K. Kellogg Foundation. Directed by the Dean of Research, the Office of

Research provides leadership and administrative support for research at Cook, including the areas of technology transfer, intellectual property, grants and contracts coordination, and oversight of research centers (Appendix 5). Cook's research facilities, infrastructure, and specialized centers and institutions attract scholars and students from around the world.

Cook College also encourages and values the participation of undergraduate and graduate students in research and outreach endeavors. This is one of the ways that scholarship interacts with instruction. Scholarship is expressed through teaching and outreach as well as research. The activity of teaching, and its correlate, learning, can be the subject of scholarship as can be the activity of outreach, or serving broad and diverse constituencies. Rutgers is unusual among the nation's land-grant universities in the degree to which Cooperative Extension is incorporated into the faculty. It is thus not surprising that Rutgers now recognizes the scholarly attributes of outreach in the appointments and promotion process.

Service

As part of Rutgers we share the commitment to "Serve our communities, our state, our nation and the international community" (Rutgers University Vision, 1999). All Rutgers faculty are expected to achieve high standards not only in education and scholarship but also in service to one's profession, to one's department and unit, to the university, and to communities outside the university and professions.

Service denotes all of the ways that faculty serve others; outreach is one of the methods or activities used to provide service. All faculty are expected to orient their teaching and research toward the goal of service insofar as their pursuit of improved knowledge and understanding of the natural and social worlds may contribute directly or indirectly to the development of solutions to problems in food, agriculture, natural resources, and the environment. More specifically, Cook faculty have served various communities through their research, as for example in the role of research in biotechnology in developing technology for New Jersey industries, and the role of research on risk communication and human behavior in developing more effective private and public protocols for public health and safety. In addition, because of the close involvement of Cook faculty with constituents, the faculty are often uniquely positioned to serve on state, national, and international scientific committees and advisory boards.

Outreach has particularly strong importance at Cook, given its Land Grant mission. Through RCE and other means of outreach, the "Cook community" expands to the State, region, and beyond to other nations. Constituents and partners in Cook's teaching, research, and outreach mission include farmers and fishers, educators, government agencies, businesses, non-profit organizations, consumers, media specialists, environmentalists, and general members of the public.

Service and outreach are given administrative support in several ways. The Dean of

Outreach and Director of Rutgers Cooperative Extension oversees the work of Rutgers Cooperative Extension and OCPE as well as more general outreach activities of the College and the NJAES (Appendix 5). The Office of Communication and Public Relations helps the Executive Dean of Agriculture and Natural Resources provide outreach and recognize the service activities of faculty, students, and staff.

Cook College Vision Statement

The Cook College vision statement is:

"Cook College shall be known throughout New Jersey and beyond as synonymous with solutions and will be one of the best institutions in the nation for scholarly research and education in areas related to food, agriculture, natural resources and the environment, particularly at the rural-suburban-urban interface."

Cook College shares with the larger University "A commitment to excellence," seeking nothing less than to become one of America's very best institutions of higher education.¹² Cook's vision statement adds its special focus on food, agriculture, natural resources, and the environment, as well as the importance of applying its talents and resources to develop solutions to problems faced by people working in those areas, particularly in the context of landscapes and communities at the interface of rural, suburban, and urban development, as is typical of New Jersey.

Cook College Mission Statement

The mission statement agreed upon by the faculty in October 2000 is:

"Integrating research, teaching and outreach to respond to issues and challenges in agriculture, food systems, environment and natural resources, and human and community development, in order to empower people to improve their lives, the lives of others, and the environments on which they depend."

Cook College also shares the following University missions:

- *"Creating knowledge and ideas for the improvement of the human condition"*
- *"Preparing students to meet the needs of a changing society and encouraging their personal and professional growth."*
- *"Advancing the well-being of our communities, state and nation."*

¹² The Rutgers University vision statement can be found at the Rutgers web-site, www.president.rutgers.edu/vision.html. Its executive summary was published in the *Rutgers Newsletter*, December 3, 1999.

Guiding Principles

In seeking to attain excellence and carry out those commitments, Cook College embraces the guiding principles depicted in the Introduction (pages 3-4) as well as the following guiding principles, which were identified in the Rutgers vision statement of December 1999:

- *“Sustain the highest standards in learning, discovery and engagement with our constituents.”*
- *“Serve our communities, our state, our nation and the international community.”*
- *“Attract, welcome, develop and retain outstanding students, faculty, and staff.”*
- *“Encourage the open and civil exchange of ideas and perspectives.”*
- *“Provide superior curricular and co-curricular opportunities for students at all levels.”*
- *“Educate exceptional leaders and citizens [and all residents] for future generations.”*
- *“Foster a supportive and collaborative social environment, and a community dedicated to respecting and valuing diversity.”*
- *“Maintain a safe, clean and attractive physical environment.”*
- *“Maintain accessible, responsive and cost-effective programs and services.”*
- *“Dedicate our learning community to ongoing self-assessment and unceasing improvement of all that we do.”*

Cook College Five-Year Goals

To pursue the long-term vision for Cook College and to improve performance on our mission, the following major goals have been identified for the next five years:¹³

- A faculty that embraces a shared vision and a commitment to the sense of community underlying that vision.
- Improved impact and visibility of Cook College educational and research programs at state, national, and international levels.
- A student body that shares the institution's vision and mission and is enthusiastic about participating in its instructional and other activities.
- Improved undergraduate and graduate teaching, which incorporates new knowledge and uses new technologies and educational methodologies.
- Expanded support for graduate students and faculty scholars.
- A faculty whose activities reflect increased integration of teaching, research, and outreach, as well as interdisciplinary teamwork.

¹³ The goals and strategies outlined in this document build upon the work of five Strategy Teams (Appendix 2). The Steering Committee worked with the Strategy Team chairs to identify the key goals and strategies, but the Strategy Team reports include others as well and are to be used as needed by various groups during the period of this strategic plan.

- More partnerships and stronger ties with alumni, the business community, government officials, the private non-profit community, and others whose experiences and interests fit the mission of Cook College.

Strategies for Achieving Cook College Goals

The following key steps are proposed to move Cook College toward its vision of recognition as the premier institution of its kind over the next five years and, together with NJAES, as “synonymous with solutions:”

- Enhance the internal and external visibility of Cook College's teaching, research and outreach programs.
- Focus the programs of study at Cook College to those integral to the Cook College mission; have greater input to both the recruitment and enrollment of students at Cook.
- Evaluate and enhance the nature and quality of the undergraduate and graduate student experience at Cook College.
- Ensure the timely and effective incorporation of new knowledge and the adoption of appropriate educational methodologies and technologies into the learning experiences of students, and improve teaching and research facilities.
- Develop and implement an improved system for hiring faculty, new faculty orientation, and continuing faculty development.
- Enhance and reward the integration of teaching, research and outreach and interactions across disciplines.
- Expand funding for Cook programs from internal and external sources.

For each of the strategies above, specific steps are presented below.

Enhance the internal and external visibility of Cook College teaching, research, and outreach programs.

- Implement a study of how the College is perceived by its members, stakeholders, and the public, in terms of its teaching, research, and outreach missions, and use the results to design a proactive outreach effort to attract students and faculty and to enlist the participation and support of stakeholders and the public.
- Encourage departments and centers to establish scientific displays and/or tours throughout the year and at special events such as Ag Field Day.
- Promote increased demonstrations and lectures on controversial or future trends on topics of particular concern to New Jersey.
- Strengthen relationships between Cook College and its alumni through an alumni action plan and creation of a Cook campus office and liaison for the

Cook/CAES Alumni Association.¹⁴

- Increase the authority, responsibility, and resources of the Office of Communications and Public Affairs at Cook College to improve public relations, including the development of e-mail address lists for ready communication with constituents.
- Establish, maintain and promote a redesigned Internet Web site highlighting relevant research and research products at Cook College; create greater consistency among departmental, institute, and other sites; and develop a searchable database with linkages to other sites that establishes Cook as a “gateway” to information about the core areas of agriculture, natural resources, the environment, and the well-being of people and communities.
- Create a new standing committee of the faculty on communications and outreach which has oversight and works with the Office of Communications and Public Relations, the deans, and others to achieve the above goals.

Focus the programs of study at Cook College on those integral to the Cook College mission; have greater input to both the recruitment and enrollment of students at Cook.

- Move forward through appropriate channels with the elimination of academic curricula that are not sufficiently integral to the Cook College mission and the creation of more appropriate alternatives (such as computer courses for Cook-based curricula).
- Strengthen and create new undergraduate and graduate academic curricula that are integral to Cook College's mission, including curricular offerings that may be offered in conjunction with other units at Rutgers such as environmental engineering, environmental policy, youth development, etc.
- Revise current recruitment and admissions procedures so that high schools, community colleges, and other institutions and the general public are better informed about Cook College undergraduate programs, and so that the students who enroll in Cook College are those who are genuinely interested in the curricula offered by the college.
- Carry out a study, based on interviews and other context-sensitive methods, of how present and recent students perceive Cook College and its facilities and curricular offerings, as well as a larger marketing study of the potentials for undergraduate and graduate training. This should be part of the study done to enhance visibility.

Evaluate and enhance the nature and quality of the undergraduate and graduate student experience at Cook College.

- The above mentioned study should include an evaluation of students’

¹⁴ CAES refers to the College of Agricultural and Environmental Sciences, which preceded Cook College, 1965-1973.

satisfaction with various aspects of their curricular and extracurricular experiences at Cook College, including their sense of integration into the college community. Anticipated pressures to increase enrollments and competition from distance learning, non-traditional universities, technical institutes, and Internet-based course offerings add urgency to the need to address the quality of the academic experience and student life at Cook College for students at all levels: undergraduate, graduate and post-doctoral.

- The initial evaluation, which should be undertaken within the first five years of this Strategic Plan, will be followed by a similar study in year four or five to assess the effectiveness of changes made at Cook College in the interim.
- Once the initial evaluation is done, the Dean of Academic and Student Affairs should lead a committee of curriculum coordinators, graduate program directors and student representatives in developing measures to improve the nature and quality of the undergraduate, graduate and post-doctoral experience, both curricular and extracurricular. Follow are needs identified in the planning process that are likely to surface from the evaluation:
 - Improving the integration and coordination of courses across curricula.
 - Bringing real world learning experience, including research and outreach, into the classroom.
 - Improving mentoring and other mechanisms to ensure academic success and incorporation into the scholarly community of the college.
 - Changing curricula and teaching scheduling courses to improve the likelihood that undergraduate students will complete their coursework in a reasonable period of time.
 - Addressing the preparedness of incoming students to reduce placement in remedial courses; building on existing efforts to work with the K-12 community; and to improve training programs for high school science teachers.
 - Improving the opportunities for graduate students to gain meaningful teaching experiences as Teaching Assistants or instructors in disciplinary and/or interdisciplinary courses.

Ensure the timely and effective incorporation of new knowledge and the adoption of appropriate educational methodologies and technologies into the learning experiences of students, and improve teaching and research facilities.

- Because we live in an era of rapid and profound developments in science and technology, curriculum reviews and reformation should be a regular and on-going process. The task of evaluating and updating curricula is primarily the responsibility of the curriculum faculty. The departments should be reminded of the importance of and need for carrying out tasks in effective and timely ways.
- The College should seize opportunities offered by developments in computing and communications technology, making every effort to be at the forefront of incorporating it into undergraduate and graduate curricula. Departments should develop specific plans to do so with the help of the College and Curriculum Committees; reviewing how these technologies can provide novel mechanisms for information transfer and access, combined with student-student and student-teacher interaction; and how they can “reinvent” the learning experience within the context of a traditional residential college, including but not limited to distance learning and continuing education.

Develop and implement an improved system for hiring faculty, new faculty orientation, and continuing faculty development.

- Develop a long-term hiring plan that takes into account the college-wide needs of instruction, research and outreach, as well as department and curricular needs. The college-wide needs are framed by the land grant mission of developing knowledge and skills to address challenges in the areas of agriculture, food, the environment, and natural resources, and related issues in human and community development (see the NJAES strategic plan for further definition of these areas). Such a hiring plan should be designed in a fashion that strengthens multidisciplinary interactions and interdepartmental cooperation, and allows for timely initiation of recruitment.
- Encourage standardization of departmental search protocols across the college.
- Accelerate the decision-making on new hires so that the search process can commence early and Cook’s competitiveness in searches can be improved.
- Provide an orientation for search committee chairs during each recruiting cycle.
- Communicate the central importance of teaching at Cook College to all candidates for faculty positions. This can be done in several ways, including acquainting them with the document "A Commitment to Instruction" and asking them to give a teaching as well as research seminar.
- Create and provide an orientation program to each cohort of new faculty hires.
- Encourage faculty development programs directed towards enriching teaching and grant writing skills and leadership and reinforcing a sense of shared commitment.
- Appoint mentors or mentoring committees for all incoming faculty, which should help faculty balance teaching, research and outreach demands, identify research grant sources and review grant proposals, and develop and evaluate new programs.

Enhance and reward the integration of teaching, research and outreach and interactions across disciplines.

- Formulate more specific criteria for the recognition of certain outreach activities as scholarship (for example, teaching in Continuing Professional Education courses), as well as the service dimensions of scholarly and teaching activities.
- Examine how research and Extension faculty can be more fully integrated into the formal educational mission of the college, and vice versa, and how such involvement can be facilitated and rewarded.
- Foster the evolution of viable crosscutting programs of teaching, research, and outreach, in collaboration with the NJAES (see Strategic Plan for NJAES).
- Schedule a symposium each fall highlighting the activities of all of the departments and centers.
- Increase support for multidisciplinary seminar series.
- Develop a web-based research directory and coordination and support for departmental web pages.
- Encourage teaching and research faculty and county-based Extension agents to meet at least once a year.
- Explore the possibility of more formal ties between Extension agents and discipline departments in order to strengthen links between outreach, teaching and research.
- Expand opportunities for students to be engaged in research and outreach.

Expand funding for Cook programs from internal and external sources.

- Press the Central Administration for increased support for the teaching, scholarly research, and service missions of Cook College, commensurate with their contributions to the mandates and goals of Rutgers. This should be backed by an analysis of trends in faculty line and other support for the missions of Cook College and of demand for services, including expected demographic increases in the college-age population.
- Establish and support teams of administrators and faculty, working with the Rutgers University Foundation and the Cook Development Office, to generate interest among former students, the general public, and/or industry in creating endowments to support scholarships, fellowships and endowed chairs.
- Generate increased corporate and public support for graduate programs and research.
- Strengthen the capacity of the Cook Development Office.
- Give budgetary priority to increased staff support for the development of interdisciplinary teams and preparation of large training and research grants.
- Improve the marketing of Cook and NJAES intellectual property and research capabilities in order to increase internal and external support for research.

Framework for Monitoring Progress Toward Cook College Goals

As outlined in the introduction, the Cook College Planning Committee shall be the monitor of progress toward carrying out the strategies outlined above. Within the first year after acceptance of this strategic plan, each administrative unit or committee charged with responsibilities for the attainment of the Cook College goals shall inform the Committee of specific strategies, the persons/groups responsible, the action steps, the time table, indicators of achievement, as well as reports on progress to date. Subsequent reports will be required and made public through the various forums available, including e-mail. It is anticipated, for example, that the program deans shall provide oversight of the activities and progress made toward goals of Cook College, and inform students, faculty, staff and the broader community of stakeholders directly and through the Cook College Planning Committee. For particular strategies, other committees may be involved as well as undergraduate, graduate, and post-doctoral student representatives. Monitoring will also be done by a new body, an advisory committee for Cook College and the NJAES that will have representatives from the major stakeholders, as explained in the Introduction (pages 5-6).

Challenges to the Achievement of the Cook College Five-Year Goals

Successful implementation of this strategic plan will depend in large measure on a faculty that embraces a shared vision and a commitment to the sense of community underlying that vision and faculty. It will also depend on faculty, student, and administrative leadership, and support from alumni and other partners outside the university. Addressing communication needs is thus an essential step.¹⁵ Also critical to its implementation will be the availability and flexibility of resources to support necessary changes and enhancements. Some changes are achievable through the reallocation of existing resources. However, a simple reallocation will not be sufficient to support the ambitious goals established above. Cook College goals mesh well with those of the university, and thus a strong case can and should be made for additional support from the central administration of Rutgers.

A related issue is the relationship between Cook College and NJAES. Limited IDR resources have resulted in an inordinate reliance of departments and centers on NJAES resources to perform basic support functions including administration, secretarial, bookkeeping, and computer support, and grant preparation and management. Consequently, NJAES resources are subsidizing teaching and research activities. As AES resources decline nation-wide, as Cook College IDR resources are being stretched, and as state and federal governments demand more accountability, the situation calls for more explicit delineation of how IDR, AES, and other resources should

¹⁵ The reports of the strategy teams for "Communications and the Engaged Community" and "Teaching and the Learning Community" should be consulted for further recommendations in this regard. These and the other strategy team reports are available at the web-site www.cookvision.rutgers.edu.

be used. This has been strongly recommended by the Cook College Planning Committee and should lead to improved allocation of resources from the central administration of Rutgers commensurate with the scope and quality of Cook College's programs.

Another issue that must be confronted by the faculty, administration, students and stakeholders concerns the breadth of undergraduate curricular offerings: whether as a whole they will more closely reflect the Land-Grant mission of Cook College and the NJAES as a "professional school," or whether the scope of the offerings should be broadened further. If it is to be the former, then new directed efforts must be undertaken by the College and the University Admissions Office to market the college's programs and identify, recruit and admit students whose predominate interests lie in the programs of the Cook faculty, and whose pre-college preparation argues for a successful undergraduate student experience.

Strategic Plan for The New Jersey Agricultural Experiment Station

Background and History

The New Jersey Agricultural Experiment Station (NJAES) is mandated by the State and Federal governments to conduct research and outreach to address the needs of New Jersey residents as they relate to agriculture, natural resources, and human and community development. Closely affiliated with Cook College, the Land Grant College¹⁶ of Rutgers, The State University of New Jersey, NJAES is a unit of Rutgers funded separately and directly by the State Legislature. Founded in 1880, it is the third oldest experiment station in the United States. The two functions of the NJAES are to conduct research and assist residents of the state to put this knowledge to work.

The research arm of NJAES, referred to as Rutgers Cooperative Research (RCR) in this plan,¹⁷ represents a partnership between the United States Department of Agriculture (USDA) and the State of New Jersey. Among the Station's many important research accomplishments are the discovery of the antibiotic streptomycin which cured tuberculosis; pioneering work in mosquito control; artificial insemination techniques for dairy cattle; the development of highly successful plant varieties including the Rutgers Tomato, asparagus, turf grasses and hybrid dogwoods, and the development of novel farmland and open space policies. RCR supports approximately 150 Rutgers faculty in 13 discipline departments,¹⁸ thirteen interdisciplinary centers on the Cook College campus, and seven field stations located across the state (Tables 3 and 4). The Director of Rutgers Cooperative Research, who is also Dean of Research at Cook College and the NJAES, directs the research program of the NJAES.

The Director of Rutgers Cooperative Extension is in charge of Rutgers Cooperative Extension, the outreach program of the NJAES. (In the capacity of Dean of Outreach, s/he also directs the Office of Continuing Professional Education and has some responsibility for other college and NJAES programs that reach out to and engage the larger public). Cooperative Extension joined the research component of the NJAES in 1914 with passage of the federal Smith Lever Act and state and local legislation.¹⁹ RCE

¹⁶ The federal Morrill Act established Land Grant Colleges in 1862, which endowed the state land-grant colleges and universities with 11 million acres of public land for use in the United States to teach "agriculture and the mechanic arts." In 1863, the New Jersey legislature accepted these provisions and the Rutgers Scientific School was designated the "State College for the Benefit of Agriculture and the Mechanic Arts." The Agricultural Experiment Station was founded in 1880.

¹⁷ This strategic plan recommends adopting Rutgers Cooperative Research (RCR) as the name for the research arm of NJAES, paralleling Rutgers Cooperative Extension as the outreach arm, to enhance the visibility and clarify the structure and functions of NJAES. The marketing study proposed in this plan will assess the advantages and disadvantages of this and alternative forms of identity for the research arm of the NJAES as well as RCE and the larger entity of Cook College and the NJAES.

¹⁸ Most of the faculty also receive support from other sources, particularly the Instructional and Department Research lines allocated to Cook College by Rutgers, The State University.

¹⁹ The first organized extension-type work in the state was when the New Jersey State Board of

is a continuing partnership with the U.S. Department of Agriculture, the State of New Jersey, and County Boards of Chosen Freeholders. RCE assists in the transfer of research from the laboratory and field to people through educational and technical assistance programs that help them to solve problems and gain skills needed to improve their lives, businesses and communities. RCE specialists, agents and educators also conduct research relevant to the needs of this clientele. RCE faculty and staff deliver educational programs through local Extension offices in all 21 counties of the state. These programs involve current and emerging issues in agriculture, fisheries and aquaculture, environment, natural and financial resource management, youth development, nutrition, child and elder care issues, and life skills development. Annually over 500,000 contacts are made by various methods including one-on-one instruction, classes, phone consultations, and newsletters and other media.

The basic philosophy behind the existence of the NJAES and the state/federal/county cooperative funding for its research and outreach mandates is that it is an important and necessary infrastructure for the state of New Jersey. The mission-oriented research and outreach programs address pressing needs and problems of the state that would not be addressed otherwise. These include the needs of communities, businesses, and families dependent on agriculture, fishing, and other areas of primary production and the larger food system. They include more general public needs for assistance in landscaping, gardening, land-use planning, and environmental protection. They also include the needs of populations, communities, and families for help in dealing with financial, nutritional, health, and environmental risks and stressors. Because of its uniqueness, New Jersey has gone farther than any other state in expanding the traditional Land Grant focus on agriculture and rural communities to urban and suburban communities and to new areas of critical concern such as the environment and overall quality of life.

NJAES Programmatic Areas

One of the recommendations of this strategic plan is to clearly identify and build upon programmatic areas within NJAES. This section reviews the four primary areas that were identified through the visioning and planning process:

- Agriculture and Food Systems;
- Environment and Natural Resource Systems;
- Food, Nutrition and Health; and
- Human and Community Development.

Agriculture was established under an act in 1872, which provided for lectures before the board at its annual or other meetings. This was soon supplemented by the organization of county boards of agriculture, some of which began to hold meetings resembling farmers' institutes about 1875. At Rutgers, Professor Voorhees began early agricultural extension work in 1891 by providing courses on soils and crops, feeding plants and animal nutrition. During this period similar actions were taken in states across the U.S. With the passage of the Smith-Lever Act in 1914, Cooperative Extension became a nationwide program.

The programmatic areas are discussed below in terms of historical and near-future areas of expertise as well as future directions. Future directions were indicated by input from major NJAES clientele communities, multi-stakeholder meetings and strategy teams, and other sources of information about emerging needs in the state and nation. The following discussion serves the purpose of providing more detail about the current and future activities and programs of the NJAES. It is followed by the strategic plan.

Although human and community development is identified as a separate thrust area, it is agreed that in all areas the needs of humans and their communities are paramount. Therefore, within each of these programmatic areas, greater emphasis than in the past should be placed on social, human, business and economic dimensions. These have become prominent aspects of the mission of the NJAES as well as of mission oriented research and outreach systems worldwide. Specific descriptions of these thrust areas, the rationale for them, and the goals and foci of each are presented below.

Agriculture and Food Systems

Agriculture is New Jersey's largest industry complex with over 350,000 workers and over \$60 billion in sales. The food industry plays a key role in the overall performance of the state's economy. Therefore agriculture's preservation, enhancement and viability are critical issues of state concern. In addition, agriculture provides ancillary benefits to the environmental and economic health and quality of life, through air and water recharge, open space preservation, retention of rural character, maintenance and enhancement of the environment and natural resources, and economic development.

New Jersey's location in the midst of one of the world's great metropolitan areas poses special challenges to agriculture and the entire food system. The competitiveness of farming and the high-risk profile of agriculture call for public intervention through research and education. The NJAES must help New Jersey agricultural and food systems adapt to an increasingly urbanized environment. The NJAES must also help them maintain profitability and viability, and to effectively compete in a competitive global market. New technologies and innovations developed by the NJAES must capitalize on advantages and offset disadvantages inherent in New Jersey, provide a competitive advantage for the state's agricultural and food producers, enhance sustainability, and contribute to the quality of life.

To remain competitive and sustainable, New Jersey's agricultural and food system will need new or unique markets, products, uses of existing products, and production practices. At the forefront of NJAES programs in agriculture and food systems will be the development of new high value niche and specialty products; new products targeted toward emerging markets; organic and integrated crop management based products; products targeted toward New Jersey's growing ethnic populations; turf, nursery and floricultural products; nutraceutical products targeted toward health improvement; pharmaceutical crops and animal products that take advantage of the strong presence

of pharmaceutical firms in New Jersey; genetically-improved products; and other products that are compatible with the New Jersey environment and that capitalize on New Jersey's unique advantages. These innovations will be disseminated through creative business formation, innovative business enhancement strategies, and transfer of proprietary technologies to producers. The development of new strategies and policies for land use, agro-recreation, agricultural retention, farmland preservation, natural resource conservation, waste management, nutrient and water management, and farm management will maximize the contributions of agriculture and the food system to the environment and quality of life.

The overall goals of NJAES programs in agriculture and food systems are to develop, transfer and disseminate new innovations and technologies to foster an agricultural and food and fiber system that is highly competitive and sustainable, and to foster greater harmony between agriculture, the food system, and the environment. These will be accomplished via initiatives and programs conducted by the vast infrastructure which constitutes the NJAES. These include the various commodity and industry working groups and teams in tree fruit, small fruit, nursery and ornamentals, turf, vegetables, equine, aquaculture, nutraceuticals, livestock, field and forage crops; the various campus based departments and centers; the specialized outlying stations; and the county Extension faculty and staff across the state (Tables 3 and 4).

Environment and Natural Resource Systems

Environmental and natural resource problems are very pressing in New Jersey because of its dense population and industrialized and urbanized landscapes. The NJAES is unusual among the nation's experiment stations for its long history of responding to such problems, in addition to the classic areas such as agronomy, horticulture, animal husbandry, and soil science. NJAES research on shellfish biology and culture began in the late 1880s, and research on sewage treatment and disposal in 1917, in both cases leading to specialized departments.²⁰ Reflecting the growing importance of waste management, pollution control, fisheries and forestry, and other environmental areas, in 1965 the school associated with the NJAES became known as the College of Agriculture and Environmental Sciences. In 1973, it became Cook College, which was organized around the theme of "man and the environment." Today, it has nationally and internationally renowned departments of Animal Science; Environmental Science; Ecology, Evolution and Natural Resources; Marine and Coastal Sciences; and Human Ecology, and specialized centers and institutes such as the Institute for Marine and Coastal Science; the Grant Walton Center for Remote Sensing; the Center for Environmental Prediction; the Water Resources Research Institute; the Center for Urban Restoration Ecology; the Center for Environmental Communication; Biotechnology Center for Agriculture and the Environment; and the Center for Environmental Indicators.

²⁰ Woodward, C.R. and I.N. Waller (1932) New Jersey's Agricultural Experiment Station 1880-1930. New Brunswick, NJ: New Jersey Agricultural Experiment Station.

Environmental and natural resource issues continue to challenge policy makers, planners, conservationists, and others concerned about the need to protect the environment, preserve open space, conserve and preserve natural resources, and promote sustainable practices and balanced approaches to the economic development needs of communities and the state. There is and will continue to be a need for new scientific knowledge, technologies, policies, and strategies for waste management, pest and nutrient management both in agriculture and in public and private landscapes, environmental remediation, ecological restoration, improvement of the environment and the quality of life, and social and policy issues related to environmental justice. Developing new and creative strategies for conserving and managing public and private open spaces, marine, estuarine and coastal resources, watersheds, and forest and wildlife resources is a major challenge. Protecting the health of the public and at-risk populations from the risks associated with exposure to environmental contaminants is another pressing need.

Given its history and its setting, the NJAES is uniquely positioned to collaborate with government agencies, other research institutions, and private partners to develop and deliver ways to mitigate current and future problems in environmental protection and natural resource management. Our goal in this programmatic area is to foster conservation and improved environmental quality in the context of a highly developed and expanding economy. Particular focus is given to programs that respect the needs and interests of families, businesses, communities, and non-profit organizations and that encourage their participation in addressing environment and natural resource issues. Another area of emphasis concerns the ecology and utilization of environments at the urban-suburban-rural interface.

This area evolves from existing NJAES strengths in waste management, water resources management, land use planning and design, climate change, air quality, restoration ecology, urban forestry, environmental remediation, environmental policy, risk communication, wildlife management and environmental prediction. It also builds upon collaborative ties with the Environmental and Occupational Health and Safety Institute, the School of Public Health, the Bloustein School of Planning and Public Policy, and other units at Rutgers, as well as with the New Jersey Institute of Technology, the Science and Research component of the New Jersey Department of Environmental Protection, and other research institutions in the state. Through these and newer programs, Cook College's campus based departments and centers, off-campus centers and stations, and county Extension offices, the NJAES will leverage resources at Rutgers and in the state to deliver long-term programs and special initiatives to address the environmental and natural resource needs of New Jersey.

Food, Nutrition and Health

The goal of NJAES programs in food, nutrition and health is to implement programmatic initiatives that will foster a healthy and optimally nourished population and improve the

quality and length of life of New Jersey residents. Food, nutrition and health span a continuum of theory and practice that ranges from the genome to the community. We are well positioned to expand both our knowledge base and programmatic initiatives across this continuum because of the strength of our departments of Food Science, Nutritional Sciences, Human Ecology, Agriculture, Food and Resource Economics and the RCE Department of Family and Consumer Sciences, as well as distinguished institutes and centers including the Center for Advanced Food Technology, the Center for Agricultural Biotechnology, and the Food Policy Institute. Encompassing a broad range of expertise, they also provide a basis for strategic collaborations with faculties across the medical school and other units within Rutgers. They also provide strong potential for markedly increased collaborations with the food and pharmaceutical industries as well as a host of federal, state and local government agencies.

Nutrition related diseases such as heart disease, cancer, diabetes, and obesity account for over \$70 billion per year in health care costs nationally and over \$2.1 billion in New Jersey. The enhancement of human diets and nutrition must be a major strategy for the promotion of the quality of life of New Jersey residents. Many in the health care community and policy makers increasingly agree. The NJAES must help New Jersey optimize the health of its public by enhancing our understanding of disease processes, developing food and nutrition based innovations, expanding our knowledge of human behavior and implementing community development and public communication programs.

NJAES has a number of advantages, but also faces a number of challenges relative to other land grant institutions for developing and implementing strategies to maintain health. Our advantages include the population diversity, nearness of both urban and rural populations, proximity of the UMDNJ-Robert Wood Johnson Medical School and NJAES to one another, and proximity of food and pharmaceutical industries. However, a large number of families in New Jersey live with very limited resources. Developing strategies that allow them to participate in managing their health must be a major component of this initiative. At the forefront of the food, nutrition and health initiative will be the integration of components across the continuum to help people and communities build their health. Solutions to these health issues ultimately reside in human and community behavior. In many cases this will result in strategies oriented towards refocusing diets within the framework of existing food products, especially fruits, vegetables, whole grains, and meats currently produced in New Jersey. As well, novel products that promote health (known as nutraceuticals or functional foods) offer a rich avenue for creating the potential to optimize health. New Jersey's food and pharmaceutical companies are poised to capitalize on these opportunities and need our expertise to help make them a reality. At the forefront of the NJAES food, nutrition and health initiative will be a near term focus on several areas including obesity, cancer, osteoporosis, food safety, food policy and food security. These are areas for which there is already significant expertise and activity at multiple levels. They are also areas in which there are various levels of collaboration across the university and the medical school. In the longer term, special needs of the aged will become a more critical issue

as baby boomers begin to retire and dominate the population. In this way we have a distinct opportunity to create a lasting impact on the health and well being of New Jersey and the country's population.

Human and Community Development

Social and geographical inequities in the distribution of income, wealth, and good nutrition, health care, and education, and in patterns of exposure to social and environmental risks are major issues in New Jersey as they are elsewhere in the United States. These and other problems are more intensely experienced in New Jersey than in many other states because of its position as the most densely populated state and its history as one of the most heavily industrialized and urbanized states in the nation. Consequently, the NJAES is uniquely positioned to become a leader in developing approaches to the many problems associated with urbanization and economic development as they pertain to the rural-suburban-urban interface and to the issues of agriculture, food systems, environment and natural resources, and food, nutrition and health. The goals are to facilitate solutions to the many community-based problems of the future, to enhance economic opportunity for New Jersey residents, and to foster human and community development in order to improve the quality of life of New Jersey residents. It must be emphasized that human and community welfare and development are also central to the other programmatic areas.

At the center of the NJAES programmatic thrust for Human and Community Development will be programs in nutrition and health education, food safety, disease prevention, recreation and enhancement of well being, financial management, youth and family development, community development, land use planning, community leadership, and quality of life enhancement. NJAES research and outreach resources are needed to ensure that residents, especially the poor, have adequate and optimal nourishment, live in a contamination free environment, have basic skills and tools to manage their day-to-day affairs, and have adequate access to resources for recreation, education, and health. Other needs that must be met include workforce preparedness and employment skills, basic life skills, child and elder care, personal financial management and other skills. Emerging issues such as youth violence and the problems of "at risk" populations will require ongoing attention through RCE's programs, including the teaching of ethics and character education, conflict resolution, and stress management. The development of leadership skills, hands-on learning and continued academic and lifetime learning are needed to help the individual, the family, and the larger community provide solutions to current and future challenges to economic security, mental and personal health, and well being.

This program will require an expansion of the social science and public policy research capacity of the NJAES, especially in community nutrition, economics and human ecology. The RCR would need to expand its research capacity to support existing outreach capacity in the Department of 4-H Youth Development and the Department of Family and Consumer Sciences or to ensure the development of strong linkages with

the research and teaching expertise available at the School of Social Work, the Bloustein School of Planning and Public Policy, and other institutions and agencies.

NJAES Vision Statement

"To be "synonymous with solutions" and the leading research-based public institution generating and delivering practical science-based solutions for the viability, health and sustainability of agriculture, environments and constituents in the rural-suburban-urban interface."

NJAES Mission Statement²¹

"To enhance the viability, health, sustainability and overall quality of life in New Jersey by developing and delivering practical and effective solutions to pressing problems relating to agriculture, food, natural resources and the environment, and the well-being of people and communities."

NJAES Five-Year Goals

To pursue the long-term vision for the NJAES and to improve performance on our mission, the following major goals have been identified for the next five years:

- Clearly defined programs of research and outreach that are responsive to New Jersey's needs in agriculture; environment and natural resources; food, nutrition and health; and human and community development.
- Improved accountability and responsiveness to the diverse needs of New Jersey in areas identified above.
- Increased visibility and recognition of the NJAES and its component units (RCR and RCE) in New Jersey and beyond as the source of knowledge and solutions in areas indicated above.
- Strengthened NJAES contributions to the needs of stakeholders through improved communication, facilitation, and transfer of knowledge and technology.
- More focused targeting of NJAES programs to the needs of underserved and underrepresented communities.
- Increased use of collaborative, multidisciplinary approaches to mission-oriented research and outreach.
- An expanded resource base for NJAES research and outreach programs.
- Strong strategic relationships with Cook College, with the broader Rutgers community, and with other institutions, agencies, and other public and private

²¹ The NJAES mission statement is closely related to the overall mission statement for Cook College and the NJAES, which was agreed upon by the faculty in October 2000: *"Integrating teaching, research, and outreach to anticipate and respond to issues and challenges in agriculture, food systems, environment and natural resources, and human and community health and development, in order to empower people to improve their lives, the lives of others, and the environments on which they depend."*

entities in New Jersey and beyond that leverage NJAES resources in order to contribute to its mission.

- A stronger sense of community based on a culture that values growth, excellence, leadership, collegiality and mutual respect.

Achievement of these goals will move the NJAES toward its long-term vision, in close cooperation with Cook College. Through synergistic and complementary efforts, both institutions can enhance their contributions to the pursuit of knowledge and service of society. This will also lead to national and international recognition as a leading Land Grant experiment station and college in the delivery of educational opportunities, research findings, and practical solutions, and the leader for areas like New Jersey that are marked by the close proximity and interaction of rural, suburban, and urban lifestyles, communities, and land-use patterns.

Strategies for Achieving NJAES Goals

Nine strategies are proposed for moving the NJAES toward its vision as the frontier experiment station for programs in the rural-suburban-urban interface. These strategies include:

- Place greater emphasis on mission-oriented research and outreach programs.
- Significantly improve the interface between NJAES research and outreach activities.
- Enhance the internal and external visibility of NJAES research and outreach activities.
- Enhance and report the impact of the NJAES on constituents.
- Improve the faculty and staff reward systems so that collaborative, programmatic, and mission-oriented activities are acknowledged and valued.
- Expand funding for NJAES programs from internal and external sources.
- Strengthen existing and build new linkages to other units of the University, other research institutions, and other public and private entities.
- Improve accountability.
- Increase stakeholder input.

For each of the nine strategies above, specific recommendations for action are presented.

Place greater emphasis on mission-oriented research and outreach programs.

- Review NJAES-supported activities and stakeholder needs to identify areas of research and outreach that can serve as the basis for formal NJAES programs within the broad programmatic areas outlined above.
- Create, fund and support new programs in areas of high priority from the perspective of institutional and stakeholder needs.

- Give particular emphasis to multi-disciplinary efforts to develop mission-oriented research.
- Increase the use of programmatic needs in defining and prioritizing new NJAES-funded faculty and staff positions. Where possible, target new hires toward faculty and staff that will provide leadership for NJAES programs.
- Encourage unit strategic planning at the program level and at centers, research stations, field offices and county Extension offices by providing greater support for planning exercises.
- Provide greater administrative support and leadership for program and grant development and team building, through more effective staffing of the offices of research and outreach.
- Improve internal communications, foster an atmosphere of collegiality and mutual respect, and expand support for programmatic planning and leadership.
- Use AES faculty lines to support work that is dedicated to the NJAES mission, making clear that they are privileges rather than rights.

Significantly improve the interface between NJAES research and outreach activities.

- Develop a searchable database of Rutgers Cooperative Research and Rutgers Cooperative Extension faculty, staff and programs. This can be used to increase internal knowledge and expertise, and allow external access to such information. In addition these mechanisms can be used to identify stakeholder groups that may become involved with research and outreach programs and provide a forum through which the important and emerging needs of clientele are recorded and funneled.
- Initiate a system of regular ‘research and extension expos’ to inform Extension personnel and other stakeholders of research activities that may apply to them, and to inform research personnel about Extension activities and the needs of clientele throughout the state.
- Create mechanisms for greater interaction and integration of research and outreach activities and the development of collaborative multidisciplinary teams. This will be most effectively accomplished by changing the culture of the organization rather than departmental structure, so that collaborative and integrated work is expected, encouraged and rewarded.

Enhance internal and external visibility of NJAES research and outreach activities.

- Develop a proactive marketing plan for the RCR and RCE and their programs and activities, and improve the internal infrastructure for marketing their capabilities. This may be done in conjunction with a similar marketing study and plan for Cook College, as recommended in the Cook College strategic plan.
- Officially adopt the name “Rutgers Cooperative Research” for the research arm

of the NJAES to raise its visibility and bring it to par with its Extension counterpart.

- Create an NJAES orientation program for new faculty and staff on NJAES appointments, and coordinate such efforts with the Cook College faculty and staff orientation program recommended in the Cook College strategic plan.
- Increase and improve the effectiveness of efforts to educate public decision-makers about the role of NJAES in meeting the needs of their constituents and the resources required to make this happen.
- Invest in computer-based collaborative technology, including the use of video conferencing and the creation of interactive websites.

Enhance and report the impact of the NJAES on constituents.

- Improve the quality, presentation, and impacts of NJAES annual reports by using professional science-writing, marketing, and public relations expertise to develop and disseminate reports that communicate easily and effectively.
- Develop new Rutgers Cooperative Research bulletins featuring NJAES research that also communicate easily and effectively. Ensure that this information is disseminated to the press, relevant clientele groups, and public policy-makers.
- Develop similar bulletins that summarize outreach efforts by RCE and OCE and their impacts on clientele, both statewide and by legislative districts.
- Support the development and use of web-based information dissemination systems in the communication of NJAES solutions, impacts, programs and capacities, including interactive web-sites, as noted above.
- Develop new technology transfer programs to increase the impact of NJAES programs on New Jersey businesses and economic development.
- Intensify the social science presence at the NJAES by increasing investment in new faculty with expertise in social, economic, business and policy sciences.

Improve the faculty and staff reward systems so that collaborative, programmatic, and mission-oriented activities are acknowledged and valued.

- Ensure that excellence in the above areas is recognized in promotion and merit awards.
- Create new awards that will recognize and encourage:
 - a) mission-oriented and problem-solving research and outreach;
 - b) excellence in program development, delivery and impact; and
 - c) collaborative, multidisciplinary research and outreach activities.
- Work with the Cook Development Office and Rutgers University Foundation to seek funding for endowed chairs to acknowledge accomplishments in the above areas.

Expand funding for NJAES programs from internal and external sources.

- Pursue and obtain an enhanced indirect cost return for the NJAES for grants coming to NJAES-supported departments, centers, institutes and programs.
- Reallocate NJAES research and outreach resources to implement this plan toward the programmatic areas identified in this plan and other areas identified through interaction with stakeholders.
- Identify potential and new sources of funding to expand or enhance NJAES efforts.
- Obtain more IDR resources for departments in order to reduce their reliance on NJAES resources.

Strengthen existing and build new linkages to other units of the University, other research institutions, and other public and private entities.

- Explore and support new strategic relationships with the broader Rutgers community and other institutions in the State that will contribute to the mission and programs of the NJAES.
- Develop greater student involvement in NJAES programs and problem solving by providing funding for special undergraduate and graduate student research projects involving student/faculty teams.

Improve Accountability.

- Ensure that NJAES resources and lines are increasingly targeted toward NJAES goals and mission. Follow the Cook College Planning Committee's recommendation to reserve AES faculty lines for the support of work that is dedicated to the NJAES mission and program goals.
- Implement a periodic review process for NJAES programs and appointments.
- Develop a social contract for faculty and staff supported by NJAES resources, which clarifies expectations, obligations, and rights and privileges as well as conditions for review and renewal.
- Develop improved systems for measuring, monitoring and documenting program goals, activities and impacts on all clientele and communities being served or under served.

Increase Stakeholder Input.

- Increase the reliance on stakeholder input in the planning, implementation, and evaluation of programs and initiatives.
- Encourage heads of research programs, centers, departments and county-based Extension programs to create client-based advisory groups if not already in place.
- Provide greater support to faculty to develop relationships with industry and other stakeholders.
- Conduct periodic listening sessions in all New Jersey counties as required by

USDA, and utilize this information for Extension and research program planning and evaluation.

- Maintain a database of e-mail and postal addresses of participants in county listening sessions and other groups, and keep them informed about NJAES activities on a regular basis.
- Create an advisory council of representative stakeholders, advisory to the Executive Dean, that will provide guidance and oversight to NJAES and Cook College activities and will cooperate with the Cook College Planning Committee in monitoring this strategic plan as recommended in the overall introduction.

Framework for Monitoring Progress Toward NJAES Goals and Program Accomplishments

As outlined in the introduction, the Cook College Planning Committee has the responsibility to monitor the progress of this strategic plan and providing an annual report to the faculty. During the year, the committee will advise the Executive Dean, who will also seek input from the new Advisory Council of outside stakeholders. Other means, including county listening sessions that are a federal requirement for RCE, will be used to gather input. The development of attractive, informative, and interactive web-sites, and other technologies, is also recommended to achieve the full and effective participation of stakeholders in the institution.

The Executive Dean will ask directors and chairs of NJAES-supported centers, institutes, departments and programs, as well as deans, directors, and faculty committees, to report on how they have implemented relevant parts of this strategic plan as well as their recommendations for improving and changing it. Once the faculty adopts any new programs or procedures, those responsible for implementing and monitoring their effectiveness will be asked to develop appropriate assessment mechanisms. Reports will be required and made public through the various forums available such as e-mail and the Cook College and NJAES web site. It is anticipated, for example, that the RCR and RCE directors shall provide oversight of the activities and progress made toward goals of NJAES, and inform faculty, staff and the broader community of stakeholders. The Executive Dean's annual report on NJAES should include information on progress made in program development, participation of faculty and staff in multidisciplinary problem-solving programs, programmatic accomplishments of faculty and staff, evidence of impacts of RCE and RCR programs on stakeholders, progress made toward forming or enhancing advisory committees, and other information useful in documenting program effectiveness and accomplishments.

Further, as also emphasized in the Cook College strategic plan, marketing and communication must be extremely high priority, calling for a careful examination of present practice and redesign of programs and reallocation of resources. To this end, we call for the creation of a standing committee of the faculty, on Communications and Outreach, to provide faculty leadership and oversight for more effective targeting, marketing, and communication for NJAES as well as Cook College.

Challenges to the Development and Implementation of NJAES Programs

Resources are needed to bridge gaps between basic departmental research activities, the applied research programs of specialists and agents, and the educational and outreach activities of Extension and OCPE. Limited social science expertise constrains the ability of the NJAES to respond to contemporary needs. Leadership will be needed to coordinate and lead each of the programmatic thrust areas. Internal program enhancement grants are needed to support priority research and outreach programs. Staffing is needed to support the improvement of stakeholder relations and strengthen the dissemination of know-how and solutions to NJAES constituents.

However, resources for implementing these and other recommendations in this strategic plan for the NJAES are scarce and potentially constraining. The ten-year period from 1990 to 2000 was characterized by an almost twenty percent reduction in state funding for the NJAES when inflation is accounted for. Simultaneously, base support dollars from the federal government dwindled in real terms as policies shifted toward grant-funds and competitive programs. Moreover, traditional federal grant sources for experiment station activities are not always appropriate for the support of research and outreach programs of priority to New Jersey, because of the greater importance of urban, suburban, and environmental issues in this state compared with many others.

Competitive grants have expanded the opportunities for research and scholarship at Cook College and the NJAES, but the depletion of base funds for NJAES research and outreach and heavier reliance on external grants hinder program development and enhancement, the ability to support multidisciplinary research and problem-solving teams, and the creation of new initiatives to respond to New Jersey's ever changing needs. There is a shortage of scientists and other staff to deliver problem solving programs, especially those programs that will address emerging needs of stakeholders. How to encourage existing researchers to focus on new and evolving NJAES program needs and to collaborate with others on multidisciplinary teams is a major challenge. Changes in culture, improvements in communication and rewards recommended in the plan may help. Other mechanisms for reassigning faculty and staff to strategic programs are also recommended, including periodic reviews and the use of contracts that specify expectations and conditions for NJAES lines and resources. However, new hires also will have to be made to staff NJAES program areas in a situation of tight and declining resources.

The other side of the coin is the problem of limited resources to fully deliver on the educational and scholarship mandates of Cook College. The result is heavy reliance of departments and centers on NJAES resources to perform basic departmental support functions, many of which have little to do with the NJAES mission. More IDR resources are needed to staff basic bookkeeping, secretarial, and computer support staff, for grant preparation and management functions, and for start-up packages for new hires. Making the NJAES more accountable for its lines and other resources, as

recommended in this strategic plan, is expected to help demonstrate the need for these resources, commensurate with the value of Cook College's larger teaching and research activities to the University and the State.

Another challenge addressed in this plan is the fact that there is currently no formal or reliable system to help RCE personnel learn about the breadth of research activities in RCR and elsewhere at Cook College, or for teaching and research faculty to learn about RCE activities and the needs of constituents. There are often large gaps between basic departmental research activities, the applied research programs of extension specialists and agents, and the educational and outreach activities of RCE and OCPE. Greater interaction among and information exchange between research, teaching, and outreach faculty is needed to build effective problem-solving efforts, as is more interaction and involvement of research faculty with Extension activities. The section on improving the interface between NJAES research and outreach (page 33) recommends development of a searchable and interactive database and regular "research and extension expos." It also makes a strong recommendation that greater interaction will be accomplished most effectively by changing the culture of the organization rather than departmental or administrative structures.

One constraint, which must be met for this plan to achieve its goals, arises from an unresolved debate at the University about intellectual property rights and technology transfer. What are appropriate methods to disseminate intellectual properties developed at NJAES and with public funds? The question of the appropriateness of standard technology transfer mechanisms that seek to maximize licensing revenues from an invention in a land grant setting must be answered, since *pro-bono* transfer of technology is the basic philosophy behind the experiment station. The concept of technology "giveaways" that provide a competitive advantage to some cash limited stakeholders, yet then compete with larger, capital rich public and private enterprises has yet to be adequately addressed. The debate must take place at several levels, including the University Administration.

Table 1. Undergraduate Programs of Study Available to Cook College Students

<p>Agricultural Science with options in Agricultural Science Teacher Education Agroecology Animal Science Plant Science</p> <p>Animal Science with options in: Animal Industries Laboratory Animal Science Prevet Medicine and Research</p> <p>Biochemistry</p> <p>Biological Sciences*</p> <p>Bioresource Engineering**</p> <p>Biotechnology with options in: Animal Biotechnology Applied Microbiology & Microbial Technology General Biotechnology Plant Biotechnology</p> <p>Chemistry***</p> <p>Communication****</p> <p>Computer Science***</p> <p>Environmental & Business Economics with options in: Business Economics Environmental & Resource Economics Food Industry Economics</p> <p>Environmental Planning & Design with options in: Environmental Geomatics Environmental Planning Environmental Studies Landscape Architecture Landscape Industry</p> <p>Environmental Policy, Institutions and Behavior with options in: Health and Environmental Policy International Environmental & Resource Policy</p>	<p>United States Environmental & Resource Policy</p> <p>Environmental Sciences with options in: Applied Environmental Science Environmental Biology Environmental Chemistry Environmental Physics</p> <p>Exercise Science and Sport Studies*** with options in Exercise Science Sport Management</p> <p>Food Science with options in: Food Biological Technologies Food Chemistry Food Operations/Management</p> <p>Geography***</p> <p>Geological Sciences*** with options in Environmental Geology Geology</p> <p>Journalism and Mass Media****</p> <p>Marine and Coastal Sciences with options in: Marine Biology/Biological Oceanography Marine Chemistry Marine Geology Physical Oceanography</p> <p>Meteorology</p> <p>Natural Resource Management with options in: Conservation & Applied Ecology Ecology and Evolution Professional Resource Management</p> <p>Nutritional Sciences with options in: Dietetics Food Service Administration Nutrition</p>
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Plant Science

with options in

Horticulture & Turf Industry

Professional Certification:

Agricultural Teacher

Science Teacher

Horticulture Therapy

Research

Public Health*****

Legend:

*Offered in cooperation with the Faculty of Arts and Sciences

**Offered in cooperation with the School of Engineering

***Offered by the Faculty of Arts and Sciences

****Offered by the School of Communication, Information and Library Studies

*****Offered by the Edward J. Bloustein School of Planning and Public Policy

Note: Cook students enrolled in curricula offered by other schools or faculties are required to elect a Cook College minor course of study

Table 2. Graduate Programs for which Cook has Administrative Responsibilities

Agricultural Economics (M.S.)
Animal Sciences (M.S.; Ph.D.)
Bioresource Engineering (M.S.)
Ecology and Evolution (M.S.; Ph.D.)
Entomology (M.S.; Ph.D.)
Environmental Sciences (M.S.; Ph.D.)
Food Science (M.S.; Ph.D.)
Nutritional Sciences (M.S.; Ph.D.)
Plant Biology (M.S.; Ph.D.)

Table 3. Departments at Cook College and NJAES

Discipline Departments	Rutgers Cooperative Extension
Agricultural, Food & Resource Economics	4-H Youth Development
Animal Science	Extension Specialists
Biochemistry & Microbiology	Family & Consumer Sciences
Ecology, Evolution & Natural Resources	Agricultural & Resource Management Agents
Entomology	
Environmental Sciences	
Food Science	
Human Ecology	
Landscape Architecture	
Marine and Coastal Sciences	
Nutritional Sciences	
Plant Pathology	
Plant Science	

Table 4: Centers, Institutes, and Off-Campus Research and Extension Centers, Cook College and the NJAES

On-Campus Centers & Institutes

Biodiversity Center
Biotechnology Center for Agriculture and the Environment
Center for Advanced Food Technology
Center for Controlled-Environment Agriculture
Center for Deep-Sea Ecology and Biotechnology
Center for Environmental Communication
Center for Environmental Prediction
Center for Turfgrass Science
Center for Urban Restoration Ecology
Food Policy Institute
Grant F. Walton Center for Remote Sensing and Spatial Analysis
Institute of Marine and Coastal Sciences
IR-4 Project: Center for Minor Crop Pest Management
NJ-NASA Specialized Center for Research and Training
Nutraceuticals Institute
Water Resources Research Institute
Wildlife Damage Control Center

Off-Campus Stations

Clifford E. and Melda C. Snyder Research and Extension Farm; Rutgers Center for Sustainable Agriculture, Pittstown, NJ
EcoComplex, Mansfield, NJ
Food Industry Research and Extension Center, Bridgeton, NJ
Haskin Shellfish Research Laboratory, Bivalve, NJ
Hutcheson Memorial Forest Center, East Millstone, NJ
Lindley G. Cook 4-H Youth Center for Outdoor Education, Branchville, NJ
Philip E. Marucci Center for Blueberry and Cranberry Research and Extension, Chatsworth, NJ
Rutgers Agricultural Research and Extension Center, Upper Deerfield, NJ
Rutgers Fruit Research and Extension Center, Cream Ridge, NJ
Rutgers Marine Field Station, Tuckerton, NJ
Rutgers Pinelands Field Station, New Lisbon, NJ
Rutgers Plant Science Research and Extension Farm, Adelphia, NJ

Appendix 1: Timetable of Events, Fall 2000- Winter 2001

8/29/00	Executive Committee Meeting
8/31	E-Mail to Steering Committee
9/6	Deadline for Steering Committee Response
9/7-8	Contact Strategy Team Chairs/Coordinators
9/12	Faculty E-mail
9/18	Meeting of Chairs/Coordinators (1:30p.m. – 3:30p.m., Martin Hall Extension Conf. Room)
9/19-27	First Meeting(s) of Teams
10/3	Steering Committee Meeting, Including Chairs (9:00a.m. – 12noon, Merle Adams Rm., Cook Campus Center)
10/5	Faculty Meeting (Presentation of Vision Statement)
11/1	Executive Committee Meeting – Including Chairs (1:30p.m. – 3:30p.m., Martin Hall Ext. Conf. Room)
11/16	Initial Report of Teams to Administrative Council (4:30p.m. – 6:30p.m., Multi-Purpose Rm. B, Cook Campus Center)
11/20	Initial Report of Teams at Special Faculty Meeting (1:30p.m. – 3:30p.m., Multi-Purpose Rm. B&C, Cook Campus Center)
12/1	First Draft of Strategy Team Reports to be submitted to Sheila Friedman and then forwarded to the Exec. Steering Comm.
12/14	Workshop – Final Reports of Teams to Steering Committee (9:00 a.m. – 2:00p.m., Traves Hall, Douglass Student Center)
1/5/01	Executive Committee and Members of the Steering Committee to review Strategy Team Reports and 12/14 workshop minutes (9:00a.m. – 12noon, Martin Hall Ext. Conf. Room)
1/23	Steering Committee Meeting for approval of final report before presenting it to the Cook College Planning Committee
2/1	Deadline for Steering Committee Report to Cook College Planning Committee
2/9	Cook College Planning Committee Meeting to Review Report
3/8	Final Report Presented at Faculty Meeting

Appendix 2: List of Reports, Cook College and NJAES Visioning and Planning Initiative

- Charge to the Cook College/NJAES Visioning and Planning Steering Committee, October 5, 2000
- Tecker Consultants Report of Qualitative Research with a Sampling of Key Internal and External Stakeholders
- Tecker Consultants Cook College/NJAES Visioning and Planning Initiative Visioning Conference Report, April 8, 2000
- Cook College/NJAES Draft Strategic Long-Range Plan, October 11, 2000
- Cook College/NJAES Strategy Team Reports, December 14, 2000
 - Teaching and the Learning Community
 - Scholarship and the Research Community
 - NJAES
 - Communications and the Engaged Community
 - Organizational Structure and Leadership
- Cook College/NJAES Visioning and Planning Initiative Summary of County Dialogue Sessions, February 1, 2001

These reports are available on the Web-site, www.cookvision.rutgers.edu, and through Mrs. Sheila Friedman, the Office of Research, Cook College. 1-732-932-1000, extension 571.

Appendix 3: Strategy Teams

Teaching and the Learning Community

Richard Ludescher (Co-chair)	Food Science	Cook College/NJAES
Jim Applegate (Co-chair)	Ecology, Evolution & Natural Resources	Cook College/NJAES
Kristin Peacock (Coordinator)	Academic & Student Affairs	Cook College
Marcos Cheney	Environmental Sciences	Cook College/NJAES
Keith Diem	4-H Youth Development	Cook College/NJAES
Barbara Goff	Humanities & Communications	Cook College/NJAES
Ann Gould	Plant Pathology	Cook College/NJAES
Judith Grassle	Marine & Coastal Sciences	Cook College/NJAES
Robert Hamilton	Graduate Student	Cook College, Rutgers
Maurice Hartley	Agricultural, Food & Resource Economics	Cook College/NJAES
Brad Hillman	Plant Pathology	Cook College/NJAES
Bob Hills	Academic & Student Affairs	Cook College
A. Irwin	Postdoc	Cook College/NJAES
Barry Jesse	Animal Sciences	Cook College/NJAES
Ned Lipman	Continuing Professional Education	Cook College/NJAES
Jennifer Mei	Undergraduate Student	Cook College
James Miller	Marine & Coastal Sciences	Cook College/NJAES
Rich Novak	Continuous Ed & Distance Learning	Rutgers University
Lee Schneider	Academic & Student Affairs	Cook College
Les Small	Academic & Student Affairs	Cook College

Scholarship and the Research Community

Gerben Zylstra (Co-chair)	Biochemistry and Microbiology	Cook College/NJAES
Bill Meyer (Co-chair)	Plant Sciences	Cook College/NJAES
Geetha Ghai (Coordinator)	Office of Research	Cook College/NJAES
David Bart	Graduate Student (Ecology)	Cook College, Rutgers
Faith Belanger	Plant Pathology	Cook College/NJAES
George Carman	Food Science	Cook College/NJAES
Wendie Cohick	Animal Science	Cook College/NJAES
Steven Handel	Ecology, Evolution & Natural Resources	Cook College/NJAES
Tom Leustek	Plant Science	Cook College/NJAES
Carl Pray	Agricultural, Food & Resource Economics	Cook College/NJAES
Alan Robock	Environmental Sciences	Cook College/NJAES
Jim Simon	Plant Science	Cook College/NJAES
Judith Storch	Nutritional Sciences	Cook College/NJAES
Lily Young	Environmental Sciences	Cook College/NJAES

NJAES Research and Extension Programs

Jim White (Co-chair)	Plant Pathology	Cook College/NJAES
George Hamilton (Co-chair)	Entomology	Cook College/NJAES
Daniela Maina (Coordinator)	Office of Research	Cook College/NJAES
Laura Bovitz	4-H Program Associate RCE of Middlesex County	Cook College/NJAES
Bruce Clarke	Plant Pathology	Cook College/NJAES
David Drake	Ecology, Evolution & Natural Resources	Cook College/NJAES
Tom Gianfagna	Plant Science Management Agents	Cook College/NJAES
Jean Marie Hartman	Landscape Architecture	Cook College/NJAES
Priscilla Hayes	NJ Solid Waste Policy Group	Cook College/NJAES
Mukund Karwe	Food Science	Cook College/NJAES
Larry Katz	Animal Sciences	Cook College/NJAES
Wes Klein	Dept. of Agricultural & Resource Management Agents	Cook College/NJAES
Daniel Kluchinski	Dept. of Agricultural & Resource Management Agents	Cook College/NJAES
Rick Lathrop	Ecology, Evolution & Natural Resources	Cook College/NJAES
David Lee	Dept. of Agricultural & Resource Management Agents	Cook College/NJAES
Dianne Lennon	Family & Consumer Sciences	Cook College/NJAES
Ken McKeever	Animal Sciences	Cook College/NJAES
Dave Mears	Plant Science	Cook College/NJAES
Peter Nitzsche	Dept. of Agricultural & Resource Management Agents	Cook College/NJAES
Sridar Polavarapu	Entomology	Cook College/NJAES
Dean Polk	Dept. of Agricultural & Resource Management Agents	Cook College/NJAES
Matt Polsky	NJDEP	
Joe Ponessa	Human Ecology	Cook College/NJAES
Jack Rabin	Extension/Administration	Cook College/NJAES
Robert Rosen	CAFT	Cook College/NJAES
Marty Rosen	NJDEP	
Don Schaffner	Food Science	Cook College/NJAES
Dipak Sarkar	Animal Sciences	Cook College/NJAES
Rod Sharp	Consultant	

Communications and the Engaged Community

William Hallman (Co-chair)	Human Ecology	Cook College/NJAES
Kathleen Shimomura (Co-chair)	Family & Consumer Services	Cook College/NJAES
Paula Marie Ward (Coordinator)	Postdoc (Biochemistry/Microbiology)	Cook College/NJAES
Sharon Ainsworth	State Relations	Rutgers University
Bonnie Altizo	Graduate Student (Animal Sciences)	Cook College/NJAES
Jane Amato	Graduate Student (Biochemistry & Microbiology)	Cook College/NJAES
Caron Chess	Human Ecology/CEC	Cook College/NJAES
Kristin Drusjack	Academic & Student Affairs	Cook College/NJAES
Elizabeth England	State stakeholder, PR specialist	
Jim Etsch	Board of Managers, Cook College/NJAES	
Mike Green	Resource Center	Cook College/NJAES

Hollie Gilroy	Communications & Public Affairs	Cook College/NJAES
Bill Hlubik	Dept. of Ag & Resource Management Agents	Cook College/NJAES
Marilyn Hughes	Ecology, Evolution & Natural Resources (Walton Center)	Cook College/NJAES
Jozef Kokini	Food Science/CAFT	Cook College/NJAES
Ginny Powell	4-H Youth Development	Cook College/NJAES
Bethany Rocque-Romaine	Alumna (Cook College)	
Sheri Seminski	NJ Center for Environmental Indicators	
Joe Ventola	Academic & Student Affairs	Cook College/NJAES
Rita Wood	Family & Consumer Sciences	Cook College/NJAES
Donna Woody	4-H Youth Development	Cook College/NJAES

Organizational Structure and Leadership

Carol Bagnell (Co-chair)	Animal Sciences	Cook College/NJAES
Mike Hamm (Co-chair)	Nutritional Sciences	Cook College/NJAES
Mary Nikola (Coordinator)	Administration/Extension Development	Cook College/NJAES
Barbara Bender	Academic Support and Graduate Student Services	Graduate School, Rutgers University
Carol Byrd-Bredbenner	Family and Consumer Sciences	Cook College/NJAES
Tim Casey	Ecology, Evolution & Natural Resources	Cook College/NJAES
Keith Cooper	Biochemistry and Microbiology	Cook College/NJAES
Peter Day	Biotechnology Center for the Agriculture and the Environment	Cook College/NJAES
Karen Ensle	Family and Consumer Sciences	Cook College/NJAES
Peter Guarnaccia	Human Ecology	Cook College/NJAES
Barbara Turpin	Environmental Sciences	Cook College/NJAES
Mary Jane Willis	Administration/Extension	Cook College/NJAES
John Worobey	Nutritional Sciences	Cook College/NJAES

Appendix 4: Cook College Planning Committee, 2000-2001

Roni Avissar, Department of Environmental Sciences

Sanjib Bhuyan, Department of Agriculture, Food and Resource Economics

Ted Chase, Department of Biochemistry and Microbiology

Karen M. Ensle, Department of Family and Consumer Sciences Educators

Mel Henninger, Department of Plant Science

Daniel Kluchinski, Chair, Department of Agricultural and Resource Management
Agents

Norbert P. Psuty, Department of Marine and Coastal Sciences

Malcolm Watford, Department of Nutritional Sciences

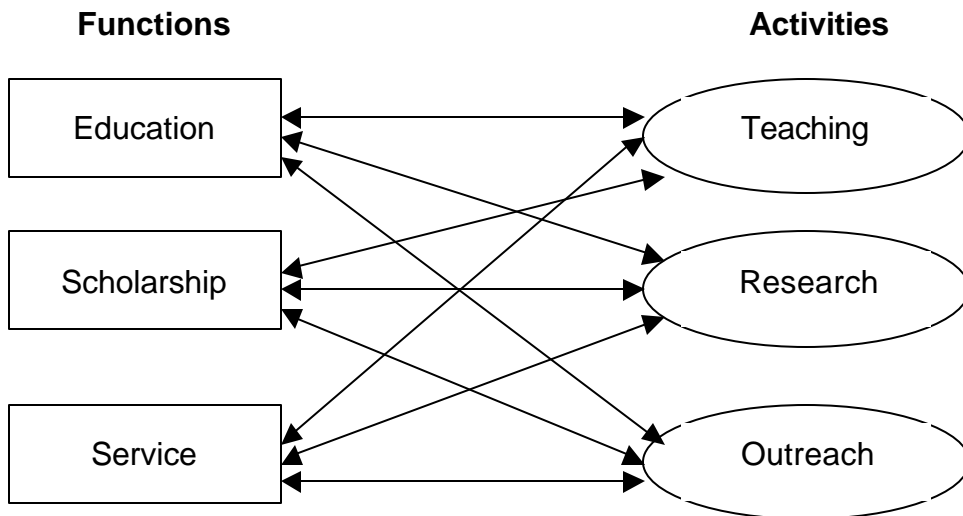
Jim White, Department of Plant Pathology

Ellen Williams, Department of 4-H Youth Development

Appendix 5: Clarification of Terms and Administrative Responsibilities

Clarification of Terms

The University's major functions are Education, Scholarship, and Service. All faculty performance is assessed in these terms except for County Agents, for whom Scholarship is replaced by Extension Practice²². We find it useful to separate these functions from the activities of Teaching (or Instruction), Research, and Outreach (sometimes referred to as Learning, Discovery, and Engagement) which may contribute to any one or all of the functions, as shown in the following diagram:



Any given activity may have one or more functions, and any one function may be achieved through one or more activities. For example, teaching may result in scholarship, as when an instructor analyzes and publishes information on pedagogy. Teaching may also result in service, for example when a faculty member lectures to a community group or contributes to a professional organization dedicated to teaching. Scholarship can be expressed through teaching and outreach as well as research. An example of scholarly outreach is what is called "extension practice" in the Rutgers promotion system, recognizing the scholarly contributions of Rutgers Cooperative Extension faculty as they address the needs of their constituents through various forms of outreach. Research too has functions other than scholarship, as for example when the

²² Detailed descriptions of activities under the performance criteria of teaching, scholarship (or Extension practice) and service may be found in the Rutgers Academic Reappointment and Promotion Instructions (www.rutgers.edu/oldqueens/appendices.doc) Appendix D. Our description of the University functions builds upon these performance criteria, except that we substitute Education for Teaching, since teaching is only one of the ways that education takes place.

researcher involves undergraduate students in research projects in the laboratory or the field to help teach and train them.

Clarification of Administrative Responsibilities

Executive Dean of Agriculture and Natural Resources, Dean of Cook College and Executive Director, New Jersey Agricultural Experiment Station (NJAES): Responsible for oversight of all programs in instruction, research, and outreach in the College and the NJAES, including Rutgers Cooperative Extension.

Dean of Outreach of Cook College and Director of Rutgers Cooperative Extension (RCE): As Dean of Outreach, responsible for RCE, the Office of Continuing Professional Education, and any other major outreach activity at the College; as Director of RCE, responsible to federal, state, and county agencies for fulfilling the mandates of RCE.

Dean of Research of Cook College and Director of Rutgers Cooperative Research (RCR): As Dean of Research, responsible for the management of research at Cook College and the NJAES, including intellectual property, research stations and infrastructure, research centers, and grants and contracts; as Director of RCR, responsible to the federal and state governments for fulfilling the research mandates of the NJAES.

Dean of Academic and Student Affairs of Cook College: Responsible for the undergraduate and graduate teaching programs of the faculty of Cook College, including recruitment, admissions, enrollment, financial aid, cooperative education, and other special programs, as well as all student life and student development functions at Cook College.