



College of Agriculture and Life Sciences
University of Arizona

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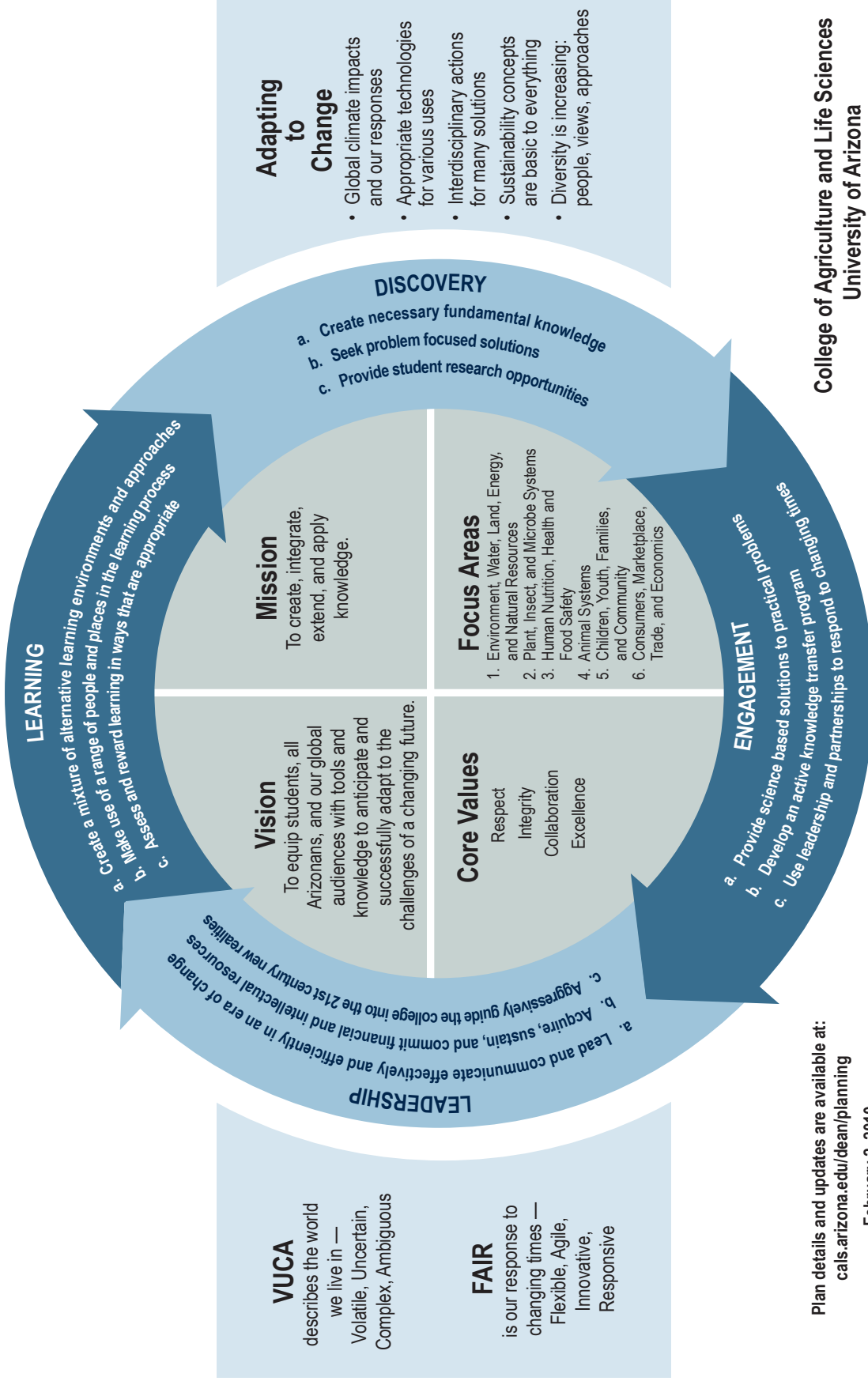
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Strategic Plan 2010 - 2020

How can we accomplish our vision and mission?
Adapt to a New Normal by Smart Change

Signature Focus: Sustainable Integrated Systems

- Arid and Semi-Arid Region Agriculture and Environment
- Individuals, Families, Communities, and Organizations
- Globally Oriented Basic and Applied Research



Plan details and updates are available at:
cals.arizona.edu/dean/planning

February 2, 2010

College of Agriculture and Life Sciences
University of Arizona
A Future-Focused Roadmap to 2020

The University of Arizona’s College of Agriculture and Life Sciences presents our new and quite different strategic plan for the calendar years 2010—2020.

In this new plan we recognize that the world we live in is volatile, uncertain, complex, and ambiguous (VUCA) and also recognize that we can survive it by being flexible, agile, innovative, and responsive (FAIR). Doing only what we have been doing is not going to be effective. Life will be more complicated not only for our faculty and staff, but for our students and our many constituents in the state and elsewhere. We cannot simply extrapolate trends – the future is highly uncertain and we need to understand and learn to function in such times. This means we will have to do things differently, but so will others that we work with. This will not happen without special efforts on all our parts.

This plan is simpler than past plans – the primary information fits all on one page. That one-page plan is on the facing page. The following pages provide more details on how we will follow the plan and background materials for why we made the choices we did.

In a nutshell, the plan focuses our thinking:

- Our mission is short: to create, integrate, extend, and apply knowledge.
- Our vision for our Arizona and global audiences is how we can help them adapt to the changing world.
- There is a signature focus: Sustainable Integrated Systems, which has three parts.
- We have six subject areas where we will focus our efforts.

The plan also provides guidance for working our way through the uncertain times:

- Our core values serve as important guides: Respect, Integrity, Collaboration, and Excellence.
- There are three goals each under four topics: learning, discovery, engagement, and leadership.
- Understanding and adapting to change is the theme that permeates the plan.
- Provisions exist for annual operational plans to accomplish the strategic plan.

We worked with a number of people to develop this plan, including the various college advisory committees (staff, faculty, appointed professionals), college administrative groups (department heads, county extension, agricultural research center directors), and with others in The University of Arizona and elsewhere to better understand the driving forces of change and their implications. Draft versions were reviewed by our external advisory groups, current students, faculty and staff, and others with strategic planning experiences. A final review was done by the Dean’s Advisory Committee.

We firmly believe that this plan will serve CALS well for the next decade.



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College of Agriculture and Life Sciences

CALS Strategic Plan 2010-2020: A Future-Focused Roadmap

Overview

This strategic plan is different from our previous plan (prepared in 2005 and updated in 2008). It is shorter in pages but longer in time frame (10 years), contains less detail but more guiding principles, and is based on our belief that the external world is changing significantly and we also must change.

We assume the next decade or so will be a transition period or a period of continuing change; we need to be prepared for both. This means there will be more significant changes and more uncertainties and perturbations than we are accustomed to facing. We need to account for this new world in our plans and we need to realize choices will be more difficult to make and to implement. We can only plan for actions that are under our (college) control but we have to be aware of options open to the state and university.

We need to look at the new world as a system: many major changes are taking place at the same time and they interact with one another. This makes it more difficult to understand a particular problem and to develop appropriate solutions or find resources. It also means there will be more and newer ways of doing things and some long-held ways of going about our daily business will have to change.

We are taking the long view in planning for change. We need to learn how to manage change ourselves and to help our students and our many clients deal with the changes they will face. At the same time, we will need to be more innovative and more flexible in addressing both the practical problems of society and the basic sciences that are hallmarks of a university. We will retain our three primary functions of learning, discovery, and engagement (newer terms for teaching, research, and extension). But we will approach them differently. This strategic plan is our roadmap to navigating these uncertain times.

Introduction

This three-page plan identifies a probable new world that we may be living in for the next decade or so and the challenges facing us. There are ten one-page attachments: 1) The Changing World: The New Normal, Smart Change, and Higher Education; 2) Listing of the Key Driving Forces of Change; 3) Near Certainties, Key Uncertainties, and Challenges; 4) Our Dilemma: Making Sense of Conflicting Trends and Rapid Change; 5) Descriptions of College Focus Areas; 6) Frequently Asked Questions; 7) Implementation Guidelines; 8) Principles of Good Practice and Peer Institutions; 9) Assessment and Resource Allocation Criteria; and References in Attachment 10. This plan does not contain specific objectives or future targets to achieve. It is a strategic plan—brief and to the point to help guide us through the next decade. Additional planning documents are at the dean's website: cals.arizona.edu/dean/planning Attachments 1-4 describe our probable world – summarized below.

Our Probable World in 2020

It is not possible to predict or even make a good guess at how our world of 2020 will emerge. We cannot simply extrapolate past experience, nor can we operate with old assumptions, and we may use scenarios to better understand alternative futures. We are using the Foresight to Insight to Action approach developed by the Institute for the Future to describe how we should think about the future.

- Our FORESIGHT studies suggest we are entering a world that is Volatile, Uncertain, Complex and Ambiguous – **a VUCA world**
- Our resulting INSIGHTS suggest a need for clear strategic directions as well as focused goals, but to also be Flexible, Agile, Innovative, and Responsive – **a FAIR approach**.
- Our ACTIONS therefore need to be different than those of the past and our strategic directions need to be within the context of a series of transitions within a changing world.

The New Normal and Smart Change

When things settle down from the 2007 recession and its impacts, the new normal will not be a return to the old normal. We are in a transition period to a new era – a transition that is already well underway but not institutionalized. The new normal will be more complex and change will become an integral component. But the change has to be smart change that is future-focused. See Attachment 1.

Our Challenges – Restated as Our Strategic Directions Under Each College Function

1. Learning
 - a. Create a mixture of alternative learning environments and approaches.
 - b. Make use of a range of people and places in the learning process.
 - c. Assess and reward learning in ways that are appropriate.
2. Discovery
 - a. Create necessary fundamental knowledge.
 - b. Seek problem focused solutions.
 - c. Provide student research opportunities.
3. Engagement
 - a. Provide science based solutions to practical problems.
 - b. Develop an active knowledge transfer program.
 - c. Use leadership and partnerships to respond to changing times.
4. Leadership
 - a. Lead and communicate effectively and efficiently in an era of change.
 - b. Acquire, sustain, and commit financial and intellectual resources
 - c. Aggressively guide the college into the 21st century new realities.

Strategic Philosophy

Vision: To equip students, all Arizonans, and our global audiences with tools and knowledge to anticipate and successfully adapt to the challenges of a changing future.

Mission: To create, integrate, extend, and apply knowledge.

Core Values: Our values guide choices and decisions at all levels.

- Respect—We value each other’s unique differences and roles so everyone succeeds.
- Integrity—We deal with others honestly and fairly to build trust in our relationships.
- Collaboration—We work as a team beyond our own college boundaries to attain our goals.
- Excellence— We strive to continually learn and improve all college units and functions.

Our Audiences

Our audiences include our students and Arizona’s people, communities, industries, businesses, and organizations. In addition, we have national and international obligations for knowledge sharing and research involvement and to prepare future leaders and experts in their fields.

Our Signature Focus – Sustainable Integrated Systems

One theme emerged after reviewing the challenges facing the world and the southwestern United States and matching those challenges to our college breadth, expertise, experience, and history of interdisciplinary approaches—for both basic research and practical problem solving. That theme is Sustainable Integrated Systems, and it has three components:

- Arid and Semi-Arid Region Agriculture and Environment
- Individuals, Families, Communities, and Organizations
- Globally Oriented Basic and Applied Research.

However, it is important to understand that the term “sustainable” is very broad and is not just about the environment (e.g. climate change, energy, water, plants, and animals). It is also about social and economic issues. It includes economics, global trade, food production, development, jobs, institutions, health, security, transportation, families, communities, communication, consumer perspectives, political interactions and infrastructure. Of course not all of our activities will involve sustainability or be restricted to arid regions We still must invest in basic research in all appropriate areas. But the concepts, including taking a systems perspective, where a variety of things are connected to other things, will be widely applicable to many college programs.

Implementing the Strategic Philosophy

College Focus Areas

These topics identify CALS activities without regard to specific administrative unit, and each administrative unit participates in more than one focus area. The relative effort and type of activity in each area will vary over time depending on available needs and resources. In addition to these focal areas, most administrative units are involved in activities related to leadership, technology, innovation; food production, security, safety; and social, physical, and bioscience related topics. Areas are listed in order of current relative CALS resource allocations. Detailed descriptions are in Attachment 5.

1. Environment, Water, Land, Energy, and Natural Resources
2. Plant, Insect, and Microbe Systems
3. Human Nutrition, Health and Food Safety
4. Animal Systems
5. Children, Youth, Families, and Community
6. Consumers, Marketplace, Trade, and Economics

Special Approaches to Help Our Students and Others

1. Adapt to global climate change and to different water, energy, and food conditions
2. Adapt to appropriate technologies, with particular reference to the roles played by molecular biology and information technology
3. Emphasize interdisciplinary actions within the college and in working with others – as partners, collaborators, alliances, or teams, and without regard to institution or location.
4. Emphasize broadly defined sustainability concepts: the environment and resources, organizations and institutions, communities, and infrastructure.
5. Recognize our students and audiences are becoming more diverse in many ways—ethnically, technologically, and in their work and home environments.

Implementing the Strategic Plan

Since this plan is a different approach, there will be questions for all involved in just how to implement it. Attachment 6 is a FAQ list to address some of those questions, and Attachments 7-10 list issues relating to implementation, assessment and resources. Included in Attachment 7 is the need operational or tactical plans, prepared by the college and units in the college, that address priority setting, resource allocation, and communication.

Attachments

More detailed information about the changing world, the six focus areas, implementation, assessment principles and guidelines, and comparison institutions and references are in Attachments 1-10.

For Further Information

The dean's planning website (cals.arizona.edu/dean/planning) contains copies of this plan and all the materials used in its development. These materials include lists of environmental scans done by CALS and others, studies related to Arizona higher education, and higher education scenarios. In addition, there is a specific background document for developing this plan and links to the strategic plans for the Arizona Board of Regents and the University of Arizona.

Attachment 1

The Changing World: The New Normal, Smart Change, and Higher Education

Definitions

New Normal – New Normal indicates we are in a long term transition and that when the current economic crisis is over, we will not be returning to an earlier time. Rather, our “normal” times will be different and currently unpredictable.

Smart Change – Change that is cosmetic or ineffectual is not smart. Smart change is of two types: 1) understanding in advance the likely future given in the direction the world is heading, and 2) reacting to changes in a positive manner (experimenting with innovative approaches, taking advantage of other people’s experiences, increasing incentives and removing constraints so change can occur more easily).

Global Considerations

Major periods of change have occurred in the past and over time we adapted to the new conditions (either rapidly or slowly, depending on the type of change). We are in the beginning stages of another major change period, but this one is expected to be different:

- There are many significant things happening at the same time – technology, demographics, economics, resources, and general infrastructure;
- The scale is larger and the pieces are more interactive and this combined with so many significant things happening makes for more uncertain times; and
- The degree and complexity of change requires extra effort on the part of many institutions (e.g., business, government, and education).

Higher Education Futures

In many ways higher education is quite traditional but there are also many things that have changed over the years, even whole educational institutions. As new discoveries are made or technologies change the way we do things, we all change to some degree. But there also have been major changes in the past, so we know how to change when we need to (examples: formation of the Land Grant university system in 1862, establishment of the National Science Foundation in 1950, incorporation of the world wide web in everything). However, there are also constraints to change in the way of procedures, policies, and traditions. Currently there is more receptivity to change because of economic trends and the severe financial constraints placed on universities. Representative examples of studies and experiences on changes in higher education are on the dean’s web site: cals.arizona.edu/dean/planning

College-Level Focus

Colleges of Agriculture have changed dramatically over the years and a number have added “Life Sciences” to the name, as we did in 2000. But colleges of agriculture differ from other colleges on a campus because of their historic roots as the most significant initial college of the “land-grant” universities (that began in 1862). The terminology has changed: home economics in some cases became family and consumer sciences, and animal husbandry became animal sciences. Several departments moved from a production focus to a science focus, incorporating modern molecular biology or precision planting, which in turn impacted practical production methods. We know how to change, but the New Normal and Smart Change will accelerate the change we must make. We can learn from others but we also have unique circumstances within Arizona that need to be addressed. Some examples of the changes we might expect, based on commonly discussed options include:

- Becoming more efficient and effective
- Redesigning curriculum and requirements
- Offering many learning options and paths
- Reevaluating revenue sources
- Getting smaller in employees and programs
- Rewarding innovation and removing barriers
- Increasing collaboration with other universities
- Minimizing duplication and maintaining focus

Attachment 2

Key Driving Forces—Clusters of Related Trends

Each of these five “driving forces” is a cluster of trends that identifies the key directions where major changes are anticipated to occur in the next 10 to 20 years. The period less than 10 years is heavily influenced by current trends and the period over 20 years contains too many possible options to make for easy consideration. Each driving force cluster is composed of two terms (e.g., Science and Technology) followed by and two subtopics (e.g., Bioscience and Information Technology). The key implications for CALS are listed for each driving force.

Economic and Financial— • *Globalization* • *Recovery and Effects of 2007 Recession*

The economy is now global, US debt is increasing, and financial and other institutions are undergoing change. The 2007 recession-related activities will have a longer recovery period than historic recessions and the aftermath could last a number of years. The changes made as a result will impact our programs as well as our clients and ripple through all our focus areas. In the US the middle class is decreasing as a percentage of the population but on a worldwide basis it is increasing. More representative measurements of progress than simplistic indicators such as GDP are being developed, and the impacts of aging and entitlement programs will increase.

Implications for CALS: It is difficult to estimate future economic conditions and our resulting funding levels.

Physical and Social Infrastructure— • *Modernization* • *Sustainability*

Urbanization is growing. The central Arizona region is defined as the Arizona Sun Corridor Megapolitan Area, one of 20 such designations in the US. The infrastructure is both aging and changing, and includes buildings, transportation of goods and people, the production and transportation of energy and water, life-support systems, communications systems, and the governance mechanisms and roles of government that allow society to function. For the university to address this requires more than just resources or simple reorganizations.

Implications for CALS: This is a neglected area that will demand much more attention.

Population and Demographics— • *Aging and Diverse Population* • *Digital Natives as Students*

The first baby boomers turn 65 in 2011, several states are heading toward no “majority” cultural populations (increased diversity), and costs for medical care and retirements are unsustainable under current assumptions. The Digital Natives, students (born after about 1980) who grew up with modern information technology, learn and function differently than many faculty. There is no single answer but change is clearly happening.

Implications for CALS: Fundamental shifts in age and diversity will impact our programs and our funding.

Resources and Environment— • *Energy/Water/Food* • *Global Climate Change*

New sources of energy and more efficient water and energy use will increase. Food, both internationally and in the US, will become more vulnerable to climate change, urbanization, and alternative land uses. There are signals that the rate of food production gains over the years may lessen. Global climate change will have an impact on all aspects of the southwest and all our focus areas.

Implications for CALS: This is an area of increased emphasis and need.

Science and Technology— • *Bioscience* • *Information Technology*

Bioscience is continuing to make changes and the implications of those changes on society and agriculture are continuing to unfold. Information Technology brings “smart” everything (including sensor uses and robotics) and changes the way people work, learn, and interact socially. The web has moved from Web 1.0 (library, content) to Web 2.0 (collaboration, social networking), and is becoming “smarter” as it continues to evolve rapidly. These two changes ripple through many of our focus areas. Research and Innovations in some developing countries are increasing.

Implications for CALS: These areas will continue to be important to everyone.

The Bottom Line

We are entering a new era: many things are changing to a significant degree, all at the same time. When the economy recovers in several years we still will be facing additional challenges from these and other factors. The key words are 1) “smart change” on a continuing basis, 2) “system” or “integrated” as many things interact with one another, in expected and unexpected ways, 3) “new normal” because once we get through the impacts of the recession we will not return to the “old normal”, and 4) “sustainability” as an overarching concept (sustainability used here applies to many topics and not just the historic environmental area).

Attachment 3

Near Certainties, Key Uncertainties, and Challenges

Near Certainties

These trends in the U.S. and Arizona are relatively certain, although the form they take may be largely uncertain.

1. Increasingly diversity and cultural transformation along with aging and migrating populations.
2. Increased constraints on infrastructure: water, energy, transportation, and education.
3. Climatic change, changing energy sources, and new transportation and food systems.
4. Intensifying debates on government services vs. taxes, particularly regarding financial impacts during the 2010-2015 time frame.
5. Increased competition for university resources (appropriated funds, research grants, donations).
6. Information technology and personalized connectivity play a larger, expanded role in our lives.
7. Expanded collaboration and communication among various groups becoming more common.
8. Smarter everything as intelligent devices and processes become more common.
9. Changes in institutions as we know them, including higher education.
10. Sustainability issues becoming more pervasive throughout society – in many subject areas.

Key Uncertainties

We need to be continually flexible and alert to changes in the external environment. We need to plan for key uncertainties and also be agile enough to respond to those that come on short notice or do not materialize. CALS' key uncertainties are focused on university-related issues and formatted as questions:

1. Will sufficient funding be available (from all types of sources) to accomplish what we believe should be done? How will we define what should be done? How will competition for these funds affect us?
2. Will the early indicators of significant cultural shifts and resource constraints (e.g., of climate change, water and energy availability at affordable prices, increasing diversity) disrupt the smooth functioning of society?
3. How will concern over terrorism (physical, biological, electronic) impact our ability to function? How will regulatory responses impact us (e.g., foreign students and scientists and their travel constraints)?
4. How will conflicts over taxes vs. services and private vs. public good be resolved? What is the impact of increasing public and private debt on the functioning of society?
5. How will students learn in the future? Where will they get their education? How will the University of Arizona and CALS respond to possible changes in student needs and preferences? How quickly will the mix of various learning styles change? How will this affect the finances, staffing, and the physical structure of the university?
6. How will universities restructure themselves (or be restructured from the outside) in light of the changes taking place in society? Do we need to redefine the covenant between government and the people, between a university and the people, and between the government and the university?
7. How will the growing gap between rich and poor in the world, U.S., and Arizona, affect society.
8. How well will the university and its internal and external constituents manage change over the next 20 years?
9. How will we know what we don't know but need to know for effective change?

Challenges

1. Developing a communications effort so college members agree on the need to change and to agree on these and other near certainties and uncertainties.
2. Working together to find solutions, experimenting with new approaches, and discarding obsolete approaches to attain our vision and mission.

Attachment 4

Our Dilemma: Making Sense of Conflicting Trends and Rapid Change

We are faced with a changing environment that is difficult to plan for. While it is hard to be too specific, we are making the basic assumption that it will take about a decade or longer to recover from this recession, and the first 5 years or so of this plan may be focused on evaluating the types of changes we need to make and to begin their implementation, with the second 5 or so years to modify and fine tune changes to complete the transition period.

The “Key Driving Forces of Change” in Attachment 2 describe the critical factors, concluding with the observation that many things are changing to a significant degree, and at the same time. How we address ALL these issues in an efficient and effective way is the dilemma. But it is even more complex, as not only is education undergoing change, but society itself and government is changing.

To deal with this dilemma requires looking at the system as a whole and understanding why and how times are changing. It thus requires a new mindset as well as learning to deal with rapid change. The terms “new normal”, “smart change”, “system”, and “sustainable” may initially seem like buzz words, but they describe both the dilemmas we face and the way ahead.

Depending on which assumptions we wish to use and what our overall outlook is, we can:

1. Be Pessimistic, Realistic or Optimistic

One can look at the future as having overwhelming problems or many new opportunities – or a combination of both - for living under new conditions, while addressing relevant problems. Three points of view:

Donella Meadows (et al.): Limits to Growth: The 30-Year Update (2004)

Jared Diamond: Collapse: How Societies Choose to Fail or Succeed (2005)

Ray Kurzweil: The Singularity Is Near: When Humans Transcend Biology (2005)

2. Transform the University – In Many Areas and Significantly

We need to redefine Learning, Discovery, Engagement, Management, and Funding. A lot about these processes is known, and we can take advantage of that knowledge as well as learning from reviewing successful transitions. Two examples:

- a) Stanford University. Program in Design Thinking. Available to any graduate student in traditional degree programs by integrating classes on multidisciplinary innovation – a program held together by common values of the participants. www.stanford.edu/group/dschool/
- b) Megapolitan: Arizona’s Sun Corridor. Recognize that the Phoenix-Tucson region must work as a unit, with universities, as part of the overall progress and needs of the state. Morrison Institute, Arizona State University. 2008. www.asu.edu/copp/morrison/

Many paradigm shifts have occurred in the past, and we are familiar with how cycles operate over time. This time the shift is large and complex and the long-term negative implications of simply using the same old approaches are huge. We need to remember that we have been through difficult times, which when viewed from a similarly relevant vantage point for those times, were also seen as difficult to address.

Possible Solutions to These Dilemmas

1. Accept that significant change is fundamental to a sustainable and successful future.
2. Learn to deal with state and federal governance structures that are undergoing their own transformation process (and are largely broken now given the times we live in).
3. Prepare for an economy that may take a decade to recover and may be quite different when the process is completed.
4. Recognize that universities will need to focus their efforts and approaches in new ways as well as look at new funding sources and increased competition for those funds, including the educational version of existing public private partnerships.

One set of examples of change is the way university research parks could change - see Institute for the Future. 2009, 40 pages. Future Knowledge Ecosystems: The Next Twenty Years of Technology-Led Economic Development. iff.org/files/deliverables/SR-1236%20Future%20Knowledge%20Ecosystems.pdf

Attachment 5

Description of Our Six Focus Areas

These topics identify CALS activities without regard to specific administrative unit and include both on- and off-campus locations (instruction, research, and extension). Each administrative unit participates in more than one focus area. The relative effort in each area will vary over time depending on available needs and resources. In addition to these focal areas, most administrative units are involved in activities related to leadership, technology, innovation; food (production, security, and safety); and social, physical, or bioscience related activities. Focus Areas are listed in order of relative CALS resource allocations in 2010 (shown next to title as percentage of the state and other funding). These focus areas can also be grouped into three science categories: Biological Sciences, Natural Sciences, and Social Sciences.

Environment, Water, Land, Energy, and Natural Resources (37%)

Concerns the issues related to protection, enhancement and sustainable use of our basic environmental resources. These are soil, air, and water and the conservation, management and use of natural resources (wildlife, fisheries, rangelands, forests, watersheds, and flora and fauna ecosystems). Sustainable use of resources and the environment requires attention to public policy and an understanding of human factors as well as resource assessment, monitoring and management.

Plant, Insect, and Microbe Systems (24%)

Addresses the production and biology of plants used for food, fiber, livestock feed, industrial products, and for environmental and aesthetic purposes. Optimal and sustained productivity is based on understanding plants from the molecular to ecosystem levels, and implementing best management practices, including integrated pest management for insects, weeds, and pathogens.

Human Nutrition, Health, and Food Safety (12%)

Focuses on the relationships of the life sciences to human health promotion, disease prevention and food safety. Programs use interdisciplinary approaches to discovering, translating, and applying how nutrition and physical activity can prevent disease and promote good health and well-being. The safety and quality of food for human consumption includes transportation, processing and consumer handling. Overall approaches range from basic cellular and molecular research to clinical human research studies and educational programs.

Children, Youth, Families, and Community (10%)

Focuses on economic, social, psychological and biological factors affecting individuals, families, and groups over their lifespan. Topics include effective parenting, violence prevention, resource management, responsible decision-making, economic well-being of families and consumers in the marketplace, leadership skill building, and reduced exposure of children to toxins via integrated pest management in schools.

Animal Systems (9%)

Encompasses contemporary methods of biology to improve productivity and increase the quality, composition, safety, and desirability of animal products; promotes the use of integrated and long term sustainable production systems that are compatible with arid environments; enhances genetic diversity and biological performance; and improves the health and well-being of food and companion animals.

Consumers, Marketplace, Trade, and Economics (8%)

Deals with supply-chain management and retailing processes from perspective of both the consumer and the business organization, global and national trade activities, and economic analyses of food and fiber as well as natural resources (including water, land, and the environment). It also contains the economic analysis and resource allocation processes of businesses, governments, and consumers and the strategic analysis the environments in which market participants operate.

Attachment 6

Frequently Asked Questions About the Plan

1. *In a nutshell, what is the thrust of the 2010 plan?*

It is about two things: CHANGE and how we can live with it, and the NEW NORMAL. See the next item for definitions of these terms. The new plan offers guidance and ideas without specificity. It continues the idea of living in a VUCA world (volatile, uncertain, complex, and ambiguous) and using a FAIR approach to deal with it (flexible, agile, innovative, and responsive), although there is now a much more serious need to understand and internalize the actions represented by these terms.

2. *There are some new terms in this plan – how are they defined?*

- a. Discovery, learning, and engagement as new terms were first suggested by the 2000 Kellogg Commission report. These terms replace teaching, research, and extension. Several universities have switched to three terms, and CALS also found they more accurately described what we do.
- b. “Smart Change” is change that is well-reasoned in advance, is planned for, is consistently addressed, and is expected to make lasting improvements. There will be lots of changes, some of them anticipated and some coming as surprises. Change should become a way of life.
- c. “New Normal” indicates we are in a long term transition and that when the current economic crisis is over, we will not be returning to an earlier time. Rather, our “normal” times will be different and currently unpredictable.

3. *How are other universities and colleges changing their planning approach?*

Some universities are changing and some are not. More universities over time are reading the environmental scan materials the way we are and their plans are changing – becoming less specific and more flexible. More studies about the changing environment for higher education are becoming available, including those by the National Academy of Sciences and by former university presidents. It is quite clear change is coming but universities have a lot of inertia to be overcome. It is difficult for a college within a university to change alone. Our college holds the bulk of the “land-grant” programs at the University of Arizona. Our plan fits our needs yet is not in conflict with the university plan.

4. *What about existing barriers to some of the changes we feel are necessary?*

This is a problem. Many barriers to change have accumulated over time, in numerous areas: how we evaluate and reward people, how we design courses and curricula, how we report and assess progress, how we teach, and how we manage using techniques largely developed before the electronic age. Another barrier lies in how individual units are administratively structured vs. how subject matter has become very interdisciplinary. These barriers exist within our college units, the college itself, the university, the Board of Regents, the State of Arizona, and the federal government. Yet change is indeed coming and we need anticipate it and to be prepared to act rather than just react to it. This will be an important area to address on a continuing basis.

5. *Why are there no specific objectives and targets to achieve in the 2010 plan?*

Some older methods of strategic planning contain goals, objectives, and metrics. We did not do this for two reasons: 1) The effort involved in making and monitoring such estimates detracts from the strategic nature of the plan, and 2) The times are too uncertain to identify specific numerical targets.

6. *How does the 2010 plan differ from the 2005 plan?*

Some sections have been updated but are still similar to the last plan while other areas are quite different. There is a new vision, a refinement of the six focus areas, creation of a new “signature focus” and a change in the overall approach (less specific goals and more guiding principles). The plan was made smaller by eliminating details such as assumptions and challenges. These relevant details are available in a “background document” on the dean’s planning website (cals.arizona.edu/dean/planning).

Attachment 7

Implementation Guidelines

At the College Level

Basic Approach

The overall planning and management process should be viewed as constantly evolving, with the objective of continuous improvement and using the CALS vision, mission, and values as a guide. This overall framework is structured on the VUCA world we are living in (volatile, uncertain, complex, and ambiguous) and the FAIR manner in how we deal with that world (flexible, agile, innovative, and responsive). To be FAIR, we have to address near-term needs but also invest in the future. This strategic plan will be revised as required but at least each five years.

Setting Priorities

Priorities change over time as some activities are completed and new ones begun. Priorities also change as external needs change, new academic areas develop, or the availability of funding (earmarked or broad) is gained or lost. Priorities will be evaluated annually (but for a time frame of 3 to 5 years). They will be consistent with the strategic plan and results of program and unit assessments. The resulting priorities will be used along with the resource allocation criteria to set unit and program budgets. See Attachment 9 for assessment and resource allocation criteria.

Performance Indicators

Progress toward college goals will be measured by selected performance indicators consistent with University of Arizona requirements and may change as conditions change. Note in particular that Performance Indicators for the past may not be applicable for the “new normal” of a changed world. Examples of performance indicators are at the dean’s website: cals.arizona.edu/dean/planning

Operational Plan

Using the strategic plan as a guide, the college will prepare annually a rolling 3-year operational plan. Revisions to this plan would be finalized following the spring budget hearings and it would be updated whenever conditions warrant.

Barriers and Incentives

At appropriately set intervals the college will review barriers and incentives and make adjustments where needed.

At the Unit Level

Unit Strategic Plans

Appropriate administrative units (those that make presentations during the spring budget reviews) should prepare a brief strategic plan, using the college plan for guidance. This plan should be in a “roadmap” format (general directions and principles but not detail) and reference as much of the college strategic plan as practical. The plans should be less than a page and can be used to provide context for the unit operational plan described below.

Unit Operational Plan (or Tactical Plan)

Using the college and unit strategic plans (if any) as a guide, appropriate college units should prepare annually a 3-year operational plan. This plan in draft format would be discussed at the spring budget hearings and finalized following the annual budget allocation. Specific format guidelines and timelines will be provided to the college administrative units and posted on the Dean’s planning website.

Attachment 8

Principles of Good Practice and Peer Institutions

These principles of good practice are worthy examples but there are others available as well. Some of these principles are almost 20 years old but they are still applicable. This topic should be monitored and new principles considered as they become appropriate.

Providing General Guidance While Still Allowing for Flexibility

We need to have principles for making choices while allowing for the anticipated flexibility and uncertainty that we expect. We still need to make budgets, evaluate programs and people, and measure and report our activities. But we also need to reward people for doing innovative things, even if they fail. We need to collaborate more and remove barriers to efficient and effective management, and we need to recognize the way we teach and engage student and others has been transformed by the world wide web. How do we do this without a map? We follow best practices developed by others, along with the Seven Guiding Principles for Leadership we have developed in our own college.

The Kellogg Commission's Statement of Principles to Guide Academic Reform (2000)

Developed by the Kellogg Commission on the Future of State and Land-Grant Universities as a guide for institutions as they enter the 21st century).

1. A Learning Community
2. Access and Opportunity
3. An Education of Value
4. Containing Costs
5. Accountability
6. Meeting New Needs
7. Flexibility and Responsiveness

Principles of Good Practice for Learning

There are many examples of good or best practices that can serve as guidelines for our own activities. Some lists stand the test of time and others change as conditions change. Some were established by organizations that no longer exist, some by educational organizations and others by non-education organizations. CALS will use such principles as are appropriate to college activities. Examples for undergraduate learning and its assessment include:

- Implementing the Seven Principles for Good Practice in Undergraduate Education: Technology as Lever (original 1987 principles plus comments for technology). 1996. AAHE Bulletin. polaris.umuc.edu/~cscshwebe/gsm800/7principles.htm
- Nine Principles of Good Practice for Assessing Student Learning. American Association for Higher Education. 1992 (organization no longer exists). condor.depaul.edu/~acafflpc/aahe.htm

Nine Land Grant Comparative Institutions for Comparison (Peers)

Peer institutions are used to benchmark a variety of activities and changes against a representative group of universities. In this case it is only the unit equivalent of the College of Agriculture and Life Science that is being compared. This list was developed by selecting all but two University of Arizona peers that are land grant but adding two others that are similar to CALS in their environment and size.

- | | |
|-----------------------------------|--|
| • Michigan State University* | • University of Florida* |
| • Ohio State University* | • University of Illinois* |
| • Oregon State University | • University of Wisconsin* |
| • Texas A&M University* | • Washington State University |
| • University of California, Davis | * indicates also a UA Peer Institution |

Attachment 9

Assessment and Resource Allocation Criteria

The CALS Seven Principles for Leadership

1. Budget consistent with core values, vision, mission, strategic directions and societal needs.
2. Focus on Efficiency and Effectiveness in everything – learning, discovery, engagement, and management.
3. Match rewards to intended behavior patterns, including allowing for failure testing new ideas.
4. Create a culture of communication and assessment in a consistent, timely and appropriate manner.
5. Recognize we have many employees, multiple audiences, and partnerships that require careful communication, cooperation, and explanations to function well. This is a case where one size does not fit all and appropriate methods will vary among different groups.
6. Develop a collaborative attitude and participatory decision processes in leading and managing the college.
7. Maintain or attain productivity measures comparable to or better than peers.

Assessment Criteria

Formal assessments will be conducted in concert with the University of Arizona academic program reviews, USDA National Institute of Food and Agriculture (NIFA) reviews, and the annual CALS departmental planning and resource reviews.

Periodic assessments will also evaluate each unit and program in relation to a set of comparative institutions, and consider relative changes in the demand for its services in learning, discovery, and engagement. In addition to these assessment methods, the college will obtain input on programs from advisory boards associated with county extension offices, agricultural centers and various academic departments. Periodic statewide surveys and stakeholder feedback sessions will be conducted to determine current needs, how well goals were accomplished, and program impact. These assessments will be used as part of the resource allocation process. We recognize that management methods used in past years may or may not be appropriate for periods of significant change.

Criteria for Resource Allocation (Priority Setting) to Administrative Units

1. Relevance to CALS strategic plan, particularly mission and focus areas.
2. Overall potential or actual significance and impacts to Arizona and the world.
3. Relevance to state needs, a unique geographical emphasis, or a unique program.
4. Ability to meet obligations for learning (teaching) programs.
5. Potential for developing new or basic knowledge.
6. Results and potential for increasing efficiency or effectiveness of units or programs.
7. Role in academic synergies and impact on other units if changes are made to unit or program.
8. Existing strengths, weaknesses, capacity, and critical mass of unit or program and college.
9. Availability of space and other non-financial resources.
10. Ability of unit to develop funding or leverage state funds for attracting other types of funds.

Attachment 10

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