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The University of Nebraska-Lincoln Center for Sustainable Agricultural Systems is an interdisciplinary center formed in 1991 for the purpose of bringing together people and resources to promote an agriculture that is efficient, competitive, profitable, environmentally and socially sustainable for the indefinite future. This electronic version of the Center's bimonthly newsletter is published 10-14 days before those on our mailing list receive their hard copy. At this time there is no charge for being on our newsletter mailing list. To be added to the list, or for questions or comments, contact the newsletter editor, Pam Murray, Administrative Coordinator, Center for Sustainable Agricultural Systems, 221 Keim Hall, University of Nebraska-Lincoln, Lincoln, NE 68583-0949, phone - (402) 472-2056, fax - (402) 472-7904, email - CSAS001@UNLVM.EDU.

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DEVELOPMENTS IN PLANNING NORTH CENTRAL INSTITUTE FOR SUSTAINABLE SYSTEMS

The concept of an institute using regional resources to teach students and others about sustainable systems was proposed earlier this year (see CSAS July-August newsletter). The draft proposal for an undergraduate major has been well received by deans and members of the Sustainable Agriculture Working Group (SAWG). The next step is to explore the specific components of the curriculum and how this will fit into current programs in each state. Regional faculty need to be identified and their credentials meshed with the course lists for the major. A regional workshop is planned by teleconference in early 1994 to acquaint the deans and key faculty with the potentials of the
program and to discuss plans for finance, credits, and recognition by each institution in the region. The draft preproposal for extension training in sustainable agricultural systems has also met with great interest both in Cooperative Extension and in the SAWG. With the likely financing of the 1990 farm bill Chapter 3 activities in training Extension educators and SCS personnel, the decentralized inservice training included in the preproposal seems to appeal to most people in the region and at the federal level. This proposal is being finalized for funding during the current fiscal year. A copy of either draft proposal is available from the CSAS.

[Submitted by Charles Francis]

SUSTAINABLE AG MENTOR PROGRAM

The Nebraska Sustainable Agriculture Mentor Program connects transitional (farmers in the process of changing practices) or beginning farmers with farmers who are successfully using sustainable practices such as rotational/intensive grazing, rotational or strip cropping systems, alternative crops, and direct marketing of farm products. Participating farm families meet one-on-one with a program mentor who assists them in implementing desired sustainable practices. Mentors are reimbursed for their time and expenses. The program, which began this fall, is cosponsored by the University of Nebraska-Lincoln, the Nebraska Sustainable Agriculture Society, and the Center for Rural Affairs. It is funded with a USDA-SARE two-year grant. For more information, contact: Tim Powell, Extension Farm Management Specialist, Northeast Research and Extension Center, Box 111, Concord, NE 68728-0111, 402-584-2261, or Lowell Schroeder, Mentor Program Coordinator, Rt. 1, Box 55, Stanton, NE 68779, 402- 439-5398.

[Submitted by Tim Powell]

NCR SARE SPEAKERS BUREAU

The North Central Region Sustainable Agriculture Research and Education program has formed a Speakers Bureau and is making up to one-half of speaker expenses (maximum of $500) available on a competitive basis. Matching funds are the responsibility of the host group. To receive a list of eligible speakers and an application form, contact: NCR SARE/ACE Speakers Bureau, 207 Ag Hall, University of Nebraska, Lincoln, NE 68583-0701, 402-472-7981. The form must be submitted at least six weeks in advance of the speaking date.

UNL'S ALICE JONES NAMED SARE DIRECTOR

Alice Jones, on leave from her position as Associate Professor of Agronomy at the University of Nebraska-Lincoln, has been named director of the Sustainable Agriculture Research and Education (SARE) program. She succeeds former director George Bird, who served in the position for two years and has returned to Michigan State University where he is a professor of nematology. Dr. Jones was the program manager for the USDA water quality grants program prior to her current position. She can be reached at: SARE Program, CSRS- USDA, 342 Aerospace Bldg., 901 D St. SW, Box
UPDATE ON BUFFALO COMMONS: SEMINAR BY DEBORAH AND FRANK POPPER

In an October seminar at Nebraska Wesleyan University in Lincoln, Frank and Deborah Popper described their studies of demographics of the Great Plains. Based on analysis of population data, county by county, they conclude that this region is moving toward a concentration of people in a few regional hubs and a decrease in viable rural communities. From this "depopulation of the countryside" they suggest that development might best be served through focus on the best agricultural areas in the region and conversion of large tracts to grazing areas for native species, the so-called "Buffalo Commons."

In contrast to previous presentations where the Poppers suggested that this land could all pass into the public domain, they outlined a private/public partnership that could combine animal grazing with fee hunting, outdoor vacations, and other multiple use of this "commons." In response to a pointed question at Wesleyan, the Poppers said: "We are not telling you how to plan the future of the Great Plains! We are just giving you the statistics on population and describing what you are doing to yourselves. You have to make the choices!"

Whether people agree with this assessment of the future or not, the seminars and articles by Deborah and Frank Popper have certainly stimulated much discussion about the future of the region. This is a valuable exercise, as we evaluate where we are and what the natural resource base will support.

Editor's note: On October 18 the Nature Conservancy officially opened the Tall Grass Prairie Preserve in Pawhuska, Oklahoma. According to board member General Norman Schwarzkopf, the goal is to eventually have 1800 buffalo roaming this area.

LOCAL COMMENTARY ON BUFFALO COMMONS: INTERVIEW WITH JOE LUTHER

The "Buffalo Commons" has received much attention since Frank and Deborah Popper introduced the concept of a slowly depopulating plains area. Joe Luther, a scholar of the Great Plains and member of the faculty in Community and Regional Planning at UNL, refutes their arguments in the August 27 issue of the University of Nebraska-Lincoln publication, "Scarlet." He cites a recent study from the Denver-based Center for the New West with the title "Great Plains in Transition" that describes a region in transformation, not in decline. Luther maintains that basic rural values and love of the land are at the heart of this transformation. There has been a reduction in number of small communities, or "farm-to-market centers," since agriculture is more expansive and transportation is more efficient. Luther further says that farm productivity in Nebraska has never been
higher, whether measured in production per acre or per unit of labor, which refutes the impression one would get from the Poppers' thesis that we are in decline.

Luther continues to describe our need for new yardsticks, saying that continued growth to larger units or 'efficiency' is not necessarily the only model in the world. In fact, "in the case of sustainable development, it's not the most viable." There has been a long-standing trend toward concentration of people and power in cities, the places where grain was stored and decisions were made. Today with rapid telecommunications, this scene could change. There is no longer the comparative advantage of being close to the site of power and information.

The small town may be a viable political entity as well as a good place to live in the future. Luther cites the tendency, even in cities, to identify with a neighborhood, with the school, with a shopping area. In their work in community planning, Luther and colleagues have seen a wide range of strategies that smaller communities are using to maintain identity and economic viability. They see this as central to a future of sustainable development. As Luther puts it, "The whole key to sustainable development is to ensure that we're not taking actions today that are going to foreclose the options of future generations."

[The preceding two articles were submitted by Charles Francis]

AGRICULTURE AND RURAL COMMUNITY LINKAGES

John Allen, UNL rural sociologist in the Department of Agricultural Economics, presented a paper at the Harold Breimyer 1993 Agricultural Policy Seminar at the University of Missouri in November. For a copy of the full paper containing research references and study results, contact the CSAS.

*     *     *

A 1992 USDA SARE report prepared by the Sustainable Agriculture Quality of Life Task Force defined the meaning of quality of life:

"Quality of life is a product of the terms by which people relate to each other, socially, politically, and economically; and the terms by which people relate to other elements of their physical and biological environment. Sustainable agriculture is an evolutionary, integrated systems approach to production and marketing that represents a renewing, socially-responsible partnership of people and place." For over four decades rural sociologists have been asking the question of whether agriculture production, especially the increasing corporate structure of farming, has a negative influence on the quality of life of rural residents. Research that links agricultural production structure, especially farm size, to rural communities and the overall quality of life of rural residents is quite clear. Small family owned and operated farms have a positive impact on the quality of life of rural Americans. Keys to enhancing the quality of life in rural areas include facilitating the development and maintenance of small to medium sized family farms, while at the same time implementing policies to support
infrastructure development, especially telecommunications, in rural areas.

IN THE SEMINAR SPOTLIGHT

We have been fortunate to have several excellent speakers on the UNL campus over the past few months. Here are brief highlights:

*     *     *


Three main forces shaping agriculture since 1980 are: 1) restructuring of financing the industry (financial housekeeping); 2) changes in international markets; and 3) a quiet revolution in the way the food system does business. The key questions for the future are: 1) who will farm? 2) what products will be produced and to whom will they be sold? 3) where will opportunities lie?

Noting that farm families can only extract 10-15% of gross sales for family living expenses, Drabenstott believes farming in the future will be the province of the big. He also sees that: farmers will bear a bigger share of the risk as government reduces what it underwrites and safety nets are lowered; farmers will pay more attention to management spread, as do the food companies with which they are doing business; and farmers of the future will be master bridge builders in forming new alliances. Regarding competitiveness, Drabenstott said we have two choices: 1) sell in world markets and cut costs dramatically, or 2) sell more value-added where the profit margin is wider.

[Notes by Pam Murray]


Calling herself a humanist economist, Dalal said anthropologists suggest women invented horticulture as a response to survival. Because the hunting/gathering process that took men away from home yielded unstable supplies, the women who stayed close to home learned how to start root, vegetable, and fruit production. Civilization really took off when planting and harvesting progressed to grain production because grain could be stored -- allowing people to do things other than producing food (pyramids could now be built by slaves fed food made from stored grain).

Today (based on 1983 data) women account for two-thirds of the world's labor, but only receive 10% of the world's income and own 1% of the world's property. There is growing awareness that these are not only women's issues, but are really human concerns vital to our future.

Editor's note: Throughout the developing world, women produce most of the agricultural products and are the backbone of farming. They produce 80% of the food in sub-Saharan Africa, 46% in the Caribbean, 31% in North Africa and the Middle East, and 50-60% in Asia.

[Notes by Pam Murray]
PAUL THOMPSON, professor of philosophy and agricultural economics and director of the Center for Biotechnology Policy and Ethics, Texas A&M University, "Agrarianism and Agricultural Policy," Nov. 1.

Dr. Thompson traced the evolution of the agrarian tradition in the U.S. from Thomas Jefferson to Ralph Waldo Emerson and finally to such contemporary figures as Wendell Barry. He noted the emphasis placed by these thinkers on the virtues of hard work that are encouraged by life in an agricultural setting.

Most modern analyses of agricultural policy draw on ethical theories that emphasize either the necessity of not violating individual rights or the importance of consequences in choosing among alternative policies. The agrarian tradition, on the other hand, argues for the importance of allowing people to behave and interact with others virtuously regardless of universal rights or calculations of beneficial and harmful consequences. Thompson suggested that this agrarian tradition has had a strong influence on the formulation of U.S. agricultural policy. Although the strength of this influence may be declining today, it is unlikely to disappear completely from the arena of agricultural politics in the U.S.

[Notes by Wes Peterson]

JOHN IKERD, professor of agricultural economics and coordinator of Sustainable Agricultural Systems Program, University of Missouri, "Economics and Quality of Life Issues in Sustainable Agriculture," Nov. 3.

Sustainable agriculture is like a four-legged table full of food and the quality of life. The legs represent environmental soundness, resource conservation, productivity and profitability. All four legs must be raised at the same time or the table will tip and the food and quality of life will slide off. Humans have the philosophical right to tip the balance in their favor, but they also have the responsibility to prevent that tipping from occurring too far too fast. Conventional farming, with its focus on increasing production and continuous cropping, may be an example of that happening today. Sustainable agriculture practices help balance the table. Sustainability can maintain agricultural productivity. One study showed that from 1985-1992 Iowa farmers reduced nitrogen fertilizer use on corn nearly 19 percent while yields were maintained, and in 1992 yields were 145 bu./acre -- an all-time record. Ikerd believes this was due to better nutrient management -- the corn received as much nitrogen as before, but less was wasted. He added that Iowa farmers saved an estimated $80-89 million during 1989-90 through better fertilizer management. Ikerd challenged the U.S. to build a sustainable system and teach other nations about sustainability. He concluded that the post-industrial, knowledge-based society should shift from increasing agricultural production to enhancing the productivity of people.

Editor's note: Contact the CSAS for a copy of the paper containing Ikerd's seminar remarks. Also, a videotape of his
RICARDO SALVADOR, agronomy professor, Iowa State University, "Pop Agroecology and the University Researcher," Nov. 19.

Definition of Agroecology (from The Green Dictionary, Prentice Hall): "An interdisciplinary field of study focusing on applying ecological principles—such as biogeochemical cycles, energy conservation and biological diversity—to the design and management of agricultural systems and on their interrelationships with the biological, economic, political, and social systems of the wider world."

Based on Australian Arthur Miller's model, Salvador described a new way of looking at research in the university system. 'Reductionism' describes the division of larger systems into small and more easily understood components; the assumption is that knowing the parts can lead to knowing the whole through universal truths that can be applied to any system. 'Holism' uses this same objective analysis, but considers the importance of interactions and how they influence the performance of systems. 'Humanism,' in contrast, follows the belief that the individual human is the ultimate determinant of truths. And 'mysticism' suggests that there are dimensions beyond what can be scientifically understood, and includes those factors that are not easily measured in current economic or numerical terms. Most people who suggest agroecology as an integrating discipline include some of each of the above "isms;" at the very least, we need to look beyond reductionism as the basis for our study of a complex future in agriculture.

Salvador shared the following quote from Richard Norgaard of the University of California-Berkley: "Conventional scientists strive to bring new technologies derived from modern science to traditional farmers so they might become 'developed.' Agroecologists strive to understand how traditional systems 'developed' to enhance the science of ecology so that modern agriculture might be made more sustainable."

COMING SEMINARS

Two nationally known figures in the sustainable agriculture arena will visit us early in 1994. The following seminars will be in the East Campus Union and are open to the public:

CLIVE EDWARDS, professor and former head of the Entomology Department, The Ohio State University, will present two seminars: 1) "Importance of Systems Integration to Sustainable Agriculture," Jan. 20, 4:00-5:30; and 2) "Integrated Weed Management As a Major Component of Integrated Lower-Input Cropping Systems," Jan. 21, 2:00-3:30.

MATT LIEBMAN, agricultural ecologist and program coordinator of the Sustainable Agriculture Program, University of Maine, will present two seminars: 1) "Sustainable Development and Resource
Use in the Northeast U.S.," Feb. 17, 3:30-5:00; and 2) "Crop Diversity, Tillage Practices and Insect Seed Predators as Components of Weed Management Strategies," Feb. 18, 2:00-3:30.

COALITION RECOMMENDS SUSTAINABLE AG POLICIES

Critical steps for pursuing pesticide reduction goals and incorporating sustainable agriculture into the Clinton Administration's budget and policy priorities were outlined in a letter sent to the Administration in November and signed by 106 national and grassroots farm, rural, environmental, consumer, business, and religious organizations. In the letter three initial steps were supported: 1) increase support for federal programs which constitute the "fundamental building blocks for fostering a more sustainable agriculture;" 2) revise the objectives and procedures of the water quality and integrated pest management programs, and coordinate them more closely with sustainable agriculture initiatives; 3) retool technical assistance and educational resources, and retrain USDA personnel to make the system more capable of implementing sustainable agriculture and reduced pesticide use programs. Contact CSAS for a copy of the complete letter.


SCIENCE AND SUSTAINABILITY: WORKSHOP IN BELLEVUE, WA

"Reshaping Agricultural Research and Education" was the theme of a three-day workshop sponsored by Washington State University and the USDA/SARE program in late October. Karl Stauber of the Northwest Area Foundation led off the workshop with a survey of different visions of the future:

- A "utopian vision" that reflects a liberal view of the common good, that envisions solutions based on discovery of "better mousetraps," but that puts humankind on a perpetual treadmill of technology that eventually exhausts our natural resources.

- A "romantic vision" that confronts humankind with a choice between complacency and business as usual and the overwhelming need to preserve nature at all costs, even as we struggle to define individual rights and property and how this undermines the common good.

- An "ecocentric vision" of common good that is emerging with focus on natural resources, science based on new standards, and a unique responsibility of humans for themselves and all other species; this includes a systems perspective, need to optimize activities based on a variety of values, use of knowledge to further survival of all species, and recognition that ecosystems have their own rational sets of values.

[Submitted by Charles Francis]
UPDATE: PRESIDENT'S COUNCIL ON SUSTAINABLE DEVELOPMENT (PCSD)

The PCSD held its second meeting October 18 in Washington, DC (see CSAS July-August newsletter for background on the PCSD). The following is from a report posted on the Sustainable Agriculture Network (SAN) by Gabriel Hegyes and Tracy Irwin Hewitt.

* * *

In his opening remarks Vice President Al Gore stressed the importance of the PCSD work on policies that reconcile economic and environmental objectives. He also mentioned the importance of a philosophical shift away from single problem analysis to systems approaches for problem solving.

The task forces formed at the first meeting are: Principles, Goals and Definition of Sustainable Development; Public Linkage, Dialogue and Education; Sustainable Communities; Energy; Natural Resources Development and Environmental Protection; and Eco-efficiency. During the task force reports, sustainable agriculture was only mentioned in passing. The highlights listed below were discussion points during the task force sessions, and should not be considered as administration policy, or the policy of the PCSD.

- Suggested that the definition of sustainable development used by the Bruntland Commission be used to guide the PCSD: "meeting the needs of the present without compromising the ability of future generations to meet their own needs."

- Identified four connected themes of sustainable development: 1) eco-efficiency, 2) economic progress, 3) fairness, and 4) options for market mechanisms.

- Decided to establish regional teams to analyze the key problems and successes of representative watersheds. Each team will identify the key economic activities in the watershed that have exemplified sustainable development, contributed to resource degradation or have declined because of unwise use.

- Defined eco-efficiency as: "minimizing environmental impact while maximizing economic and social gain. Society must create the context needed to integrate eco-efficiency into business culture; supportive policies, regulations and economic incentives; an expanded and more broadly available technological base; and public values."

Sustainable agriculture was stressed at several points during the afternoon session. It was recognized that ecological farming must be approached within the overall context of U.S. agricultural policy. Jonathan Lash, World Resources Institute, wondered out loud about where it should reside: as part of the Sustainable Community, Eco-efficiency or Natural Resources task force? There was some discussion of making this a cross-cutting issue or a task force of its own.

Editor's Note: In early December a Sustainable Agriculture task
force was added. PCSD meetings scheduled for 1994: January 13, April 18, July 22, and October 28. Meetings will alternate between Washington, DC and other sites, and will also be open to the public.

DID YOU KNOW...

Ron Kroese, co-founder and former executive director of the Land Stewardship Project at Marine, Minn., has been named president of the National Center for Appropriate Technology (NCAT) which administers ATTRA.

ATTRAs Program Manager Jim Lukens is the new chairman of the Sustainable Agriculture Network (SAN), succeeding Jill Auburn of the University of the California Sustainable Agriculture Research and Education Program.

In August the EPA announced a new policy that will give priority to applications for registration of pesticides that have been shown to have a less dangerous impact on humans and the environment.

Nationwide, no-till farming last year totaled about 28 million acres-- roughly 10% of all acres under cultivation.

The Wallace Institute for Alternative Agriculture went from an annual budget of $85,000 in 1982 to a projected 1993 budget of nearly $900,000.

According to USDA-ERS, 41% of U.S. farmers now rent all or part of the land they farm, and half of U.S. farm landlords reside outside the communities where the farms are located.

At the end of November EPA announced that phaseout for the fungicide methyl bromide has been extended one year to Jan. 1, 2001. Methyl bromide has caused 5-10% of current worldwide ozone depletion; U.S. is responsible for 43% of use.

Dec. 1 USDA announced a $15-million program for converting land inundated by this summer's floods into wetlands.

RESOURCES

"Federal Grade Standards for Fresh Produce: Linkages to Pesticide Use (AIB-675)," report from ERS-NASS, 1-800-999-6779, $9.

"Agricultural Policy and Sustainability: Case Studies from India, Chile, the Philippines, and the United States," WRI (World Resources Institute) Publications, PO Box 4852, Hampden Station, Baltimore, MD 21211, $14.95 + $3 s&h.

USDA-ERS Ag Resources Situation & Outlook Report, Oct. 1993, features three special articles: a report on the factors affecting agrichemical use in corn production, a look at pesticide use by tillage system in corn and soybeans, and an
analysis of nitrogen application timing in corn.

Mid-South Directory of Agroforestry Producers and Researchers, 150-page directory includes information about operations and projects of 278 agroforestry farmers, extensionists, consultants and researchers in 20 states. Limited copies available free from Winrock International, c/o Fee Busby and Brenda Swain, Route 3, Box 376, Morrilton, AR 72110-9537.


"Biological Control of Insect Pests of Cabbage and Other Crucifers," North Central Region Publication 471, available from ICCS, University of Nebraska-Lincoln, 105 ACB, Lincoln, NE 68583-0918, $8 + $2.75 s&h ($5.50 for UNL individual orders).

CALENDAR OF EVENTS

Contact our office for more information:

Jan. 16-18 -- "Which Roe To Hoe," 13th annual conference of Northern Plains Sustainable Agriculture Society, Fargo, ND.


Feb. 16-17 -- Nebraska Fruit & Vegetable Growers Conference & Trade Show, Columbus, NE.

Feb. 25 -- "Alliance of Farm and Community," meeting on Community Supported Ag., Omaha, NE.

Feb. 26 -- "Sustainable Ag. and Quality of Life," Nebraska Sustainable Agriculture Society Annual Meeting, Columbus, NE.

Apr. 11-12 -- "Applied Research and Education in Sustainable
Agriculture: What Have We Learned?" (originally scheduled for Sep. 30-Oct. 1, 1993), Indianapolis, IN.


cfrancis2@unl.edu