

COMMENTARY: UNIVERSITY CONSORTIUM IDENTIFIES RESEARCH ISSUES

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“Interdisciplining science is the wave of the future.”

(Hon. Michael Leavitt, Secretary of Health and Human Services, May 10, 2005)

The National Center for Housing and the Environment (NCHE) in partnership and with financial support from the U.S. Department of Agriculture’s (USDA) Cooperative State Research, Education, and Extension Service (CSREES) established a consortium of university faculty to generate research priorities on natural resource and environmental issues that intersect with housing. Distinguished faculty from across the country were invited to convene at Virginia Tech’s Old Town Alexandria campus on November 5 and 6, 2004, for the first meeting of the University Consortium.

Dr. Colien Hefferan, Administrator of CSREES, welcomed the participants and stated that she was pleased to be able to support the work being undertaken by the University Consortium and looked forward to the proceedings. Dr. Hefferan’s remarks were followed by the presentations of three white papers that were written and sent to participants prior to the meeting, and then discussed at the meeting. Following their presentations, the authors of the white papers moderated brainstorming sessions around the themes outlined in the papers:

- *Rural-Urban Issues and Research Needs* by Dr. Lawrence W. Libby, C. William Swank Professor of Rural-Urban Policy, The Ohio State University
- *Housing and Habitat: A Review of the Literature* by Dr. David Sunding, College of Natural Resources, University of California, Berkeley
- *Smart Growth Primer* by Dr. Arthur C. Nelson, Professor and Director of Urban Affairs and Planning, Virginia Tech - Alexandria Center

The 25 faculty that constituted the University Consortium represented a wide range of academic disciplines including forestry, agricultural and resource economics, city and regional planning, housing and community development, landscape design, and architecture. Housing Education and Research Association members who represented housing included Joseph Laquatra, New York; Jorge Atilas, Georgia; Marilyn Bruin, Minnesota; Michael Goldschmidt, Missouri; and Claudette Reichel, Louisiana.

Some of the recommendations for research priorities that emerged from the University Consortium are presented here. A complete listing of all research ideas can be obtained from Joseph Wysocki (jwysocki@csrees.usda.gov) or Sharon Oxley (soxley@housingandenvironment.org).

Performance of Policy Options for Land Use Patterns at the Rural-Urban Fringe

While there is research with different regulations, incentives, and acquisition programs to guide local land use, there is little analysis of the land use results or the costs and benefits of implementing these different approaches. State and local land policy can be living laboratories for helping other communities develop meaningful and effective programs. What differences have these specific programs made on land use, cost of government, availability of affordable housing, and other indicators of performance?

Examples for policy impact research are Transfer of Development Rights, density transfer and development mitigation programs, monitoring of farmland easement purchase programs, and the effect on land patterns of rural zoning of various kinds. Further, many programs aimed at urban core land use will impact what happens at the rural-urban fringe. Such programs as land-banking for tax reverted land and housing incentives for improving downtown housing, including affordable units, fit in this category.

Analysis of Farmland Preservation Policies

Farmland preservation policies abound ranging from tax incentives to disincentives, right to farm laws, zoning, districting, performance approaches, and so forth. While many farmland preservation efforts are in place, there is virtually no research examining the effectiveness of preservation programs or whether they vary by region, commodity, market, or other factors. Indeed, there are numerous examples where preservation policies may, in fact, be counter-productive—more land may be removed from production because of them.

What is needed is a multi-faceted, longitudinal study that examines carefully the relationship between farmland preservation policies individually and preservation regimes (composed of multiple policies) on land preservation, land use, and productivity. Such analysis can be aided by the periodic Census of Agriculture and

Natural Resources Inventory as well as numerous annual USDA reports. The proposed research would identify a sample of communities using different policies or combinations over the past 10 to 20 years and measure outcomes controlling for a variety of factors. The result will be a critical assessment of which policies or combinations of policies work best and worst in preserving farmland and, more importantly, enhancing farmland productivity.

Sprawl and Residential Preferences: Investigating and Building Educational Strategies on New Understandings of Land Use

During the 1980s and 1990s, rural sprawl, which is characterized by the development of scattered residential uses in predominantly agricultural or forested landscapes, accelerated throughout the U.S., even in states where population declined. The trend of low density development with attendant sprawl-related problems requires research and outreach approaches that focus on the interplay among land use restrictions, residential siting, revealed and stated housing preferences, and demographic trends. This research project supports improvement of broad land use and residential siting practices to enhance environmental sustainability in rural landscapes. The following questions will be answered through this research.

- How do households seeking to purchase homes value the various aspects or attributes of houses, lots, neighborhoods, and communities that currently characterize their set of choices in the housing market?
- Would some house purchasers accept or even prefer houses in a less sprawling land use pattern if such houses were available?
- Which state and local policies are contributing to recent geographic patterns of housing construction?
- What are the educational needs of Extension educators, 4-H and other youth educators, local government officials, and other stakeholders that would be supportive of their leadership efforts in community land use understanding and decision making?

Supply Impacts of Regulation

Do environmental regulations increase the marginal cost of home building in that the developer must expend resources to get through the permitting process, design the project if necessary, and perform off-site mitigation? Does environmental regulation reduce the output of the project in an attempt to minimize on-site impacts? These possible cost increases could increase the price of new housing and transfer wealth from consumers to developers and landowners.

Another main effect of environmental regulation is the possible delay in the completion of the project. Previous research has shown that delay can have a significant negative impact on development incentives. More recently, there has

been some preliminary research about the effect of project delay on consumers. This research effort would characterize the impact of environmental regulation on housing development incentives. The project would create a model of the sequence of events in housing development, place environmental regulation within this sequence, and delimit the marginal effects of environmental regulation. The results of the study would be central to an understanding of how environmental regulation affects housing affordability and shapes the urban fringe.

Homeowner Perceptions of the Housing Development Impacts on Water Quality

Housing developments can impact surface and ground water quality due to non-point source runoff resulting from individual homeowner uses of pesticides, herbicides, and fertilizers on domestic lawns and gardens, as well as erosion caused by surges in storm drainage systems due to altered vegetative structure and increased impervious surfaces. Studies of public perceptions of impacts on water quality suggest homeowners view factors degrading water quality to originate primarily from agricultural operations and not from domestic uses by homeowners. Little research has been done to date to examine homeowner perceptions of the impact of housing developments on water quality, or of the perceptions agriculture operators have regarding impacts that housing developments have on water quality in agricultural areas surrounding developments. Research needs to be conducted to answer the following questions.

- What are the perceptions homeowners possess regarding impacts of non-point runoff from application of lawn treatments and storm surge on ground and surface water quality?
- What are the perceptions agriculture producers have regarding the role of domestic application of lawn treatments and storm water runoff on water quality in agricultural areas surrounding housing developments?
- What behavior changes would homeowners be willing to accept to mediate impacts of runoff from housing developments on water quality?

Next steps for the University Consortium members include: disseminating the recommendations from the meeting through various venues including conferences and publications; identifying funding opportunities in the public and private sectors; and the long-term goal of collaboratively preparing and submitting research proposals. CSREES and NCHE are committed to communicating research results to policymakers, stakeholders, and others. Following are two articles that are revisions of papers presented at the University Consortium.