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Colorado Professionals' Concerns, Abilities and Needs for Land Use Planning

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"Growth, budgetary concerns and economic development needs are the most pressing Colorado county-level issues."

"The greatest concerns are water quality, water quantity, and agricultural profitability."

"The greatest interest is in programs on an overview of land management tools, conservation easements, and public-private partnerships."

The state of Colorado is in a period of uncommon prosperity and economic growth. Five of the ten fastest growing counties in percentage terms in the United States are found in Colorado (Edelman et al., 1999) and projections are for the state to grow at a rate well beyond the national average into the foreseeable future. Nearly 1.5 million acres of agricultural land were converted between 1992 and 1997 (USDA, 1999). Colorado's population increased by 1/4 to more than 4 million between 1990 and 1999 (CDLG, 1999). The Denver Metro Area has increased in size by 500 mi² since 1987 (USDA, 1999). However, while most of the Colorado economy is growing, the agricultural economy is in a period of decline. In this climate of disparate economic opportunity, land (and other natural resource) use and planning pose particular challenges to the people and communities of Colorado.

Growth and change have created additional challenges and opportunities for many Colorado communities. Recent research has shown that growth, budgetary concerns and economic development needs are the most pressing county-level issues in Colorado. Land use issues and increasing demands on social services, particularly for aging and immigrant resident populations, were shown to be the most challenging growth concerns facing Colorado counties (DOLA, 1997).

Tools and strategies exist for communities to plan for and guide their futures. A variety of public and private, state, federal, and local agencies might provide training, insight or information to their clientele or constituencies regarding the tools and strategies available to them to manage their natural resources toward both private and collective objectives.

Approach

In the spring of 1999, a skills, abilities and needs assessment of Colorado professionals with agriculture and natural resource managing responsibilities was undertaken. Colorado State University Cooperative Extension, Colorado State Forest Service and American Farmland Trust agreed to collaborate on survey design, mailing lists, finance, analysis, dissemination of results and follow-up programming from this research effort.

A comprehensive mailing list of the individuals employed by the following organizations was compiled: County Commissioners and representatives of the Ute Mountain Ute and the

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Southern Ute Indian tribes, members of the Colorado Rural Development Council, Colorado-based personnel of the four agencies of the U.S. Department of Agriculture (i.e., Rural Development, Farm Service Association, Natural Resource Conservation Service, and Resource Conservation and Development), the Bureau of Land Management, the U.S. Forest, Parks and Fish and Wildlife Services, Colorado State Forests, Parks, and Department of Local Affairs, Cooperative Extension and Community College personnel, county assessors and real estate appraisers, bankers, lenders, and independent consultants, representatives of farmers' and ranchers' organizations, environmentally oriented non-governmental organizations, and land trusts.

In addition to demographic information, respondents were queried regarding their:

- 1) Degree of concern over identified growth issues (16 statements);
- 2) Knowledge of common growth management tools, agricultural land and open space preservation tools, and comprehensive strategic planning and visioning tools (27 statements);
- 3) Interest in educational programming on each of the statements in found in part 2 (27 statements); and
- 4) Educational preferences for media, location, duration, cost, format etc. (30 statements).

In this document the overall mean responses to Parts 1-3 above are reported. In Parts 1-3 respondents were asked to reflect their preferences on a 7-point Likert scale. On this scale "1" indicates strongly disinterested, unlikely, or unconcerned, "4" reflects a neutral response, and "7" indicates strongly interested, highly likely, or highly concerned (Appendix 3). In addition, the relative ranks of mean responses to each statement within a category (i.e., concerns, knowledge and skills, interests and needs) are reported. On this scale "1" indicates highest ranking response within a category and each number higher reflects an ordinal step lower in mean response (see APR00-06 for survey documentation).

Results

Concerns

Respondents were asked to gage the degree of concern of their clientele on 16 dimensions. All mean responses were greater than 4, indicating that there was some overall concern for all of the dimensions queried. The greatest concerns were water quality, water quantity, and agricultural profitability in decreasing rank order. The areas of least concern were large lot, low-density development, affordable housing and forestland conversion in increasing rank order (Table 1).

Table 1: Overall Results, Concerns

How concerned are your clientele about...	Mean	St. Dev.	Rank	Cluster
Rural/urban sprawl	5.11	1.73	7	4
Agricultural profitability	5.78	1.61	3	2
Land speculation	4.99	1.45	10	4,5
Agricultural land conversion	5.50	1.36	5	3
Forest land conversion	4.58	1.86	14	7
Wildlife habitat conversion	5.07	1.57	9	4,5
Multi-jurisdictional planning	4.83	1.44	13	6
Public finance (e.g., schools, roads)	5.42	1.33	6	3
Open space preservation	4.99	1.71	11	4,5
Affordable housing	4.68	1.60	15	6,7
Preservation of public outdoor recreation	4.92	1.55	12	5,6
Large lot, low density development	4.44	1.61	16	7
Air quality	5.10	1.46	8	4
Water quality	5.82	1.20	2	2
Water quantity	6.03	1.12	1	1
Preservation of the "rural lifestyle."	5.66	1.32	4	2

Scores reported on a 7 pt Likert scale where 1=not concerned, 4=neutral, 7=very concerned. Largest possible number of responses = 550. Ranking of scores are 1=highest to 16=lowest mean score. Clusters are statistically distinct rankings ($p < 0.05$) where 1=highest mean score and 7=lowest mean score. Mean rankings within each cluster are statistically equivalent.

Responses to four pairs of factors were strongly statistically predictive of one another in the overall results. Responses to client concerns over wildlife habitat conversion and forestland conversion were highly positively correlated (Pearson=0.66, $p<0.01$) as well as open space preservation (Pearson=0.55, $p<0.01$). Concerns over open space preservation were highly positively correlated with the preservation of public outdoor recreation (Pearson=0.55, $p<0.01$) and large lot, low-density development (Pearson =0.52, $p<0.01$).

Mean responses clustered into seven categories of responses. Water quantity stood alone as the greatest concern. However, water quality, agricultural profitability, and preservation of rural lifestyle formed a statistically similar group of strong secondary concerns. Agricultural land conversion and public finance issues fell into the third response cluster. At the other end of the scale, forestland conversion stood alone as an area of least concern to respondents in the state of Colorado.

Knowledge and Skills

Among the purposes of this survey was to gage the level of knowledge and ability of surveyed individuals in using common land use planning and management tools. This assessment was intended to identify sources of expertise in Colorado, to indicate whether an educational programming effort might be useful and at what level of expertise it ought to be targeted. This approach should improve both the appropriateness and efficiency of educational programming efforts in the land use-planning arena.

Respondents rated their knowledge and skill base on 27 dimensions related to land and other natural resource use and planning. Most (21) of factors evaluated could be categorized as legal "tools." Several (5) of the variables evaluated could be seen as social policy, planning or visioning approaches. One statement solicits an overall or overview assessment (Tables 2 and 3).

Only seven factors received neutral to positive knowledge and skill ratings by respondents. Overall, respondents felt that they possessed the greatest knowledge of fee simple land purchases, zoning and conservation easements relative to the other 24 variables. Respondents indicated the least knowledge of water banking or trusts, "bargain" lands sales, and moratoria. Except for strategic planning (4.41 mean score, 5 rank), knowledge of social process variables all had a mean score tending toward a lack of knowledge (<4.00). Three of the five social process variables received knowledge and skill ratings ranking below the midpoint (i.e., civic participation and dialogue approaches, ranked 14th; innovative public-private partnerships, 16th; and holistic framing of public issues, 24th) (Tables 2 and 3).

Interests and Needs

Knowledge and skill information can be combined with needs and interest information to determine the primary thrust and level of information communicated in educational efforts. Respondents were asked to rate their degree of interest in receiving educational materials on the same factors on which they provided their level of knowledge.

On average, respondents were neutral to positive regarding interest in educational programming on 18 of the 27 criteria, including all of the social process variables (Table 2). Respondents indicated the greatest interest in programs or material on an overview of land management tools, conservation easements, and public-private partnerships in decreasing rank of preference. They indicated the least interest in educational programming related to moratoria, development timing, and housing land trusts in increasing rank of preference (Table 3).

These results may help to improve the efficiency and effectiveness of educational efforts. For example, the low level of knowledge of public-private partnerships coupled with high desire for information indicates that introductory educational programming in this area might be well received. Similarly, the low level of knowledge of moratoria coupled with a low desire for more information indicates that an identified knowledge gap is likely to be inadequate to motivate educational efforts. The high level of knowledge and highly ranked desire for information on conservation easements indicates that educational efforts on the topic should be targeted to relative experts to be useful.

Table 2: Overall Results, mean scores

	Knowledge & Skills	Needs & Interests
How knowledgeable are you on...		
How interested are you in an educational programming on...		
Strategic planning	4.41	4.35
Land purchases	4.71	4.23
Purchase of Development Rights (PDR)	3.79	4.06
Land banking	3.72	4.02
Zoning (e.g., agricultural, performance)	4.64	4.52
Cluster Development	3.87	3.84
Planned Unit Development (PUD)	3.87	3.77
Capital Improvement Programming (CIP)	3.24	3.86
Impact fees and exactions	3.37	3.88
Development timing (phased)	3.40	3.68
Cooperative agreements (e.g., tax-base sharing)	3.24	4.05
Environmental impact statements (EIS)	4.49	4.21
Moratoria	2.99	3.38
Tax credits	3.63	4.10
Special designations	3.25	3.80
"Bargain" land sales	3.00	3.86
Conservation easements	4.64	4.81
Transferable Development Rights (TDR)	3.50	4.27
Land trusts	4.07	4.43
Water banking/trusts	3.17	4.47
Housing land trusts	2.80	3.71
Outright donations of property	3.83	4.17
Innovative private-public partnerships	3.71	4.68
Holistic framing of public issues	3.18	4.07
Civic participation and dialogue approaches	3.75	4.18
Multi-jurisdictional or regional planning approaches	3.82	4.43
Overall land & other natural resource planning tools	4.39	4.98
Scores reported on a 7 pt Likert scale where 1=no interest, 4=neutral, 7=very interested. Largest possible number of responses = 550.		

Concluding Remarks

Among those principally charged with providing information and educational programming on natural resource topics is Cooperative Extension and the Land Grant University system. The mission of Colorado State Cooperative Extension is "to provide information and education, and encourage the application of research-based knowledge in response to local, state, and national issues affecting individuals, youth, families, agricultural enterprises, and communities of Colorado." Is land use planning, broadly termed, an appropriate topical area for Colorado Cooperative Extension programming?

Largely, the traditional role of extension has been to focus on the profitability of agricultural operations, presuming that agricultural profitability was pivotal to the viability of rural communities. Increasingly, the benefits of diversifying a community's economic portfolio, coupled with the potentially detrimental impact of agricultural industrialization on small rural economies, have prompted Coloradans to look toward alternative means of capturing the private and social benefits of agricultural lands. The evaluation of these alternatives is complex, research intensive, and often, divisive. Clearly, Cooperative Extension has a role in providing relevant information, planning and issue framing support to these important community and individual decisions of rural Coloradans.

This survey provides an essential first step toward cost effective and useful educational programming on land use planning topics in the state of Colorado. It identifies areas of relative skill and ability, areas of relative need, and areas of relative concern. With this information Cooperative Extension and other educationally-oriented private and public agencies can hope to better serve our clientele.

Table 3: Overall Results, relative rankings

How knowledgeable are you on...	Knowledge & Skills	Needs & Interests
How interested are you in an educational programming on...		
Strategic planning	5	8
Land purchases	1	10
Purchase of Development Rights (PDR)	13	16
Land banking	15	18
Zoning (e.g., agricultural, performance)	2T	5
Cluster Development	8T	22
Planned Unit Development (PUD)	8T	24
Capital Improvement Programming (CIP)	21T	20T
Impact fees and exactions	20	19
Development timing (phased)	19	26
Cooperative agreements (e.g., tax-base sharing)	21T	17
Environmental impact statements (EIS)	4	11
Moratoria	27	27
Tax credits	17	14
Special designations	23	23
"Bargain" land sales	26	20T
Conservation easements	2T	2
Transferable Development Rights (TDR)	18	9
Land trusts	7	6T
Water banking/trusts	25	4
Housing land trusts	12	25
Outright donations of property	10	13
Innovative private-public partnerships	16	3
Holistic framing of public issues	24	15
Civic participation and dialogue approaches	14	12
Multi-jurisdictional or regional planning approaches	11	6T
Overall land & other natural resource planning tools	6	1
Ranking of scores are 1=highest to 16=lowest mean score. Largest possible number of responses = 550.		

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Bibliographical References and Related Resources

- American Farmland Trust. 1997. *Saving American Farmland: What Works*. American Farmland Trust, Northampton, MA. 334 p.
- CDLG. Demography Section of the Colorado Division of Local Government, *Population Projections and Ten Largest and Fastest Growing Counties*, Aug. 8, 1999. <http://www.dlg.oem2.state.co.us/demog/demog.htm>.
- Colorado Land Use and Land Protection Workbook. 2000. Forthcoming. Contact: Elizabeth Garner or Andy Seidl, Department of Agricultural and Resource Economics, Colorado State University, Ft. Collins, CO, 80523-1172.
- Daniels, Tom and Deborah Bowers. 1997. *Holding Our Ground: Protecting America's Farms and Farmland*. Island Press, Washington, D.C. 334 pp.
- Dillman, Don A. 1978. *Mail and Telephone Surveys: The Total Design Method*. John Wiley and Sons: New York.
- Edelman, Mark A., Jon Roe, and David B. Patton. 1999. *Land Use Conflict: When City and County Clash*. Farm Foundation, Chicago, Illinois. 44 pp.
- Johnson, K.M. and C. Beale. 1994. Nonmetropolitan Population Change in the 1990s. *Choices*, pp 22-23 (Fourth Quarter, 1994).
- Seidl, A. 2000. Regional Distinctions and Similarities Among Colorado Professionals' Concerns, Abilities and Needs for Land Use Planning. APR00-04. Agricultural and Resource Policy Report, Department of Agricultural and Resource Economics, Colorado State University, Ft. Collins, CO, 80523-1172.
- Seidl, A. 2000. Occupational Distinctions and Similarities Among Colorado Professionals' Concerns, Abilities and Needs for Land Use Planning. APR00-05. Agricultural and Resource Policy Report, Department of Agricultural and Resource Economics. Colorado State University, Ft. Collins, CO, 80523-1172.
- Seidl, A. 2000. Materials used for the 1999 survey of Colorado Professionals' Concerns, Abilities, and Needs for Land Use Planning. APR00-06. Agricultural and Resource Policy Report, Department of Agricultural and Resource Economics. Colorado State University, Ft. Collins, CO, 80523-1172.
- USDA. United States Department of Agriculture, 1997 Census of Agriculture - Colorado, 1999.

