Analysis of Eureka County Needs

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Extension Educators develop educational programs to address identified local needs. The Eureka County needs assessment considers data from surveys, focus groups, public meetings, media and other published sources. Research based educational programs directed at locally identified issues will serve as relevant, valued and useful programs for residents.

UNCE Mission Statement
To discover, develop, disseminate, preserve and use knowledge to strengthen the social, economic and environmental well-being of people.

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Overview of Eureka County

Eureka County was established in 1873. The largest population centers are located in the unincorporated communities of Eureka and Crescent Valley. Eureka County has the second smallest population in Nevada with well under one person per square mile (Eureka County, 2009).

Eureka County encompasses 4,176 square miles. The United States government owns and administers 81 percent of the land base. The total private land base in the County is 554,973 acres (Eureka County, 2009). The majority of the private land is located in the northern half of the county.

Elevation ranges from 10,461 feet to 4,000 feet. The lower elevations generally have 100 to 110 frost free growing days, with the potential for a killing frost at any time. This climatic constraint limits the type of alternative crops that can be grown in the area on a consistent, sustainable, low-risk basis.

The county’s economy is heavily dependent upon the mining and agricultural sectors (Harris, Fletcher, & Riggs, 2005). Both of these economic sectors depend extensively upon the use of natural resources that originate on federal land. Mining is the primary source of current economic activity, but agriculture is an important business component. Agriculture provides a smaller but more stable economic base over an extended time period, through the boom and bust cycles associated with mining. Eureka County is classified by the Economic Research Service as farming dependent (Rural Policy Research Institute, 2006).

Needs Assessment: Methods

Extension Educators develop educational programs based upon identified local needs. The Eureka County needs assessment considers data from surveys, focus groups, public meetings, newspapers, minutes from meetings and other published sources. Research and educational programs directed at the issues identified by local residents will be the most relevant, valued and useful to the county’s residents.

In 2008, the Eureka County Extension Educator participated in community meetings and met with representatives from the Bureau of Land Management, U.S. Forest Service, Nevada Department of Agriculture, local government officials, and individuals from throughout the county to learn about current local issues. Discussions at these meetings revealed local interest in the following topics:

- Community development
- Crop production
- Livestock production
- Rangeland/natural resources
- Horticulture
- Youth development

The Extension Educator developed a mail survey that addressed specific issues for each of these broad topics (Dillman, Smyth, & Christian, 2009). Survey participants were asked to rate the importance of a range of issues from low (1) to high (5). Participation was voluntary. Individual participants remained anonymous and their responses confidential. Participants were also invited to provide written comments for issues/concerns that the survey did not address. Nine hundred twenty four surveys were mailed to county residents and 123 were returned for a response rate of 13 percent. The actual response probably is slightly higher because of the overlap between residential and business addresses. Each survey returned was assigned a unique identification number and the data were entered into a spreadsheet for statistical analysis.

The countywide results for the top 10 issues were reported in a previous UNCE publication (McCuin, Schultz, & Smith, 2009) and are shown in Figure 1.
Additional statistical analysis of the needs assessment data with statistical software package SPSS 17.0 helped refine and clarify education and applied research needs in Eureka County. These refinements will provide clear direction for future programming.

To determine if the issues identified in each broad topic area were related to four community demographic variables Cronbach’s coefficient alpha (CCA) was used to estimate the internal consistency of the data. This measured how closely related a set of items are as a group (UCLA: Academic Technology Services, Statistical Consulting Group). The highest possible alpha score is 1.0. The demographic questions chosen are:

- Question 110 - usefulness of extension programming;
- Question 111 - 4-H participation;
- Question 119 - where respondent lives
- Question121 - length of residency in Eureka County.

The alpha scores for each topic are:

- Agriculture/crops: 0.906;
- Community development: 0.854;
- Range resources: 0.877
- Youth: 0.921

These alpha scores indicate that the group of topic questions is measuring the same information, permitting evaluation of each of the demographic questions against one variable instead of many.

Using Chi Square analysis, only those demographics that were found significantly different (< .05) are reported.

**Needs Assessment: Discussion**

Water availability and reliability of the source are the primary issues throughout the county and across all demographic sectors (Table 1). Farmers using an underground source are more concerned about groundwater and recharge to deep aquifers. Livestock producers and residents of Eureka and Crescent Valley are equally or more concerned about surface water, which provides a portion of their municipal supplies and water for livestock, wildlife and recreational purposes.

**Discussion on Agricultural Production and Crop Issues:**

Weed control was identified as the top crop production concern, followed closely by groundwater availability (Table 2). Plant pests and disease was the only other issue rating ≥ 4.0. However, irrigation efficiency, which is closely related to water concerns,
rated very high. Length of residency in the county is the only significant demographic variable related to the importance of each rating (Table 1; alpha score 0.906, p<0.05). Long-term residents (20+ years) are more likely to recognize agricultural production as important to the county, than are residents of less duration. This suggests that a percentage of the population is relatively new to the county, does not have a direct connection to agricultural production and/or does not know of or recognize the economic role of agriculture in Eureka County. No livestock production issue had a mean value rated equal to or greater than important (4.0); therefore, additional detailed results are not presented.

**Figure 2. Top 10 Agriculture Production/Crop Issues**

![Figure 2. Top 10 Agriculture Production/Crop Issues](image)

**Table 1. Agriculture Production/Crop Issues Demographic Variable – Rating of Importance by Length of Residency**

<table>
<thead>
<tr>
<th>Length of Residency – Ag./Crop Issues</th>
<th>Percentages (significance p&lt; .05)</th>
<th>Only significant demographics values are shown</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Importance</td>
<td>Moderately Low</td>
<td>Neutral</td>
</tr>
<tr>
<td>4.9%</td>
<td>18.0%</td>
<td>16.4%</td>
</tr>
<tr>
<td>&lt; 1 yr. residency</td>
<td>1-5 yr.s residency</td>
<td>5-10 yr.s residency</td>
</tr>
<tr>
<td></td>
<td>residency</td>
<td>10-20 yr.s residency</td>
</tr>
<tr>
<td></td>
<td></td>
<td>20+ yr.s residency</td>
</tr>
</tbody>
</table>

**Discussion on Rangeland Resources Issues:**

Respondents identified ground and surface water as the top two issues, followed closely by noxious weeds (Figure 3.). Riparian and rangeland health, fire and cheatgrass invasion were also rated important to very important issues (Figure 3). Land use for multiple use purposes also rated very high. The demographic variable most closely related with the the importance rating for each issue was the usefulness of Extension programs (Table 2: alpha score 0.877, p<0.01). This may indicate that survey respondents believe Extension education programs can benefit the use and/or management of rangeland resources important to Eureka county residents.
Table 2. Range Resource Issues Demographic Variable – Rating of Importance of Extension Programs

| Importance of Extension Programs – Range Resource Issues Percentages (significance p< .01) |
|---|---|---|---|---|
| Only significant demographics values are shown |
| Not Useful | Somewhat Useful | Neutral | Useful | Very Useful |
| 4.9% | 18.0% | 16.4% | 14.8% | 45.9% |

Discussion on Community Development Issues

Respondents identified six issues as important to very important: From most to least important they are: surface water, maintaining the county’s rural heritage, groundwater, elder care, K-12 education and medical care (Table 4). The demographic variable most closely related with the importance rating for each issue was the importance of Extension programs (Table 2: alpha score 00.854, p<0.05). This may indicate that survey respondents believe Extension education programs can benefit the community development issues important to them.

Discussion on Youth Issues

Survey responses about Youth were the most inconsistent and difficult to interpret. Eureka County residents appear very concerned about preventing at-risk youth behavior. Statistics from local law enforcement, however, show that local youth participation in at-risk behaviors is less than the Nevada average. Inconsistencies between the community survey results and the available data for youth are discussed in UNCE Fact Sheet FS-09-42 (McCuin, Schultz, & Smith, 2009). An expert panel helped analyze the difference between survey responses and youth statistics, and identified underage drinking as the primary youth concern. The panelists also credited alcohol use as the predominant link in the majority of crimes committed in the county, for both youth and adults. Police reports and data from “Kids Count” (Kids Count Data Center, 2008) confirm that youth violence, vandalism and crime rates in Eureka County are low.
During 2009 a total of 34 "index" crimes were reported in Eureka County giving the county a crime rate of 23.29 per thousand residents. Eureka County’s crime rate was the second lowest in the state, behind Esmeralda County (State of Nevada Department of Public Safety, 2009). The panel acknowledged problems with the use of illegal drugs, but stated that illegal drug use is largely confined to a distinct and small group of adults, not youth. Respondents also rated teen pregnancy a high concern, even though Eureka County did not report a teen pregnancy from 1999 through 2004 (Bureau of Health Planning and Statistics, 2007). The demographic variable most closely related with the importance rating for each youth issue was the importance of Extension programs (Table 4: alpha score 0.921, p<0.01). This may suggest that survey respondents believe Extension education programs can benefit the youth issues important to them.

**Summary Discussion of Results**

Eureka’s economy is heavily dependent upon renewable and nonrenewable natural resources, largely from federally administered lands. Natural resources play a significant role in all economic and social sectors of the county. Resource endowment theory argues that economic development in a region depends on the products produced from these natural resources (Harris, Dobra, & Riggs, 1999). Given the results of the survey analysis, the question is: what education and applied research programs should Extension focus its efforts to maximize benefit to the residents of Eureka County? The majority of concerns identified as most important to the county for Agriculture Production, Range
Resources and Community Development were 1) ground and surface water; 2) invasive weeds; 3) rangeland and riparian health and fire. All of these identified needs are directly related to and addressed through Natural Resource research and educational programming. August L. Hormay states that "…all renewable rangeland values stem directly or indirectly from vegetation. Sustained high-level production of these values therefore depends on proper management of the vegetation" (Hormay, 1970). Proactive resource management through a holistic or ecologically based approach to restore and sustain the health, productivity and biological diversity of ecosystems and the overall quality of life through a natural resource management approach that is fully integrated with social and economic goals offers the most direct and efficient means of addressing the priority concerns of the county (Brown, 1999). Improvement of rangeland, riparian and watershed functionality/health is a foundational approach to increase both surface and groundwater retention (Holechek, Pieper, & Herbel, 2004, p. 372). A holistic ecologically based approach to natural resource management also allows Extension to address other concerns about the invasion of noxious weeds, cheatgrass and wildfire (Holechek, Pieper, & Herbel, 2004, p. 512). A focus toward improved irrigation efficiency is a direct means of addressing withdrawal of water from the watershed. Both research and educational programming in this area could provide much-needed information to agricultural producers, citizens and decision-makers.

Weed control and the invasion of noxious weeds are major concerns of agricultural producers and the general public (Singletary & Smith, 2006). Weeds and weed control are program areas that Cooperative Extension can focus education and research programming.
Respondents to Community Development survey questions identified water as a primary concern. Eureka residents also indicated that they value their rural heritage and small town character. Additionally, elder care, medical care and quality of K-12 education are important community issues. Eureka County benefits economically because the largest U.S. gold mines are located in the northern portion of the county. The gold mining industry provides a substantial tax base through the net proceeds of mining tax. In 2010 the net proceeds from minerals generated about 7.77 million dollars for Eureka County (Eureka Co. Recorder). Additionally, the majority of privately owned land in Eureka County is located along the Interstate 80 corridor. Other infrastructure elements for transportation, energy and workforce are also located in, or near, the northern portion of the county. Therefore, it may be prudent to focus economic development in this area to preserve the rural heritage and small town character of the southern portion of the county.

Eureka County provides medical services by contract with Nevada Rural Health Services for Diagnostic and Treatment Centers in Eureka and Crescent Valley. Each clinic is staffed with one physician and one nurse practitioner. The clinics offer family medicine, women’s health services, pediatrics, occupational health, urgent care, family planning, health screenings, well-child care and immunizations, STD/HIV education, lab, X-ray, prescription dispensary, prenatal and newborn care, chronic illness management, and health education. A Medicaid Eligibility Specialist visits each clinic once a month to assist the community with available programs. The nearest hospitals are Elko General Hospital and Battle Mountain General Hospital. The county funds volunteer ambulance/EMT services in Eureka, Crescent Valley, Beowawe, and Pine Valley. Emergency medical flight service is also available.

Eureka County operates senior centers in Eureka and Crescent Valley. The Eureka Senior Center offers a daily lunch meal, transportation services, homebound meals, a housekeeping program, Medicare or Medicaid Insurance Assistance, food assistance, and recreational and social opportunities. The Fannie Komp Senior Center in Crescent Valley offers lunch, transportation, Medicare assistance, and recreational and social opportunities.

In 2009, Eureka County established the position of Public Guardian. The Public Guardian is the guardian of last resort and provides guardianship services to wards of Eureka County.

The concerns identified by Eureka County residents about medical and elder services mirror those expressed in UNCE Educational Bulletin EB-07-02, “Meeting the Needs of Nevada’s Older Adults: The Role of University of Nevada Cooperative Extension.” The bulletin recognizes that many of the identified needs statewide cannot be addressed by UNCE without new resources and prioritization of programming. Significant financial and intellectual capital would be required from the county and UNCE in order to accomplish these efforts.

Survey respondents believe Extension programs can benefit youth issues. 4-H is considered important for teaching life skills, improving communication skills and providing useful educational programs (Lewis, 2008). Eureka County maintains a small but active 4-H program (27 youth in 2009) split between traditional livestock programs, small animal programs (rabbits, poultry, etc.) and other programs (leather, sewing, etc.). Extension programming to enhance and expand both traditional and nontraditional 4-H curriculum should remain a priority.

Several local programs address youth at risk issues (e.g., drinking, drugs and pregnancy). For example, the Eureka County Juvenile Probation and Sheriff’s Departments proactively engage students to prevent activities related to adolescent use of alcohol, tobacco and drugs.
Conclusion

Analysis of the Eureka County needs assessment survey data identifies Extension research and educational programming specifically addressing water supply concerns, weeds and pests as the top priorities. Water availability and reliability are the primary issues that critically affect social and economic dynamics across the entire county. Extension programming focused on rangeland and riparian health offers significant potential to directly and indirectly address these issues (Holechek, Pieper, & Herbel, 2004). Without access and the ability to use natural resources, the economic sectors of mining and agriculture dwindle and the tax base declines. Access to public land natural resources is essential to community development. Proactive resource management through a holistic or ecologically based approach to restore and sustain the health, productivity, and biological diversity of ecosystems and the overall quality of life through a natural resource management approach that is fully integrated with social and economic goals offers the most direct and efficient means of addressing the priority concerns of the county (Brown, 1999). This analysis provides clear direction to the Eureka Extension Educator to focus research and educational programming on rangeland and riparian health and functionality as a general means of addressing the primary county issues. This approach also addresses other important issues such as weed invasion, community development and wildfire. Additionally, the analysis identifies educational programming to prevent underage drinking and to continue the 4H program.

References


