Regional Knowledge, Skills, and Abilities Required for ANR Extension Agents in Texas

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INTRODUCTION

Texas A&M AgriLife Extension Agriculture and Natural Resources (ANR) agents serve diverse agricultural and natural resource communities across all 254 Texas counties, requiring expertise that reflects local climates, commodities, and stakeholder needs (Ensle, 2005). Guided by competency model theory, this study examined how the knowledge, skills, and abilities (KSAs) needed for successful ANR agents vary across Texas regions (McClelland, 1973). Because agricultural production systems and environmental conditions differ throughout the state, regional KSA requirements are expected to differ as well. Identifying these variations can support more effective hiring, training, and professional development practices, helping agents better address local agricultural and natural resource challenges.

OBJECTIVE

The objective of the study was to survey a panel of experts and report the list of regional KSAs provided by panelists.

METHODOLOGY

This study was part of a broader Delphi study that sought to determine the KSAs required for ANR Extension Agents in the state of Texas. The expert panel was composed of 15 administrative leaders and experienced extension agents within Texas A&M AgriLife Extension Service and was considered reliable (Dalkey, 1969). Panelists responded to open-ended questions and responses were coded using inductive reasoning. Coded responses were organized by district and region (see table).

CONCLUSION & RECOMMENDATIONS

The Regional KSA lists developed in this study complemented the general KSA lists that were generated through the consensus process. The findings support the idea from competency model theory that effective performance depends on context-specific functional competencies rather than only on broad, generic skills (Chouhan & Srivastava, 2014; McClelland, 1973).

The regional KSA lists provide a practical tool for tailoring Extension human resource practices and professional preparation. For hiring, districts can incorporate region-specific KSAs into job postings and interview questions (for example, emphasizing small-grain and beef competencies in the Panhandle or forage, horticulture, and feral hog control knowledge in East Texas) to recruit agents whose expertise aligns with local needs. For training and professional development, AgriLife Extension can adjust onboarding and ongoing education to emphasize the KSAs highlighted for each region, building on existing programs such as orientation, mentoring, and workshops.

RESULTS / FINDINGS

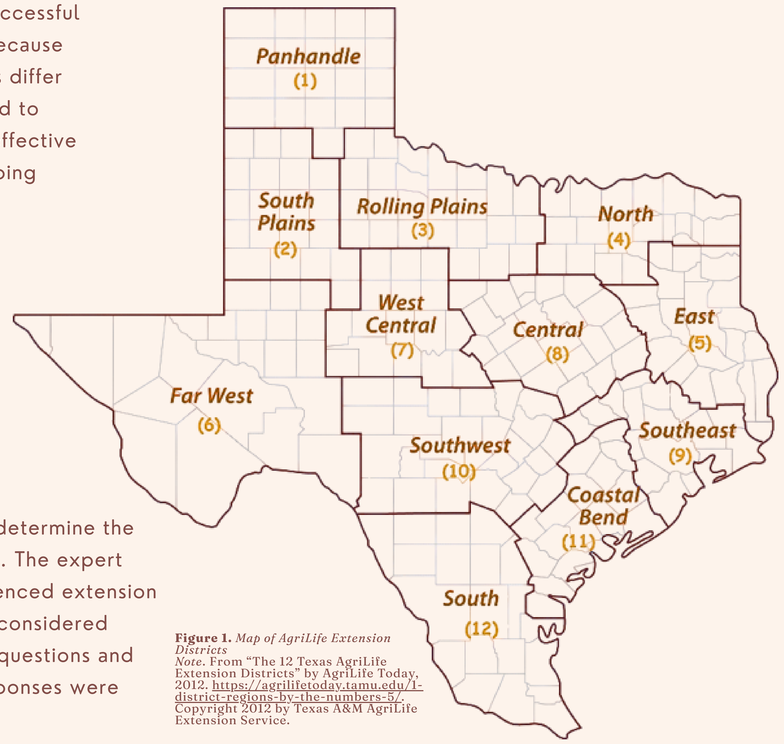

Figure 1. *Map of AgriLife Extension Districts*
Note. From "The 12 Texas AgriLife Extension Districts" by AgriLife Today, 2012. https://agrilifetoday.tamu.edu/1-district-regions-by-the-numbers-5/. Copyright 2012 by Texas A&M AgriLife Extension Service.

Regional KSAs Identified by Delphi Panelists (n=15)
District 1 - Panhandle
Knowledge of: Wheat, Sorghum, Silage, Stocker cattle/ cow calf operations, and Cotton
Identify plant diseases
Identify weeds and insects related to: Red winter wheat, Grain sorghum, Corn, Cotton, and Forage crops
Understand equipment and crop management tools
Provide irrigation advice
Provide nutrition and health advice for beef cattle
Provide marketing education for beef cattle and crops
Provide management information for youth livestock projects in marketing and breeding
Provide information related to: Horse management, Range grazing management, and Wildlife management
Assist homeowners with landscape and irrigation
District 3 – Rolling Plains
Knowledge of: Cotton, Wheat, Beef cattle production, Sheep/goat production, Wild hog management, Horses, and Wildlife management
Basic tree and grass knowledge
Disease identification and treatment
Soil/water conservation
New/absentee landowner needs
District 4 - North
Knowledge of: Fruit & vegetables, Forage, Livestock, Feral hog control, and Small grains
Lawn care
Small acre
Pesticide education
District 5 - East
Knowledge of: Beef, Forage, Forestry, Wildlife & fisheries, Horticulture, Climate, Landscaping, Pasture grazing/forage types, Pesticides (organic), Pesticides (non-organic), Pest identification, and Plant disease diagnosis
Visit with beef/forage producers about inputs and expectations
Visit with gardeners about inputs and expectations
District 6 – Far West
Knowledge of: Livestock Purchasing, Validation, Feeding, Care & health, and Show prep
Expert in at least one species
Vast Texas 4-H and contest knowledge
Regional ag production knowledge
Trained for specific areas of production
District 8 - Central
Knowledge of: Beef cattle production, Row crop production (cotton, wheat, oats, corn, soybeans, canola, and grain sorghum) and seasons, Dairy production, Small grains (wheat and oats), Sheep production, Goat production, Forage production (perennials and annuals), Vegetable gardening, Fruit/nut production, Wildlife, Native rangeland, Tree care, Landscape maintenance, Water, and Horses
District 10 - Southwest
Knowledge of: Entomology, Animal science, Horticulture, Water, Wildlife management, Range management, 4-H livestock projects, Validation, Show entry process, and Program promotion
Able to foster professional network
Central Region – Stephenville (Districts 3 & 8)
Knowledge of: Crops, Livestock, and Animal projects
East Region – Overton (Districts 4 & 5)
Knowledge of: Livestock, Forage, Horticulture, Pond management, Volunteer management, and Youth livestock projects
West Region – San Angelo (Districts 6 & 7)
Knowledge of: Dryland crop production, Irrigated crop production, Pasture management, Water management & conservation, Cattle ranching, Sheep/goat management, Brush/invasive species control, and Wildlife & habitat management
Use of various outreach platforms
Collaboration with producers
Collaboration with other ag organizations
Prioritize diverse programs
Total = 111

REFERENCES

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