ASSESSMENT OF THE OIL AND GAS INDUSTRY'S WORKFORCE CHARACTERISTICS

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BACKGROUND

- Unprecedented growth in western ND as a result of oil and gas industry development

- Oil field development will likely continue for over a decade

- Insight on the magnitude of oil field development and related population growth critical to planning and development activities

- Have completed estimates of employment and population in western North Dakota without insight into demographic characteristics of the workforce

WHAT WE DO KNOW

- State currently has a largely temporary, transient workforce that over the next decade will likely leave the state and follow employment opportunities elsewhere

- Little understanding of what to expect from the future permanent workforce
  - Likely substantial in-migration
  - The future workforce may very well have different characteristics than current workforce
  - Indicators suggest the population and workforce is getting younger

WHAT WE DON'T KNOW

- Lack representative data on demographic makeup of current or expected future workforce

- Lack an understanding of workforce turnover
  - What effects turnover
  - Challenges/constraints to workforce retention
    - Housing availability and cost
    - Lifestyle amenities
    - Other?

- Many unfilled jobs, why?
  - Lack of affordable housing
  - Lack of secondary workforce, e.g. spouses, teens
  - Other impediments…..e.g., childcare, other?
  - Payscale

NEED FOR STUDY: HISTORIC METHODS AND MODELS NOT WELL SUITED

- Census estimates do not include large portions of current workforce…..census does not count "service population"
  - "service population" is that portion of the workforce that maintains residency elsewhere
  - "service population" are not residents of ND although they are working and living at least temporarily or part-time in North Dakota
  - "service population" includes transient and temporary workforce, such as shift workers, pipeline and other construction worker, drilling and fracking crews
  - While not considered residents the "service population" still demands and requires public and private goods and services

- Census only counts North Dakota residents

- Census projections not able to account for rapid change in birth rates, in-migration, change in demographic makeup

- American Community Survey is reported as a 5-year average; results outdated in periods of change

NEED FOR STUDY: HISTORIC METHODS AND MODELS NOT WELL SUITED (CONT.)

- Traditional assessments of population do not address other elements
  - Housing preferences such as location, type and cost
    - Preference for larger communities such as Minot, Williston, Dickinson or smaller communities close to work activities
    - Rent vs purchase
  - Future intentions….e.g., remain a transient worker versus relocating to North Dakota
    - Would workers move if affordable housing was available?
    - Would not relocate under any circumstances?
  - Perceptions
    - Positive or negative views of North Dakota
  - Other constraints, challenges, shortcomings
    - Housing
      - Availability
      - Cost
    - Lack of services or amenities
      - day care
      - recreation opportunities
      - lifestyle amenities, e.g., shopping, arts, entertainment

NEED FOR STUDY

- Lack of understanding of workforce characteristics affects planning and delivery of:
  - Private services
    - Housing
    - Retail and commercial goods and services
    - Health care
    - Child care
  - Public services
    - Education
    - Recreation
    - Critical services like fire, law enforcement and emergency services
  - Public and private infrastructure
    - Roads, water, sewer
    - K-12 classrooms
    - Parks and recreation infrastructure

STUDY OBJECTIVES

- To make a comprehensive assessment of the demographic characteristics of the current and expected oil and gas industry workforce, including the workforce in other related industries.

COMPREHENSIVE PRIMARY DATA COLLECTION EFFORT

1.   **Personal Interviews**

2.   **Focus Groups**

3.   **Workforce Survey**

METHODOLOGY: PERSONAL INTERVIEWS

- Interview
  - Business and industry representatives
  - State and local leaders
  - Decision makers
  - Others
- Outcomes
  - Interviews necessary to gain an understanding of the size and makeup of various components of the industry
  - Efforts will guide survey sampling and development of survey instruments
  - Provide insight into the characteristics of the current and future workforce

METHODOLOGY: FOCUS GROUPS

- Interview new residents in a cross section of communities throughout the Williston Basin
  - Potential to include communities outside the Williston Basin (e.g. live in Jamestown and work in the oil fields)
  - Include non-oil and gas workforce (teachers, public employees, secondary businesses and services employees)

- Outcomes:
  - Provide insights into the characteristics of the current workforce including the non-oil and gas workforce
  - Findings will also be used in developing a survey instrument to be administered to workers in the oil and gas industry

METHODOLOGY: SURVEY OF WORKFORCE

- Survey administration will use multiple approaches
  - Mail
  - Online
  - Intercept surveys
    - Crew camps
    - Industry events
  - Participation at industry conferences and events
    - Williston Basin Petroleum Conference
    - ND Petroleum Council CookFest
  - Others as needed

- Outcomes
  - Representative sample of the workforce for various industry segments

  - Insight into the characteristics of current and future workforce

COLLABORATION IS KEY

- We will be reaching out to various entities
  - ND Petroleum Council
  - Association of Oil and Gas Producing Counties
  - Vision West Consortium
  - NDSU Cooperative Extension Service
  - Oil and Gas Industry
  - Community Leaders

- Industry and local participation will be key
  - Good relationship with industry as a result of previous efforts
  - Previously worked with leaders in Dickinson, Williston, Minot, Stanley, Watford City, Ray and others

EXAMPLE OF POTENTIAL ANTICIPATED RESULTS

- Provide insights for critical public and private goods and services, such as infrastucture, day care, healthcare, education, recreational services, etc.

- Findings will be used to refine forecasts of housing demand, locational preferences, population and workforce availability (e.g., spouses, youth)

- Findings may advance the understanding of housing demand, both type and quantity and geographic preference

- Provide insight on the prevalence of shift workers and commuters

- Provide insight into the intent of the workforce, e.g., relocate or not

WHO WILL USE FINDINGS

- State agencies
- State and local officials
- Policy makers
- Industry leaders, both the oil and gas industry and other industries
- Planners
- Economic development professionals
- Investors
- Developers
- Entrepreneurs
- Researchers
- Outreach professionals
- Media
- ND citizens

STANDARD OF SUCCESS/OUTCOMES

- Descriptive understanding of workforce

- Greater understanding can guide prescriptive remedies and activities to address challenges and constraints

- Findings will enhance other research and planning activities

- Substantive outreach effort
  - NDSU Cooperative Extension Service
  - Industry conferences
  - Public meetings
  - Various media outlets
  - Inquiries from investors, developers, researchers and reporters
  - Vision West Consortium is an example of previous cooperative efforts
    - Findings from previous efforts used in community webinars
    - Webinars were used to assist and guide local planning processes

BACKGROUND AND QUALIFICATIONS

- Nancy M. Hodur, PhD, PI and Dean A. Bangsund, Co-PI, Department of Agribusiness and Applied Economics, NDSU

- In the past two years we have been and currently are engaged in numerous projects related to economic effects of expansion of the oil and gas industry including employment, housing and population projections

- Extensive experience in primary data collection efforts
  - Survey design, administration and analysis
  - Qualitative and quantitative analysis

- Over 35 years of combined experience

- Examples of previous research detailed in project proposal

BUDGET

Project Associated Expense	NDIC's Share		
Wages and Salaries			
Wages	$85,024		
Benefits	$25,507		
Subtotal Wages and Salaries	$110,531	$110,531	
Other Expenses			
Travel	$17,300		
Focus group incentives (meals)	$1,500		
Mailing, postage, online survey services (written survey)	$20,000		
Printing and publications	$400		
Communications	$200		
Subtotal Other Expenses	$39,400	$39,400	
Total Direct Expenses		$149,931	$149,931
Indirect Expenses	$67,469		$67,469
Total Direct and Indirect Expenses			$217,400

TIMELINE

Task	Jan. '13	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan. '14	Feb.	Mar. '14
Develop industry and community contacts			→→→→→→→												
Develop interview/ focus group line of questions and discussion points		→→→→→→→→→→													
Develop industry workforce matrix for survey sample			→→→→→→→→→→												
Schedule and conduct personal interviews & focus groups					→→→→→→→→→→→→→→→→→→→→										
Develop written questionnaire			→→→→→→→→→→→→→→												
Administer written questionnaire						→→→→→→→→→→									
Intercept survey						→→→→→→→→→→									
Prepare research brief with preliminary findings from interview and focus groups											→→→→→→→				
Data analysis, document preparation													→→→→→→→→→→		
Outreach													→→→→→→→→→→		

QUESTIONS

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