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Economic Impact of Sitting Bull College on the Regional Economy

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As economic development has become increasingly based on technology and information, education and training have become increasingly critical to the economic well being of both individuals and communities. Thus, decision makers are concerned that all North Dakotans have access to quality education and training programs. Responsibility for provision of workforce training and skills development extends from the state's research universities to its community colleges. This report estimates the contribution of the Sitting Bull College to the regional economy.

Sitting Bull College (SBC) was founded in 1973. Over time, the SBC has grown and developed into a fully accredited institution with strong relationships with other institutions of higher education in the region. Currently, the SBC has about 300 students and offers 7 Bachlor of Science programs as well as several Asssociate degree and vocational programs.

Purpose

The purpose of this study is to measure the economic contribution of the Sitting Bull College to the regional economy. An economic contribution analysis, as defined in this study, represents an estimate of all in-state expenditures and returns associated with an industry, project, or activity. The economic contribution approach to estimating economic activity has been used for several similar studies (Bangsund and Leistritz 2007; Coon and Leistritz 2001; Hodur et al. 2006a; Hodur et al. 2006b; Leistritz et al. 2008). This study treated the SBC as if it was a local industry in the Fort Yates area, and employed methods of estimating economic activity that would be applicable to other industries or basic sectors.

Sitting Bull College can be easily defined as a single business or public service entity for purposes of estimating economic activity. Essentially, the college provides a bundle of services, measured in terms of students, educational attainment, and vocational activities. Educational and vocational services are treated as basic sector activities. Through the provision of those activities, the college purchases inputs, incurs maintenance and upkeep on facilities, expends resources for payroll, and retains business and professional services. Thus, expenditures used to provide educational and vocational services (basic sector output) can be treated as the purchase of outputs from other nonbasic sectors of the regional economy. Measuring those expenditures (nonbasic sector outputs) provides the basis for estimating the magnitude of economic activity sustained and created by the college's ongoing activities.

As with any economic impact or contribution analysis, measures of economic activity are usually defined by the magnitude of changes in direct and secondary employment, secondary economic activity, economy-wide personal income, gross business volume, and tax collections. Therefore, measuring the contribution of the SBC to the regional economy allows the college, tribal leaders, and regional and state

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policymakers a common perspective on the relative economic size and influence of the college to other activities and entities in the region.

Methods

The initial task in any impact assessment is estimating the direct impacts (or "first-round effects") of the activity being studied. In this study, the SBC budget for fiscal 2009 was analyzed to determine expenditures made to entities in the North Dakota and South Dakota region. These expenditures included both outlays for on-going operations and one-time expenditures for capital improvements. The SBC has a program of capital improvements which suggests that expenditures for capital improvements can be expected to continue into the future. The North Dakota Input-Output Model was used to estimate the secondary economic impacts based on these data.

The North Dakota Input-Output Model consists of interdependence coefficients or multipliers that measure the level of business activity generated in each economic sector from an additional dollar of expenditures in a given sector. (A sector is a group of similar economic units, e.g., the firms engaged in retail trade make up the retail trade sector.) For a complete description of the input-output model, see Coon and Leistritz (1989). The model estimates the changes in gross business volume (gross receipts) for all sectors of the area economy resulting from the direct expenditures (or direct impacts). The increased gross business volumes are used to estimate secondary employment based on historic relationships. The procedures used in the analysis are parallel to those used in estimating the impact of other facilities and activities (Leistritz and Coon 2008; Bangsund and Leistritz 2004, Hodur et al. 2006). Empirical testing has confirmed the model's accuracy in estimating changes in levels of economic activity in North Dakota; over the period 1958-2006, estimates of statewide personal income derived from the model averaged within 4 percent of comparable values reported by the U.S. Department of Commerce (Leistritz et al. 1990, Coon and Leistritz 2008).

Results

The SBC expenditures to North Dakota entities for fiscal year 2009 totaled more than $9.7 million (Table 1). The economic sector receiving the greatest level of expenditures was the *Construction* sector, with nearly $3.6 million in outlays. Other economic sectors having substantial direct spending included *Households* ($3.4 million), *Retail Trade* ($573,000), and *Finance, Insurance, and Real Estate* ($856,000). Direct expenditures by SBC in most economic sectors, other than *Construction*, represented the spending associated with annual academic operations, while spending in the *Construction* sector represented the effects of ongoing programs to improve and upgrade its facilities.

SBC expenditures (direct effects) were allocated to the input-output model sectors. When the input-output model coefficients were applied to these direct impacts, secondary impacts were estimated to total $17.3 million, with the largest secondary economic activity occurring in the *Households* ($6.3 million) and *Retail Trade* ($5.3 million) sectors (Table 1). The secondary economic effects in the *Households* sector represent economy-wide personal income derived from the business activity created by the spending and re-spending of the direct effects as those first-round expenditures flow through various economic sectors of the economy. Impacts in the other economic sectors accrue in a similar manner.

Total (direct plus secondary) economic impacts totaled $27.1 million. SBC has a substantial impact on economy-wide personal income as approximately $9.7

million or nearly 36 percent of the $27.1 million in gross business volume was observed in the *Households* sector. Total economic effects were also substantial in the *Construction* ($4.3 million) and *Retail Trade* ($5.9 million) sectors. The economic contribution of the SBC also was sufficient to support about 321 full-time equivalent jobs in various sectors of the local and state economies. SBC directly supported 70 positions at the college in fiscal year 2009.

Conclusion

The mission of the SBC is to provide higher education opportunities, including vocational and technical training, primarily for Standing Rock reservation residents. Over time, the college has expanded its programs and upgraded its facilities, and in the process expanded its enrollment to about 300 students. The benefits of the programs offered by the SBC, both for individuals and for the community are manifold, and some would be difficult to quantify. However, this study demonstrates that the immediate economic impact associated with SBC operations is substantial. Further, because the funding for SBC programs comes primarily from out-of-state sources (e.g., federal programs, grants), the economic impacts (contribution) discussed here represent a contribution of new wealth to the regional economy, as well as to the local economies of several key regional trade centers (e.g., Bismarck).

Table 1. Direct, Secondary, and Total Economic Impacts of Sitting Bull College Operations, Fiscal Year 2009

Economic Sector	Direct	Secondary	Total
	----------000s $ ----------		
Construction	3,622	2,056	4,266
Communications & public utilities	566	854	1,420
Retail trade	573	5,297	5,870
Finance, insurance & real estate	856	1,166	2,022
Business & personal services	735	441	1,176
Professional & social services	0	627	627
Households	3,356	6,295	9,651
Other[1]	0	2,063	2,063
Total	9,708	17,387	27,095

[1]Includes agriculture, mining, transportation, manufacturing, and government.

Table 2. Direct and Secondary Employment, Sitting Bull College, Fiscal Year 2009

Employment Category	Number of Jobs
Direct Employment	70
Secondary Employment (FTE)[1]	321
Total Supported Employment	391

[1] Full-time equivalent positions in various sectors of the regional economy.

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