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THE CONTRIBUTION OF AGRICULTURE TO THE ARKANSAS ECONOMY

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ABSTRACT

Our analysis found that agriculture is responsible for approximately 17% of jobs, labor income and value added in the state. More than half of the contributions accrue in nonagricultural sectors. Continued strength of agriculture is of paramount importance to maintain the social and economic fabric of rural Arkansas communities.

THE CONTRIBUTION OF THE AGRICULTURE SECTOR TO THE ARKANSAS ECONOMY

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Introduction

Agriculture is an engine of economic growth in Arkansas. While it contributes to the economy through direct agricultural production and value-added processing, it also plays an important role through its interactions with other sectors. The use of non-agricultural goods and services as inputs into the agriculture sector promotes diversified growth in Arkansas' economy.

The diversity of Arkansas' agriculture sector fosters its strength. Arkansas' varied climate and terrain allows for row crops in the east, livestock in the west, and forestry in the south. Arkansas was one of the top 25 states in the production of 24 commodities in 2011 (NASS 2012). Nationwide, Arkansas ranks 1st in production of rice, 2nd in broilers, and 3rd in cotton, catfish, and turkey.

Objective

To evaluate the economic contributions of the agriculture sector in Arkansas for production year 2010.

Methods

The contribution of the agriculture is modeled using the Impact Analysis for Planning (IMPLAN) System V3. IMPLAN is a computerized database used to construct economic input-output (I-O) models. The IMPLAN model uses a 440 sector I-O transactions table.

These contributions are measured three ways. Together, they provide the total contribution of agriculture to the economy.

Direct Contributions are the sum of the contributions of farm production and processing of farm products.

Indirect Contributions result when agricultural firms purchase raw materials and services from other Arkansas businesses to produce their products.

Induced Contributions result when employees of agricultural firms and employees of the raw material and service firms spend a portion of their income on local purchases.

Contributions of the aggregate agriculture sector (crop, livestock, forestry and other agriculturally-related enterprises) are offered. IMPLAN Arkansas data for 2010 were used to calculate all contributions. Direct employment, income and value added contributions for each aggregated sector are summarized. All income and value added figures are reported in 2010 dollars, unless otherwise noted.

Table 1. The Contribution of Aggregate Agriculture on the Arkansas Economy

	Jobs	Income (millions \$)	Value Added (millions \$)
Ag Production	66,355	1,752	2,274
Ag Processing	73,206	3,316	5,637
Ag-Related	9,004	319	332
Ag Indirect	54,610	2,658	4,526
Ag Induced	53,067	1,722	3,234
Total	256,244	9,767	16,003

Figure 1: Distribution of the Contributions of Agriculture to Jobs, Income and Value Added in Arkansas

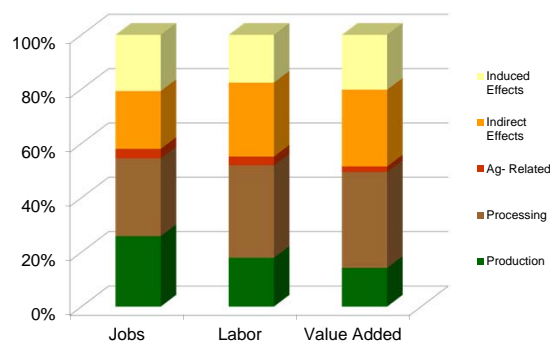


Table 2. Contribution of the Major Agricultural Sectors to Ag Production and Processing

	Jobs	Income (millions \$)	Value Added (millions \$)
Crop Production	44,143	921	1,109
Crop Processing	16,287	810	1,679
Animal Production	17,326	614	884
Animal Processing	34,724	1,231	1,681
Forestry Production	4,886	217	282
Forestry Processing	22,195	1,276	2,277
Total	139,561	5,069	7,911

Results

In 2010, the total direct, indirect and induced contribution of the agriculture sector was 256,244 jobs, or more than one in six Arkansas jobs (Table 1). Agriculture also contributed \$9.76 billion (B), or 15.7% of Arkansas' income and \$16.003B, or 16.6% of the state's value added.

Nearly 75% of all jobs accrued in five sectors: (1) Manufacturing; (2) Agriculture, Forestry, Fishing and Hunting; (3) Health and Social Services; (4) Retail Trade; and (5) Transportation and Warehousing. Direct agricultural production and agricultural processing together provide 58% of all agricultural generated jobs. The Poultry Sector (comprised of *Poultry Processing* and *Poultry and Eggs*) provided 37,343 jobs or over 25% of agricultural generated jobs in Arkansas.

Nearly 74% of all value added accrued in five sectors: (1) Manufacturing; (2) Agriculture, Forestry, Fishing and Hunting; (3) Real Estate and Rental; (4) Wholesale Trade; and (5) Transportation and Warehousing. It's important to note that nearly half (48%) of that value added accrued in sectors outside of agriculture.

Direct Contributions of the Crop, Animal and Forestry Sectors

The Crop Sector includes all enterprises engaged in the production and processing of crops. It accounted for 60,431 jobs or 3.9% of state jobs. Workers and business owners received \$1.7B in income (2.8% of state income). The sector provided \$2.8B (or 2.9%) in state value added (Table 2). *Oilseed Farming, Rice Farming, and Cotton Farming* add the largest amount of value by the Crop Sector.

The Animal Sector, includes all enterprises engaged in the production and processing of animals including poultry and eggs, cattle, dairy farm, hogs and pigs, other livestock, processed meat and dairy processing industries. It accounted for 53,050 jobs (3.4% of state jobs), \$1.8B (or 3.0%) in labor income and \$2.6B (or 2.5%) in value added.

The Forestry Sector is primarily comprised of commercial logging, forest products, furniture and wood and paper processing enterprises. It contributed 27,081 jobs (1.7% of state jobs) \$1.5B (2.4% of state) in labor income, and \$2.6B (or 2.0% of state) of value to the state. *Paper Mills, Sanitary Paper Product Manufacturing, Sawmills and Wood Preservation, Paperboard Container Manufacturing, and Commercial Logging* comprised 60% of forestry jobs, and 65% and 68% of forestry income and value added, respectively.

Conclusions

Results of our study support the argument that agriculture is a vital part of the Arkansas economy. Continued strength of agriculture is of paramount importance if the social and economic fabric of rural Arkansas communities is to be retained and if the essential infrastructure and services that translate into an acceptable quality of life for its residents are to be maintained.