Ness County

Estimated Economic Impact of Agriculture, Food, and Food Processing Sectors
10/8/14

8 agriculture, food, and food processing sectors were analyzed to determine their overall contribution to the Ness County economy.[1]

These 8 sectors have a total direct output of approximately $110 million and support 614.8 jobs in Ness County. Running the model for all 8 sectors simultaneously produces the following results:

Agriculture Contribution in Ness Co						
Impact Type[2]	Employment	% Employment	Total Value Added[3]	% of Gross Regional Product[4]	Output[5]	% of Gross Regional Product
Direct Effect	614.8	21%	24,270,015.1	13%	109,856,402.7	60%
Indirect Effect	104.3	4%	10,526,522.9	6%	17,168,533.5	9%
Induced Effect	58.6	2%	4,360,847.4	2%	6,886,441.4	4%
Total Effect	777.7	26%	39,157,385.4	21%	133,911,377.6	73%

As shown in the above table, agriculture, food, and food processing supports 777.7 jobs, or 26% of the entire workforce in the county. These industries provide a total economic contribution of approximately $134 million, roughly 73% of Gross Region Product (GRP). As noted below in the calculation of Gross Regional Product, imports and institutional sales are subtracted. Therefore, counties that import a relatively large amount of goods and services will have a reduced GRP which may lead to agricultural output being greater than GRP.

Another metric used to calculate the importance of sectors in an economy is their value added as a percentage of GRP. Total value added by the 8 agriculture, food, and food processing sectors is approximately $39 million, or 21% of the GRP. This indicates that personal income, business income, and taxes generated by these sectors account for 21% of the total economy.

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1 Article on building a contribution analysis in IMPLAN that avoids double counting:
http://www.implan.com/index.php?option=com_content&view=article&id=660%3A660&catid=253%3AKB33&Itemid=70

2 Direct, indirect, and induced effects sum together to estimate the total economic contribution in the state. **Direct effects** capture the contribution from agricultural and food products. **Indirect effects** capture the economic benefit from farms and agricultural businesses purchasing inputs from supporting industries within the state. **Induced effects** capture the benefits created when employees of farms, agricultural businesses, and the supporting industries spend their wages on goods and services within the state.

3 Value added = labor income + indirect business taxes + other property type income.

4 GRP = final demand of households + governments expenditures + capital + exports - imports - institutional sales.

5 Output = intermediate inputs + value added.

The following tables document the overall summary numbers of the model, top industries affected by employment and output, and a listing of all industries that were analyzed.

In the top ten by employment, Grain farming is the top employer in the agriculture industry with 472.5 employees. This table also shows the amount of jobs that are created by the agriculture industry in Ness County.

Description	Total Employment	Total Output
Grain farming	472.5	61,989,179.9
Cattle ranching and farming	94.3	33,331,800.0
Real estate establishments	32.4	4,200,826.4
Animal production, except cattle and poultry and eggs	17.9	2,044,128.1
Monetary authorities and depository credit intermediation activities	17.1	5,717,386.8
Wholesale trade businesses	15.9	2,789,110.2
Farm machinery and equipment manufacturing	9.8	5,131,086.5
Food services and drinking places	6.6	326,810.9
Animal (except poultry) slaughtering, rendering, and processing	6.5	2,023,127.3
Support activities for agriculture and forestry	6.4	16,910.4

The Grain farming industry directly contributes approximately $62 million to Ness County's economy. This table also shows how much revenue is generated in other industries by having a strong agriculture industry.

Description	Total Employment	Total Output
Grain farming	472.5	61,989,179.9
Cattle ranching and farming	94.3	33,331,800.0
Monetary authorities and depository credit intermediation activities	17.1	5,717,386.8
Farm machinery and equipment manufacturing	9.8	5,131,086.5
All other crop farming	5.7	4,727,967.5
Real estate establishments	32.4	4,200,826.4
Wholesale trade businesses	15.9	2,789,110.2
Animal production, except cattle and poultry and eggs	17.9	2,044,128.1
Animal (except poultry) slaughtering, rendering, and processing	6.5	2,023,127.3
Imputed rental activity for owner-occupied dwellings	0.0	1,999,901.7

Below is a summary of all agriculture data with employment levels and output level. These values can tell how many jobs are represented by each agriculture sector and the output they contributed to Ness County's economy.

Description	Employment	Output
Oilseed farming	1.63	584,308.56
Grain farming	472.47	61,162,826.54
All other crop farming	5.74	4,664,940.83
Cattle ranching and farming	94.30	32,886,615.75
Animal production, except cattle and poultry and eggs	17.88	2,016,826.39
Support activities for agriculture and forestry	6.45	16,226.63
Animal (except poultry) slaughtering, rendering, and processing	6.47	1,978,180.65
Farm machinery and equipment manufacturing	9.83	4,934,888.36
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All 105 counties in Kansas have Implan models and agriculture contribution summary. These values do not factor in the retail environment of food sales. Food retail is important, but in order to provide the most accurate picture of what production agricultural and processing contributes to Kansas, the retail sector was omitted.