

**FOOD FOR THOUGHT:
AGRICULTURE IN KOREA AND ITS DECLINING NUMBER OF FARMS**

GRADES: 9-12

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SUBJECTS: Geography, Economics, World History, Government

TIME REQUIRED: 3 class periods

OBJECTIVES:

1. Investigate the food and dietary needs of the Korean population
2. Identify major influences on Korean agricultural policy
3. To learn the meaning of GATT and WTO
4. Assess the impact of western food on Korean society
5. Discuss the importance of agricultural trade policy in Korea

MATERIALS REQUIRED:

- Copies of prepared handouts
- Map of Korea and East Asia

BACKGROUND:

Korea has been attempting to adjust its population shift from the rural sector to the urban sector since the late 1960s. This shift is due to three factors: the rapid industrialization of the country, the decrease in farm size (by acreage) due to urban sprawl, and dietary changes because of western influence and because of the effects of the first two factors listed.

The General Agreement on Tariffs and Trades (GATT) resulted in a shift of Korean agriculture from rice and grain to vegetables and flowers. This change facilitated urban sprawl. As a result, the land under cultivation in the rural regions that for centuries served Korea's food needs and provided employment to 44% of the population diminished. In compliance with the World Trade Organization (WTO), Korea implemented market-openings and reductions of tariffs on agricultural products to other countries. This resulted in expansion of capitalistic ventures in Korea but at the expense of their farmers.

Korea is attempting to remain self-sufficient in its rice production, and the increase in meat consumption from imported beef is changing the Korean composition of diet. As long as rice production is maintained at its current level, demands will be met. Since the early 1970s, employment in the industrial segment has grown in Korea. With less than 22% of arable land, Korea is working toward a trade policy that will embrace its farmers' concerns while continuing to feed Korea's population of 43 million. The question now looms as to whether this directional change will enable Korea to feed its people, and if it cannot, what impact will be.

PROCEDURE:

1. Distribute handouts with tables and references to introduce students to some basic information about Korean agriculture that will assist and motivate them in their investigation into Korea's food market.
2. Explain to the students how Korea's economy was devastated because of the Korean

war (1950-53). Ask the students to rationalize how the transition from an agrarian to an industrial economy would affect population shifts, labor demands, personal wealth, agricultural self-sufficiency and governmental trade policies.

3. Utilizing the tables provided, have the students work in groups of four to resolve some of the issues presented by the following activities and formulate a statement about Korea's agricultural policy development.
4. Locate Korea on a map of the world. Determine how the geographical features of the country influences the agricultural products that are produced. Utilizing tables 7, 8, 11 and 12, identify the foods consumed by Koreans. Have the students compare their findings with the chart "Exports and Imports by Commodity Group" to assist them in understanding Korea's dependency upon imported food products.
5. Using tables 3, 4, 5, 14 and 18, create a hypothesis about the correlation between agricultural imports and exports and the dietary changes of the Koreans in the last three decades. How are the number of Korean farms affecting agricultural imports? Compare the Korean diet with the diet of U.S. citizens based upon the students' responses to what Korean dietary references are.
6. Provide a brief introduction about the necessity of cattle in the Korean culture. Use tables 18 and 28.5 to assess how the figures reflect the agricultural exportation policy and changing diet of Koreans. The "Indicators" graphs provided can be used to support the concern of the Korean government and economists with regards to meeting their 21st century food demands and the impact of GATT and WTO.

EVALUATION:

- Grades should be based on the conclusions each group arrives at after studying the tables provided and completing the activities. Students should evaluate the importance of farming in the Korean culture, the plight of the farmer, and whether or not agriculture can be self-sustaining in Korea.

RESOURCES:

Ban, S. H. *Growth of the Korean Agriculture (1918-1971)*. Seoul: Korea Development Institute, 1974.

Korean Overseas Information Service. *Facts about Korea*. Seoul: Samhwa Printing Company. 1993.

Kim, Jong Moo. *Economics of Sustainable Agriculture and Linear Programming Method*. Seoul: Sung Kyun Kwan University Press, 1997.

Ministry of Agriculture, Forestry and Fisheries. *Agricultural Policy Issues in Korea*. Seoul, 1996.

Ministry of Agriculture, Forestry and Fisheries. *Korean Agriculture*. Seoul, 1996.

TABLE 3 Demand and Supply of Livestock Products

Year	1980	1985	1990	1991
Meat				
Demand				
Total(thousand M/T)	433	593	860	913
Per capita(kg)				
Beef	2.6	2.9	4.1	5.1
Pork	6.3	8.4	11.8	11.8
Chicken	2.4	3.1	4.0	4.8
Supply				
Production (thousand M/T)	423	588	773	769
Import (thousand M/T)	10	5	87	144
Self-sufficiency (%)	97.8	99.7	90.0	84.2
Egg				
Production & consumption (million eggs)				
	4,543	5,390	7,151	7,671
Per capita (eggs)	119	131	167	178
Milk				
Demand				
Total (thousand M/T)	412	991	1,879	1,869
Per capita (kg)	10.8	23.8	42.8	43.2
Supply				
Production (thousand M/T)	474	1,047	1,902	1,912
Import (thousand M/T)	-	2	-	171
Carryover (thousand M/T)	62	57	23	66

TABLE 4 Demand and Supply of Fruit and Vegetable in Korea

Year	Vegetable		Fruit	
	Production	Per capita consumption	Production	Per capita consumption
	(thousand M/T)	(kg)	(thousand M/T)	(kg)
1980	7,676	120.3	833	21.8
1985	7,763	98.6	1,464	35.2
1990	8,677	129.9	1,766	42.0
1991	8,609	128.7	1,729	48.0

TABLE 5 Agricultural Trade in Korea (Unit : US\$ million)

	1980	1985	1990	1991
Export	541	388	795	756
Import	2,215	1,791	3,751	4,420
Balance	1,674	1,403	2,956	3,664

Table 7 Food consumption per capita

	1970	1980	1990	1995
 kg			
<Grains>	219.4	195.2	167.0	160.8
Rice	136.4	132.4	119.6	106.5
Barley	37.3	13.9	1.6	1.7
Wheat	26.1	29.4	29.8	33.9
Corn	1.1	3.1	2.7	3.4
Soybeans	5.3	8.0	8.3	9.9
Potatoes	10.2	6.3	3.3	1.8
Other crops	3.0	2.1	1.7	3.8
<Vegetables>	59.9	120.3	132.6	151.4
Chinese cabbage	19.8	47.6	46.9	36.5
Radish	19.0	31.0	26.7	20.1
Red-pepper	1.2	2.2	1.8	2.8
<Fruits>	13.1	21.8	41.0	53.9
<Meat>	5.2	11.3	19.9	27.4
Beef	1.2	2.6	4.1	6.7
Pork	2.6	6.3	11.8	14.8
Chicken	1.4	2.4	4.0	5.9
<Egg>	4.2	6.5	9.2	10.1
<Milk>	1.6	10.8	42.8	47.8

Table 8 Self-sufficiency ratio for major commodities

Year	Rice	Barley	Wheat	Corn	Soybean	Beef	Pork	Chicken	Milk
 Percent								
1970	93.1	106.3	15.4	18.9	86.1	100	100	100	100
1980	95.1	57.6	4.8	5.9	35.1	93.1	98.9	100	100
1990	108.3	97.4	0.05	1.9	20.1	53.6	100	100	100
1995	96.3	67.0	0.30	1.1	9.9	51.2	96.6	97.9	90.9

Table 11 Fruit production and cultivated area

	1980		1990		1995	
	Production	Area	Production	Area	Production	Area
 Production(1,000MT), Area(1,000ha)					
Total	833	99	1,766	133	2,300	174
Apple	410	46	629	49	716	50
Pear	60	9	159	9	178	16
Grape	56	8	131	15	316	26
Peach	89	10	115	12	130	10
Mandarin	161	12	493	19	615	24
Other fruits	57	14	239	29	345	48

Source : MAI(1995)

Table 12 Vegetable production and cultivated area

	1980		1990		1995	
	Production	Area	Production	Area	Production	Area
 Production(1,000MT), Area(1,000ha)					
Total	7,676	377	8,677	317	10,586	403
Chinese cabbage	3,040	48	3,241	44	2,638	40
Radish	1,973	49	1,686	35	1,290	31
Red pepper	125	133	133	63	193	87
Garlic	253	37	417	44	462	40
Onion	275	8	407	8	975	16
Other vegetables	2,010	102	2,793	123	5,028	189

Table 14

Shares of agricultural trade

	Units	1970	1980	1990	1994	1995
Exports						
— Total	US \$ Million	835	17,595	65,016	96,013	125,058
— Agriculture	US \$ Million	25	541	795	952	1,243
% of Total	%	3.0	3.1	1.2	1.0	1.0
Import						
— Total	US \$ Million	1,384	22,292	69,844	102,348	135,119
— Agriculture	US \$ Million	341	2,215	3,754	5,426	6,899
% of Total	%	17.2	9.9	5.4	5.3	5.1

Source : MAFF, MAI, Various years

Note : Figures are for agricultural and livestock products

Table 18. 1 Numbers of farms and korean beef cattle(1000)

Year	farms	index	cattle	index
1980	989	100	1,390	100
1981	851	86	1,283	92
1982	896	91	1,526	110
1983	971	98	1,940	140
1984	1,037	105	2,317	167
1985	1,048	106	2,553	184
1986	991	100	2,370	171
1987	854	86	1,923	138
1988	702	71	1,559	112
1989	654	66	1,536	111
1990	620	63	1,621	117
1991	602	61	1,773	128
1992	585	59	2,019	145
1993	570	58	2,260	163
1994	540	55	2,393	172
1995	519	52	2,954	213

Source : NLCF. 1996. Monthly Review, Vol 17(7):44

Table 28. 5 Farm numbers of korea by decade 1940-90

Year	Total no. of (mill.)	farms Change of farm numbers	
		10 years(%)	20 years(%)
1940	3.047	—	—
1950	2.184	—28.3	
1960	2.350	+ 7.6	—22.8
1970	2.483	+ 5.7	—13.7
1980	2.156	—13.2	— 8.3
1990	1.767	—18.0	—22.8

computed with data from Korea Rural Development Institute(1988)

Materials on agricultural policy, Seoul pp. 662-663

Exports and Imports by Commodity Group

(in million U S dollars)

Export and Import by Commodity Group	Exports		Imports	
	1980	1992	1980	1992
Total	17,504.9	71,870.1	22,291.8	81,775.3
Food and live animals	1,152.7	2,118.5	1,797.0	4,096.8
Beverage, tobacco	124.2	77.4	84.9	243.4
Crude materials, inedibles (except fuels)	331.2	1,072.6	3,632.3	8,314.9
Mineral fuels, Lubricants, related materials	46.4	1,742.3	6,659.6	14,636.1
Animal and vegetable oils, fats	12.8	6.5	118.5	269.2
Chemicals	754.7	4,454.9	1,800.3	7,667.6
Manufactures goods classified by materials	6,251.9	18,490.8	2,449.6	11,898.4
Machinery, transport equipment	3,555.4	32,547.4	5,000.5	28,965.7
Miscellaneous goods	5,229.1	15,883.2	687.3	5,227.4
Not classifiable	46.5	237.7	61.8	455.8

Farm Math

Metric Equivalents and Conversions

1 hectare = 2.47 acres
1 kilometer = 0.62 miles
1 meter = 39.37 inches
1 metric ton = 1.1 tons

1 liter = 0.908 quarts dry
1.057 quarts liquid
16.5 ft. = 1 rod
43,560 sq. ft. = 1 acre

INDICATORS

(SOURCE: ASIAN DEVELOPMENT BANK)

