



Objective

Students will analyze where food comes from and discuss what is needed to get food from a producer to the consumer. While considering what is needed to provide food to consumers, students will examine the basic needs of the market players in a community (i.e. the farmer, distributor, consumer, etc).

Students will consider the Farming First principles of creating successful food production in the rural communities of developing nations through case study stories and critical thinking.

Finally, Students will consider possible problems that stem from food production issues in developing countries and discuss possible solutions.

Academic Expectations Fulfilled

AE 1.1, 1.2, 1.11, 1.16, 2.16, 2.17, 2.19, 2.20, 2.30, 5.1, 5.2, 5.3, 5.5, 6.2, 6.3

Introduction: What Do You Eat?

Have a snack day! Ask students to make a sample of their favorite side dish to share with the class. They should also bring in a list of the ingredients and nutritional information where possible. Use the following questions and information to lead a classroom discussion on diets around the world.

Classroom discussion:

What are some commonalities of the foods brought in? (ingredients, fat content, method of preparation).

What is the average calorie count for the food items? Do most of the foods fall around the same number of calories?

According to the USDA, the US calorie consumption per person is up 20% since the early 1970s to the world's highest—a third above the global average. Although the US menu reflects the variety typical of industrialized countries, its lower than the Industrialized country average in cereals and higher in meats, sugar and sweeteners (such as those found in soft drinks) and dairy products. List these statistics from the FDA in 2004 on the board for consideration:

US Calorie Consumption:	European Union Calorie Consumption:	Developing Asia Calorie Consumption:
Veg. oils & animal fats 18%	Veg. oils & animal fats 21%	Veg. oils & animal fats 8%
Fruits & vegetables 5%	Fruits & vegetables 6%	Fruits & vegetables 4%
Starchy roots & pulses* 4%	Starchy roots & pulses* 5%	Starchy roots & pulses* 6%
Sugar & sweeteners 18%	Sugar & sweeteners 11%	Sugar & sweeteners 6%
Cereals 23%	Cereals 25%	Cereals 60%
Meat & poultry 16%	Meat & poultry 14%	Meat & poultry 7%
Milk & dairy 10%	Milk & dairy 9%	Milk & dairy 2%
Other	Other	Other

Average daily calories per person: 3,654 Average daily calories per person: 3,394 Average daily calories per person: 2,648

*Pulses are edible seeds from a pod.



Introduction: What Do You Eat? (cont.)

In *developing Asian nations*, rising incomes and farm production have altered diets and steadily lifted this region's calorie consumption. Although rice and other cereals still account for 60% of calories, that's down from 67% in the early 1970s. The role of starchy roots and pulses has been halved, while the share of calories from meat and poultry more than doubled.

North Africa Calorie Consumption:

Veg. oils & animal fats	10%
Fruits & vegetables	6%
Starchy roots & pulses	4%
Sugar & sweeteners	9%
Cereals	62%
Meat & poultry	4%
Milk & dairy	3%
Other	

In **North Africa**, oil revenues have helped North African countries such as Egypt, Libya and Algeria boost average calorie consumption by nearly 40% since the early 1970s. Cereals remain the primary source of calories, but cereal consumption has dropped slightly, while the share of calories from most other food groups has increased.

Consider the information about calorie consumption around the world:

What types of foods are the least expensive? How can you tell?

Compare the ingredients of the food brought in today with the diets of other countries. What are the differences?

Average daily calories per person: 3,187 What might be the implications of the diets listed for health purposes?

Ask Your Pen-Pals!

In your next letter to your pen-pals, ask what their favorite foods are!

- Is it food that is grown in their region?
- Do they produce the food themselves or purchase it?
- If they purchase it, do they get it from a market or a store?
- If they produce it, do they also sell it? If so, where?



Introduction 2: What Does it Take to Get the Food to My Plate?

Where did the food brought in (and the food at home in our kitchens!) come from? Is it grown? If so, where?

How did it get to your grocery store?

Consider these influences in both the US and the country of the product's origin:

Rules and Regulations: Consider tariffs and other import regulations as well. These items are available in our grocery stores because the US law permits them to be. The US Departments of Health and Human Services, Agriculture, Commerce, and the Environmental Protection Agency all play important roles in the regulation of food products that enter our country. In many developing countries, laws that restrict imports hinder their exporting capabilities.

Infrastructure: Roads, railways, and other transportation systems are advanced enough to deliver grocery items to our stores.

Economy: All involved parties need funds to function, from the trucking company that delivers, to the grocery store that houses the product, and finally the consumer to purchase. Ideally, the consumer's money will fund all parts of getting the product to the grocer. However, in most many developing countries, even the start-up costs are unattainable.



Activity 1: The Community Market

The next activity encourages the students to think about what they've learned and apply it to what is needed for a community to produce, buy/sell, and consume products.

Divide the classroom into two "communities." Allow them to choose their community name. In each community, there will be three groups—customers (the townspeople) who want to buy food, sellers (stores), and producers (farmers). Ask the students to consider what they've discussed about where their food comes from, then instruct each group to get together and build a presentation to inform the "local communities" what they need to be successful. Encourage them to think all the way down to the very basics, such as education. They should also have suggestions of how the other community members can meet these needs.

Customers/Consumers Need:

- A convenient place to gather to make their purchases
- Jobs to earn money to purchase the food items
- Quality, affordable food

Sellers Need:

- Quality food to sell to the consumers
- Reliable sources of products
- Reliable transportation to get the products to the store
- Consumers
- Money to buy the product
- A bank to borrow the money, if necessary

Farmers Need:

- Good weather and soil to grow their crops, including rain
- Reliable transportation to take their crops to the store
- Wholesale purchasers
- Education to better grow their crops, use new technology, etc.
- Money to purchase seeds, farm equipment, and other necessities
- A bank to borrow the money, if necessary

If there is no start-up money, where might the funds come from? Consider credit unions, microfinancing, and cooperatives.

How can all of these needs be met? *Allow the students to brainstorm ideas to meet the needs of all of the community members.*

Write an essay explaining your ideas of how all these needs can be met. Think creatively! Research ideas on the internet. Be sure to site your sources.



Activity 2: The Farming First Plan

This activity is based on information and ideas from Farming First, an organization that responds to the global farming challenges posed during the United Nations Commission on Sustainable Development. For more information, visit their website at www.farmingfirst.org.

Pass out the student worksheet of the 6 Farming First principles (page 5). Show students the Farming First video that goes through these principles (on the homepage of their website, www.farmingfirst.org) by clicking on the video that shows a picture of a female farmer.

Discussion Guide:

Review the 6 principles listed on the handout.

1. Safeguard natural resources.

Why is it important to safeguard the natural resources? To protect wildlife habitat and biodiversity?

As the environment changes and water scarcity becomes increasingly threatening, every effort must be made to protect and efficiently use resources like water and nutrient-rich soil. Protecting biodiversity and surrounding wildlife ensures a balance in the ecosystem, allowing nature to continue to play its role in successful farming.

2. Share knowledge.

How does the lack of technical, up-to-date farming/crop information hinder the success of rural farmers?

Without access to the proper information, rural farmers are unable to produce as efficiently as their competition. Their prices become higher and quality may suffer, attracting fewer consumers.

3. Build local access and capacity.

What kind of basic resources are needed by rural farmers?

Farmers need land and water for their crops, reliable roads and transportation systems to move their product, and financial support (loans, investors, etc) in order to succeed.

4. Protect harvests.

What would cause “vast quantities of food” to be “squandered” during production and consumption?

The lack of storage, transportation, pricing, and other essential principles would lead to food being wasted.

5. Enable access to markets.

How does a strong, fair market benefit farmers and consumers in rural communities?

In a fair market, consumers have the opportunity to choose their product based on quality, price, and preference. Farmers are able to sell competitively without facing unfair monopolies and unstable market conditions.

6. Prioritize research imperatives.

Why would research for US farmers be ineffective for African farmers? Why is it important to have research on local crops, techniques, and climate?

Climates, laws/regulations, and resources vary from region to region. Local research allows farmers to specifically adjust their actions accordingly.



Handout: Farming First Principles

1

1. Safeguard natural resources

Land management should be improved through the widespread adoption of sustainable practices of land use.

- Use conservation agriculture to prevent soil erosion and land degradation
- Manage watersheds and water use more efficiently
- Protect wildlife habitat and biodiversity through an integrated ecosystems approach
- Provide incentives for improving ecosystem services
- Promote a sound management of chemical substances

2. Share knowledge

Existing agricultural knowledge should be spread in order to reach those farmers that could benefit most.

- Increase the level of education on crop and natural resource management
- Promote village-based knowledge centers and access to information on weather, crop and market alerts
- Establish open two-way exchanges that capture the 'voice of the farmer'
- Take substantive measures to eliminate child labor and make sure children benefit from decent work conditions and access to education

3. Build local access and capacity

Making basic resources available to help farmers manage their production process more reliably and at less cost.

- Secure access to land and water resources and microfinance services, especially for women farmers
- Build and support infrastructure, such as roads and ports
- Improve access to agricultural inputs and services and encourage local supply networks

4. Protect harvests

In many of the poorest countries, 20-40% of crop yields are lost because of inadequate pre- and post-harvest support. Likewise, vast quantities of food are squandered during production and consumption phases of the food chain.

- Build local storage facilities and transport links
- Localize the application of agronomic knowledge
- Educate on sustainable consumption and production
- Help farmers manage weather and market risks

5. Enable access to markets

Farmers need to be able to get their products to market and receive equitable price treatment when they do.

- Provide remote access to up-to-date market prices
- Develop transparent, fair markets with sound infrastructure and reduced speculation
- Encourage co-operative marketing approaches and entrepreneurship training for smallholders
- Reduce market distortions to improve global access

6. Prioritize research imperatives

Research should prioritize locally relevant crops, stewardship techniques, and adaptation to climate change.

- Conduct research on water, soil, post-harvest losses and climate change challenges and focus on crop varieties for the poorest and most vulnerable regions
- Improve productivity through the responsible use of science and technology
- Increase public-private collaboration and R&D investment



Name: _____

Worksheet: The Farming First Plan Case Study 1

Mozambican Farming Cooperative for Women Shares Knowledge, Builds Local Access and Capacity

Posted on September 19, 2009

<http://www.farmingfirst.org/2009/09/mozambican-farming-cooperative-for-women-shares-knowledge-builds-local-access-and-capacity/>

In the past, Celina Cossa would queue for days and even nights just to get the chance to buy a bag of maize to feed her two children, her husband, and herself. She was one of thousands of Mozambican women finding it difficult to feed her family in a country that was newly independent from its Portuguese colonizers and in the midst of a civil war. Food shortages in Mozambique in the 1980s were a norm, and many – especially women – were extremely poor.

In response, Cossa, along with 250 other women, began growing crops and raising poultry together. With limited funds at first, many of the women would bring their own agricultural tools and money to support the project.

The women sold the excess and created a business that now has about 2,900 mostly women farmers. And as the numbers grew, they expanded the reach of their operation to begin helping others get credit to start their own businesses.

Now called the General Union of Cooperatives (UGC), this Mozambican network of women farmers is still led by Cossa. UGC gives them technical training, literacy education, as well as services such as childcare. Members now supply much of the capital's vegetables, fruits, and poultry with members making on average 50 per cent more than the national minimum wage.

Now the cooperative also helps women farmers get loans to start and run their businesses, assists with giving them expert advice on how to begin farming and helps them sell their produce at markets. To date, the farmers produce eight thousand chickens per month and are supplying the local markets with their products.

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This post was adapted from an article written by African journalists Menesia Muinjo and Geline Fuko, who took part in a journalist training session coordinated by Inter Press Service, a global news agency.

Why was Cossa's idea successful?

What needs did she meet in her community?

Which of the six principles apply to this case (there could be more than 1)?

How/why are these principles important?



Name: _____

Worksheet: The Farming First Plan Case Study 2

Hariyali Kisaan Bazaar: Developing Rural Businesses in India

Posted on August 14, 2009

www.farmingfirst.org

Hariyali Kisaan Bazaar (HKB) is an innovative chain of rural agricultural supermarkets set up in India since 2002 by DCM Shriram Consolidated Ltd. (DSCL).

HKB is an innovative effort aimed at empowering farmers and meeting the needs of rural households by providing access to agricultural products, services and retail. Established in the countryside, the stores offer:

- quality inputs (fertilizers, seeds, pesticides, tools, veterinary products, animal feed, irrigation items, diesel, petrol)
- agronomic services with teams of extension workers and agronomists providing advice to customers
- financial products (crop insurance, credit, banking, investments, money transfers)
- consumer goods (groceries, home appliances, garments)
- access to output markets by helping farms produce buyback opportunities, commodity trading
- information (weather forecasts, market prices, farmers' databases)

Each HKB centre caters to communities within a 25-30 km perimeter and impacts the life of about 20,000 households.

HKB's business model is to provide targeted services to farmers in remote regions. As such, it is a pioneering project because it contributes to rural and agricultural development while being a profitable business venture. It also reinforces the need for farming communities to have access to information and technology.

In June 2009, DSCL announced the plan to add 300 stores to the existing 300 by 2012. The group is currently present in eight states and is India's largest rural retail chain.

To find more information on Hariyali Kisaan Bazaar, visit http://www.dscl.com/Business_Agree_HarKisBzr.aspx?PID=27.

Who benefits from HKB?

How will HKB's project help a community grow?

Where does the wealth in this story come from? Where does it go?

Which of the six principles apply in this case?

Why are they important?



Name: _____

Worksheet: The Farming First Plan Case Study 3

Innovative social enterprise helps farmers use their bicycles to grind grains, charge batteries

Posted on August 10, 2009

www.farmingfirst.org

Global Cycle Solutions (GCS) is a social enterprise started at the Massachusetts Institute of Technology in the US to develop and commercialize innovative, pedal-powered devices for villagers around the world, ranging from agricultural processing tools to green battery charging. GCS targets the world's 550 million small-scale farmers living on less than \$1/day.

Its first products are the bicycle-powered corn sheller and grain grinder, devices that can help farmers save a considerable amount of time and effort in the field. These products can be attached to any bicycle, using a universal GCS interface, and the bicycle retains its functionality when the devices are disengaged.

GCS has just started its operations in Arusha, Tanzania over the Summer 2009. It aims to leverage the country's vast network of dealers (bicycles shops, hardware & agriculture stores, agri-dealers) who will sell the products to micro-entrepreneurs. Micro-entrepreneurs will in turn service local farmers by locally processing their production, allowing them to save time and effort.

A first pilot project conducted in Arusha suggested that micro-entrepreneurs can expect to recoup the purchasing cost in less than two weeks. Local microfinance organizations are being involved to help farmers access these products.

For more information on Global Cycle Solutions, visit their website at <http://www.globalcyclesolutions.com/>.

What does the "micro-entrepreneur" do in this case?

How does the GCS Project aim to benefit the community in Tanzania?

Which principles are addressed in this case study?

Why are these principles important?