

Teacher Manual

What is a Farming System?

Use this scenario to help the students understand farming systems:

Just for fun, let's pretend that all of you live in the town of Tasmania, which is a very small town in a poor third-world country. The town receives most all of its income from farming and livestock production. The main agricultural crop grown is wheat, and cattle, sheep and goats are used to graze areas of grassland that have not yet been converted to farm land. Farmers in Tasmania have access to a very small amount of irrigation water when the nearby river is flowing; other than that they must rely solely on natural rainfall. When the wheat is harvested, farmers must use oxen to haul the crop to a town 15 miles away so that it can be sold.

Copy the following page and cut each role out of the teacher's workbook on the following page and pass them out to selected students. After all are passed out, assume the teacher's role.

Teacher's role

Have the students that were selected for the activity all stand at the front of the classroom. Have the students read their respective roles to the rest of the class. Explain that each person depends on each other to make a living in the community. Have each student then tell the reasons that they are dependent upon each of the other students that are involved in the role play.

Explain that the situation above is a simplified version of a farming system. It is a farming system because all of the different components in the community are connected with each other in a system.

After this explanation randomly take out one of the students from the farming system. Ask the other students how their farming situations will change due to the absence of the selected student. Ask if they will even be able to farm in the future. Ask what they will have to do in order to keep farming in the future.

Replace the student that was removed from the front of the class and then randomly take other students out of the front of the class and ask the same questions of the students that remain.

After you have asked a few students to leave, then ask what would happen if you added a component to the farming system. Ask what would happen to the farming system if a new variety of wheat was introduced to the community that increased yields.

Student #1- You are a 62-year-old wheat farmer that has been growing wheat for most all of your life. You are very familiar with the weather patterns of the region and most all other wheat farmers in the area look to you for advice in growing wheat.

Student #2- You are a 27-year-old wheat farmer. Since you are fairly young in the community you have a lot of energy and have the most acreage of wheat in production. Also, because of your age you have very good working relations with the older farmers in the community and with the young farmers and young adults of the community. When harvest time comes you are the one that coordinates the labor needed by the youth of the community for harvest. If you didn't coordinate all of the labor, then harvesting of the wheat might not get done.

Student #3- You are 17 years old and you are one of the hardest working young people in the community when it comes time for wheat harvest.

Student #4- You are 15 years old and help with the wheat harvest.

Student #5- You are 22 years old and have a couple of oxen and are very important in taking the wheat crop to market.

Student #6- You are 28 years old and you do not farm; rather, you are a livestock producer. You own cattle, sheep, and goats that you sell to area towns. You also own quite a few oxen that you use to haul the farmers' wheat to market.

Student #7- You are a 30-year-old farmer that farms a few acres, but you receive the majority of your income from selling seed to the local farmers. You also rely on the oxen to transport the seed to the community.

Have students list some of the components of the Tasmania farming system they saw in the activity

Possible answers to stimulate discussion:

Knowledge of the area (from the old farmer)

Coordinator (the younger farmer)

Labor (from the youth in the community)

Transportation (from the man with the oxen)

Livestock (from the one that does not farm)

Seed (from the seed salesman)

Have students list other components of this farming system that were not mentioned in the roles they played

Definitions of farming systems:

Farming systems relates to the whole farm rather than individual elements of the farm. The farming system is driven more by overall farming household welfare than yield and profitability goals. Farming systems are closely linked with livelihoods, as agriculture remains the single most important component of rural people's living (NRI.org, 2004).

Farming systems are a complex combination of inputs, managed by farming families, influenced by environmental, political, economic, institutional, and social factors (NRI.org, 2004).

Basically, a farming system is the complex combination of all of the

factors that influence the farm and the family.

Have students think back to the Tasmania farming system.

Have students list some of the constraints of the farming system

Possible answers to stimulate discussion:

Small amount of irrigation water

Poor country

Rely on natural rainfall

Have to haul 15 miles to market

Have to use oxen to haul wheat to market

Have students eliminate three of the above constraints of this farming system, also list which three would you eliminate and how

Possible answers to stimulate discussion:

Intended Consequences:

Ample water for crops

Fertile soils that produce better crops

A decline in weed populations, resulting in higher yields

Good market prices for more profit

Ample grass for livestock

Unintended consequences:

If there was no drought, would there be a problem with flooding or some crops not growing because it was too wet?

Would the right types of crops grow in the new fertile soil? What effect would it have on crops? With no weeds and good yields, would there be a surplus in crops, causing the market to drop? With high prices, would there be a surplus of crops, causing the price to fall? Would

farmers be worse or better off with this change?

With enough grass for livestock, would there be a surplus in livestock, again causing the market price to drop? Is the country set up to handle a lot of livestock? What about animal waste?