

MM4: Feeding the World Sustainably and Responsibly



Micro-Module 4: Feeding the World Sustainably and Responsibly

Experimentation and Exploration

Lesson 7: Value Chain Exercise

Subjects: Art and Design, Agricultural Science, CPSE, Home Economics, SPHE

Lesson Title and Summary: Value Chain Exercise

In this lesson we'll take a deep dive into the value chains behind some of the everyday foods we all enjoy. We'll plot the journey through the value chains these foods make, identifying the human and environmental problems that exist within these food systems. We'll attempt to discover what innovations and solutions can help change the systems behind our foods to do right by customers, farmers, workers, company owners and our planet.

Vocabulary: Value Chains, Farming, Harvesting, Transport, Food Production, Packaging, Consumption, Food Waste, Social Cost, Ecological Cost, True Cost

In this lesson, the learner will:

- Define and describe the concept of a value chain
- Identify and explain the various stages of a food's value chain
- Recognize the social and ecological challenges associated with each stage of the value chain
- Analyse the interconnectedness between different stages of the value chain and its impact on society and the environment
- Gain empathy for the challenges faced by farmers and producers
- Build up presentation and communication skills
- Work in groups and learn to collaborate on research and analysis

Materials

- Worksheet 1: Value Chain Six Stages, People + Planet
- Worksheet: Additional Resources
- Pens, paper
- Internet access



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ACTIVITY INSTRUCTIONS

Activity 1: Value Chain Exercise (50 mins)

1. Divide the class up into small groups/teams of 4-5 learners
2. Distribute Worksheet 1: Value Chain Six Stages, People + Planet and allocate each group with a different food.
3. Use the Worksheet: Additional Resources to support researching their allocated food
4. As per the worksheet, teams should be instructed to define the six stages of their food's value chain and to describe the process for each stage in the chain (actors and activities involved in the stage, inputs, outcomes)
5. Groups to be instructed to identify the social and environmental problems that are created at each stage, whether for the local or global community and whether for the local environment or global climate.
6. Groups to be instructed to identify 2 solutions that could be applied to remedy social and environmental problems at each stage.
7. Class Discussion: Teams should be asked to discuss who they think should pay for the solutions and why (the customer? farmers? corporates? government?)

REFLECTIVE EXERCISE: 3-2-1 (10 mins)

- Three things they feel they have learnt from the tasks.
- Two things they found most interesting and would like to explore more.
- One – their opinion they have about the tasks.

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EXTENSION / REDUCTION ACTIVITIES:

Reduction: For a shorter lesson, in activity 1, reduce the time by removing step 6 in the value chain.

Extension: For a longer lesson, extend activity 1 by expanding step 6 in the value chain and splitting it into three components – sales, consumption, and waste/afterlife. Encourage students to research the social and environmental challenges of each of these three steps and to explore solutions and workarounds.

Option B: Allow more time for research. You could also allow additional lessons for learners to develop their research into a podcast, film, Pecha Kucha presentation, or poster presentation (See Media Communications Module).

MEDIA BOX: (materials, online video links, extra resources, case studies etc)

See additional resources worksheet

LOCAL TRIP / EXPERTISE / ADDITIONAL WORK AND ASSESSMENTS

Visit your local supermarket and interview 6 supermarket customers outside the store (mix of staff and customers). Question them to see what, if any, issues they imagine may exist at each of the six stages of food value chains.

See also Media Communications 4: Creating a Podcast. Learners can use the resources to develop their interview questions and then create a short podcast on their findings either independently or as a group

MM4: L7 WS THE SIX VALUE CHAIN STAGES



VALUE CHAIN SIX STAGES, PEOPLE + PLANET

You will be assigned one of the following foods: orange juice, rice, coffee, cocoa, bananas, green beans, tea, coffee, prawns, or avocado. Use the additional resources worksheet and the internet to search the six stages of the value chain for your food. Use the questions in each stage to guide your search.

Our food is: _____

Stage 1: Farming

Description of this stage (activities, work, outputs):

What people are involved in this stage?

What people are impacted by this stage (local or international community, good and bad impacts)?

What materials / stuff / items are used in this stage?

What are the social impacts from this stage?

How does this work impact workers, farmers, their families, their communities?

What are the environmental outputs / impact / cost from this stage?

What impact is this stage having on water use, land use, water discharge and runoff, pollution, noise, light?

What pollution is generated by this stage in the value chain?

What solutions / innovations or different approaches can be used to fix these problems?

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VALUE CHAIN SIX STAGES, PEOPLE + PLANET

Stage 2: Harvesting

Description of this stage (activities, work, outputs):

- What people are involved in this stage?
- Does the family get involved in harvesting?
- Are there seasonal workers? How is life for them?
- Are children involved working the harvest?
- Is harvesting dangerous?
- What people are impacted by this stage (local or international community, good and bad impacts)?
- What materials / stuff / items are used in this stage?
- What are the social impacts from this stage?
- How does this work impact workers, farmers, their families, their communities?
- What are the environmental outputs / impact / cost from this stage?
- What impact is this stage having on water use, land use, water discharge and runoff, pollution, noise, light?
- What pollution is generated by this stage in the value chain?
- What solutions / innovations or different approaches can be used to fix these problems?

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2 ZERO HUNGER



VALUE CHAIN SIX STAGES, PEOPLE + PLANET

Stage 3: Production

Description of this stage (activities, work, outputs):

What people are involved in this stage?

What people are impacted by this stage (local or international community, good and bad impacts)?

What materials / stuff / items are used in this stage?

What machinery is involved in production?

What energy source is used?

Are there chemicals or other materials added during production?

Is there pollution or run off from the production process?

What are the social impacts from this stage?

How does this work impact workers, farmers, their families, their communities?

What are the environmental outputs / impact / cost from this stage?

What impact is this stage having on water use, land use, water discharge and runoff, pollution, noise, light?

What pollution is generated by this stage in the value chain?

What solutions / innovations or different approaches can be used to fix these problems?

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VALUE CHAIN SIX STAGES, PEOPLE + PLANET

Stage 4: Packaging

Description of this stage (activities, work, outputs):

What people are involved in this stage?

What people are impacted by this stage (local or international community, good and bad impacts)?

What materials / stuff / items are used in this stage?

Is the packaging paper / plastic / other materials?

Is there packaging for transport separate from consumer packaging?

Where does this packaging go after its used?

What are the social impacts from this stage?

How does this work impact workers, farmers, their families, their communities?

What are the environmental outputs / impact / cost from this stage?

What impact is this stage having on water use, land use, water discharge and runoff, pollution, noise, light?

What pollution is generated by this stage in the value chain?

What solutions / innovations or different approaches can be used to fix these problems?

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VALUE CHAIN SIX STAGES, PEOPLE + PLANET

Stage 5: Transport

Description of this stage (activities, work, outputs):

- What people are involved in this stage?
- What people are impacted by this stage (local or international community, good and bad impacts)?
- What distances are involved?
- What shipping methods are involved? By sea or air, rail or truck?
- What materials / stuff / items are used in this stage?
- What are the social impacts from this stage?
- How does this work impact workers, farmers, their families, their communities?
- What are the environmental outputs / impact / cost from this stage?
- What impact is this stage having on water use, land use, water discharge and runoff, pollution, noise, light?
- What pollution is generated by this stage in the value chain?
- What solutions / innovations or different approaches can be used to fix these problems?

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2 ZERO HUNGER



VALUE CHAIN SIX STAGES, PEOPLE + PLANET

Stage 6: Sales, consumption and after life

Description of this stage (activities, work, outputs):

What happens the product once it has been eaten / consumed?

Is there packaging? Waste from the cooking / preparing stage?

Who deals with the waste and where does it go?

Where is the product sold and stored?

What people are involved in this stage?

What people are impacted by this stage (local or international community, good and bad impacts)?

What materials / stuff / items are used in this stage (buildings, shelves, electricity, storage and display boxes, refrigeration)?

What are the social impacts from this stage?

How does this work impact workers, farmers, their families, their communities?

What are the environmental outputs / impact / cost from this stage?

What impact is this stage having on water use, land use, water discharge and runoff, pollution, noise, light?

What pollution is generated by this stage in the value chain?

What solutions / innovations or different approaches can be used to fix these problems?