**Food Security and Circular Agriculture Class Exercises**

For this exercise three articles have been identified for students to read. There are 4 exercises for students to complete related to the three articles below. It is recommended to read this document in full before setting class exercises as you may wish to focus on one article at a time for certain exercises below. There is a classroom MS PowerPoint presentation that can be used in the classroom for these exercises.

The 3 articles:

1. The first is a UN press release from 2024 on the food gap and food security. It is entitled ‘Hunger numbers stubbornly high for three consecutive years as global crises deepen: UN report’. It is available from: <https://www.wfp.org/news/hunger-numbers-stubbornly-high-three-consecutive-years-global-crises-deepen-un-report#:~:text=The%20report%20highlights%20that%20access,amid%20the%20COVID%2D19%20pandemic>. This press release highlights the keeps concerns raised in 2024 The State of Food Security and Nutrition in the World (SOFI) report. If you wish to read further on this or increase the difficulty of this exercise you will find the full report to download from: <https://www.wfp.org/publications/2023-state-food-security-and-nutrition-world-sofi>.
2. This is newspaper article from the UK news outlet The Guardian. The article entitled ‘Can we ditch intensive farming- and still feed the world?’ was published on January 28th 2019. It is available from: <https://www.theguardian.com/news/2019/jan/28/can-we-ditch-intensive-farming-and-still-feed-the-world>.
3. This case study was produced by the Food and Agriculture Organization of the United Nations. It is entitled ‘Agroecological training on biofertilisers improves women’s livelihoods in Togo’. It is available from: <https://afsafrica.org/wp-content/uploads/2020/12/yve_compressed.pdf> or <https://www.fao.org/family-farming/detail/en/c/1412923/>

**Exercise 1: Classroom Discussion**

For the Class Room Discussion you will ask your class questions about each article to encourage students critical thinking. You may wish to focus on one article before moving to the next or you might want to discuss more than one together. You will find some questions below but you can add to these are create your own for each article.

1. UN Report Press Release:
   1. What are the key issues highlighted?
   2. Do you think these can be resolved?
   3. Are there any external factors that could add to these issues, e.g. growing population, land availability, increasing temperatures, etc.?
   4. What can governments do to address these concerns?
2. The Guardian Article:
   1. Was the articles concerning or optimistic?
   2. What were the main concerns?
   3. Do you think the solutions identified could resolve the concerns identified?
   4. Can you think of any other possible solutions?
3. The Togo Case Study:
   1. What was the issue?
   2. What caused the issue?
   3. Does this solution fully address the concern?
   4. Is there anything else that could change their situation, e.g. funding, education, access to markets to sell produce, etc.?

**Exercise 2: Aligning United Nations Sustainable Development Goals (UN SDGs)**

A chart of goals with icons

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With your students explore which of the above sustainable development goals are relevant to the agroecology case study in Togo?

SDGs 1,2,4,13,15 are all relevant although students could argue to include others such as 6, 7, 12, 17 depending on assumptions made and interpretation of the case study. Link to image available from: <https://www.un.org/development/desa/disabilities/about-us/sustainable.development-goals-sdgs-and-disability.html>

If you wish to add to the difficulty of this exercise you could:

* explore the 169 behind the 17 UN SDGs. Students could visit <https://sdgs.un.org/goals> and click on each individual goal to identify mores specific relevant targets for the case study of for circular agriculture.
* Explore the key concerns behind each SDG, see an example of Goal 1 below. When you click on each goal in the site above you can find infographics highlighting key concerns for each goal. Some sample questions are found in the example below.
* Explore progress reports on actions against each goal and identify where circular agriculture could have a positive impact. If you go to the above site you will find links to progress reports for each year. For the 2024 progress report you can follow: <https://unstats.un.org/sdgs/files/report/2024/SG-SDG-Progress-Report-2024-advanced-unedited-version.pdf>

Goal 1 Example:

Below is an image of UN SDG Goal 1

* How does Goal 1 of the UN SDGs align with the 3 articles?
* Where does agriculture have an impact on this?
* How can circular agriculture address this?

Goal 1 (<https://sdgs.un.org/sites/default/files/2023-08/SDG_report_2023_infographics_Goal%201.jpg>):

A close-up of a poster

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**Exercise 3: Industrial Scale Farming V’s Small Family Farms**

Using the 3 articles above identify the benefits and negatives of industrial scale farming and small family farms.

Classroom Options:

* Students can work individually or in groups for this exercise.
* Students can be split to focus on specific articles or on all three articles together.
* Students can be split to work individually or in groups with a specific focus for this exercise, e.g. only identify benefits and negatives of industrial scale farming, etc.
* The teacher identifies benefits and negatives of industrial scale farming and small family farms from the articles. The teacher presents these to students and students identify if these are more relevant to industrial scale farming or small family farms.

Students should identify phrases and ideas outlined in the articles, e.g.

Industrial Scale Farming:

‘require a landmass twice the area of India’, ‘global population expected to top 10 billion by 2050’, ‘food production will have to grow by 50% by 2050’, ‘Intensive farming’, ‘huge effect on biodiversity and the environment’, ‘Pesticides ..helped boost cereal and fruit production’, ‘pesticides…killed bees and myriad species of insects in large numbers’, ‘fertilisers…unintended harmful consequences’, ‘greenhouse gas nitrous oxide’, ‘air pollution through ammonia’

Small Family Farms:

‘deterioration in soil fertility’, ‘deterioration in.. yield quantity’, ‘50% of the Togolese population live in poverty…the majority of whom are women’, ‘very green colour of the leaves’, ‘soil was alive again’, ‘production was very good’, ‘works alongside several women’s groups’, ‘provides training, ‘improve soil quality and fertility’, ‘greater soil regenerations’, ‘stronger yields’

The above is a sample of some phrases and ideas identified but is a limited list that can be expanded upon by students.

**Exercise 4: Class Debate**

For this exercise you can split the class into groups with half of the groups arguing for large scale farming and half for small family farms. The groups can use the output of exercise 3 above as a starting point to formulate ideas and arguments, as well as identifying potential arguments of their opposition to rebut. You can choose how long each person has to debate based on the size and number of groups. Typically, the captain of each team has the option to speak again at the end. This final rebuttal is normally half the allotted debate time per speaker, e.g. if each speaker gets 5minutes to debate the captain will speak for a second time at the end of the debate for 2.5mins.

Instructions for Students:

* Choose a captain of your group.
* In your group outline your argument for your side of the argument
* Try to consider the arguments of your opponent. How could you counter argue this?
* Split your topics/arguments between each team member. Think about the order in which you will speak for your group and how the topics flow from one to the next.
* Be prepared to rebut arguments raised by your opposition. Take notes as your opposition speaks and add to your argument during the debate.
* Do a coin toss to choose which group will speak first.
* The debate will begin with the captain of the group that won the coin toss.
* The debate will continue with captain of the opposing team. And the teams will alternate turns in speaking.
* The captain of each team will be offered the option to rebut the final/all speakers of the opposition at the end of the debate.
* The class will vote to decide which team made a more convincing argument in the debate.

If you have a large class or if you wish to add to the difficulty of the exercise you could give different debate topics to each group (with one arguing for and another against), e.g. Environmentally Sustainable Agriculture is Financially Unsustainable; All chemicals fertilisers and pesticides should be banned; Circular Agriculture is only possible for larger farms; Rising temperatures is the greatest threat to Circular Agriculture, etc.