

PRINCIPLES FOR AGRIFOOD RESEARCH AND INNOVATION

STEP-BY-STEP GUIDANCE





Task Force on Principles and Metrics for Innovation for Sustainable Agri-food Systems - An initiative of the [Commission on Sustainable Agriculture Intensification \(CoSAI\)](#).

The [multistakeholder task force](#) was spearheaded by co-chairs Dr Preet Lidder (Technical Advisor to Chief Scientist, Food and Agriculture Organization of the United Nations (FAO)) and Professor P.V. Vara Prasad (Head of Feed the Future Innovation Lab on Sustainable Intensification, Kansas State University).

The Expert Group assisting the task force was led by Dr. Monika Zurek (Environmental Change Institute, University of Oxford).

TABLE OF CONTENTS

04 Introduction

- What is the purpose of the Principles?
- What are the Principles?
- How do I use the Principles?
- What are the benefits for my organisation?

12 Applying the Principles

1. Choose an innovation/project to assess
2. Plan the Assessment
3. Carry out the Assessment
4. Aggregate scores from different projects
5. Communicate your results

25 Annexes

- Glossary
- FAQ

This is a step-by-step guide on how to apply **Principles for Agrifood Research and Innovation** (henceforth “the Principles”).

Further guidance materials:



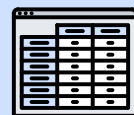
FAQ



Scoring
Template



Principles
(separate
document)



Metrics
Spreadsheet

INTRODUCTION

- What is the purpose of the Principles?
- What are the Principles?
- How do I use the Principles?
- What are the benefits for my organisation?



WHAT IS THE PURPOSE OF THE PRINCIPLES?

If you are a research or innovation manager or a funder of innovation in the agrifood sector, in the private or public sphere, these Principles are for you.

Investment in research and innovation today will shape the agrifood systems of the future.

The choices that you make during an innovation process will affect the future benefits and drawbacks of the innovations you help to create: for example, what types of people gain and lose, and what the effects are on the environment. Too often, these choices are not made consciously, and important issues are overlooked until it is too late.

The Principles will help you deliver better overall outcomes, by actively considering sustainable agrifood system objectives at key stages of your innovation projects.

WHAT ARE THE 8 PRINCIPLES?

INNOVATION PROCESS PRINCIPLES

1. Set out a clear theory of change towards intended impacts, based on a food systems perspective and reflexive learning

- 1.1. Clear and flexible theory of change towards intended impact of proposed innovation
- 1.2. Applied systems thinking at different scales, including all impacted actors and activities
- 1.3. Reflexive monitoring and evaluation to adapt route to impact to changing conditions



2. Design transparent and evidence-based innovation processes

- 2.1. Information on innovation goals, key intended outcomes, and budgets publicly available
- 2.2. Analysis of needed resources and capabilities, and the ability to obtain them
- 2.3. Evidence-based processes including use of credible metrics
- 2.4. Sharing of knowledge/insights, as appropriate, with others (public or private entities)

INNOVATION PROCESS PRINCIPLES (CONT.)

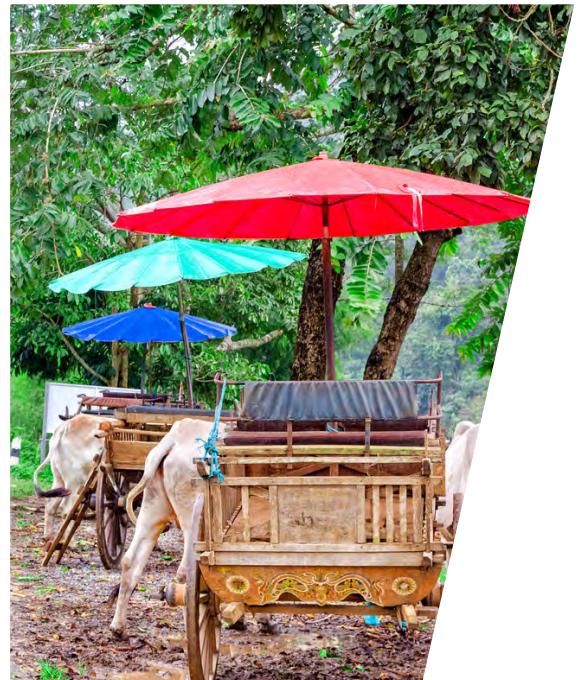
3. Conduct innovation processes in an inclusive and ethical manner

3.1. Inclusive, fair and transparent decision making within innovation processes, ensuring all relevant stakeholders are included

3.2. Fair and inclusive partnerships, and fair and ethical apportioning of benefits

3.3. Active considerations of all relevant types of knowledge

3.4. Ethically conducted innovation processes in compliance with human rights and other relevant international standards



4. Address potential trade-offs, synergies, efficiencies, and unintended effects

4.1. Transparent and systematic analysis of inputs, outputs, and agri-food system outcomes (Principles 5 to 8)

4.2. Transparent monitoring of winners and losers in innovation processes and outcomes (including unintended)

INNOVATION OUTCOME PRINCIPLES

5. Consider contribution to improved food and nutrition security and health

- 5.1. Food security
- 5.2. Adequate nutrition
- 5.3. *OneHealth*



6. Consider contribution to sustainable and circular management and utilization of natural resources

- 6.1. Biodiversity and integrated habitats
- 6.2. Climate change mitigation
- 6.3. Clean water
- 6.4. Clean air
- 6.5. Soil health

INNOVATION OUTCOME PRINCIPLES (CONT.)

7. Consider contribution to a viable economy and sustainable livelihoods

7.1. A viable agrifood systems sector contributing to the wider economy

7.2. Secure and stable livelihoods of actors within the agrifood sector



8. Consider contribution to an ethical, equitable, and adaptive agri-food system for current and future generations

8.1. Human rights and working conditions

8.2. Distribution of risks, benefits, and decision-making power within the household and along the value chain

8.3. Inclusiveness

8.4. Animal welfare

8.5. Adaptation, that is equitable, including to climate and environmental change



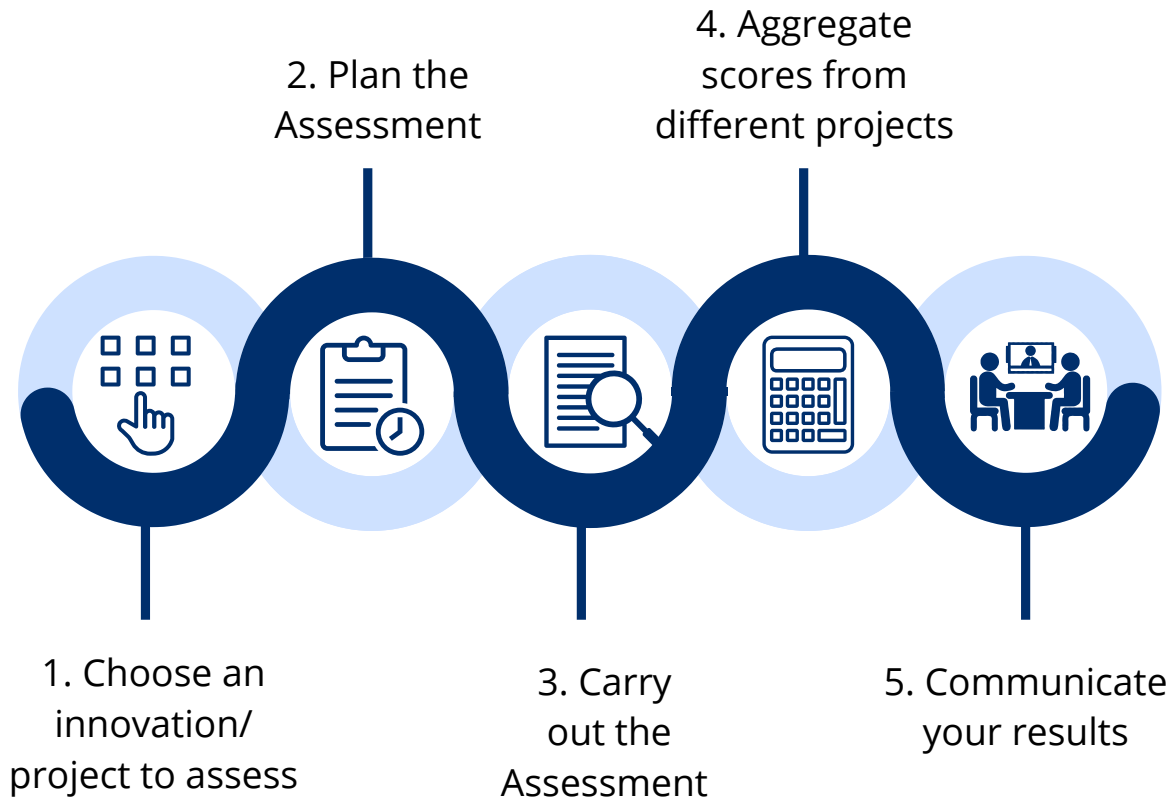
HOW DO I USE THE PRINCIPLES?

You score innovation or research projects against the eight Principles using the scoring template. You can also receive aggregated scores for entire programs. Your performance will indicate how well you have accounted for sustainability and equity objectives in your work.



Scoring Template

When you score the same project or cluster of projects more than once, you are able to demonstrate how they are making progress.



Time Needed: Approximately 3 Hours for Steps 1-4

WHAT ARE THE BENEFITS FOR MY ORGANIZATION?

For organizations committed to transforming the food system to deliver global goals (SDGs, Paris Agreement): the Principles will help you deliver more sustainable and socially-responsible outcomes from your research and innovation. They do this by acting as a checklist to ensure all critical issues have been considered at key points, helping you address issues that you may have missed.

Adoption of these internationally-harmonized Principles could gain you recognition as a responsible organization/company, especially in your research and innovation.

- This is important for international impact investors and international philanthropic and development funders.
- International watchdog and benchmarking organizations are also paying increasing attention to investments in food and agriculture.



APPLYING THE PRINCIPLES IN 5 STEPS

ToC
<u>Intro.</u>
●
●
●
<u>App.</u>
1.
2.
3.
4.
5.
<u>Ann.</u>
<u>Glsry.</u>

1. Choose an innovation/project to assess
2. Plan the Assessment
3. Carry out the Assessment
4. Aggregate scores from different projects
5. Communicate your results

The following guidance assumes that you are a manager of an innovation or research program and that you will use the Principles for self-assessment. Investors, funders, and watchdog and benchmarking organisations can also use this guidance for their work involving research and innovation actors in the agrifood sector.

1. CHOOSE A RESEARCH OR INNOVATION PROJECT TO ASSESS

Select an agri-food research/innovation project or 'small cluster' (see next page).

- The chosen project can be at any stage during the project cycle, from conception to scaling up.
- Projects can be related to policy development, finance, institutions, or business practices as well as scientific or technical.

Examples of innovation projects in agrifood systems:

- Development of a new financial product for incentivizing farmers to protect the environment
- Development of a novel urban planning policy that encourages circular agriculture
- Development of new high zinc / high yield rice varieties.
- Scenario analysis to support food systems transformation, through a multistakeholder consultation process
- Scaling up smallholder insurance through innovative partnerships
- Innovative risk management solutions for floods and drought to support national disaster risk reduction strategies.

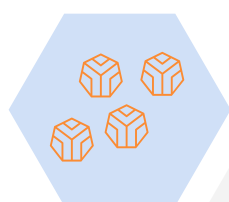
HOW TO CHOOSE THE RIGHT ASSESSMENT LEVEL

The Principles are best applied at the lowest level in the organization where project strategic decisions, in terms of intended agri-food system outcomes, are made. That level may be represented by a single project or a themed cluster of projects. An entire program is usually too broad to be scored individually.

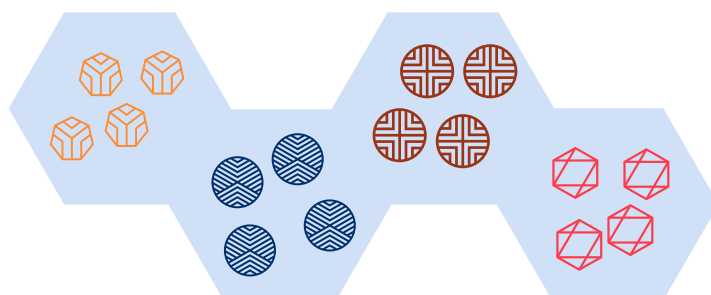
Project ✓



Themed cluster of projects ✓



Program ✗



- **The level is *too specific* if** the project is extremely technical and does not deal directly with the issues in the Principles (for example, a project that focuses only on developing solar batteries and does not wider issues). In this case, move up a level, to score the relevant *cluster of projects* (in the previous example, this could be the cluster of projects developing solar irrigation in a certain geographical area).
- **The level is *too broad* if** there are too many projects included in the cluster that are largely different from one another and the varying projects would yield different scores against the Principles. For example, avoid scoring an entire research program or clusters that have different overall target audiences or geographic areas.
- There is no one-size-fits-all answer to what level to choose.



2. PLAN THE PROJECT ASSESSMENT



WHEN: Typically, a project (or cluster) should be scored at least at the following stages: conception/design, mid-term review, final review and ex-post evaluation. See more information in the [FAQ](#)

Ideally, the assessment of the Principles should be integrated into regular project planning and review meetings (e.g. annual or mid-term reviews). Each organization will have a different planning and review cycle.



WHO: The Principles are currently a tool for self-assessment. Ideally, their application should be done by, at least, two people with good insight into the project. That includes one person from the level of management that makes strategic decisions on the project's intended agrifood system outcomes.

Impartial assessments are always preferable. So if you can incorporate the Principles into independent project appraisals, evaluations and reviews, that would be ideal.

3. CARRY OUT THE ASSESSMENT

Apply each Principle to your chosen innovation project:

Go through the list of Principles and sub-Principles. Check thoroughly and with a critical lens whether the issues in each Principle and sub-Principle have been considered or actioned in the selected project and whether you can concretely demonstrate this consideration or action.

The issues will vary by project stage.

- For example, at the idea/early design stage, you are mainly scoring good intentions and planning processes.
- At later project stages, you will need to check whether the issues raised in the Principles have been included in project analyses and whether any action has been taken to address areas that can be improved.



**Scoring
Template**

Use the appropriate scores (see next page) to assess your project and include justifications for each sub-Principle (backed by evidence). Documents on project proposals, reports, reviews, and evaluations are useful evidence.



HOW TO: USE THE SCORING FRAMEWORK TO SCORE EACH PRINCIPLE

When assessing each Principle and the relevant sub-Principles (see next page), use the scores in the table below. Assess, with a critical lens, which level of implementation is fulfilled in your project. Scores can lower again in later assessments.

Score	Level of implementation of Principle (including sub-Principles)
0	No activities have been carried out in line with the Principle.
1	Some activities have been carried out in line with the Principle, but insufficient to justify a score of 2.
2	There is evidence that activities have been carried out in line with the Principle and its sub-Principles. Information on the issues have been regularly and systematically collected and analyzed.
3	There is evidence that activities have been carried out in line with the Principle and its sub-Principles. Information on the issues have been regularly and systematically collected and analyzed, and needed changes have been implemented.

HOW TO: SCORE THE PRINCIPLES AND SUB-PRINCIPLES

Each Principle has one or more sub-Principles (see the Principles [here](#)). All sub-Principles need to be scored and supported with evidence. The scores of the sub-Principles contribute to your overall Principle score.

Your Principle score is the score of your **LOWEST NON-ZERO SCORE** across all relevant sub-Principles. **However, if you score 0 on any relevant sub-Principle, the overall Principle score cannot be higher than 1.** For example, if you score: 1 for sub-Principle 1.1, 2 for sub-Principle 1.2, and 0 for sub-Principle 1.3) your overall score will be 1.

Note: For **Principles 5 to 8** (innovation outcome Principles) there may be some sub-Principles that are not relevant to your specific innovation project context. If this is the case, you should provide an explanation in the justification section for the score for that Principle. In this case, the score can still be 2 or 3 if all **relevant** sub-Principles have been addressed.

Examples for scoring Principles and sub-Principles are provided on the following pages.



SCORING EXAMPLE OF A PROJECT ON: "MULTISTAKEHOLDER SCENARIO ANALYSIS TO SUPPORT FOOD SYSTEMS TRANSFORMATION"

ToC
Intro.
●
●
●
●
App.
1.
2.
3.
4.
5.
Ann.
Glsry.

Principle 1: Set out a clear theory of change towards intended impacts, based on a food systems perspective and reflexive learning.

Overall Principle score: 1 (Some activities have been carried out in line with the Principle, but insufficient to justify a score of 2).

Sub-Principle scores with evidence and justifications:

Sub-Principle 1.1 score: 0 - There was no clear theory of change in this project - it was an explorative analysis. See Planning Document pp.4.

Sub-Principle 1.2 score: 2 - Systems thinking **was** applied - trade-off analysis is a key part of the methodology and findings (p. 9 / pp 29-34 of the linked report) including food and nutrition security, environmental impacts, economic growth & productivity, and social equity.

Sub-Principle 1.3 score: 0 - Reflexive monitoring and evaluations to adapt route to impact did not take place both due to the lack of a clear theory of change and the short project duration not making midterm or final evaluations feasible .



Please find another example of a scored project in the Scoring Template.

HOW TO: "IMPLEMENT NEEDED CHANGES" (SCORE 3)

The real benefit from the Principles arises when they are used to change innovation processes, not when they are just used as a tick-the-box exercise.

The Principles provide a checklist for reviewing the strategic direction of the innovation process, identifying gaps and shortfalls, and addressing them.

Of course, there are trade-offs - so not every project is expected to contribute to every outcome listed in the Principles. But making these checks ensures that the range of key outcomes are at least considered, and that any outcomes judged to be important are monitored, analysed, and actions taken to course-correct.

A score of 3 on a Principle should only be applied when you think that all the needed changes identified in your review and evaluation processes have been implemented, not just discussed.

Improvements can be made over the life of an individual project and beyond, applying learning to new projects and whole programs.



4. AGGREGATE SCORES

To calculate the overall score for larger clusters of projects, a program or an organization, you need the budget for each project or themed cluster. Aggregate scores combine project scores against each Principle weighted by budgets, giving more weight to more expensive projects.

(1) Select the projects or themed clusters of projects for which you want to have an aggregated score (e.g. from a department, program or organization).

(2) Score each project against all 8 Principles.

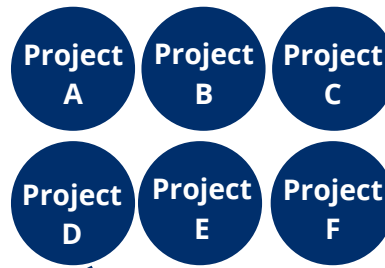
(3) Aggregate individual project scores for *each* Principle separately and in proportion to project budgets (i.e. share of total budget = influence on aggregate score).

This template will do the calculations for you.

Never aggregate scores from different Principles!

Principle 2
Score: 3 + Principle 3
Score: 1

Projects



Scores: Project D

Principle 1 Score: 2	Principle 2 Score: 3	Principle 3 Score: 1	Principle 4 Score: 1
Principle 5 Score: 2	Principle 6 Score: 1	Principle 7 Score: 3	Principle 8 Score: 1

(Repeat the above for Project A, B, C, E and F)

	Percent of Budget		Principle 1 Score	Weighted Score	
Project A	10%	x	1	=	.1
Project B	25%	x	1	=	.25
Project C	5%	x	1	=	.05
Project D	30%	x	2	=	.6
Project E	20%	x	2	=	.4
Project F	10%	x	1	=	.1
Principle 1 Aggregated Score = 1.5					.1 + .25 + .05 + .6 + .4 + .1 1.5

(Repeat calculation for Principles 2-8)

5. COMMUNICATE THE RESULTS

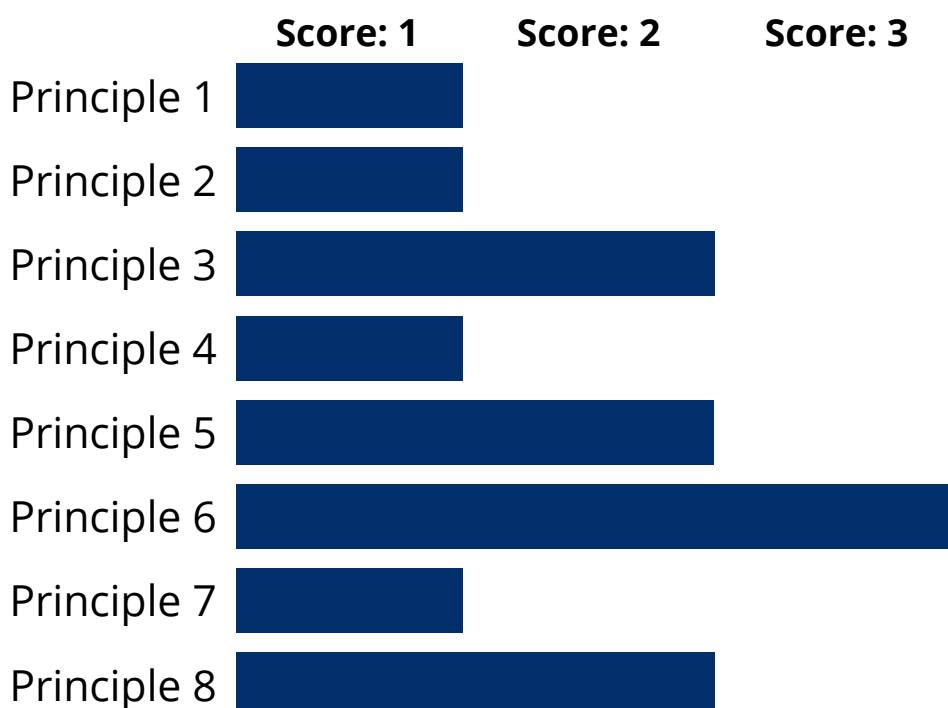
Communicate the results of your assessment.

You need to consider how you will effectively communicate the results to relevant stakeholders (other management, staff, partners, etc.).

Depending on the organisational context, this could be done through a team meeting, workshop, or report.

In order to meet sub-Principle 2.1 (transparency), results of the application and evaluation should be made public to allow transparency in the direction and focus of agri-food system innovations.

Hypothetical scoring on Project Y for the eight Principles



The Task Force hopes these Principles will guide and support you and your organisation's innovation towards better agrifood system outcomes. Applying the Principles helps us all contribute to sustainable and equitable agrifood systems together. Stay ahead of the curve and help shape future best practice.



ANNEXES

1. Glossary.

2. FAQ

<u>ToC</u>
<u>Intro.</u>
●
●
●
●
<u>App.</u>
1.
2.
3.
4.
5.
<u>Ann.</u>
<u>Glsry.</u>

GLOSSARY

ToC

Intro.

●

●

●

●

App.

1.

2.

3.

4.

5.

Ann.

Glsry.



GLOSSARY

A viable agrifood systems sector (contributing to the wider economy) – A viable agri-food system sector is one that supports the health of the wider economy. That is, a sector that promotes sustainable economic practices and bolsters the wider economy by providing the basis for human and societal functioning, while balancing risks. A viable food systems sector contributes to the functioning of a healthy and stable economy, financial and price stability, the effective use of natural resources, and employment opportunities (for both large and small actors within the system), among other things. The work by the OECD on 'inclusive growth' is a valuable resource on how to make a sector not only viable but also inclusive for all stakeholders.

Source: CoSAI internal suggestion (2021).

Adaptation – Adaptation refers to the processes, adjustments, or actions in natural or human/social systems in response to actual or expected stimuli or their effects, which reduce, moderate, or cope with harm or the risk of harm, or take advantage of beneficial opportunities. An innovation process that actively considers adaptation is one that understands how the innovation will allow, cause, or promote adaptation, in a positive direction. For example, an innovative mobile technology that cheaply allows farmers to access localized weather predictions and therefore permits them to modify their practices to suit those weather conditions in the short-term and allow for better planning for climatic changes in the long-term. Another example includes the introduction of an agroforestry land management system to increase soil carbon content and soil water retention to improve overall soil conditions and the tolerance of the farming system to drought and other shocks as well as diversifying income streams and spreading risk across crop type. Information on how to track adaptation to climate change in agriculture can be found in the FAO's Tracking adaptation in agricultural sectors, Climate change adaptation indicators (2017). This can be applied to other adaptation phenomena, such as environmental change.

Source: The above definition was formed from multiple definitions found in the following paper: Ellina Levina and Dennis Tirpak, OECD (2006). Key Adaptation Concepts and Terms Draft paper - Agenda document 1. OECD/IEA Project for the Annex I Expert Group on the UNFCCC. <https://www.oecd.org/environment/cc/36278739.pdf>.

Adaptive - Characterized by or given to adaptation (see "Adaptation").

Adequate nutrition - Taking adequately, and using appropriately, energy and all nutrients required for the body's growth, renewal, and working. Influencing the 'determinants' of a body's growth, renewal, and working at many levels could be considered a contribution to nutrition. An innovation that impacts these determinants contributes to nutrition (either positively or negatively). Achieving nutrition objectives is the result of a variety of determinants as shown in UNICEF's Conceptual Framework on the Determinants of Maternal and Child Nutrition, 2020 (p. 5). —

Source: This definition was adapted Sabri Ülker Food Research Foundation, 2014. Adequate and Balanced Nutrition. [Online] Available at: <https://sabriulkerfoundation.org/en/AdequateAndBalancedNutrition>. [Accessed February 2022].

Agri-food system - The Agri-food system covers the journey of food from farm to table – including when it is grown, fished, harvested, processed, packaged, transported, distributed, traded, bought, prepared, eaten and disposed of. It also encompasses non-food products that constitute livelihoods and all of the people as well as the activities, investments, and choices that play a part in getting these food and agricultural products to consumers and users. The term “agriculture” and its derivatives include fisheries, marine products, forestry, and forest products. Agrifood systems encompass the entire range of actors engaged in the primary production of food and non-food agricultural products and their interlinked value-adding activities, as well as in storage, aggregation, post-harvest handling, transportation, processing, distribution, marketing, disposal and consumption of all food products including those of non-agricultural origin.

Source: Report of FAO Council CL166 (2021). <http://www.fao.org/3/nf693en/nf693en.pdf>; Constitution of the food and agriculture organization of the United Nations (1945). <http://www.fao.org/3/x5584e/x5584e0i.htm>.

FAO (2021). The State of Food and Agriculture 2021. Making agrifood systems more resilient to shocks and stresses. Rome, FAO. <https://doi.org/10.4060/cb4476en>

Agrifood systems sector - See: “A viable agrifood systems sector (contributing to the wider economy)”.

Animal welfare – Broadly, animal welfare refers to the well-being of animals for food production, covering their handling, feeding, housing, transport, and slaughter along food value chains and emphasizing the avoidance of unnecessary suffering. An animal is in a good state of welfare if (as indicated by scientific evidence) it is healthy, comfortable, well nourished, safe, able to express innate behavior, and if it is not suffering from unpleasant states such as pain, fear, and distress. FAO's Animal Welfare Gateway is a multi-stakeholder knowledge exchange platform providing resources related to farm animal welfare. FARMS Initiative is another resource that encourages and supports meat, milk and egg producers, and other companies in the supply chain, towards meeting the Responsible Minimum Standards with respect to how farm animals are raised, transported and slaughtered.

Source: FAO, n.d. FAO TERM PORTAL. [Online] Available at: <https://www.fao.org/faoterm/en/>. [Accessed February 2022].

Biodiversity – An umbrella term to describe collectively the variety and variability of nature. It encompasses three basic levels of organization in living systems: the genetic, species, and ecosystem levels. Plant and animal species are the most commonly recognized units of biological diversity, thus public concern has been mainly devoted to conserving species diversity. Looking at the levels of biodiversity more specifically: genetic biodiversity describes the variation between individuals and between populations within a species; species diversity describes the different types of plants, animals, and other life forms within a region and community or ecosystem diversity describes the variety of habitats found within an area (grassland, marsh, and woodland for instance). The Biodiversity Indicator Partnership provides guidance on how to develop biodiversity indicators:
<https://www.bipindicators.net/national-indicator-development/bidf>.

Source: UNEP, n.d. Biodiversity. [Online]. Available at:
<https://leap.unep.org/knowledge/glossary/biodiversity>. [Accessed February 2022].

Clean air – Air that meets and maintains the air quality standards that are stipulated by the World Health Organization (see their latest report WHO global air quality guidelines: particulate matter (PM2.5 and PM10), ozone, nitrogen dioxide, sulfur dioxide and carbon monoxide, as well as air quality standards that may be legislated in the area of concern. WHO has an air quality database that can provide information on the current air quality in the region concerned.

Source: CoSAI internal suggestion (2021).

Clean water - Water that meets and maintains the water quality standards that are stipulated by the World Health Organization (in terms of drinking water, see their latest report Guidelines for drinking-water quality, 4th edition, incorporating the 1st addendum), or that may be legislated in the area of concern. The OECD Council Recommendation on Water (2016) provides guidance on the effective and efficient management of water resources and water services.

Source: CoSAI internal suggestion (2021).

Climate change mitigation - Changes, substitutions, and new actions that reduce greenhouse gas emissions per unit of output. Specifically, mitigation, with respect to climate change, means implementing policies to reduce greenhouse gas emissions and enhance sinks. FAO's Climate Change Knowledge Hub provides data, learning materials and activities, guidelines, policy advice, and tools for enhancing capacity to deliver on climate and sustainability goals.

Source: FAO, n.d. FAO TERM PORTAL. [Online] Available at: <https://www.fao.org/faoterm/en/>. [Accessed February 2022].

Cluster (of projects) - See "Small cluster (of projects)".

Circular management – Circular management of resources is a management style that reduces demand for primary or virgin natural resources and the materials that are derived from them. Circularity implies keeping resources in the system for as long as possible through reuse and recycling to minimize waste. The OECD's RE-CIRCLE: resource efficiency and circular economy provides policy guidance on resource efficiency and the transition to a circular economy.

Source: OECE, n.d. [Online]. Available at: <https://www.oecd-ilibrary.org/sites/5ab8c6da-en/index.html?itemId=/content/component/5ab8c6da-en#:~:text=For%20example%2C%20for%20the%20European,reduced%20demand%20are%20often%20highlighted.> [Accessed April 2022].

Consider - Through processes, such as research, analysis, interviews, and stakeholder engagement (among others), build an understanding of whether and how your innovation accounts, could account, or does not account for, and how it impacts or potentially impacts, the components of the Principles and sub-Principles. These processes and their results should be undertaken iteratively throughout the innovation process and documented.

If findings reveal that your project could, but does not apply the Principles, or could better address/apply the Principles, and project resources make it possible, you should take steps to course correct your innovation to either apply or better apply the Principles (see “Implement needed changes”)(in line with a score of 3 in the Scoring template.).

If a Principle or sub-Principle is not relevant (for example, your project builds solar batteries for irrigation pumps and so, the animal welfare sub-Principle is not applicable) or if your project is already addressing it (applying evidence-based, contextually adapted, best practice methods), then this should be mentioned in the Scoring Template, and supported with evidence.

Source: CoSAI internal suggestion (2021).

Direct investment – In this context, direct investment refers to direct funding or other direct support (e.g. time or in-kind contributions) for innovation processes. Excluded is funding or support for the broader enabling environment for Innovation for Sustainable AgriFood Systems – for example funding for education, connectivity, or other infrastructure.

Economy - See “A viable agrifood systems sector (contributing to the wider economy)”.

Equitable – The distribution of goods, services, opportunities, and risks in a fair and impartial manner, considering the concerned actors’ contexts, needs, capacities, and capabilities. Equity goes beyond gender. Equity considers other aspects of a person’s identity and context such as class, caste, religion, whether the actor/s are Indigenous, where the actor sits within intra-household power dynamics or the context’s social hierarchy, whether the actor is disabled, and whether the actor is pregnant, among others. Equity identifies groups that are economically excluded, socially or politically excluded, vulnerable groups, minorities, and marginalized communities, among others. UNDP’s [A Common Framework for Gender Equality and Social Inclusion](#) is an excellent resource with guidance on how to include equity considerations into projects. IFAD’s [Rural Development Report](#) (2016) provides an analytical framework for considering how innovations can support equitable rural transformations and provides insight into key strategies, policies, and investments that can enable innovations to support inclusive rural transformation while avoiding adverse effects.

Source: CoSAI internal suggestion (2021).

Ethical[lly conducted innovation processes] - Here, innovation processes that are considered as ethically conducted are those that adhere to basic human rights and animal welfare principles and adhere to an ethical framework (see, for example, an [article on the Ethics of Innovation](#) and The World Benchmarking Alliance's [Leading practices from the 2021 Food and Agriculture Benchmark](#)). During innovation design, if an external ethical review has been conducted, this also deems an innovation process as being ethically conducted.

Source: CoSAI internal suggestion (2021).

Evidence - Evidence is the available body of facts or information used to support the scoring of the Principles. Evidence acts to back up the validity of the statements you have made in your template and the score you have chosen for yourself. Decision making processes in innovation projects should all be documented. Evidence must be accessible - it must be able to be accessed by an external source i.e it is attached to or hyperlinked in the scoring template and cannot not be blocked by passwords or other prevention to access methods. Evidence must be specific - it must be directly related to the sub-Principle in question and easily discernible (i.e. saying that the evidence can be found in the attached project design document is not enough, the page or section of the document (or website) must be provided. Evidence can be varied. It may be in the form of project documents, scientific evidence laid out in project documents, scientific evidence, qualitative and quantitative data, contextual evidence, 'logic/common sense' and anecdotal evidence. Documents that record processes such as situational analyses that lay the foundation for well-articulated theories of change, identification of measurable results and risk responsive strategies, and systematic monitoring and reporting of the programmes' progress and evaluation can all support your score.

CIPD's online resource on [Evidence-Based Practice for Effective Decision Making](#) provides information on the importance of evidence and how to provide it.

Source: CoSAI internal suggestion (2021).

Fair - Undertaking processes in a way that is right or reasonable, or treating a group of people equally, and not allowing personal opinions to influence your judgment.

Source: This definition was adapted from Cambridge Dictionary, 2022. Meaning of fair in English. [Online] Available at: <https://dictionary.cambridge.org/dictionary/english/fair>. [Accessed March 2022].

Food security - Food security exists when all people, at all times, have physical and economic access to sufficient, safe, and nutritious food to meet their dietary needs and food preferences for an active and healthy life. FAO's [An Introduction to the Basic Concepts of Food Security](#) provides an overview, and FAO's [State of Food Security and Nutrition in the World 2021](#) report provides information on the current state of global food security.

Source: FAO, n.d. *FAO TERM PORTAL*. [Online] Available at: <https://www.fao.org/faoterm/en/>. [Accessed February 2022].

Food systems perspective – A food systems perspective is a way of viewing food and agricultural production that takes into account all of the behaviors, components, and actors of the food system as a whole in the context of its environment. It goes beyond a static and narrow view of food production to one that considers all behaviors, components, and actors that interact within the food production realm over time while acknowledging that these interactions could result in synergies and trade-offs that must be managed. The United Nations Food Systems Summit 2021 Scientific Group’s paper, [Food Systems – Definition, Concept and Application for the UN Food Systems Summit](#), highlights a food systems perspective on pages 7, 9, and 10). This [link](#) provides some guidance on how to build a systems perspective more generally.

Source: CoSAI internal suggestion (2021).

Health - A state of complete physical, mental, and social well-being and not merely the absence of disease and infirmity. Ecosystems health is linked to human health; for a definition of OneHealth, see “Onehealth”.

Source: World Health Organization. (2006). Constitution of the World Health Organization – Basic Documents, Forty-fifth edition, Supplement, October 2006.>

Human rights - Human rights are those that comply with the [Universal Declaration of Human Rights \(UDHR\)](#). UNICEF’s [Introduction to the Human Rights Based Approach](#) provides guidance around how to assess what the human rights based approach (HRBA) entails in the different phases of a project cycle and their [Implementing and monitoring the Convention on the Rights of the Child](#) provides similar guidance.

Source: CoSAI internal suggestion (2021).

Inclusive – Characterized or exhibiting inclusiveness. (See “Inclusiveness”).

Inclusiveness - The practice or policy of providing equal access to opportunities and resources for people who might otherwise be excluded or marginalized, such as those having physical or intellectual disabilities or belonging to other minority groups. UNDP’s [A Common Framework for Gender Equality and Social Inclusion](#) is an excellent resource with guidance on how to practice inclusivity by including equity considerations into innovation projects.

Source: definition adapted from Oxford English Dictionary (2021).

Indicator – A “quantitative or qualitative factor or variable that provides a simple and reliable basis for assessing achievement, change or performance”. The [Metrics Database](#) contains suggestions of possible metrics for each of the sub-Principles.

Source: ISPC. 2014. Data, metrics and monitoring in CGIAR – a strategic study. Rome, Italy, CGIAR Independent Science and Partnership Council (ISPC). 88 pp.
https://cas.cgiar.org/sites/default/files/ISPC_StrategyTrends_Metrics.pdf

Innovation – Agrifood systems innovation is the process whereby individuals or organizations bring new or existing products, processes, or ways of organizing into use for the first time in a specific context. Within the agrifood system, innovation can be understood as the process and a set of measures or actions that either develop or change the intensity and/or direction of a technology, policy, service, or institutional drivers that then lead to changes in design, production, use, or recycling of goods and services and/or changes in the institutional environment. Innovation includes changes in practices, norms, markets, and institutional arrangements, which may foster new networks of food production, processing, distribution, and consumption. Innovation also includes ‘old’ methodologies implemented in new places.

Source: Definition added to. Original definition from Agroecological and other innovative approaches for sustainable agriculture and food systems that enhance food security and nutrition. A report by the High Level Panel of Experts on Food Security and Nutrition of the Committee on World Food Security, Rome (2019). http://www.fao.org/fileadmin/user_upload/hlpe/hlpe_documents/HLPE_Reports/HLPE-Report-14_EN.pdf

Innovation processes – Innovation processes are the different activities and phases that fall between the conception and initial innovation planning, to the implementation, monitoring, evaluating, and reporting, and scaling stages. Within each phase, there are elements (such as developing a theory of change, or implementing and validating evaluation findings) that can improve the innovation’s capacity to change the intensity and/or direction of the innovation in order to sustainability and equitably deliver more benefits and reduce more harm.

Source: CoSAI internal suggestion (2021).

Innovation outcomes – An outcome of innovation is a result or a consequence, tangible or intangible, that is caused or produced by the innovation project or research at hand. Outcomes of innovation projects vary and varying outcomes can be achieved through one innovation project. An example of varying outcomes stemming from one innovation sees nutrition and food security outcomes, secure and stable livelihood outcomes, viable agrifood systems sector outcomes, climate change adaptation outcomes, biodiversity, soil, and water conservation outcomes (among others), all stemming from the uptake of a nutritious local vegetable variety in a farmer’s crop rotation schedule. Another example sees equity outcomes, transparency outcomes, fairness outcomes, and project efficiency outcomes all stemming from the testing of a new participatory evaluation methodology to achieve ‘downward accountability’ to project participants (alongside ‘upward accountability’ to investors).

Source: CoSAI internal suggestion (2021).

Integrated habitats - Integrated habitats is a type of biodiversity (ecosystems diversity, which contains genetic and species biodiversity). Integrated habitats are linked or coordinated localities in which plants, animals, and other life forms naturally grow or live. They can be either the geographical area over which it extends, or the particular location in which a specimen is found. The Biodiversity Indicator Partnership provides guidance on how to develop biodiversity indicators: <https://www.bipindicators.net/national-indicator-development/bidf>.

Source: This definition was adapted from UNEPP, n.d. Habitat. [Online]. Available at: <https://leap.unep.org/knowledge/glossary/habitat>. [Accessed February 2022].

Investors – An individual, an incorporated or unincorporated public or private enterprise, a government, or a group of related individuals that contribute to the processes of innovation (see “Innovation processes”), either financially, in kind, or through direct contributions (such as employment in a research team).

Source: CoSAI internal suggestion (2021).

Institutional innovation – Institutional innovations are new rules and ways of organizing the relationships between different actors in a system. They take place when people and organizations (actors) strategically mobilize others through network relationships in order to repair, change, or replace institutions. This [article](#) by Deloitte highlights the importance of institutional innovation at the organizational scale (though is applicable to other scales).

Source: FAO/INRA (2016). Innovative markets for sustainable agriculture – How innovations in market institutions encourage sustainable agriculture in developing countries.
<http://www.fao.org/3/i5907e/i5907e.pdf#>

Implement needed changes - Implementing needed changes in this context refers to modifying the innovation process, based on the evaluation and analysis of results stemming from reviews and monitoring, to better align the process with sustainable agrifood system objectives found in the Principles. This goes beyond just a discussion of findings and possible modifications to actual implementation and concrete changes.

For example, after undertaking the mid-term review and simultaneously applying the Principles, an innovation project supplying irrigation pumps to women in agriculture found that it had not considered the actors that would ‘lose’ due to the innovation project (in this case, the ‘losers’ were the men who did not receive the pumps). It further found that the intended ‘winners’ of the innovation (the pump receiving women) were not seeing the broad range of benefits envisaged from the pump. In reality, although being given to the women, the pumps were being controlled and managed by men. Thanks to these findings, the project strategy incorporated wider stakeholder engagement to address the men’s control of the pumps and the hindrance of the women’s empowerment. The project also modified its processes to start monitoring other household members (male), and community members (a cross section of women and men not receiving the pumps), and decided to incorporate analyses of the women’s household power dynamics in their future projects to ensure they would be able to better understand how their interventions would affect their target women groups. After a review, the project implemented needed changes.

Source: CoSAI internal suggestion (2021).

Livelihood - Combination of the resources used and the activities undertaken in order to live. Also see definition of “Secure and stable livelihoods within the agrifood sector”. FAO’s [Increasing the resilience of agricultural livelihoods](#) and the [Sustainable livelihoods: analysis at household level](#) provide resources on agricultural livelihoods.

Source: FAO, n.d. *FAO TERM PORTAL*. [Online] Available at: <https://www.fao.org/faoterm/en/>. [Accessed February 2022].

Measurement method – A measurement method is a set of activities to generate raw data (observations such as weight, height, plot size, etc.) that can be used to compute metrics. This can include modeling and the output generated from modeling.

Source: ISPC. 2014. Data, metrics and monitoring in CGIAR – a strategic study. Rome, Italy, CGIAR Independent Science and Partnership Council (ISPC). 88 pp.
https://cas.cgiar.org/sites/default/files/ISPC_StrategyTrends_Metrics.pdf

Metric – Metrics represent the values on which indicators are built. These are computed by aggregating and combining raw data, for example, yield (harvest per hectare) or height for age. It is important to note that a metric can be an indicator if it is used to assess performance and decision making. Thus all indicators are metrics, but not all metrics are indicators. See the Principles accompanying [Metrics Database](#).

Source: ISPC. 2014. Data, metrics and monitoring in CGIAR – a strategic study. Rome, Italy, CGIAR Independent Science and Partnership Council (ISPC). 88 pp.
https://cas.cgiar.org/sites/default/files/ISPC_StrategyTrends_Metrics.pdf

Metric for Innovation in Sustainable Agri-food Systems – A metric in this context is a standard of measurement, quantitative or qualitative, that is linked to at least one Principle for Innovation in Sustainable Agri-food Systems and measures outcomes or processes indicating to what extent these contribute to the sustainability of agri-food systems or not. Also see the definition for “Metric”.

Mitigation – see “Climate change mitigation”.

Nutrition - See “Adequate nutrition”.

Nutrition (and food) security - Food and nutrition security is when all individuals have reliable access to sufficient quantities of affordable, nutritious food to lead a healthy life. Food and nutrition security has four dimensions that encompass both chronic and transitory (acute) situations’ food availability, access, utilization, and stability. Achieving nutrition objectives is the result of a variety of determinants as shown in UNICEF’s [Conceptual Framework on the Determinants of Maternal and Child Nutrition, 2020](#) (p. 5). See also “Adequate nutrition”.

Source: Association of Public and Land Grant Universities, n.d. What is Food & Nutrition Security?. [Online]. Available at: <https://www.aplu.org/projects-and-initiatives/international-programs/challenge-of-change/food-security.html>. [Accessed February 2022].

OneHealth - 'One Health' is an approach to designing and implementing programs, policies, legislation, and research in which multiple sectors communicate and work together to achieve better public health outcomes. The ‘One Health’ approach is critical to addressing health threats in the animal, human, and environment interface, for example zoonotic disease. See WHO’s resource on [OneHealth](#).

Source: WHO, (2022). One Health. [Online]. Available at: <https://www.euro.who.int/en/health-topics/health-policy/one-health>. [Accessed February 2022].

Outcomes – See “Innovation outcomes”.

Principle for Innovation in Sustainable Agri-food Systems – A Principle in this context is a normative proposition guiding decision-making and work processes in agri-food-systems-related innovation systems (including investments in such) so that these contribute to the creation and/or strengthening of sustainable agri-food systems. Relevant examples of existing principles are listed in the Annex to the Terms of Reference for the Taskforce.

Source: CoSAI internal suggestion (2021).

Reflexive learning – Here, reflexive learning involves actively monitoring, evaluating, and assessing the outcomes, and consequences of your innovation project decisions, processes, and outputs whilst the project or innovation is ongoing to engage in continuous learning. This is done to improve the process and its associated outcomes, putting learned changes into practice during the project or innovation lifespan. A good tool on reflexive learning can be found [here](#).

Source: CoSAI internal suggestion (2021).

Risks – Here, risks refer to the uncertainty of an action's or event's outcome that is linked to the project or innovation, whether positive, negative, or both, which may have an impact on either the end-users or external actors that are not the direct target users/recipients. FAO's E-Learning Academy has a tool on [assessing risks in agriculture](#).

Source: This definition was adapted from: FAO, n.d. *FAO TERM PORTAL*. [Online] Available at: <https://www.fao.org/faoterm/en/>. [Accessed February 2022].

Secure (and stable livelihoods within the agrifood sector) – Having a secure and stable livelihood refers to the security (a high reliability of consistently being available) and stability (free from major fluctuations) of payments, in cash, in kind, or in services, which are received by individuals (for themselves or their family members), as a result of their current or former involvement in paid or self-employment jobs. Secure and stable livelihoods should provide individuals with a decent standard of living. Economic opportunities to earn secure and stable livelihoods within the agrifood sector should be inclusive and equitable. FAO's [Increasing the resilience of agricultural livelihoods](#) and the [Sustainable livelihoods: analysis at household level](#) provide resources on agricultural livelihoods.

Source: This definition was adapted from: ILO. (n.d.). *ILO Glossary of Statistical Terms*. [Available at <https://www.ilo.org/ilostat-files/Documents/Statistical%20Glossary.pdf>].

Small cluster (of projects) - A small cluster of projects is considered a group of projects that include similar themes and have similar intended agri-food system outcomes. Ideally, the strategic decision-maker or team making the strategic decisions should be the same for all the projects in the cluster. However, the number of projects that fall within the cluster should not be excessive, as this will introduce too much variance within the scores and hinder a proper reading of the Principles' application. For example, five projects that fall within an umbrella program, and that all aim to improve household incomes through various methods of increasing water use efficiency may be considered a cluster. When deciding whether to apply the Principles at the project level or the clustered level, please keep in mind the following:

- The level is too specific if the project is very technical and does not deal directly with the issues in the principles (for example, a project that focuses on developing solar batteries and does not consider wider issues). In this case, move up a level, to score the relevant cluster of projects (in this example, this could be the cluster of projects developing solar irrigation in a certain geographical area).
- The level is too broad if there are too many included projects in the cluster chosen, that would give different answers if you scored them according to the Principles. For example, avoid scoring an entire research program with clusters of projects that have different overall target audiences or geographic areas.

Source: CoSAI internal suggestion (2021).

Social innovation – Social innovation is defined as the development and implementation of new ideas (products, services and models) to meet social needs and create new social relationships or collaborations. It represents new responses to pressing social demands, which affect the process of social interactions and is aimed at improving human well-being. The OECD provides information on social innovation, including the LEED Forum on Social Innovations.

Source: Directorate-General for Regional and Urban Policy (European Commission) (2013). Guide to social innovation.
https://ec.europa.eu/regional_policy/sources/docgener/presenta/social_innovation/social_innovation_2013.pdf

Soil health - Soil health is the capacity of soil to function as a living system, with ecosystem and land use boundaries, to sustain plant and animal productivity, maintain or enhance water and air quality, and promote plant and animal health. Healthy soils maintain a diverse community of soil organisms that help to control plant disease, insect and weed pests, form beneficial symbiotic associations with plant roots; recycle essential plant nutrients; improve soil structure with positive repercussions for soil water and nutrient holding capacity, and ultimately improve crop production. FAO's Soil Portal is a resource for soil health, and soil health indicators can be found from the Global Land Degradation Information System (GLADIS) and the Status of the World's Soil Resources report (SWSR).

Source: FAO, (2008). *NSP - What is a healthy soil?*. [Online] Available at:
<https://www.fao.org/agriculture/crops/thematic-sitemap/theme/spi/soil-biodiversity/the-nature-of-soil/what-is-a-healthy-soil/en/>. [Accessed February 2022].

Sustainable – A process is sustainable if it meets the needs of the present without compromising the ability of future generations to meet their own needs. Sustainability typically encompasses the four pillars of society, environment, culture and economy. See FAO’s resource on [Food and agricultural sustainability](#).

Source: UNESCO, (2021). Sustainable Development. [Online] Available at: <https://en.unesco.org/themes/education-sustainable-development/what-is-esd/sd>. [Accessed February 2022].

Sustainable Agriculture Intensification - Sustainable Agriculture Intensification” (SAI) is a term with many definitions and past controversies that goes well beyond the narrow concept of ‘producing more food with less environmental damage’. Here, SAI refers to the transformative changes in agriculture and food systems that are urgently required to meet rapidly-increasing global needs for affordable, nutritious, safe and healthy food, while protecting and improving the natural environment and promoting resilient livelihoods and social equity. See the Commission on Sustainable Agricultural Intensification’s [resources](#).

Source: CoSAI (2021). <https://wle.cgiar.org/cosai/frequently-asked-questions>

Sustainable agrifood system: A sustainable agrifood system is one that undertakes all activities related to the production, processing, distribution, sale, preparation, and consumption of food in a manner that provides food and nutrition security, economic opportunities, and livelihoods for agri-food system actors, while minimizing its environmental impacts and contributing to sustainable management and utilization of natural resources and social equity. See Foresight for Food’s blog article on [The Dynamics of Food Systems – A Conceptual Model](#) and the OECD’s resource on [Food systems transformations](#).

Source: This definition was built on the definition coined by Sage, Colin. (2018). Agro-food systems. [Available at: https://www.researchgate.net/publication/325473166_Agro-food_systems#:~:text=The%20agro-food%20system%20comprises%20all%20those%20activities%20related,us%20to%20place%20somewhat%20greater%20importance%20upon%20the].

Systems thinking - Systems thinking is a way to consider and analyze the various components and interactions that exist and occur within a system. It allows a deeper and more broad understanding of not only the obvious elements that spring to mind when analyzing a system, but also those that may be more obscure or ‘hidden’. This deeper understanding can contribute to better predictions of the consequences of altering the system through, for example, an innovation. In the case of the agrifood system, elements of the system, such as agriculture’s influence on migration through labor, may be overlooked or ill-considered, meaning innovation processes may not be aware of the impacts that the innovation may have on migration. Resources on agricultural systems thinking can be found [here](#), [here](#), and [here](#).

Source: CoSAI internal suggestion (2021).

Stable (Secure and stable livelihoods within the agrifood sector) - See “Secure and stable livelihoods within the agrifood sector”.

Theory of Change - A theory of change details the causal linkages between a project's actions and processes and its intended outcomes over short-, intermediate-, and long-term time scales. It shows why the particular way of working chosen for the project will elicit the intended outcomes or changes. It can be developed at any organization level, project, program, strategy, etc. A theory of change should be credible, being derived from research and previous experiences, achievable, meaning your organization has the capacity and resources to undertake the project, and testable, with clearly stated intentions, actions, and indicators to measure progress. In addition to this, a theory of change should ideally be supported by relevant stakeholders, garnering buy-in during the design stage. A theory of change should ideally be developed at the beginning of a project, during strategic decision making processes. Though, if your project is finished, it can also be developed retroactively, to evaluate the project and highlight gaps or inconsistencies in the links between intended outcomes and actions. resources on developing a theory of change can be found [here](#) and [here](#).

Source: This definition was adapted from NCVO (The National Council for Voluntary Organizations). Oct 12, 2020. How to build a theory of change. <https://knowhow.ncvo.org.uk/how-to/how-to-build-a-theory-of-change>. [Accessed February 2022].

Trade-offs – Trade-offs refers to a method of distributing the factors (positive and negative), all of which are not necessarily attainable at the same time, to ensure all parties receive equitable portions of both the positive and negative distribution over time. The Green Policy Platform's [Agriculture, Nature Conservation, or Both? Managing trade-offs and synergies in sub-Saharan Africa](#) summarizes key concepts relating to tradeoffs and synergies, including trade-off analysis and management.

Source: CoSAI internal suggestion (2021).

Transparent – Being transparent is enabling an environment where the aims and objectives, results and evaluation findings of innovation projects as well as information on their decisions, decision making processes, project rationale, relevant data, and information related to accountability, are provided to the public in a comprehensible, accessible, and timely manner. Transparency and accountability go hand in hand.

Source: This definition was adapted from: OECD. (2002). Glossary of Statistical terms: Transparency. [Online] Available at: <https://stats.oecd.org/glossary/detail.asp?ID=4474>. [Accessed February 2022].>

Viable (agrifood systems sector) - See "A viable agrifood systems sector (contributing to the wider economy)".

Winners and losers (of innovation) - Innovation in agriculture will always affect target groups and non-target groups in varying ways, which are sometimes unpredictable. Due to this, innovations result in winners and losers, those that benefit from an innovation, and those that feel negative effects due to its presence. For example, an innovation project aiming to reduce poverty by increasing crop yields through new seed varieties may benefit those end users that increase yields and concurrently household income, the 'winners' of innovation. On the other hand, negative effects may arise from the new variety; its uptake may reduce the availability of staple diet crops on the local market, creating localized food shortages. Or, the introduction of a new crop may affect household dynamics, shifting the dynamics between male and female members of the household, negatively affecting females (for example, see Shibata et al. (2020) <https://onlinelibrary.wiley.com/doi/10.1002/jid.3497>). These examples demonstrate how innovations can bring about 'losers'. Although not always predictable, aiming to understand and forecast potential winners and losers of innovation is important for reducing and managing these negative 'spill-overs'.

Source: CoSAI internal suggestion (2021).

FAQ

ToC

Intro.

●

●

●

●

App.

1.

2.

3.

4.

5.

Ann.

Glsry.





FREQUENTLY ASKED QUESTIONS (FAQ)

ToC
Intro.
●
●
●
●
App.
1.
2.
3.
4.
5.
Ann.
Glsry.

Unallocated

- What if I would only like to assess the application of the Principles at the end of a project?
- FAQs: Why do the Principles not measure progress through innovation outcomes?
- FAQs: What if I do not have the resources to collect evidence?
- FAQs: What are considered the key stages of an innovation or project?
- FAQs: What is meant by the winners and losers of innovation?
- FAQs: What are the key stages?

Key concepts

- What do you mean by 'sustainable agri-food systems'?
- What do you mean by 'innovation in sustainable agri-food systems'?
- What is the difference between innovation process Principles and outcome Principles? How do they relate to one another?

Purpose and target group

- What is the purpose of the Principles for innovation?
- Who are the Principles for innovation intended for?
- Why do the Principles not measure progress by creating a centralized framework for innovation outcomes?
- How does the scoring system relate to outcome metrics and measuring of outcomes?

The scoring system

- What is the relation between the Principles and the scoring system? What am I scoring?
- Should I score the sub-Principles?

Operationalization

- Where do I start?
- At what organizational level should I apply the scoring system? Can the Principles be applied to an innovation pipeline or an entire organization? How would scores be aggregated?
- Do I have to apply all the Principles?
- Do I have to apply all Principles simultaneously?
- When and how often should you assess your application of the Principles?
- How do I address trade-offs between Principles as well as unintended consequences in decision-making around agri-food system innovations?

Other questions

- Why do the Principles not include the key issue of scaling innovations?
- Why is there no Principle on resilience?
- How do I make sure the right people are included in the innovation process and impacts on all stakeholders are considered (P3)?

Unallocated Questions

What if I would only like to assess the application of the Principles at the end of a project?

Retroactively assessing whether the Principles have been applied to your project is possible. If your project has finished, a retroactive application can provide information for improving future projects. However, generally, the Principles should be applied at the beginning stages and throughout the project lifecycle. This is because they are a method for assessing an innovation's progress towards sustainable agri-food systems, offering opportunities to reflect on that progress and make adaptations and adjustments when necessary. A final assessment, towards the end of the project/innovation cycle, is also recommended.

Why do the Principles not measure progress through innovation outcomes?

The Principles are not intended to directly help measure whether an innovation has successfully achieved sustainable agrifood system outcomes (e.g. increases in biodiversity or food security as a result of a project). This is due to the fact that:

- Appropriate metrics for innovations vary by innovation type (e.g. policy vs. technology), context (e.g. an innovation for or in India vs. an innovation for or in Kenya), stage (e.g. design stage vs. scaling), and 'whose reality counts' (e.g. accountability to end-users vs. accountability to donors).
- Outcome metrics can track macro trends but cannot be used to track specific impacts because of a lack of causality and a long lag time between implementation and impact.

Therefore, the Principles hold innovators and investors accountable by tracking intentions and how these are reflected in their innovation processes. It should be noted that indicators and metrics are crucial in innovation processes. The Principles should be complemented by metrics that aim to capture outcomes and impact (see sub-Principle 2.3).

What if I do not have the resources to collect evidence?

If you do not have the resources to collect evidence to support your score, the highest score attainable is 1. Although resource intensive, evidence is crucial for supporting scores and applying the Principles correctly. This is because evidence supports monitoring, reporting, evaluating, and implementing the required changes to improve sustainable agrifood systems outcomes. Without evidence, there is a risk of greenwashing, and the transparency of the Principles' application is compromised. Evidence is also helpful for keeping records of projects and the processes used, allowing lessons learned to be applied to future projects. Although resource intensive, there are many benefits (outside of Principle application and scoring) for collecting evidence.

FAQs: What are considered the key stages of an innovation or project?

Each project, innovation, or cluster of projects will be different, though, typically, the key stages of all three can be considered the design stage, the mid-term review, the final review, and the ex-post evaluation. These stages offer opportunities to either consciously consider the Principles and their incorporation into the project, reflect on what has happened during the project, make changes to the project based on new or updated information, or all three. However, some projects may have more or fewer key stages. For example, a project may include more regular reviews of the project charter or other project documents, providing a greater number of opportunities to apply the Principles. Conversely, some projects may not have scheduled mid-term reviews, or ex-post evaluations. In these cases, it is preferable to apply the Principles in lieu of these processes.

FAQs: What is meant by the winners and losers of innovation?

Innovation in agriculture will always affect target groups and non-target groups in varying ways, which are sometimes unpredictable. Due to this, innovations result in winners and losers, those that benefit from an innovation, and those that feel negative effects due to its presence. For example, an innovation project aiming to reduce poverty by increasing crop yields through new seed varieties may benefit those end users that increase yields and therefore household income, the 'winners' of innovation. On the other hand, negative effects may arise from the new variety; its uptake may reduce the availability of staple diet crops on the local market or create localised monocultures. This in turn may negatively affect the food and nutrition security of non-target groups and ecosystem stability, the 'losers of innovation'. Although not always predictable, aiming to understand and forecast potential winners and losers of innovation is important for reducing these negative 'spill-overs'.

What are the key stages?

The key stages of a project (or cluster of projects) are considered to be, the design stage, mid-term review, final review, and ex-post evaluation. Ideally, the assessment of the Principles should be integrated into regular project planning and review meetings (e.g. annual or mid-term reviews). Each organization will have a different planning and review cycle. If your project does not have these stages, it is recommended that you integrate them into the project lifecycle, utilising the Principles as a starting point.

Key concepts

What do you mean by 'sustainable agri-food systems'?

The Principles rely on an agri-food system understanding; a perspective that covers the journey of food from farm to table – stages including growing, fishing, harvesting, processing, packaging, transporting, distributing, trading, purchasing, preparing, eating, and disposal. It also encompasses non-food products that contribute to livelihoods and the activities, investments, and choices that play a part in getting these food and agricultural products (incl. fisheries, marine products, and forestry products). A food systems perspective focuses on pre-production and production activities, and their relation to other activities such as processing, retail and consumption. These activities are influenced by a wide variety of drivers of the system. These include environmental drivers (e.g. climate change), political drivers (e.g. geopolitics), economic drivers (e.g. level of subsidies), demographic drivers (e.g. age structure), and social drivers (e.g. land access issues). The sustainable agrifood systems perspective also considers all the actors that are associated with or linked to these activities, including potentially affected family members. All of these elements influence food system activities (positively or negatively) and their ability to deliver sustainable agrifood system outcomes.

What do you mean by 'innovation in sustainable agri- food systems'?

The Principles use and build on FAO's definition of agricultural innovation. Agrifood systems innovation is the process whereby individuals or organizations bring new or existing products, processes, or ways of organizing into use for the first time in a specific context. Within the agrifood system, innovation can be understood as the process and a set of measures or actions that either develop or change the intensity and/or direction of a technology, policy, service, or institutional drivers that then lead to changes in design, production, use, disposal, or recycling of goods and services and/or changes in the institutional environment. Innovation includes changes in practices, norms, markets, and institutional arrangements, which may foster new networks of food production, processing, distribution, and consumption. Innovation also includes 'old' methodologies implemented in new places.

What is the difference between innovation process Principles (1-4) and outcome Principles (5-8)? How do they relate to one another?

Overall, the Principles guide investors and innovators to consider and include sustainable agri-food system objectives in their investment, research, and innovation decisions. Process Principles steer the innovation process more technically. They are focused on improving the processes undertaken during innovation stages to ensure they are robust and lay the foundations for contributing to sustainable agrifood system outcomes. Outcome Principles direct the impact of an innovation by defining the scope of intended outcomes and highlight what should be strived from the innovation. The process and outcome Principles are complementary and work in tandem.

Purpose and target group

What is the purpose of the Principles?

The Principles are intended to guide investors, innovators, and researchers to consider and include sustainable agri-food system objectives in their innovations. They provide a template for determining how thoroughly these objectives have been considered. They allow investors, innovators, and researchers to clearly demonstrate the inclusion and consideration of these objectives in their work while facilitating accountability, and improving the transparency of the innovation landscape.

Who are the Principles intended for?

In developing the Principles, the following user groups were targeted.

- Public and private direct investors (funders) in innovations for sustainable agrifood systems
- Managers and implementers of R4D and innovation programs, both public and private
- Certification, benchmarking, and watchdog organizations.

They are potentially also useful for farmers and farmers' groups.

Why do the Principles not measure innovation outcome progress ?

The Principles are not intended to directly help measure whether an innovation has successfully achieved sustainable agri-food system outcomes or not. The lack of directly observable causality between innovation and impact, the inability to compare different types of innovation, and the long lag time between scaling and impact prevent the development of a small set of outcome metrics for innovation that are widely applicable and harmonised across all innovation. See pp.42 for more information.

How does the scoring system relate to outcome metrics and measuring of outcomes?

The scoring system looks at the extent to which an innovation project or cluster of projects addresses each of the Principles. The score does not attempt to measure progress of the innovation against outcomes, because this measurement is not simple and will vary for different types of innovations (for example financial or technical), the stages of innovation, and the accountability mechanisms. Instead, the score is intended to assess whether the project or cluster of projects is making a credible attempt to measure progress using appropriate methods and indicators.

Metrics (such as income, food consumption, or soil carbon content) cannot normally be used on their own to measure progress against innovation outcomes due to the problem of causality (i.e. the observed change in the metric may not be wholly due to the innovation). Though, metrics should be used in combination with, and support other tools such as evaluations and impact assessments. The use of such tools in projects is measured using the scoring template.

The scoring system

What is the relation between the Principles and the scoring system? What am I scoring?

The scoring system can be used to assess each sub-Principle individually and each Principle as a whole to indicate what action has been taken by an innovator or an organization to implement it. The scores show how thoroughly the investor or innovator has considered the Principles in their innovation processes and whether needed changes have been implemented based on the Principles' scores or evaluation findings. The score is not a direct indication of the impact of an innovation.

Should I score the sub-Principles?

Yes, each sub-Principle should be scored as they form the basic elements of each Principle and form the overall Principle score. For each Principle, the overall score is the lowest non zero score of each sub-Principle. However, if you score 0 on any relevant sub-Principle, the main principle cannot be scored higher than 1. For example, if you score: 2 for sub-Principle 1.1., 0 for sub-Principle 1.2, and 3 for sub-Principle 1.3, your overall score will be 1.

Operationalization

Where do I start?

Build on the existing research or innovation project development systems within your organization (guidelines for innovation inception, planning, development, and implementation). Alongside your existing systems, apply the Principles to improve the innovation. Because the Principles sit alongside existing systems, evidence for supporting Principles' scores can be generated by already existing reporting mechanisms. You are also able to use the Principles to identify gaps or weaknesses in your existing systems and modify them to align them with the Principles.

At what organizational level should I apply the Principles scoring system? Can the Principles be applied to an innovation program or an entire organization? How would scores be aggregated?

The scoring system can easily be applied to individual innovation projects or at a level where similar innovation projects are clustered (note, this does not mean at the programme level). For clustering projects, see pp. 14 and 15 of this guide. They can only be applied to an entire organisation or program if the scores from each individual project or cluster of projects are aggregated - not averaged. Instructions on how to aggregate scores can be found on page 22 of this guide.

To assess if an innovator/organization overall moves in the direction of the Principles over time, the aggregated scores of projects or clusters of projects should be compared over time periods to observe shifts in aggregated scores.

Do I have to apply all the Principles?

Yes! While each Principle stands for itself and requires individual scoring, the Principles constitute a complementary set of guidelines, the effectiveness of which suffers if one or more Principles is left out. Principles that are deemed to be less of a priority are particularly relevant when it comes to trade-offs - these trade-offs should be made consciously and be backed by evidence. Prioritization in terms of allocating more or fewer resources to particular principles is possible as long as each one is considered sufficiently. Principles with a lower score should not be neglected but point users to areas they can improve on.

However, regarding outcome Principles (5-8), it is possible that a *sub-Principle* is not relevant to a particular innovation (i.e. the animal welfare sub-Principle may be irrelevant to an innovation developing a solar battery for irrigation pumps). In this case, the sub-Principle (not the entire Principle) can be excluded - with justification. This is only true of the outcome Principles, for the process Principles, all sub-Principles must always be scored.

Do I have to apply all principles simultaneously?

Generally, all Principles must be considered adequately at every stage of the innovation process. However, the process Principles (1-4) may be less relevant during some later stages of the innovation process (i.e. developing a clear theory of change may not be appropriate during evaluation stages). Nonetheless, when applying the Principles at any stage, all Principles can highlight gaps and shortcomings. I.e. in the previous evaluation example, assessing whether a clear theory of change was developed may inform the evaluation and its direction to ensure there are linkages between innovation design, implementation, and evaluation.

When and how often should you apply the Principles?

Ideally, applying the Principles using the scoring template should be done at each key stage of an innovation process, such as idea conception, planning, implementation, evaluation, and scaling/adoption.

How do I address trade-offs between outcome Principles and the unintended consequences of decision-making?

Innovators can prioritize any outcome or set of outcomes but they must be aware of trade-offs and make efforts to address these proactively. If an innovation causes a negative outcome or impact (e.g. depletion of water resources) the innovation processes must, at least, offset the negative effects through mitigation measures to cause no harm. Adequately monitoring 'lower priority' outcome Principles is important for being able to monitor trade-offs and quickly observe unintended consequences. Using an agrifood systems approach will allow innovators to reduce unintended consequences as they have more broadly considered the potential impacts of their innovation across all relevant elements and actors within the system. Nonetheless, unintended consequences may emerge later in the process and can be dealt with in the same way as negative trade-offs.

Other questions

Why do the Principles not include issues around scaling innovations?

In the understanding of innovation, the Principles build on a framework for scaling agricultural innovation, which presents a route to achieving scale from the very start of the process. As such, the Principles do not include the issue of scaling, but instead, emphasize the need to include an intended route to impact (i.e. theory of change) that will facilitate achieving impact at scale.

Why is there no Principle on resilience?

The resilience of the agrifood system points to the system's ability to maintain a certain level of performance despite shocks (short term) and stresses (long term). It can be understood as a property of the agrifood system, meaning that the activities and actors within the system can withstand or recover from shocks and stresses and that the system as a whole can do the same. As such, resilience is considered a result of the implementation of the Principles - in the same way that applying the Principles increases the sustainability of the system, it also increases the resilience of the system.

How do I make sure the right people are included in the innovation process and impacts on all stakeholders are considered (Principle 3)?

Various Principles look at the application of an inclusive and transparent process that consults and works with end-users and builds on various forms of knowledge (e.g. local, scientific, indigenous). This can also include bringing in knowledge from the wider political, cultural, and/or socioeconomic contexts of the innovation. This process, while crucial, can be difficult and can reveal power imbalances within current processes. For your innovation, using an agrifood systems perspective should allow you to identify the relevant types of knowledge, the relevant end-users, and all actors impacted (both targeted and non-targeted (who are sometimes the losers of innovation)). Monitoring innovation processes and impacts will also allow you to identify other relevant stakeholders and knowledge sources that need to be drawn upon. As part of innovation processes, you should openly publish what and how groups have been consulted and the results of the consultation.

[ToC](#)

[Intro.](#)

●

●

●

●

[App.](#)

[1.](#)

[2.](#)

[3.](#)

[4.](#)

[5.](#)

[Ann.](#)

[Glsry.](#)