

Backcasting: Moving Ideas Towards Actions for Impact

This worksheet packet and the online backcasting tool kit has been developed by the team at the Innovative Food System Solutions (IFSS) Portal initiative (<https://ifssportal.nutritionconnect.org/>) and partners at Glocolearning. The goal is to help a wide range of food system actors from different backgrounds to better understand the **what, when, and how** of moving a food system solution (or set of solutions) towards uptake for major positive impact(s) in a specific context.

Overview

The backcasting process helps to define and develop a clear future vision of a food system solution being used in a specific place and context to solve dietary and planetary health problems in more equitable ways.

Working *backwards* from that future vision (2030 - in alignment with the UN Sustainable Development Goals), this process can help to identify the necessary steps going forward from today to turn this idea into a reality.



Backcasting can also help to identify and plan for possible barriers along the way, as well as help to identify other solutions and key essential elements that will help to accelerate or “boost” the positive impact for both human and environmental health.

The end result of the backcasting process is a clearly defined “pathway-to-impact” map that outlines the **what, when** and **how** of moving an idea towards a desired impact, and also **who** to work with along the way.

**See the last page of this packet for a full example “pathway-to-impact” map from the IFSS portal*

Steps & Activities in the Backcasting Process

1	2	3	4
building a backcasting team	visioning for impact around:	mapping a pathway by identifying:	using (& adjusting) the plan along the way
&	- dietary health	- key beneficiaries & stakeholders	
gathering information	- planetary health	- key steps	
	- equity	- possible barriers	
		- other solutions	
		- essential elements	

Let's get started!

1. Planning & Building a Backcasting Team

Backcasting can be done individually, but we have designed this worksheet to facilitate this process as a group and collaborative learning activity that can help to brainstorm, problem solve, team-building and creatively plan for moving towards action.

If working with a team, we encourage you to think about including people that have knowledge about local communities, local food system challenges, local environmental challenges, local and regional policies, high priority economic impact areas, and relevant food supply chain experience to make sure that key steps in moving towards action are all captured, and also that realistic barriers and possible problems are taken into account.

This will help ensure that you develop a practical and actionable pathway towards the impact that you have chosen to target AND that you can adjust and modify this plan as you go forward in time as needed, based on what happens as each key step is carried out.

> How to work with this tool kit?

Backcasting can be carried out with an in-person group, an online group or in a combination hybrid-online/offline format. As a first step, this process can be worked on over several hours in an intensive “brainstorming” session. You can also choose to use backcasting to capture a deeper level of detail for each step in your pathway-to-impact, and in this case you can work with your team or group over several days or even during multiple sessions over the course of a few weeks to get very specific in various parts of the map, depending on your logistics and time constraints.

In all cases, you’ll need to make sure that all participants have easy access to working with the worksheet steps over the next pages of this packet. Also keep in mind that all participants should have equal chances to voice their input, share their ideas and provide their suggestions and concerns.

- **IN PERSON** -- If working with your backcasting team in person, make sure to have printed copies of this worksheet packet and also access to large paper pads, pens and even sticky-notes if possible (or access to a chalk board / white board) for capturing brainstorming ideas.
- **ONLINE / USING VIRTUAL COLLABORATION** -- If working with your backcasting team online or in a virtual setting, you can share the electronic version of this worksheet packet (.docx) or use the worksheets available for download on the IFSS portal here:

<https://ifssportal.nutritionconnect.org/moving-to-action/backcasting-tool/interactive-map-builder>

We suggest in this case to use a virtual white board tool if possible to help capture ideas of all participants online at each step of the process and also to allow people to work together in real time. For online collaboration you can use jamboard, MURAL, MIRO or other virtual brainstorming tools.

- **HYBRID ONLINE/OFFLINE FORMAT** -- If working with your backcasting team partially in person and partially online, remember that this format can sometimes be the most challenging to manage the logistics of. Make sure to take that into account when planning for time and also internet access for those online. We also recommend that both the in-person group and the online group have a designated “reporter” to help summarise, note down and share the ideas from each group with all participants.

> **COUNTRY & CONTEXT : Prioritising the focus of your backcasting map**

Use this space to clearly describe the key challenges in your country and context.

HUMAN HEALTH & DIETARY CONTEXT (and also major equity issues)	ENVIRONMENTAL HEALTH CONTEXT (what are the biggest challenges?)	POLITICAL & ECONOMIC CONTEXT



Perhaps you and your team are already very familiar with these elements, but a useful resource can be found in the **Food System Dashboard** (<https://foodsystemsdashboard.org/>) which combines data from multiple sources to give users an overview of food systems in different countries. This resource allows you to compare food systems across countries and regions based on over 150 different indicators and can help you to identify and prioritise ways to sustainably improve diets and nutrition in your country.

> **PRIMARY SOLUTION : Identifying the innovative solution to work with**

The IFSS portal initiative does not take the approach that a single innovation or solution will fix the food system. Rather, truly ‘game-changing’ solutions are about finding synergies between businesses, governments and civil society to join forces and invest in bundles of innovative solutions to reach the scale necessary to truly transform our food systems – for better nutrition, better planetary health, and greater equity by 2030.

However, in order to begin to solve some of the most pressing problems, we invite you to start with a “primary” solution to focus on for the backcasting exercise.

Keep in mind that sometimes a ‘solution’ can be introducing a new technology into the food supply chain, but it can also be reimagining how existing ‘best practices’ and traditional knowledge can be used in new or more effective ways or in a new context. Likewise, a solution can also be about engaging new types of people to help advance “win-win” solutions in more sustainable ways.



EXPLORE SOLUTIONS -- If you and your team do not already have a solution (or “bundle” of solutions) in mind, you can search the **IFSS portal solutions database** of over 100 solutions that span the food supply chain - including policies, technologies, nature-based solutions, public/private collaborations, financial solutions, education, and social equity approaches. <https://ifssportal.nutritionconnect.org/solutions/explore>

Use this space to list the “primary” solution that you and your team will work with, as well as others that may help “boost” this solution along the way.

A large, empty rectangular box with a black border, intended for listing solutions.

2. Visioning for Impact: dietary health, planetary health and equity

IMAGINE that it is 2030 and the innovative solution that your group is working with is being effectively used in your setting. IMAGINE that it has had a major positive impact in making affordable, safe and nutritious foods available in an environmentally sustainable way.

In the next few questions/sections, you will be working on clearly defining and writing about the impacts you are working towards achieving with your pathway to impact for your context.

> VISION STATEMENT : Clearly envisioning impact in 2030 in your context

Describe and explain how the primary solution you're working with would be used in your setting to change business as usual to have "major positive impact" in 2030. Keep in mind that it does not have to be used everywhere in your country necessarily, but focus on how and where it may have the most positive impact. We encourage you to think of this innovation as part of a larger strategy for addressing these critical sustainable Development Goals (UN SDGs). Don't worry - for the moment - about barriers, challenges or limitations as these will be addressed in later questions.

Use this space to write out your vision statement for impact in 2030 (maximum 45 words)

> Developing a "So what?!" statement : quickly explaining and "pitching" the idea to others

In a very short statement, write out the "so what?!" for the major impact you envision this solution having in 2030. For example, for the following innovative food system solutions, a short "So what?!" statement could look like:

hydroponics	increases urban food production and access to produce while lowering transport costs and pollution levels
food policy councils (local / state level)	increase inclusive community-wide involvement in using solutions to improve local food systems
secure land tenure policies	incentivize farmers to invest in improving land while increasing access to finances and social safety nets

Use this space to write out your "So what?!" statement (maximum 15 words)

> MAIN BENEFICIARIES : List the groups/individuals that will benefit from this solution

You can also include key stakeholders who are needed to help take this idea towards update for major impact. For example, urban farmers, youth, processing businesses, policy-makers, etc.

Use this space to list key beneficiaries (maximum 15 words)

> IMPACT STATEMENTS : Clearly describe the dietary impact, planetary impact and equity impact

In this section you will work with your team to write out short, clear descriptions of why and how the primary solution could have positive impacts by 2030.

To help you get more specific, the IFSS portal initiative defines the following criteria for each of these impact areas:

Dietary Health Criteria	Planetary Health Criteria
<ul style="list-style-type: none"> ● FOOD QUALITY - Potential to improve the nutritional quality of the food basket, i.e. that it provides dietary diversity and balanced diets including a range of food groups and all beneficial nutrients (e.g. vitamins, minerals, proteins, essential fats, dietary fibres) Also includes the potential to and minimises potentially harmful elements (e.g. anti-nutrients, high quantities of saturated fats, salt and sugars) and diet-related comorbidities ● FOOD SAFETY - Potential to minimise biological, chemical or physical contamination of food product(s) *both sanitation and toxicity issues ● FOOD AVAILABILITY - Potential to increase supply and/or access to nutritious foods. Please take into account seasonal shifts in supply, the importance of stability, changes in policy & trade, and excesses/shortages of raw materials needed for a food's production or processing ● FOOD AFFORDABILITY - Potential to increase access by reducing the consumer price or increase purchasing power for nutritious foods, either through increased income or entitlements (e.g. social protection mechanisms). ● FOOD DESIRABILITY - Potential to improve the desirability of nutritious foods or healthy diets, i.e. to make foods or healthy diets more aspirational, tasty, culturally appropriate, convenient, and/or easy to prepare 	<ul style="list-style-type: none"> ● CLIMATE MITIGATION - Potential to reduce the greenhouse gas footprint of our food systems e.g., by reducing emissions or by capturing carbon ● CLIMATE ADAPTATION - Potential to increase the adaptation capacity to climate change of our food systems e.g., by providing options to minimise the impact of severe weather events, droughts, flooding, changing seasons, or other climate related issues ● WATER USE - Potential to decrease the water footprint of our food systems e.g., by increasing water use efficiency, recycling water, or reducing water needs ● SOIL HEALTH - Potential to improve soil health, restore degraded land or avoid land degradation, e.g. by increasing soil organic matter, contributing to soil biodiversity and soil nutrient availability, reducing soil erosion and risk of gully formation ● REDUCING BIODIVERSITY LOSS - Potential to decrease biodiversity loss related to our food systems, e.g. by reducing pressure on land, water and chemical pollution, enhancing conservation of species at risk, and/or creating habitat in agricultural lands/aquaculture wate ● INCREASING AGROBIODIVERSITY - Potential to increase biodiversity in our food systems e.g., by diversifying production systems and ingredient portfolios, and enhancing use of underutilised species. ● REDUCING POLLUTION - Potential to decrease pollution from our food systems e.g., by reducing nitrogen or phosphorus run-off and plastic pollution, or by reducing other types of pollution

Use this space to describe why and how the solution could have a positive impact on improving **DIETARY HEALTH** by 2030. Refer to the criteria from p.6 to help (maximum 150 words)

Use this space to describe why and how the solution could have a positive impact on improving **PLANETARY HEALTH** by 2030. Refer to the criteria from p.6 to help (maximum 150 words)

Use this space to describe why and how the solution could have a positive impact on improving **EQUITY** for your main beneficiaries (that you listed on p 6). (maximum 150 words)

> Leapfrogging: finding truly “game-changing” solutions (or solution bundles)

Does this solution have a high potential to *leapfrog*? By this we mean the potential to “leap over” or by-pass linear or stepwise improvements? Can using this solution shorten the time for positive impact, representing something that is several generations ahead of current approaches? For example, mobile networks in some countries have leapfrogged the need to build landline networks, making connectivity for millions of people available much faster and in much less expensive ways than had they waited for landline phone/internet infrastructure.

If so, use this space to describe the “leapfrogging potential” of this solution (maximum 15 words)

3. Pathway mapping: Key Steps, Possible Barriers, Solution Bundles & Essential Elements

Now that you have envisioned this innovation as an effective game changer in your setting by 2030, work towards mapping out how to get there. In this section, we ask you to identify and list in **chronological order** the necessary components of the pathway-to-impact map. These components include:

- 1) **key steps** needed to reach the vision for impact
- 2) **possible barriers** along the way (and resolution strategies to overcome them, if possible to identify now)
- 3) **other solutions** to “bundle” with this one that can help to accelerate / boost / increase the likelihood for success
- 4) **essential elements** (= important factors) to take into account to ensure major positive impact. These include:

- **BUILDING TRUST** - the need for trust between key actors in the food system AND in the ability of innovations to deliver benefit to society; Also trust in the processes that effectively deal with intermittent problems or failure on the way to having a positive impact.
- **RESEARCH & DATA EVIDENCE** - adequate data is available to improve existing research and contribute new evidence to the ongoing public dialogue. It looks to science-based and evidence-driven models to effectively monitor all aspects of the food system.
- **CHANGING POLICIES & REGULATIONS** - fulfilling policy and regulatory support for innovations—whether for the innovator, the consumer, or other food system actors.
- **ENSURING STABLE FINANCE** - more steady and longer-term finance for innovations to drive transformational shifts.
- **DESIGNING MARKET INCENTIVES** - mitigating large start-up costs and/or risks associated with deploying new innovations at scale; recognizing the public policy responsibility to ensure opportunities are aligned to sustainability.
- **ENABLING SOCIAL LICENCE** - public trust in genuinely responsible innovation must be built and maintained for innovations to be adopted and extensive public dialogue must be facilitated, particularly to include marginalised actors.
- **TRANSFORMING MINDSETS** - supporting actors of the food system to embrace change in the food system. It recognises the deeply ingrained cultural relationship that many people have with food and encourages transformation of the way that people think about food and the values that shape their choices.
- **SAFEGUARDING AGAINST UNDESIRABLE EFFECTS** - minimise the negative tradeoffs or unintended indirect effects of innovations. Requires monitoring of innovation moving to scale and taking corrective action when necessary, taking into account all stakeholders needs.
- **WOMEN & GENDER EMPOWERMENT** - the need for an effective food system that allows and promotes gender inclusiveness and does not leave vulnerable populations - specifically young girls and mothers - behind, but rather supports more equity in the development and adaptation of innovative food system practices.
- **YOUTH INVOLVEMENT** - more actively involve young people in all parts of food system transformations going forward. Youth are the earth's future generation and the more they are included in designing, developing, testing and scaling innovations, the more invested they become in driving positive changes in society across the food system.



Adapted from Herrero et al. (NATURE FOOD, VOL 1, May 2020; 266–272) <https://www.nature.com/articles/s43016-020-0074-1>; “Women and Gender Empowerment” and “Youth Involvement” were added by the IFSS research team in 2021

Use the table below to list components for your pathway-to-impact map - up to 24 components. As you refine your pathway map you may need to review this list and re-order (or even duplicate) some components. Refer to the first rows here as examples of components.

type of component		Identify and list the details for each pathway component, starting with what needs to happen first and then moving into the future (max. 15 words for key steps/barriers (+resolution strategies)/other solutions; max. 10 words to add details for essential elements)	
<input checked="" type="checkbox"/> key step <input type="checkbox"/> barrier	<input type="checkbox"/> other solution <input type="checkbox"/> essential element	ex.	Develop a community-based cereal bank plan (including the operational model and strategic plan)
<input type="checkbox"/> key step <input checked="" type="checkbox"/> barrier	<input type="checkbox"/> other solution <input type="checkbox"/> essential element	ex.	BARRIER: Cereal banks are unknown locally; knowledge gaps exist for establishing a successful cereal bank RESOLUTION STRATEGY: Engage similar stakeholders from other regions with relevant experience to share information and assist planning
<input checked="" type="checkbox"/> key step <input type="checkbox"/> barrier	<input type="checkbox"/> other solution <input type="checkbox"/> essential element	ex.	Establish a farmer and community management strategy and support inclusive local stakeholder meetings/communication
<input type="checkbox"/> key step <input type="checkbox"/> barrier	<input checked="" type="checkbox"/> other solution <input type="checkbox"/> essential element	ex.	INTEGRATED FARMERS FEDERATION SUPPORT
<input checked="" type="checkbox"/> key step <input type="checkbox"/> barrier	<input type="checkbox"/> other solution <input type="checkbox"/> essential element	ex.	Secure funding locally and/or from donors, international organisations, etc.
<input type="checkbox"/> key step <input type="checkbox"/> barrier	<input type="checkbox"/> other solution <input checked="" type="checkbox"/> essential element	ex.	ENSURING STABLE FINANCE

YOUR PATHWAY COMPONENTS

<input type="checkbox"/> key step <input type="checkbox"/> barrier	<input type="checkbox"/> other solution <input type="checkbox"/> essential element	1	
<input type="checkbox"/> key step <input type="checkbox"/> barrier	<input type="checkbox"/> other solution <input type="checkbox"/> essential element	2	
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<input type="checkbox"/> key step <input type="checkbox"/> barrier	<input type="checkbox"/> other solution <input type="checkbox"/> essential element	24	

4. Using & Adjusting the Pathway-To-Impact map

> What has this process led to?

The end product of working through these steps has hopefully gotten you and your team a first version of a concrete, actionable, pathway-to-impact map that can help you keep moving your ideas towards action for impact on both human and planetary health in your context for the Action4Change that you've chosen to work with.

Using your vision statement, the “so what?!” statement and the impact statements can hopefully help you clearly and directly share your ideas with others that you may need to engage with to move this idea further. For example, you can use this work to develop a project proposal, a community action plan or a funding request to local governments, NGOs or businesses/private sector.

Using the key steps and barriers/strategies can help you begin to move forward, where “who will do what” (and in what order) can be clearly set out in order to move through each “phase” of action.

Thinking through the essential elements and solution bundles can help you take a “systems” approach to solving dietary and planetary health problems in your context. Remember, transforming food systems is not easy! Hopefully this last section of the worksheets helped you and your team clearly identify some of the things that will need to be taken into account as you work towards that major positive impact with your food system solutions in action.

Saving & Publishing your pathway to the IFSS portal (for an A4 sized printable PDF)

We encourage you to take this worksheet and use the Backcasting online tool on the IFSS portal at the link below to create an A4-sized PDF that you can print out and have for your team, to share with others, to use in a proposal, etc. The form questions in the online tool are the same as the questions you worked with here, allowing you to simply copy your work from here into that format -- this is part of the reason we have indicated word count maximums throughout).

<https://ifssportal.nutritionconnect.org/moving-to-action/backcasting-tool/interactive-map-builder>

By sharing your pathway to the IFSS portal, you also share your ideas and help to inspire others working on similar problems in different places!

> What now?

This process was meant to be a starting place. As systems change in complex, you and your team or group will likely need to return to this pathway map and adjust it along the way moving into the future, depending on how key steps and possible barriers actually play out. How often you revisit and/or adjust depends on how detailed you were able to get for all of the steps in your pathway to impact map, and of course if there are context changes that need to be taken into account along the way.

FOR ADDITIONAL QUESTIONS or FURTHER SUPPORT, PLEASE GET IN TOUCH WITH US!

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We want to help support you and your communities of advocates for food system change, so please contact us with questions, to share your input, or with new ideas on how to improve these materials