

# A doughnut a day keeps the doctor away

Sustainable practices in  
agriculture and nutrition



## Imprint

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## Theoretical foundations

The factsheets are based on the theoretical model of the doughnut economy by Kate Raworth. Therefore, this sub-chapter first explains the basics of doughnut economics, especially the image of the doughnut and the doughnut principles. Subsequently, the structure of the factsheets is presented, in particular the four-field table for the socio-ecological inventory and the impact matrix. This chapter aims to explain all concepts that are important for understanding the factsheets and enable the reader to build on them for future projects.

### The doughnut economy

The doughnut economy, developed by Kate Raworth, is dedicated to enabling every human being to live well within planetary boundaries, thus preserving the earth as a living planet. The doughnut serves to visualise this goal. It represents a safe and just space for humanity, in which the social foundation is secured for everyone, and the ecological limits are not exceeded. For the social foundation to be secured, a minimum standard of social needs must be guaranteed for every human being on earth. Leaving the doughnut inwards means that some people will lack essential goods and services to live well (water, food, education, etc.). Leaving the doughnut outwards means putting too much pressure on

the earth's ecological ceiling, which can affect the functioning of life-giving systems.<sup>1</sup> We refer to the ecological ceiling as the amount of pressure, for example in the form of emissions and pesticide use, that planet earth can withstand before the ecological systems necessary for life on earth collapse.<sup>2</sup> The ecological ceiling consists of nine planetary boundaries identified by earth system researchers.<sup>3</sup> Doughnut economics also turns away from understanding economic growth as the goal of economic activity. Instead, it strives to navigate humanity into the safe and equitable space inside the doughnut for all humanity.<sup>4</sup> The coloured marking of the social and ecological boundaries shows how pronounced the social lack or the ecological pressure currently is in Germany. The more the triangles in the middle of the doughnut and the fields outside the doughnut are filled in, the further away society is from the safe and just space of the doughnut in the corresponding area.<sup>5</sup>

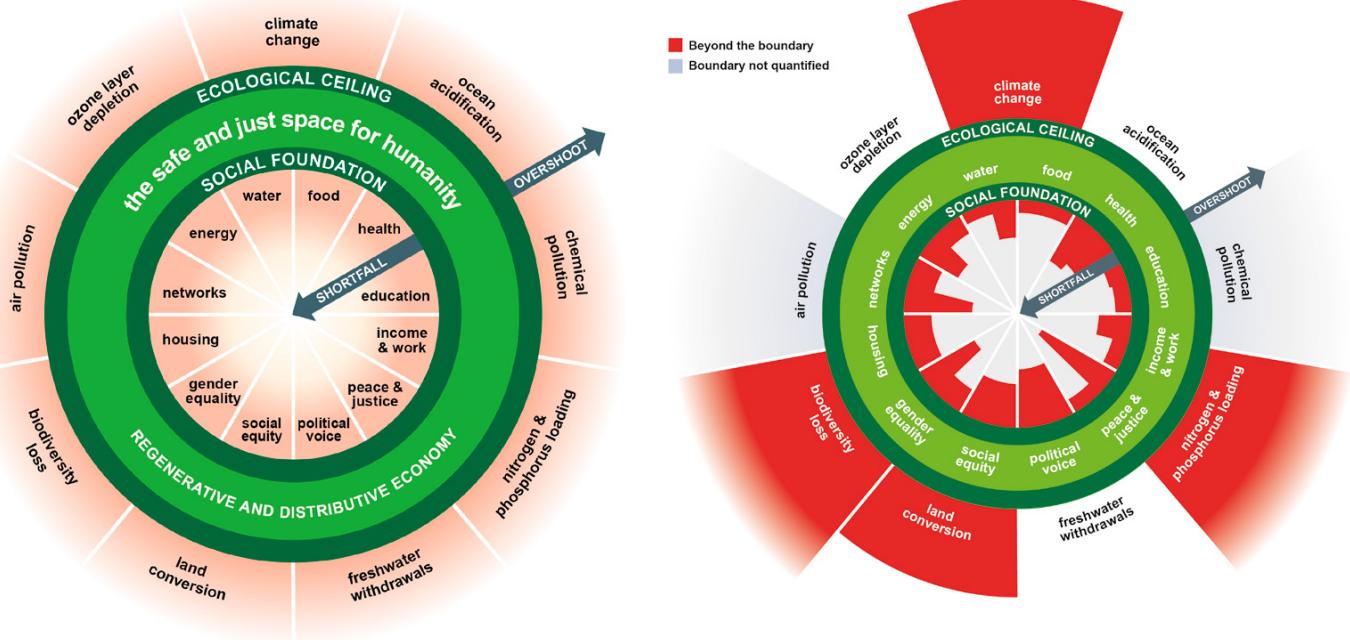


Figure 1: Doughnut Economics by Kate Raworth

The fundamentals of doughnut economics can be summarised in seven principles that clarify the ideas of this new economic thinking.<sup>6</sup> In the following, the essential aspects of the principles are explained.



The first principle is to “change the goal”. The goal of the doughnut economy is not to grow the gross domestic product, but to improve the well-being of people and to get into the safe and equitable space of the doughnut.<sup>7</sup>



According to the second doughnut principle, it is important to grasp the big picture. The big picture means understanding the economy as part of an overall social system. It must be embedded in society and nature. So far, the role of natural resources has been neglected. Furthermore, relevant participants and aspects such as private and non-profit initiatives, commons and unpaid work are simply not considered in economic thinking. Thus, we have to take into account that the economy extends beyond the market and affects all areas of life.<sup>8</sup>



The third principle is “nurture and promote human nature”. This assumes that people are socially adaptive yet irrational beings, who simply pursue their self-interests, calculate benefits, and dominate nature. According to the doughnut economy’s view of human nature, people are socially inclined, have shared values, are cooperative and dependent on the living world.<sup>9</sup>



The fourth doughnut principle states that we humans need to learn dynamic thinking to put doughnut economics into practice.<sup>10</sup> Thinking in systems means experimenting, adapting, evolving, and continuously striving for improvement. Furthermore, attention must be paid to dynamic effects, feedback loops and tipping points.<sup>11</sup>



According to the fifth principle, distributive justice should be pursued and systematically thought through, instead of trusting the common assumption that economic growth will provide balance.<sup>12</sup> The aim is a distributive and decentralized economy that promotes, for example, cooperatives, neighbourhood help and open source.<sup>13</sup> Distributive justice also means, for example, that the value created through work is shared with all those who have helped to create it.<sup>14</sup>



The sixth principle aims to promote the regenerative orientation of the economy. The current destruction of the environment is caused by the degenerative orientation of industry.<sup>15</sup> Raw materials are extracted, a product is made from them, the product is used and then it is thrown away. The existing linear system is to be transformed into a circular, regenerative system in which waste materials from one process become raw materials for another. This means, for example,

that used items are repaired, reused, renovated, or recycled.<sup>16</sup>



The seventh principle calls for an agnostic attitude towards growth. In the context of doughnut economics, this means “[...] building an economic order that promotes human well-being, regardless of whether the gross domestic product rises, falls or remains at the same level<sup>17</sup>”.

### The socio-ecological inventory

One form of visual representation used in the factsheets is the four-field table for the socio-ecological inventory. It arises from the question of how a city can be a home for people while respecting the well-being of all and the health of the entire planet. To answer this question, the social and the ecological dimensions are considered under the principles of the doughnut economy, each of which is, in turn, also considered according to local and global scales.<sup>18</sup> The combination of the two dimensions with the respective local and global scale results in four fields.

#### Local Social

*How do we manage to improve the quality of life of the people in the city together with all stakeholders?*

#### Local Ecological

*How do we as a city manage to live in harmony with our natural environment?*

#### Global Social

*How can we promote social justice globally through our local actions?*

#### Global Ecological

*How can we contribute to global environmental protection/the health of the planet through our local actions?*

Figure 2: Own figure (NELA. next economy lab)



**Each of these fields answers a sub-area of the overarching question:**

**Local-Social:** How do we manage to improve the quality of life of the people in the city together with all stakeholders?

**Local-ecological:** How do we as a city manage to live in harmony with our natural environment?

**Global-Social:** How can we promote social justice globally through our local actions?

**Global-ecological:** How can we contribute to global environmental protection/the health of the whole planet with our local actions?<sup>19</sup>

These four essential questions are seen as guidelines for a good assessment of whether a project contributes to achieving the balance of the doughnut.

The use of the four-field table in the factsheets aims to clarify in which of the four fields actions take place and which effects they have locally and

globally. In the following three factsheets arrows are used to represent impact logic within the four-field table. This also enables the classification and comparison of civil society and municipal sustainability efforts.

## The Impact-Matrix

The impact-matrix offers the possibility to rank different options for action or local initiatives according to their impact on the one hand and their feasibility on the other. On the horizontal axis of the matrix, the potential impact of the initiative is assessed, while the vertical axis indicates the feasibility. This results in four fields (easy to implement and low impact, easy to implement and high impact, difficult to implement and low impact, difficult to implement and high impact) according to which the various initiatives in the factsheets can be classified. The assessment in the impact matrix is subject to scientific subjectivity and does not claim to be fully comprehensive.

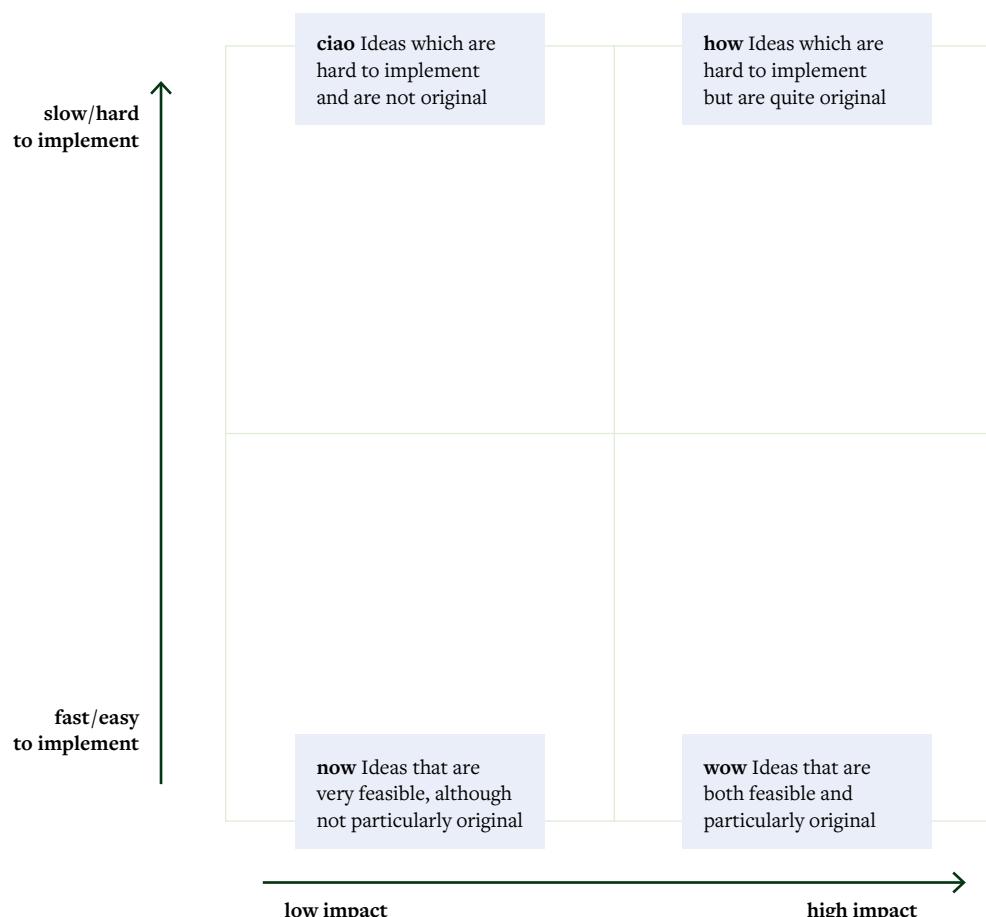


Figure 3: Own figure (NELA. next economy lab)



# Introduction

The past century has been marked by global crises. Starting with the Great Depression of 1929, followed by the oil crises in 1973 and 1979, the Latin American debt crisis in 1982, the financial crisis in 2007, the euro crisis in 2010, the COVID-19 pandemic and more pressingly than ever - the climate crisis. All these crises are not completely independent of each other; indeed, it is quite the opposite: they all have the same origin. Excessive financial speculation led to the financial crisis in 2008, excessive human interference with nature led to the outbreak of the COVID-19 pandemic and excessive use and burning of fossil fuels led to the climate crisis, the effects of which are increasingly being felt globally and locally. But what is behind all these crises? The motivation to grow economically. Because that is what our current economic model and system are built on: Growth.

However, the examples above show that this economic model is flawed. Economic success in this model is not measured by how good the quality of life is for all people on earth, but simply by how fast an economy grows. Growth is seen as the ultimate solution to social and ecological problems. This seems paradoxical because while our earth is the basis for everything we do, and therefore the basis for our economies, our economies are not guided by what is best for our earth. To put it briefly: Constant economic growth without considering the question of how to create a good life for all does not work in the long run, and this is exactly what is becoming increasingly clear. What we therefore need is New Economic Thinking and with it a new economic model that changes structures in a way that brings our life on earth back into balance. This model must pursue two central goals: A) secure social justice within B) ecological limits. It needs perspectives for action at the political, civil society, economic and individual levels that contribute to solving existing causes of problems and not just the symptomatic challenges. And this is exactly what the doughnut economy according to Kate Raworth can do. The doughnut economy establishes a vision of a good life for all. To turn this vision into reality,

each and every individual has a responsibility. The doughnut model is participatory: The idea is that everyone has access to it and can participate in its design and implementation. However, the municipal policy level has a particularly important role to play. 90% of the world's population lives in municipalities, thus local challenges and opportunities can be better perceived at the municipal level than at any other policy level. The future of the planet seems to depend on the commitment of local governments. Thus, municipalities are indispensable for the spread of knowledge about meaningful action on the topic of sustainability due to their exemplary and guiding character. If we take the goal of sustainability seriously, we have to rethink our lifestyles, production methods and thus our economic system in the community. In this process, civil society represents the main actor that should actively shape the solution of the problems.

The path to a society in which economy, ecology and social aspects are equally important components of our system is going to be a long and difficult one. We are still at the very beginning of this path, and it will only succeed if everyone supports each other. That is exactly why someone is needed to get this movement going, and that is what we would like to do.

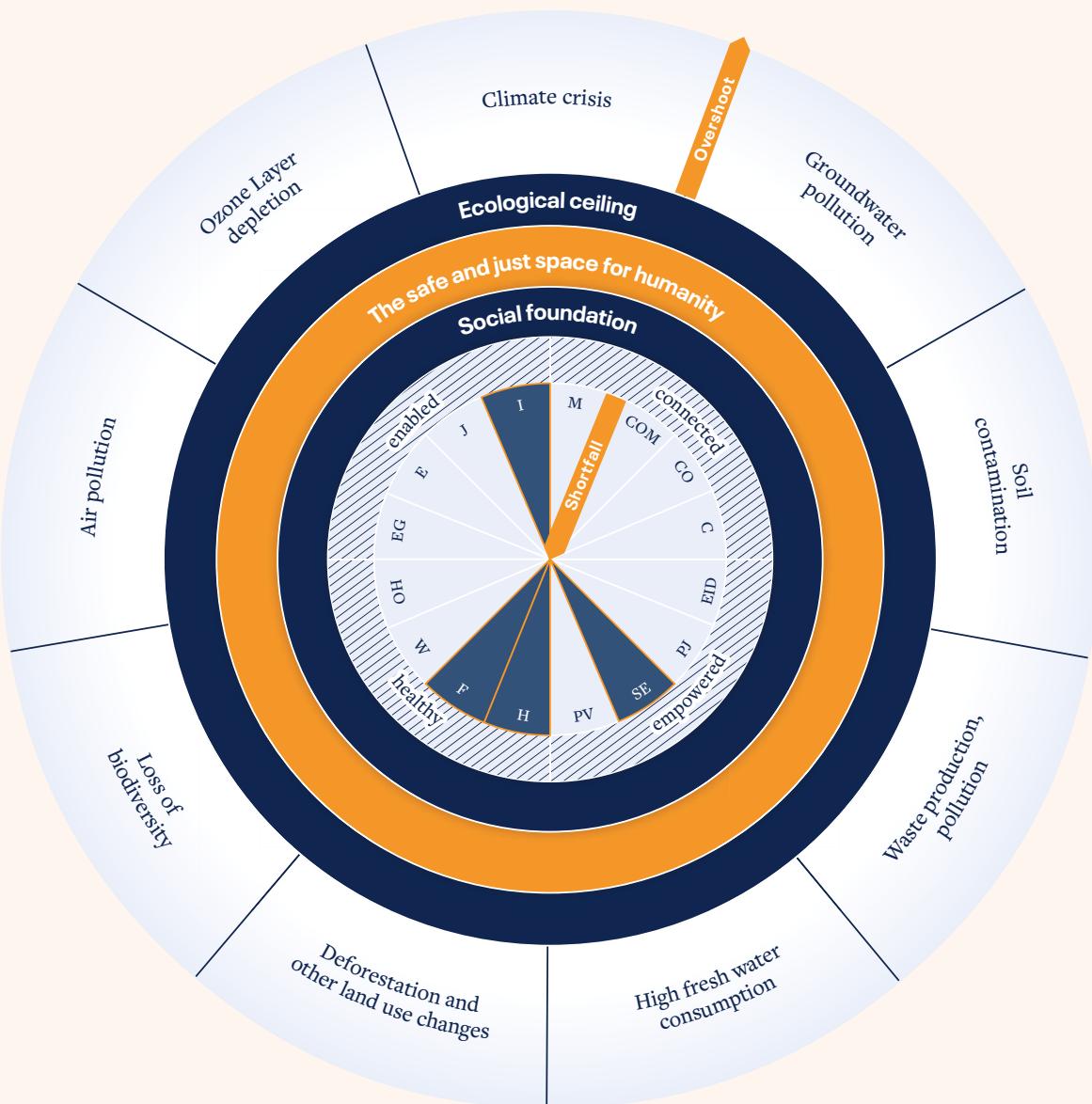
We want to contribute to the realisation of the vision of a good life for all. And because we know that municipalities play a decisive role in this process, we would like to implement the doughnut at the municipal level. After qualitative interviews with civil society and municipal actors, we have identified three sectors that have a high potential for reform following the doughnut economy approach: Agriculture & Food, Housing & Construction and Economic Development. We would like to illustrate sustainability efforts in these three sectors which seem to follow the doughnut principles. With the help of these factsheets we hope to inspire municipal and civil society actors to make changes according to the doughnut economy. We hope to inspire change in these three sectors, as well as beyond, to develop their municipalities in a more progressive and sustainable manner.



In order to make the doughnut model tangible and applicable we have conducted an analysis of the key problems of each sector. Then, we pose the question of comprehensive solution strategies for these problems and central fields of action for municipal and civil society actors. We analyse which concrete initiatives exist in these areas and take a concrete look at two effective ones. Finally, we examine what concrete measures are available for municipal politics and civil society to implement the initiatives successfully and examine which ones could be used to follow the principles of the doughnut economy. In compiling the three factsheets, we proceeded selectively. Our aim was not to provide a complete and precise description of all possibilities, but to give an orientation and to focus on central problems and initiatives. We aim to give municipal and civil society actors ideas and inspiration for further cooperation and thus initiate processes for a sustainable future.

**On the following page we can see  
how the subject performs in the doughnut →**

# Donut for municipalities



**Social Foundation: Amsterdam Model (inner circle)**

**enabled**

EG: Energy  
E: Education  
J: Jobs  
**I: Income**

**connected**

M: Mobility  
COM: Community  
CO: Connectivity  
C: Culture

**empowered**

GTH: Equality in diversity  
PJ: Peace & justice  
**SE: Social equity**  
PV: Political Voice

**healthy**

**H: Health**  
**F: Food**  
W: Water  
HO: Housing



## Problem analysis

Food and agriculture form a nexus that is fundamental to living within planetary boundaries and intact societies. How we shape such an existential sector of society highlights not only the many interactions between planetary boundaries and societal needs, but it also indicates that: respecting these boundaries and achieving societal goals are mutually dependent. That is why we consider this sector so appropriate to analyse within the context of the doughnut economy.

Currently, the agricultural sector<sup>20</sup> contributes to about 23% of global greenhouse gas emissions (GHG). For the entire food system - i.e. including all activities upstream and downstream of production - estimates even assume a share of up to 37% of global GHG<sup>21</sup> emissions. A comparable estimate for the German food system<sup>22</sup> is in a similar range of 26.7-33%.<sup>23</sup> However as the doughnut illustration on the right indicates, the current design of agriculture and our diets not only contribute significantly to the climate crisis but also to the overstepping of other planetary boundaries. These include: biodiversity loss, land conversion, as well as nitrogen and phosphorus loading of our ecosystems. The societal costs of the climate crisis, including its negative repercussions on agriculture itself, are also increasingly being felt in Germany. The costs of unbalanced or inadequate nutrition are already enormous today. Globally, the IPPC speaks of two billion overweight and obese people.<sup>24</sup> In the case of Germany, this affects about half of all adults, 43.1% of women and 62.1% of men<sup>25</sup>. This compares to an estimated 821 million undernourished people globally.<sup>26</sup> In the doughnut illustration, this is reflected in the undercutting of minimum societal targets in the dimensions of "food" and "health". In other words, our current food system and associated consumption patterns are undermining important foundations of intact societies, both

globally and within Germany, and are causing high consequential costs.

The problem analysis shows that the transformation of the food system represents a major factor to positively influence the areas of climate and environmental protection as well as health.<sup>27</sup> This can significantly reduce primary energy and water consumption, as well as substance inputs from fertilisers and pesticides.<sup>28</sup> In turn, this leads to lower GHG emissions. However, not only the consumption of resources is reduced, but also land demand can be minimised as a result.<sup>29</sup> In addition, a balanced and meatless diet reduces the risk of cardiovascular diseases, diabetes and cancer.<sup>30</sup> Such a change affects the economy, politics and civil society equally and contributes to the resolution of the previously mentioned socio-ecological conflicts.

Such conflicting goals are often most visible at the municipal level: The expansion of agricultural land close to the city conflicts with the need for new land for housing construction; ecological agriculture is not economical for many farmers; the offer of regional and ecological products is not competitive with conventional products; and for large parts of the population it is only affordable at the expense of other consumer goods. At the same time, there are many opportunities and scope for action, especially at the municipal level, to address these conflicting goals together with local actors.

**Thus, in the spirit of the doughnut, one needs to ask:**

**How can we organise and design our food system so that a healthy and ecological diet is possible for everyone, which also helps to help to preserve ecosystems and the environment?**



## Overview - relevant fields of action and municipal levers

This overview identifies fields of action and municipal levers that we consider particularly relevant for a transformation of the food system at the municipal and civil society level. By placing them in relation to the four dimensions: local-social, local-ecological, global-social and global-ecological, it becomes clear which dimensions of sustainability they primarily address. The arrows serve to indicate interdependencies between individual fields of action and levers. This representation also serves as an orientation to illustrate thinking in terms of conflicting goals and geographical impacts.

### The fields of action are:

Regional value creation, changing consumption patterns publicly and privately, reducing food waste along the entire supply chain, measures to promote biodiversity and nature conservation, partnerships with municipalities of the Global South (e.g. in the field of climate protection or sustainable development), expansion and promotion of organic farming...

### The municipal levers are:

Public procurement, international partnerships and national municipal alliances (organic cities<sup>31</sup>, etc.), public procurement and municipal land use.

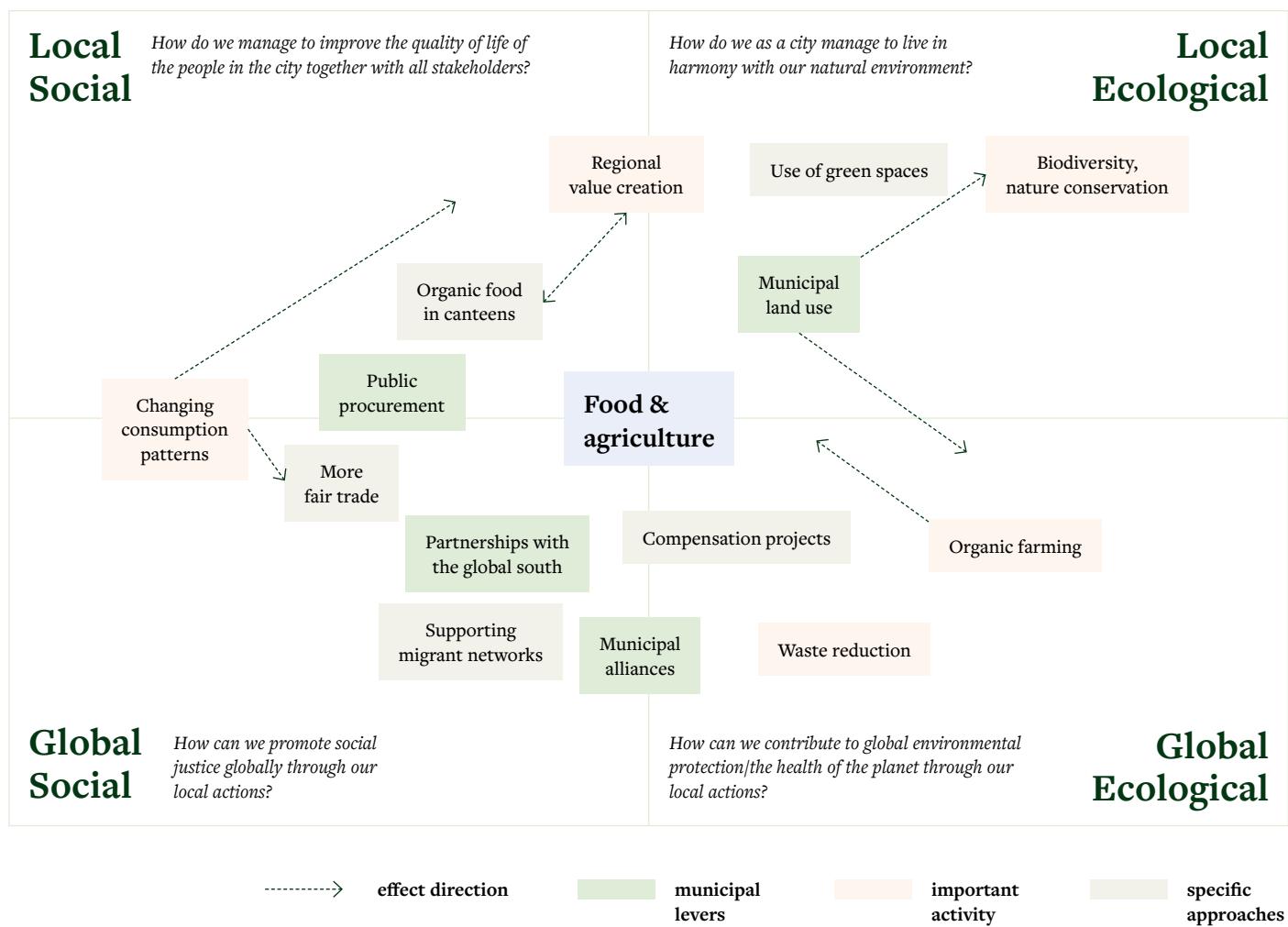


Figure 4: Own figure (NELA. next economy lab)



## Impact-Matrix

Which measures can be implemented quickly at the local level and, in accordance with the doughnut, contribute to the consideration of planetary boundaries and the achievement of desirable social development? Which measures are particularly important but much more difficult to implement? The following matrix provides a brief overview.

In the following, it is important to present two of these initiatives that address the conflicting goals that exist within agriculture and food, while at the same time conforming to the principles of the doughnut economy.

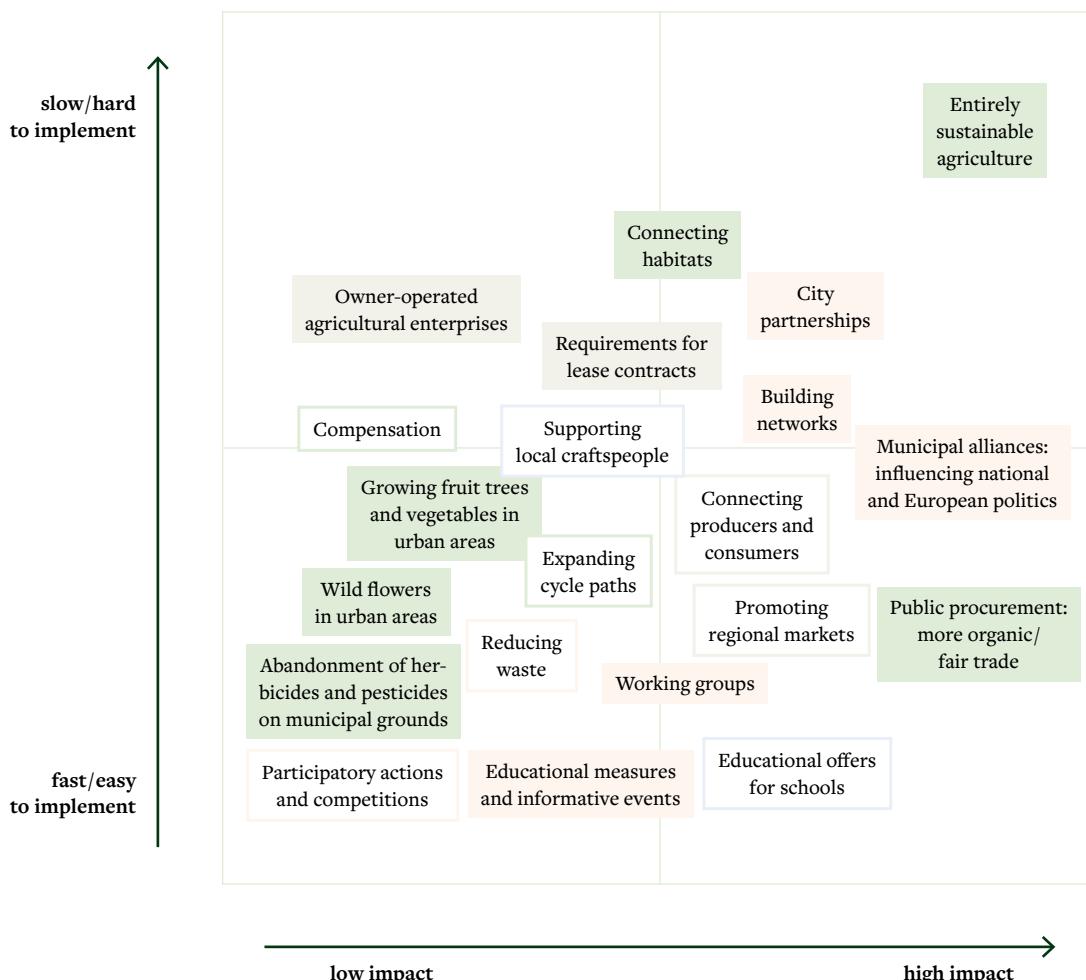


Figure 5: Own figure (NELA. next economy lab)



## Food Councils (Food and Civil Society)

Food councils are characterised by the fact that they look at the food system as a whole. This holistic approach enables them to address all major fields of action in the area of food and agriculture.

Under the leadership of civil society, food councils work in a broad alliance of actors to transform the food system towards more healthy food and sustainable regional value creation & agriculture. The starting point is the development of an integrated strategy, the reviewing of existing structures, as well as the establishment of a network. To achieve strategic goals and a systemic transformation of the agriculture and food sector, measures are implemented along the entire supply chain. Close cooperation with the political and business communities enables the creation of social framework conditions and ecological infrastructure.

It is therefore not surprising that with regards to the aspects of goal change, systemic thinking, focus on human well-being, regeneration of the environment and government support to promote healthy and ecological food (design to distribute)<sup>32</sup>, a large part of the doughnut principles can be found in the food councils.

## Impact logic of food councils

The following figure shows examples of some of the objectives, thematic areas, and measures of food councils. Through their systemic approach, they address all four dimensions of the doughnut's and the interdependencies between them.

### Food Councils



#### Features

- Networking of actors
- Strategy development
- System perspective: Farm → table
- Regional value creation
- Community care



#### Potentials

- Nature conservation
- Reducing emissions
- Health

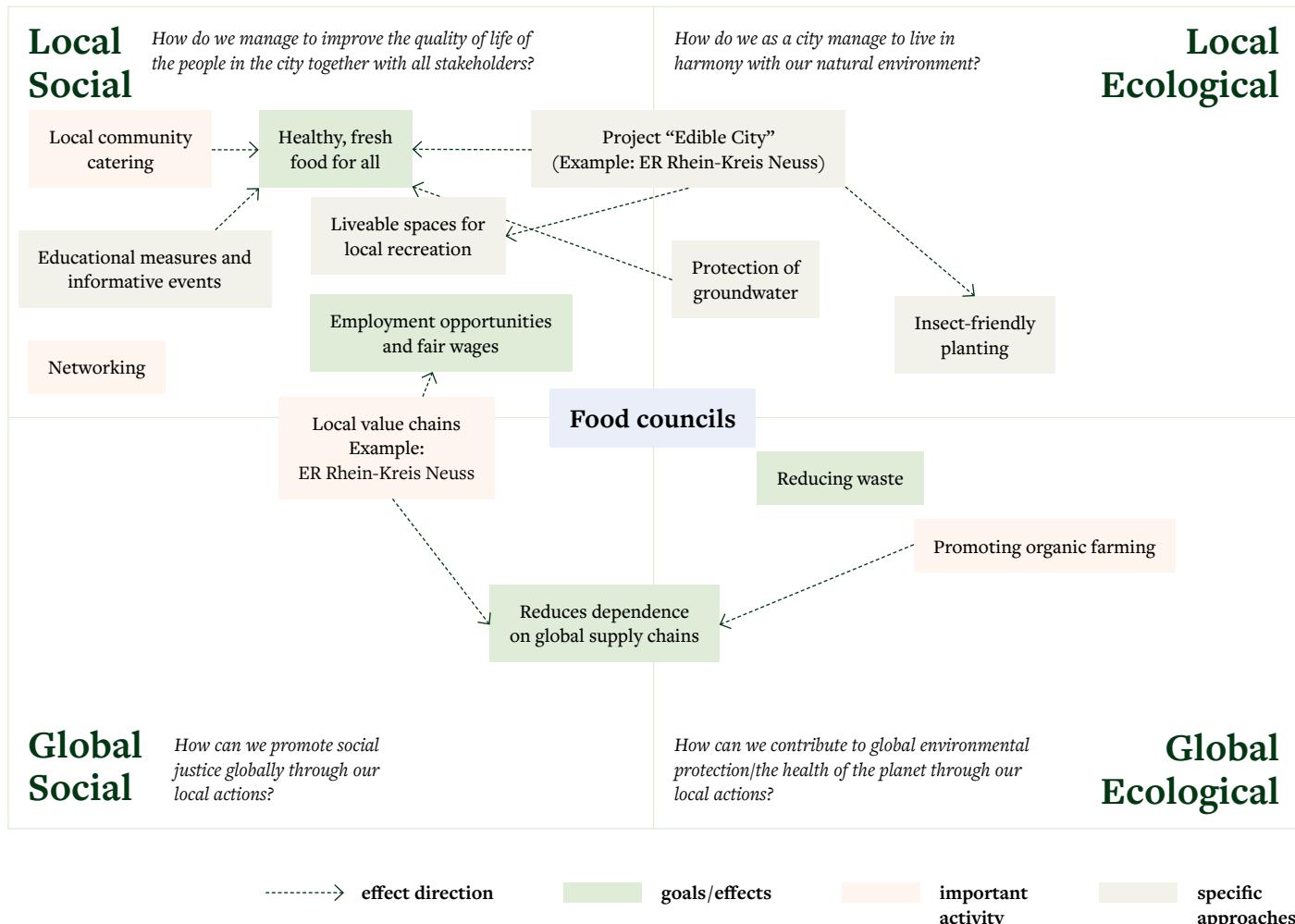


Figure 6: Own figure (NELA. next economy lab)

## Municipal land use (agriculture and municipal administration)

The use of municipal land, often in close cooperation with locally-based civil society organisations, for healthy food and sustainable agriculture, is one of the most important levers that municipalities have to promote a more ecologically sustainable use of urban land and to promote healthy food. To do so, municipalities have a variety of approaches at their disposal: Incentives for the ecological use of municipal land, criteria for leasing, community gardens on municipal land, making the city “edible”, promoting sustainable use of municipal land through civil society initiatives, promoting markets with regional products, compensation measures (e.g. reforestation), measures to preserve ecosystems and the sustainable management of municipal land by municipal enterprises. In the sense of the doughnut’s

principles, municipal land use can become a lever for the preservation and regeneration of the environment through sustainable criteria for its allocation and use. In addition, it takes into account systemic interrelationships with regard to socio-ecological goals, enables community care of gardens and makes healthy food freely available. With the help of compensation projects, the assumption of global responsibility can be anchored in local action with the help of municipal land use. As the figure illustrates, municipal land use can thus contribute to taking greater account of ecological limits in local action. In addition, it can link the environmental impact with positive effects in various social dimensions of the doughnut. The following impact logic also shows how closely nature preservation and the preservation of biodiversity are linked to the topics of food and agriculture.



## Impact logic: Municipal land use

The figure shows a selection of measures and thematic areas that can be addressed with the help of the municipal land use lever. In the field of organic agriculture, for example, there are various opportunities to use this lever to contribute to global environmental protection and the conservation of the natural environment. Municipalities and civil society can work together to develop criteria for the award of leases and engage in sustainable agriculture on municipal farms.

Measures to preserve biodiversity and local ecosystems are even often considered within organic farming initiatives or can be combined easily with them. An increase in organic farming not only contributes to environmental protection and a life in harmony with the natural environment but also raises the quality of life of the people in the community (e.g. through access to high-quality products or a reduction in pesticide use).

## Municipal land use



### Features

- Use of room for manoeuvre in administration
- Making communities and cities liveable
- Promotion of organic farming
- Community use/partnerships with civil society



### Potentials

- Preserving biodiversity
- Reducing emissions
- Increasing the quality of life

## Local Social

*How do we manage to improve the quality of life of the people in the city together with all stakeholders?*

Planting trees

Promoting Unsealing

Animal protection

Growing fruit trees  
and vegetables  
in urban areas

Using green spaces  
↔  
Near to nature  
use of space

## Local Ecological

Preserving and  
promoting biodiversity

Compensation  
project

Reaf-  
orestation

## Municipal land use

Requirements for  
lease contracts

Subsidising  
seeds

Compensation  
projects

Promoting  
organic farming

Owner-operated  
agricultural enterprises

Soil protection

## Global Social

*How can we promote social justice globally through our local actions?*

*How can we contribute to global environmental protection/the health of the planet through our local actions?*

## Global Ecological

-----> effect direction

local levers

important  
topics

specific  
approaches

Figure 7: Own figure (NELA. next economy lab)



## Perspectives

The issues of agriculture and food form a context that is directly embedded in planetary ecosystems and our societies. If communities and civil society aim to meet their basic societal needs within planetary boundaries, this requires that food and agriculture are rethought and reorganised and redesigned in many ways from production to consumption. This process has a lot of potential to reduce the negative impacts on people and the environment and to significantly promote environmental protection, nature conservation and societal well-being through new production and consumption patterns. Local authorities and civil society can make a decisive contribution to anchoring the true value (including environmental costs) of healthy nutrition and sustainable agriculture in society's consciousness. They can correctly assess its economic importance and live up to it through their actions.

The doughnut makes it clear that actors at the municipal level already have a multitude of concrete measures and approaches at their disposal to advance the transformation of our food systems. By reorienting municipal land use, for example, communities can create community gardens, make their city “edible”, and ensure more biodiversity and organic farming. Consumers and local producers can connect and develop new marketing and distribution models for regional products and municipalities can promote markets with regional products.



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- Examples on the same topic <https://www.oekolandbau.de/ausser-haus-verpflegung/stadt-land-und-bund/kommunen/>
- Foodsharing(Waste reduction) <https://foodsharing.de/>
- Planetary Heath Diet <https://www.bzfe.de/nachhaltiger-konsum/lagern-kochen-essen-teilen/planetary-health-diet/>
- Municipalities for biodiversity:  
Brochure, presentation and practical examples on the topic of „Species richness through sustainable use - municipal scope for action to promote biodiversity in agriculture“ (BfN-funded project), including conditions for leases, field path statutes: <https://www.kommbio.de/projekte/landwirtschaft/>
- Food councils (general) <http://ernaehrungsraete.de/ernaehrungsrat-idee-ueberblick/>
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## Endnotes

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- 3 cf. Raworth, 2021, S. 65-66.
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- 11 cf. DEAL (Doughnut Economics Action Lab): About Doughnut Economics: Meet the Doughnut and the concept at the heart of Doughnut Economics, in: DEAL, o.D., [online] <https://doughnuteconomics.org/about-doughnut-economics> [06.09.2021].
- 12 cf. Raworth, 2021, S. 41.
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- 16 cf. Blick-heben.com, 2021.
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- 18 cf. Thriving Cities Initiative: Creating City Portraits: A methodological guide from The Thriving Cities Initiative, 2020, S. 7.
- 19 cf. Thriving Cities Initiative, 2020, S. 7.
- 20 Landwirtschaft, Forstwirtschaft und Landnutzung
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- 23 cf. Grethe et al.: Klimaschutz im Agrar- und Ernährungssystem Deutschlands. Die drei zentralen Handlungsfelder auf dem Weg zur Klimaneutralität. Gutachten für die Stiftung Klimaneutralität, 2021, S.2.
- 24 cf. IPPC, 2019, S.5
- 25 Vgl. Statistisches Bundesamt: Zahl der Woche, 2017, [https://www.destatis.de/DE/Presse/Pressemitteilungen/Zahl-der-Woche/2019/PD19\\_14\\_poo2.html](https://www.destatis.de/DE/Presse/Pressemitteilungen/Zahl-der-Woche/2019/PD19_14_poo2.html)
- 26 cf. IPPC, 2019, S.5
- 27 cf. Speck et. al, 2021, S. 6.
- 28 cf. Marlow et. al, 2009.
- 29 cf. Speck et. al, 2020, S. 1.
- 30 cf. WBAE, 2020, S. 73-75.
- 31 Germany-wide network of cities working together to promote sustainable food and organic farming
- 32 See Donut Principles of Action: <https://doughnuteconomics.org/tools-and-stories/2>



# Do you have any questions?



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