

**UNIVERSITÄT  
HOHENHEIM**

**Participatory Mapping of  
Alternative Food Networks  
in the Region of Stuttgart**

**Summary of Results and Recommendations**

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## **Table of Contents**

<b>1</b>	<b>Introduction.....</b>	<b>1</b>
<b>2</b>	<b>Education.....</b>	<b>2</b>
<b>3</b>	<b>Inclusion.....</b>	<b>3</b>
<b>4</b>	<b>Social Media Marketing.....</b>	<b>6</b>
<b>5</b>	<b>Mapping.....</b>	<b>8</b>
<b>6</b>	<b>Instructions to Continue Developing the Map.....</b>	<b>14</b>
<b>7</b>	<b>Key Action Points Summary.....</b>	<b>16</b>

## **Introduction**

This summary describes the key results and recommendations of the second year of a project conducted by M.Sc. students for the Project in Organic Agriculture & Food Systems (POAFS) at the University of Hohenheim in partnership with the Food Policy Council of Stuttgart (FPCS). The project built on an initial map developed by students in the previous year, investigating and mapping additional Alternative Food Networks (AFNs) in the Region of Stuttgart. The report highlights both the educational potential and accessibility challenges of Stuttgart AFNs, emphasizing the importance of community engagement, participant involvement, and marketing strategies. The project's mapping approach aims to increase awareness of AFNs in the area and facilitate links and connections between stakeholders. The project as a whole aims to contribute to the advancement of alternative food systems in Stuttgart.

Part of the research involved examining the educational potential of three AFNs in Stuttgart through interviews with managers and thematic analysis. This part of the research was carried out by Kira Poppendieck. The case studies: "Kulturinsel," "Wandel.Handel," and "Acker e.V." highlight diverse educational approaches, promoting transformative learning through informal exchange, action-based learning, and embracing mistakes. These AFNs contribute to larger networks for alternative food production and consumption. To enhance sustainability, the report recommends that AFNs should continue to focus on community engagement and participant involvement.

Based on existing research from other parts of the global North, this project also investigated barriers to access, particularly for marginalized groups, and revealed obstacles related to cost and cultural relevance. This research was carried out by Alison Butler. To increase accessibility, recommendations include raising awareness among AFN managers of the food needs of people with a migration background and people on low incomes, implementing direct outreach and listening exercises, evaluating the feasibility of cost-sharing schemes that are inclusive of the most marginalised Stuttgart residents, and exploring regional government policies.

To address part of these accessibility challenges, the project developed marketing strategies, specifically through social media marketing (SMM). This research was carried out by Paula Henzl, who also developed a flyer to support AFN managers in their SMM strategy. SMM fosters community, recognition, and information dissemination. Recommendations, including utilising the flyer guide and increasing public support, aim to further strengthen the Alternative Food Movement in Stuttgart.

Mapping programs and research were utilized to remodel and extend the AFN map generated in the previous year. This work was carried out by Lucas Weck. Employing ArcGIS Online, a map and website with storytelling elements were created, presenting insights from the project's research. This mapping initiative aims to facilitate progress and provide valuable information to the public and stakeholders.

## Education



Quelle: Instagram [inselgruen.kulturinsel](https://www.instagram.com/inselgruen.kulturinsel)

### Impressionen vom Interview mit Joachim Petzold - Initiator von Inselgrün

"Wir gärtnern nicht für uns, wir denken, das ist wichtig für eine lebenswerte Stadt."

"Die grundlegende Motivation der Kulturinsel ist, einen Ort zu schaffen, wo sich alle von 0 bis 111 auch gerne mal zu unterschiedlichen Zeiten, aber auch mal zusammen wohlfühlen. Und gerade beim

Source: Stuttgart AFN map website

Part of the project examines the educational potential of three AFNs in Stuttgart through interviews with managers and thematic analysis. Case studies of "Kulturinsel," "Wandel.Handel," and "Acker e.V." highlight diverse educational approaches, promoting transformative learning through informal exchange, action-based learning, and embracing mistakes. These AFNs contribute to larger networks for alternative food production and consumption. To enhance sustainability, AFNs should focus on community engagement and participant involvement.

The analysis of the interviews with the three case studies of AFNs reveals the diverse educational approaches and learning practices within these networks. Informal learning plays a significant role in all three AFNs, often occurring incidentally and driven by personal curiosity. However, action-learning and self-directed learning are also essential means of learning in the case studies, fostering personal development and community engagement. The analysis of the case studies revealed many aspects of transformative learning in the educational approaches of "Kulturinsel", "Wandel.Handel" and "Acker e.V.". The AFNs have the potential to serve as places for individual transformative learning, but also fulfill the aspects of collective transformative learning, as the learning processes within the case studies align with the four pillars of transformative agroecology learning: wisdom dialogues, horizontal learning, combining practical and political aspects, and building networks for collective action and knowledge sharing. Furthermore, the active involvement and leadership of participants in decision-making and the bottom-up community structures of the AFNs "Wandel.Handel" and "Kulturinsel" contribute to transformative learning and have the potential for social impact through the strengthening of networks.

Overall, the findings highlight the diverse and multifaceted learning approaches within AFNs, encompassing informal, non-formal, and transformative learning. These networks provide valuable opportunities for individuals to engage in active learning, develop new skills, challenge existing beliefs, and contribute to the transformation of food systems.

The building of networks was highlighted as an important means for collective transformative learning. Therefore, a strong social media presence as well as a well-arranged platform could

most likely contribute to the learning effects of AFNs. Those topics are investigated in the social media part and the mapping part of this project.

As only the managers of the AFNs were interviewed, there cannot be made a clear statement for the transformative effect on the participants of the AFNs. In order to portray the learning effects for the participants in different AFN concepts, research has to be conducted on the participants' side. It therefore would be interesting to dig deeper into the expression of transformative learning in AFNs in Stuttgart, using various qualitative research methods, like participant observations and interviewing.

## Inclusion and Accessibility



Source: Own photos

The literature review conducted for this research looked at studies from the USA and the UK which found significant barriers to AFN access for marginalised groups including people of colour, working class people and those on low incomes. A Europe-wide study found that people on low incomes could not afford diets that were both healthy and sustainable. Demographic information from the City of Stuttgart revealed that 48% of Stuttgart residents have a migration background, and separately that 9% of citizens are currently living in poverty. Up to a further 15% are at risk of poverty, with those most at risk including people with a migration background.

The following research questions were therefore devised and investigated using a combination of online survey, face-to-face interviews and a footfall survey:

1. To what extent are the AFNs in Stuttgart tackling inequality, particularly in terms of access to healthy, affordable and culturally appropriate food?
2. What are the barriers to people on the lowest incomes and people from migrant/refugee backgrounds accessing healthy, affordable and culturally appropriate food?
3. How might these barriers be overcome? For example, what further research would support increased access? What actions by the FPCS and/or AFN actors would support increased access?

### Key Findings:

## 1. AFNs in Stuttgart:

- **Wide degree of variability regarding action on inequality.** Kulturinsel/Inselgrün, an open-access community garden and cultural arts centre, was found to be an example of 'best practice' when it comes to inclusion and accessibility, offering a space that participants from a wide range of cultural backgrounds said was genuinely welcoming, 'very supportive...very friendly', and providing a social space, useful indoor facilities and meaningful work. Key features include the growing of culturally relevant produce and integration of sustainable food growing with community strengthening social activities open to all, regardless of income or cultural background. However, Kulturinsel and its community garden, Inselgrün, are struggling with a degree of uncertainty and mixed messages regarding its future from the City of Stuttgart government administration.
- On the other hand, organic stores were found to be relatively economically stable, but preliminary investigations indicate that they may be dominated by a statistically greater number of white German customers on a higher income than would be expected from an average sample of the population, and are rarely accessed by people on the lowest incomes.

## 2. Barriers to inclusion:

- **The price - income gap.** Organic stores sell products at a significantly higher than average price. This is partly because they have to compete with supermarkets which can achieve high profits with lower prices through economies of scale. However, people on lower incomes are clear that they cannot afford the prices charged in organic stores.
- **A lack of culturally relevant products.** Residents with a migration background miss a lot of culturally relevant food items from their home food cultures. Some of these are available from international food stores but at a price premium, and there is a lack of fresh produce (culturally relevant fruit, vegetables and salad).
- **'Colourblind' managers/lack of awareness or focus on equality issues.** White people in managerial positions sometimes show a lack of awareness or make inaccurate assumptions about the experiences and needs of residents from diverse migration or cultural backgrounds, particularly those on lower incomes. In particular managers may: a) underestimate the importance of and difficulty in accessing culturally relevant foods, b) underestimate the level of knowledge of issues around healthy eating and sustainability that people with a migration background and on a low income already have, and c) fail to be sufficiently curious about the diverse food needs and experiences of people with a migration background or people on low incomes.
- **'Hostile environments'.** German black people who took part in the 2020 Afrozensus experience a high degree of discrimination when shopping, including being followed by security guards and a lack of culturally relevant produce. Residents of Stuttgart with a migration background may experience similar discomfort in stores in Stuttgart. The report found that some Syrian refugees, for example, prefer to shop in Syrian stores where they feel 'relaxed' even though products are expensive, because they can feel

'afraid or confused' in German stores. Interviewees from different African migration backgrounds would prefer to buy all their food from culturally appropriate international food stores, but in practice can only afford to do so rarely. Initial findings suggest that in Stuttgart organic food stores, white German people on a higher income may be over-represented compared to the local population.

### 3. Overcoming barriers - potential solutions

- **Showcasing and supporting 'Best Practice' examples.** Food Policy Council Stuttgart could support and showcase Kulturinsel/Inselgrün community garden as an example of inclusion and accessibility. Kulturinsel is currently partially funded by the City of Stuttgart as a 'Willkommensraum' for recently arrived refugees and migrants. However, they are in a somewhat precarious position and the long-term future of the community garden is not yet secure. The FPCS could provide support to ensure they are able to continue to offer this important blend of open-access food-growing garden and indoor community space.
- **Further consultation with marginalised groups regarding their food needs and experiences.** FPCS could engage in further 'listening exercises' with different cultural groups in Stuttgart, perhaps with the support of the umbrella group 'Forum der Kulturen', which has previously met at Kulturinsel. This work would be to find out more about the specific sustainable food needs of people with a migration background from different community groups and with a range of different incomes. The sustainable food needs of German working class or unemployed people in Stuttgart without a migration background could also be investigated.
- **Cost-Offsetting Community Supported Agriculture (CO-CSAs).** The potential of existing local CSA or 'Solawi' schemes to develop into genuinely Cost-Offsetting schemes could be investigated, where higher income customers directly subsidise more customers who are on a genuinely low income, with further measures to increase access including direct outreach to community groups supporting people with a migration background, and extending delivery to low-income neighbourhoods, for example.
- **Campaigning and lobbying.** The FPCS could continue to campaign and lobby for equality of access to sustainable food through regional and federal government public procurement policy, subsidies/discount schemes for those on the lowest incomes to access organic food, and greater penalties for the production of poor quality food using harmful chemicals, for example.
- **Creating more welcoming environments in AFNs.** Soul Fire Farm and the Farmers Market Coalition in the USA have produced an 'Anti-racist Farmers Market Toolkit' and a practical guide 'for farmers who want to supply low-income communities while maintaining financial stability'. These could be adapted to be relevant for AFNs in the Stuttgart region.
- **Growing more culturally diverse and relevant produce regionally.** The potential for culturally diverse fresh fruit and vegetables as well as legume crops and grains to be grown in the area surrounding Stuttgart could be investigated, perhaps as a partnership project between the University of Hohenheim, local CSA schemes and the FPCS.

## Social Media Marketing

The research project further addresses the accessibility challenges faced by Alternative Food Networks (AFNs) in the Stuttgart region by developing marketing strategies, specifically through social media marketing (SMM). SMM offers cost-effective options for AFNs to target customers directly, foster community engagement, and strengthen consumer-producer connections. Recommendations, including a flyer guide and public support, aim to enhance the Alternative Food Movement in Stuttgart.

The lack of knowledge about existing possibilities poses an additional challenge for AFNs' accessibility. To address this, the project focused on SMM as a solution to reach a wider audience and establish stronger connections with consumers. SMM has been shown to build trust, loyalty, and community engagement, leading to increased memberships and customer-managed relationships.

However, time constraints, lack of professional knowledge, and limited resources often hinder nonprofits from fully utilizing social media. The project sought to overcome these obstacles by developing an easy-to-follow SMM strategy, respectively creating a flyer of recommendation, aimed at strengthening the online presence of AFNs and improving their accessibility.

This flyer can be found at the end of this section. To come up with such recommendations, a deeper look into social media marketing and its strategy was done. The basis for the study were seven steps provided by IHK ("Ihr großer Social-Media-Marketing Leitfaden". Retrieved from <https://www.ihk-muenchen.de/de/Service/Marketing-Vertrieb/social-media-marketing/>).

Covering those steps was reached by interviewing one of the leading AFNs in Stuttgart, as well as a literature review on integrating social media marketing in the overall marketing mix of an organization and the different social media channels available for such marketing. Further, social media controlling and benchmarking was conducted through social media analysis (visual and via tools).

The flyer of recommendations and the discussion chapter of the project report provide a concise summary of the key findings related to social media strategies in Alternative Food Networks. Further, social media can play a role in promoting inclusion and education within AFNs. Besides the flyer of recommendation which is directly addressed to the AFNs, some recommendations and further steps to enhance the use of social media in AFNs were identified:

- Marketing the AFN Map: focus on marketing efforts to promote the AFN map, collaborating with partners in the region to expand its reach and impact. Increasing awareness of the map can foster a sense of community among AFNs and help them gain more visibility.
- Appeal for Support: appeal to the Food Policy Council (FPCS), to act as an umbrella organization, to provide support and resources for AFNs' social media efforts. By assisting AFNs in navigating social media strategies, the FPCS can play a pivotal role in advancing their outreach and impact.



- **Engaging Business Study Programs:** Considering Stuttgart's strong presence in business study programs, AFNs themselves, as well as the FPCS can explore the potential of offering internships or working student positions to find suitable candidates for social media assistance. Leveraging the expertise of business students can contribute to the effective implementation of social media strategies.

In conclusion, the research did not only deliver an easy-to-follow guide for the person being responsible for social media in an AFN, but it highlights the potential of social media in promoting inclusion, education, and visibility for AFNs. By following these recommendations and steps, AFNs can harness the power of social media to further their objectives and create a more connected and engaged community.

# Ihr neuer Social Media Auftritt

**Benutzen des gemeinsamen Hashtags**  
**#alternativefood0711**

Verbinden Sie Ihr Profil mit dem von anderen Alternativen Organisationen in Stuttgart – wenn Personen auf den Hashtag klicken, sehen sie alle Beiträge von unterschiedlichen Organisationen in der Stadt – so stoßen sie vielleicht durch ein anderes Profil auf Ihres. Außerdem stärkt der Hashtag das Gefühl der Zugehörigkeit zum Alternativen Lebensmittelsystem in Stuttgart.

**1x in der Woche Posten!**

Vor allem während der Saison – über Arbeit, Produkte, Events (eigene oder interessante in der Umgebung), Wissenswertes rund um Ihre Organisation, oder einfach ein Wertschätzungs-Beitrag über Ihre Helfer

**Veröffentlichung zwischen 8 und 10 Uhr abends**

Die aktivste Zeit ihrer Follower ist abends – das muss nicht bedeuten, dass dies auch Ihre aktivste Zeit ist. Planen Sie die Posts im Laufe Ihres Arbeitstages und beantworten Sie währenddessen Fragen, Kommentare und interagieren Sie mit Ihrer Community

**Mitglieder und Follower einbinden**

Erstellen Sie kurze Umfragen, bei denen Ihre Follower Entscheidungen mitbestimmen können oder fordern Sie sie durch die Möglichkeit der Direktbenachrichtigung zum Mitsprechen auf.

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Project in Organic Agriculture and Food Systems 2022/2023 - U.02 Participatory Mapping of Alternative Food Networks in the Region of Stuttgart

Source: Own graphic, for distribution to Stuttgart AFN managers

## Mapping

When it came to the different AFNs, in the beginning the following decision was made collectively by the four students working on the project this year: the areal restrictions were set to the city boundaries of Stuttgart, so only AFNs within the city of Stuttgart were considered. Further as many AFNs as possible were tried to be found.

As a basis the findings from the year prior were taken. The search for further AFNs in Stuttgart was done collectively. Therefore, the internet, word-to-mouth information, and suggestions from the FPCS were used and taken into consideration. This resulted in a list of AFNs.

The list was then revised and for each AFN a final decision was made collaboratively. In the next step, categories were formed, and each AFN was assigned to one category.

If more than one category was fitting, the AFN was marked with the different categories. This process resulted in a list of 111 different AFNs within 14 different categories. A comprehensive list of all the AFNs used on the map, can be found in the appendix I: List of AFNs in the original report. To be displayed on the map, for each category an icon was selected<sup>1</sup>. All icons used were derived from Google Fonts (Google Fonts, n.d.), and were inserted as vector files.

Table 1: Categories the AFNs are assigned to.

Kategorien	Categories	Icon	Kategorien	Categories	Icon
Bildungsprojekte	Educational project		Lebensmittelbank und -rabatt	Food bank/discount food	
Biologische Landwirtschaft	Organic farm		Migranten- und Flüchtlingsunterstützung	Migrant/refugee support	
Einkaufen	Groceries		SoLaWi	CSA	
Fairteiler	Food sharing hub		Urbane Gemeinschaftsgärten	Urban Community Gardening	
Gastronomie	Gastronomy		Verkaufsautomaten	Vending machine	
Großhandel	Wholesale		Wochenmarkt	Farmers Market	
Hofladen	Farm shop				
Organisationen und Plattformen	Organizations and Organisations		Kategorienübergreifend	Across categories	

<sup>1</sup> Some of the categories ended up with no entries since the only AFNs in these categories were assigned to multiple categories.

The category 'organizations and platforms' also remains without any AFN locations on the map, since none of the organizations actually have a location.

After the list of the AFNs was set, further information on each of the AFNs was gathered. With the help of Google maps (Google maps, n.d.) the address and the longitude and latitude were defined. For each AFN a link to their webpage, their Instagram, and their Facebook page (if available) was added. Furthermore, for each of the AFNs a short description was added. This was done by examining their webpages and social media accounts in most cases.

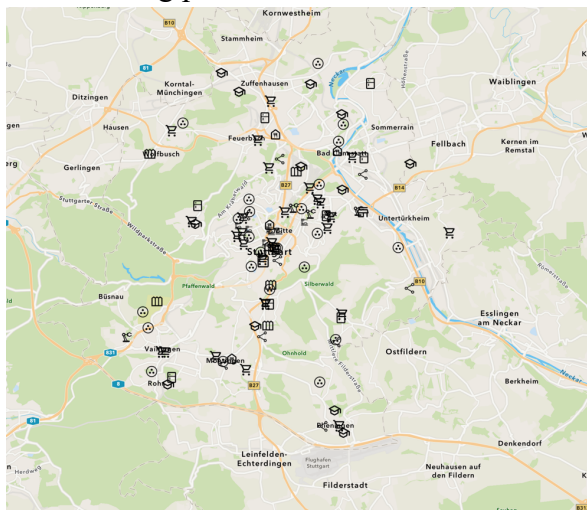
For additional information, especially the one used for the insights, as well as the platforms and organizations, the interviews conducted for the other parts of this project were used.

## Results/Outcome

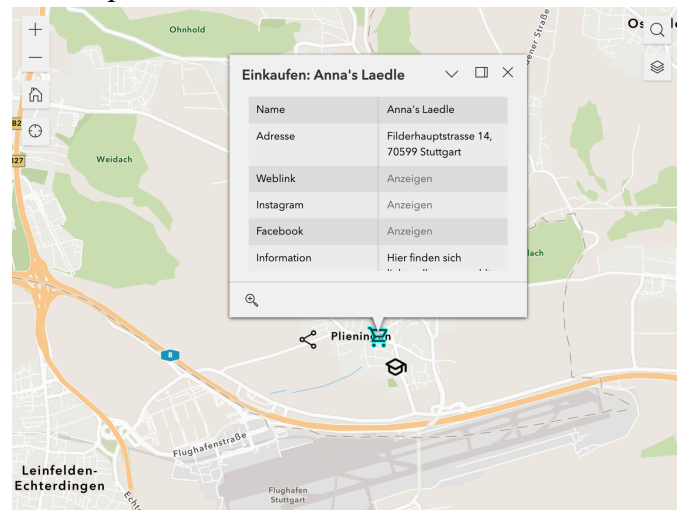
### 1. AFN Map Stuttgart

As a fundament for the map the base-map ‘Community-Karte’ (English: Community-map) was selected. The AFNs were added with the geodata, and the chosen icons were added for the different categories.

The following pictures show screenshots of the AFN map in ArcGIS Online:



**Figure 1:** AFN map of Stuttgart.



**Figure 2:** Pop-up example on the AFN map of Stuttgart.

Figure 5 shows the map zoomed out with all the AFNs visible. Whereas in figure 6 one can see the pop-up window which shows up, when clicking on one AFN. For all the AFNs the order of the information is the same (name, address, weblink, Instagram, Facebook, and Information). For AFNs which are assigned to more than one category, a list of these categories can be found in the description directly after the name.

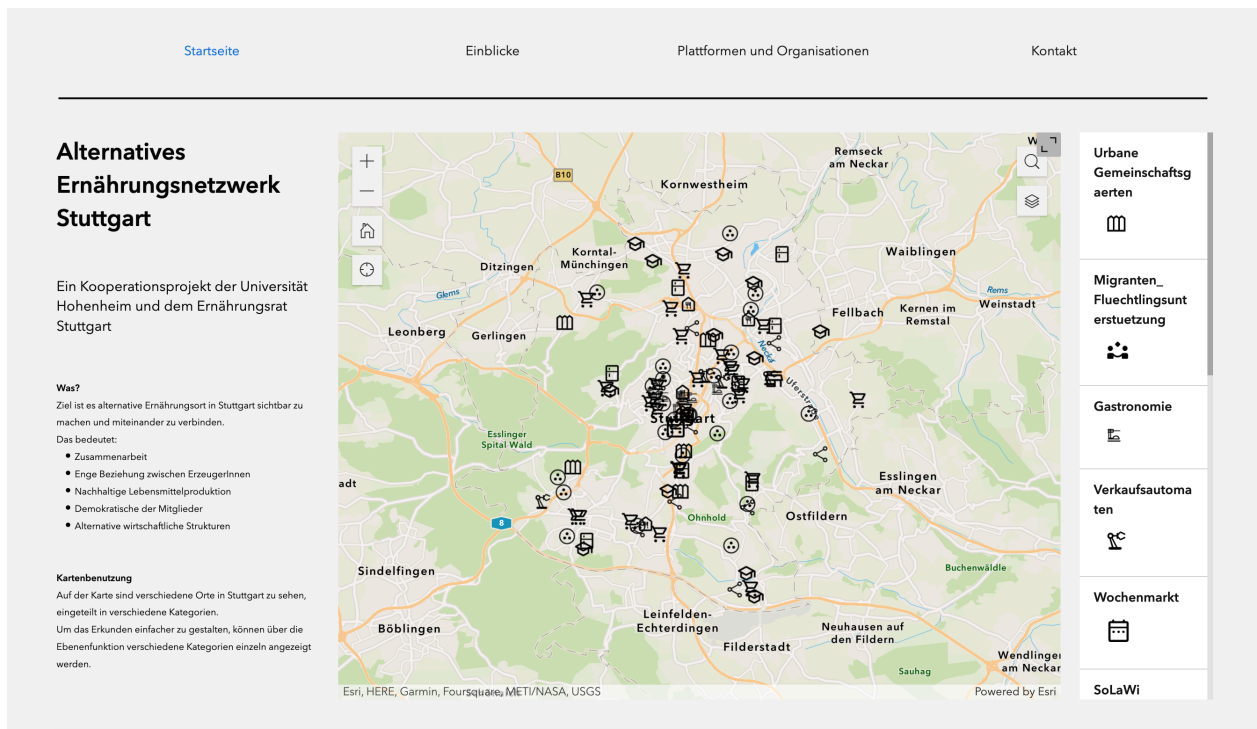
### 2. Storytelling/ Website

The whole project resulted in a website with multiple subpages. The ‘Startseite’ (English: ‘homepage’) includes the map and a short description, the ‘Einblicke’-page (English: insights) consists of different glimpses into AFNs and the ‘Plattformen und Organisationen’-page (English: platforms and organizations) contains different platforms and organizations with a short introduction. Further there is a ‘Kontakt’-page (English: contact), which among other things gives the option to participate in creating the map.

This webpage was created with the „ArcGIS Experience Maker“. The webpage can currently be accessed through the following link:

<https://experience.arcgis.com/experience/8c72e6eb0d7840b2845f8e0a9316762d/page/Startseite/>

## Homepage



**Figure 3:** ‘Homepage’ of the website of the AFN-Stuttgart-map.

The menu on the top allows to navigate between the different pages.

On the left side the map name (AFN Stuttgart) and information about the project being a cooperation between the FPCS and the University of Hohenheim is given.

Beneath the goal and reason behind the project is explained, talking about making Stuttgart alternative food places visible and connecting them. This is further explained with the following values: cooperation in general, close relationships between producers, sustainable food production, democratic decision making and alternative economy structures.

How the map can be used with its features is described at the bottom left of the page. Here it is explained that the AFNs are divided into different categories shown on the map. To make exploring easier the different layers/ categories can be shown or hidden separately.

The map itself is in the middle of the page. It includes different possibilities to use it. Zooming is possible either by scrolling or using the plus and minus symbols on the top left. Beneath there is a home button, which brings the user back to the initial map section.

The ‘own location symbol’ can be used to show and zoom to your own location on the map.

On the top right there is a search function. It is not possible to search within the different AFNs but a general search for places on the map.

To use the before described layer selection, the layer icon on the top right can be used. A list of the different categories pops up and each one can be shown or hidden by clicking on the eye beneath it.

On the right side of the homepage a legend can be seen. It shows which icon represents which category. The full list can be seen by scrolling downwards.

## Insights

The screenshot shows the 'Insights' page of the AFN-Stuttgart-map website. The page has a navigation bar with four items: 'Startseite', 'Einblicke', 'Plattformen und Organisationen', and 'Kontakt'. Below the navigation bar, there are four featured articles, each with a photo, a title, a quote, and a source. The articles are:





- Impressionen vom Interview mit Joachim Petzold - Initiator von Inselgrün**: A photo of a community garden with a sign that says 'INSELGRÜN'. The quote is: "Wir gärtnern nicht für uns, wir denken, das ist wichtig für eine lebenswerte Stadt." The source is: "Quelle: Instagram inselgrün.kulturinsel".
- Theresa Reif von Acker e.V. im Interview über Motivation und Werte:**: A photo of a young girl smiling. The quote is: "Acker e.V. steht für Wertschätzung für Natur und Lebensmittel. [...] der beste Weg ist Bildung, um da überhaupt reinzukommen und um wirklich überall überhaupt das Verständnis zu bekommen für Lebensmittel. Was ist das? Wo kommt das her?" The source is: "Quelle: Internetseite Acker <https://www.acker.co>".
- Das sagte Johanna Nocke von Wandel-Handel/ Plattsalat Ost im Interview über Werte und Vorstellungen:**: A photo of a shop interior. The quote is: "Einen respektvollen, wertschätzenden und einen freundlichen Umgang mit Menschen und Natur [...] haben. Also dass [...] Pestizide weg[fallen]. [...] biologisch, biologische Anbauweisen, dann ist das solidarischer Umgang zwischen den Menschen. Dann sind fair gehandelte Produkte oder fairer Handel insgesamt einfach." The source is: "Quelle: Internetseite Wande.Handel <https://wandel-handel.de>".
- Katrin Scherer, Vorstandsmitglied der Raupe Immersatt sagt dazu:**: A photo of a cafe interior. The quote is: "With the cafe, it was not about creating an eco-cafe, but about creating a nice space that is tidy, that appeals to people, and there, the presentation of the food is then also very important."

**Figure 4:** 'Insights' of the website of the AFN-Stuttgart-map.

The 'insight'-page includes four different impressions of AFNs included in the project. The information was shared by the students working on the other parts of the project as well as derived from the project report of the last year. The four respective AFNs are „Inselgrün“, „Acker e.V.“, „Wandel-Handel/ Plattsalat Ost“, and „Raupe Immersatt“.

To see the pictures larger, the user can click on the 'full-screen mode' button on each picture to open it up in full-screen mode.

## Platforms and Organizations

Startseite	Einblicke	Plattformen und Organisationen	Kontakt
		<p><b>Acker e.V.</b></p>  <p>Quelle: Internetseite Acker <a href="https://www.acker.co">https://www.acker.co</a></p>	
		<p><b>Wir ernten was wir säen</b></p>  <p>Quelle: Internetseite Wir ernten was wir säen <a href="http://www.wir-ernten-was-wir-saeen.de">http://www.wir-ernten-was-wir-saeen.de</a></p>	
		<p><b>LOKORA</b></p>  <p>Quelle: Internetseite KOKORA <a href="https://www.lokora.de">https://www.lokora.de</a></p>	
		<p><b>Coffee-Bike GmbH</b></p>  <p>Quelle: Internetseite Coffee-Bike GmbH <a href="https://coffee-bike.com/de/">https://coffee-bike.com/de/</a></p>	

**Figure 5:** ‘Platforms and Organizations’ of the website of the AFN-Stuttgart-map.

As some AFNs do not have one specific location, the page ‘platforms and organisations’ was created. It shows four different AFNs, a short description and links to webpages, Instagram and Facebook pages if available. The AFNs described are „Acker e.V.“, „LOKORA“, „Wir ernten was wir säen“ and „Coffee-Bike GmbH“. Here it is also possible to display the pictures in full-screen mode.

## Contact

Startseite	Einblicke	Plattformen und Organisationen	Kontakt
			<p><b>Kontakt</b></p> <p>Das Projekt ist von der Universität Hohenheim zusammen mit dem Ernährungsrat Stuttgart.</p> <p>Ihr habt Fragen, Anregungen, wollt auch auf der Karte erscheinen oder kennt einen Ort der eigentlich nicht fehlen dürfte? Sagt uns gerne Bescheid!</p> <p>per Mail an: <a href="mailto:jan.weck@uni-hohenheim.de">jan.weck@uni-hohenheim.de</a></p>

**Figure 6:** ‘Platforms and Organizations’ of the website of the AFN-Stuttgart-map.

The ‘contact’-page indicates the option to contribute to the map by mail. It asks for new locations, questions, and general suggestions.

### **3. Findings and recommendations for the mapping part of the project**

In hindsight, it becomes evident that a significant amount of time was expended in the process of selecting the appropriate program to use for the map. This was mainly due to numerous challenges related to the accessibility of programs, as well as other issues and time management.

One notable aspect that was missing from the project was the actual execution of the map. Unfortunately, due to the limited scope of the study, it was not possible to engage in further discussions with FPCS to revise and go further.

In conclusion, the primary goal of the project has been successfully reached. A map with the required aspects and features has been developed and created.

A key decision was made to prioritize ease of use and to make it easier for future students. By explaining the process, the aim was to pave the way for a more efficient and effective project in the upcoming years.

Although the primary focus revolved around food consumption, it is essential to acknowledge that the initial goal was not fully realized. While progress has been made, further advancements can be made.

In summary, progress towards the intended objectives of the larger project has been made. A foundation has been laid for future work within the project. The following part lists these ideas and options:

Along the way possible options to include or change came up. This could present an opportunity to work on for the students working on the project next year:

The research on increasing the inclusivity of AFNs conducted for this project revealed that almost 48% of Stuttgart residents have a migration background. Introducing a language switch functionality to English could broaden the map's accessibility and reach a wider audience, including migrant groups as well as visitors to the city.

To enhance user engagement and encourage participation, the option to add to the map with a control function could be considered. This feature would allow users to contribute their own insights more easily.

The project aimed on listing all suitable AFNs in the region, nonetheless a regular update of the data will be necessary as well as expanding the geographical coverage beyond the city border of Stuttgart to the broader region of Stuttgart could make the map even more interesting. Including surrounding areas would provide a holistic understanding of the organizations, platforms, and insights relevant to the region. Possible counties might be Esslingen or Reutlingen, or the general Stuttgart region.

To the pages 'organizations and platforms' and 'insights' more information could be added, as well as a larger number of AFNs. Therefore, the data already generated as well as newly collected data could be used.

Furthermore, it is recommended to develop a version of the map that is compatible with phones and tablets to adapt to the increasing prevalence of mobile devices. This expansion will enable

greater accessibility and convenience, ensuring that the project reaches an even broader audience.

Finally, organizing the content into different sub-pages for ‘organizations and platforms’ and ‘insights’ would enhance navigability and facilitate a more coherent structure. This segmentation would allow to display and access specific information more easily, promoting a seamless user experience.

By implementing these recommendations, future iterations of the project can be optimized, offering a more effective and engaging platform for users to explore the various facets of AFNs in Stuttgart.

## Instructions to continue developing the map

This part of the report shows how to prepare and use „ArcGIS Online” for creating and working with the map, as well as the „ArcGIS” experience maker.

### 1. Excel/ csv. files

As a basis for the map a table is needed. This was done by using Excel.

For each category a new page in excel is needed, since the different layers in the map are based on individual files. For the files only certain formats can be used. Here the .csv file format was used. Each individual table can be made with the export function in excel, choosing .csv as a format to save an individual page. It is crucial to save the files with the same name as the one used to upload to „ArcGIS Online”, since otherwise updating is not possible.

The following columns were created for each category (first row in German, second row in English):

**Table 1:** Excel/ csv. file columns.

Name	Breitengrad	Laengengrad	Weblink	Adresse	Instagram	Facebook	Information	Kategorien
Name	Latitude	Longitude	Weblink	Address	Instagram	Facebook	Information	Categories

The Latitude and Longitude can be copied from „Google Maps” (*Google maps*, n.d.) with a right mouse button click on the red point of the location. It is important to change the format of the degrees and use a comma instead of a dot as shown in this example:

**Table 2:** Latitude and longitude format.

Latitude	Longitude
48,7246589	9,1452134

Further „ArcGIS Online” cannot display umlauts, therefore ä/ö/ü should be written as ae/oe/ue.



## 2. ArcGIS online

### Settings and requirements

To get access to „ArcGIS Online” an E-Mail needs to be send to the KIM IT Software ([kim-software@uni-hohenheim.de](mailto:kim-software@uni-hohenheim.de)). There it is important to not only ask for access but also ask for the allowance to distribute content.

## 3. Mapping and working

Once set up, in „ArcGIS Online” choose ‘Galerie’ /’Gallery’ and select the map you want to work on (AFN\_map for this projects map) or create a new map by choosing ‘Karte’/ ‘Map’ in the menu.

### Basemap

The basemap can be chosen in the left side menu. Select ‘Grundkart’/ ‘Basemap’ and choose the preferred one. For this project the basemap ‘community map’ was chosen.

### Adding a new category/ layer

Go to ‘Hinzufügen’/ ‘Adding’ in the top of the left side menu and choose ‘Layer aus Datei hinzufügen’/ ‘Add layer from file’. Then select the file you want to use and upload it, following the instructions shown of „ArcGIS Online”. When being asked for Longitude and Latitude, choose the corresponding columns.

### Updating a category/ layer

To add new places to a category, add them to the Excel list and export as described above. To then update the category/ layer in „ArcGIS Online”, choose the layer and then select ‘Eigenschaften’/ ‘Features’ in the right side menu and then ‘Information’. Click on the link to the according file. A new page with information on the selected file opens. On the new page select ‘Daten aktualisieren’/ ‘Update data’ and upload the updated table. The *csv*. file needs have the exact same name as before.

### Symbols

The symbols which are shown on the map can be changed by selecting a layer, choosing ‘Eigenschaften’/ ‘Features’ in the right side menu and then choosing ‘Symbolisierung’/ ‘Symbolization’. There choose ‘Layer-Style bearbeiten’/ ‘modify layer-style’ and then ‘Style-Optionen’/ ‘Style options’. Click on the current symbol in the ‘Position’ area and then again on the shown current symbol. There the options can be chosen. To upload a symbol select ‘Hochgeladene Symbole’/ ‘Uploaded Symbols’. It makes sense to upload vector files, to ensure the quality doesn’t change when changing the size of the symbol (or zooming).

For the AFN map, the symbol size 25 and color black was chosen. All icons were gathered from Google material icons (Google Fonts, n.d.).

### Pop-ups

To modify the pop-ups select one layer and then choose ‘pop-ups’ in the right side menu. There click on ‘Felderliste’/ ‘Fields list’ and bring the Information in the right order and delete the

unwanted information (longitude and latitude for the AFN map). The information was set in this order: 'Name', ('Kategorien' only in the category 'multiple categories',) 'Adresse', 'Weblink', 'Instagram', 'Facebook' and then 'Information'.

### **Website with ArcGIS Experience Builder**

The „ArcGIS Experience Builders” user interface is quite self-explanatory. The menu on the left includes the different pages and widgets (text, menu, pictures, map, etc.) which can be dragged to where it is wanted on the page. A sub-page can be created by putting one page onto the other in the page menu.

## **Key Action Points Summary**

This report has summarised the key findings and recommendations of the 2022/23 University of Hohenheim POAFS research students. What follows is a list of key action points for the Food Policy Council of Stuttgart, the University of Hohenheim POAFS group 2023/24 and Stuttgart Alternative Food Network managers:

### **Education**

- AFNs to continue to implement educational approaches, maintaining community engagement and participant involvement
- Further research to focus on transformative effects of AFNs' educational approaches on participants

### **Inclusion**

- Engage in further listening exercises with diverse community groups including people with a migration background and people on a low income
- Support Stuttgart AFNs to consider measures to increase inclusion and accessibility, including creating a 'welcoming environment' and measures to reduce costs for people on low incomes
- Support and showcase Kulturinsel/Inselgrün as an example of 'best practice' in access and inclusion
- Campaign for environmental and health externalities to be internalized and income inequalities to be addressed in public policy at the regional level
- Conduct further research on potential for CO-CSAs, collaboration with local international food stores, and regional production of culturally diverse produce

### **Social Media Marketing**

- Utilize FPCS and public institutions to support AFNs with social media management
- Emphasise the importance of AFN actors implementing social media strategies
- Consider how to integrate social media strategies into FPCS itself

### **Mapping**

- Enhance map functionality with language switch and user contribution feature
- Expand geographical coverage beyond Stuttgart to surrounding areas
- Develop mobile-compatible version of the map for wider accessibility
- Organize content into sub-pages for better navigability