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Embedding Systemic Design Practices in an Experienced International Development Design Studio

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Butterfly Works (BW) is a social design studio based in Amsterdam, working mainly in international development for over 20 years. This project aimed to equip the team at Butterfly Works with a design methodology that allows them to navigate and work with complex problems and position them as practitioners and facilitators of systemic change. The process started by analysing their current practice with a systemic design perspective to identify how they are tacitly adopting this approach and find ways to complement it with new approaches. A framework was synthesised based on the systemic design principles from the literature and used as a lens to investigate their approach to an ongoing project that served as a case study. Practices that followed the principles and challenges related to them were identified. Understanding relationships, navigating systems, experimental prototyping and long-term strategies were the challenges from that case that inspired the creation of strategies based on the systemic design principles to address them. The strategies were validated in a hypothetical future project to see how the team envisioned their use. The validated strategies were synthesised and integrated into BW's current design methodology. The result was an eight-phase methodology, previously five-phase, with several activities and recommendations for using new tools and methods.

KEYWORDS: systemic design, social design, international development

RSD TOPIC(S): Cases & Practice, Economics & Organizations, Methods & Methodology

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Presentation description

This presentation focuses on how systemic design theories can be helpful for experienced design agencies working on systemic problems, such as Butterfly Works (BW), which has worked on projects on international development, like improving education and job opportunities for African youth, for over twenty years.

The recent growth in attention in academic design research for systemic design has the promise of bringing new tools to this practice. We aimed to equip the team of designers and strategists with a design methodology that allows them to adopt systemic design practices and directly apply them to their projects. This case study focused on the additions needed for a concrete intervention in an ongoing practice. We started from a set of principles and an analysis of that practice, developing strategies to tackle specific challenges the practitioners faced. An in-depth comparison to other existing approaches was beyond this project's scope.

Review: lessons from the literature for a design practice

Systemic design literature offers principles which could guide design practitioners in various cases. Several authors have attended to how the principles of design thinking and systems thinking can be integrated into design and drawn lessons from how this has been done in design agencies that deal with systemic problems (REFS). Van der Bijl-Brouwer (2020) states that principles can be pillars for creating novel approaches, tools, and processes. By that, a framework was synthesised from the literature. Figure 1 gives an overview of the integration of these lessons.

Principles:

• Adopt a two-track mindset (Design Council & The Point People, 2021; Van der Bijl-Brouwer & Malcolm, 2020)

• Experimenting with change (Van der Bijl-Brouwer & Malcolm, 2020)

• Use prototyping as a divergent activity (Design Council & The Point People, 2021; Van der Bijl-Brouwer & Malcolm, 2020)

• Making ownership explicit (Van der Bijl-Brouwer & Malcolm, 2020)

Principles:

• Create conditions for openness and diversity (Design Council, 2021)

• Explore perspectives across stakeholders (Van der Bijl-Brouwer & Malcolm, 2020; Design Council, 2021)

• Explore the connections and tensions across the system (Van der Bijl-Brouwer & Malcolm, 2020; Design Council, 2021)

Principles:

• Redefine the projects (Design Council, 2021)

• Change narrative of design (Design Council & The Point People, 2021)

• Build capacity for an ongoing development process (Design Council & The Point People, 2021)

Prototyping for emergence

Exploring diversity and relationships

Adapting the design practice

Systemic Design Framework

Working with relationships and interdependence

• Design-in-action (Design Council & The Point People, 2021)

• Recognise that the problem cannot be solved (Dorst, 2019)

• Focus on creating possibilities for change (Design Council & The Point People, 2021)

• Focus on the system's desired state (Design Council & The Point People, 2021)

• Work to transform (Design Council & The Point People, 2021; Design Council, 2021)

Embracing complexity

Working on the structures of systems

Principles:

• Build strong relationships (Van der Bijl-Brouwer & Malcolm, 2020)

• Aim for the interdependence of things (Design Council & The Point People 2021)

Principles:

• Developing a systemic perspective on problem situations (Van der Bijl-Brouwer & Malcolm, 2020; Design Council, 2021)

• Designing for the collective (Design Council, 2021; Design Council & The Point People, 2021; Dorst, 2019)

• Working at different system levels to drive change (Design Council, 2021; Design Council & The Point People, 2021; Dorst, 2019)

Principles:

• Intervene in the deep structure of a system (Meadows, 1999)

• Order the information and components of a system (Meadows, 1999; Design Council & The Point People, 2021; Jones, 2014)

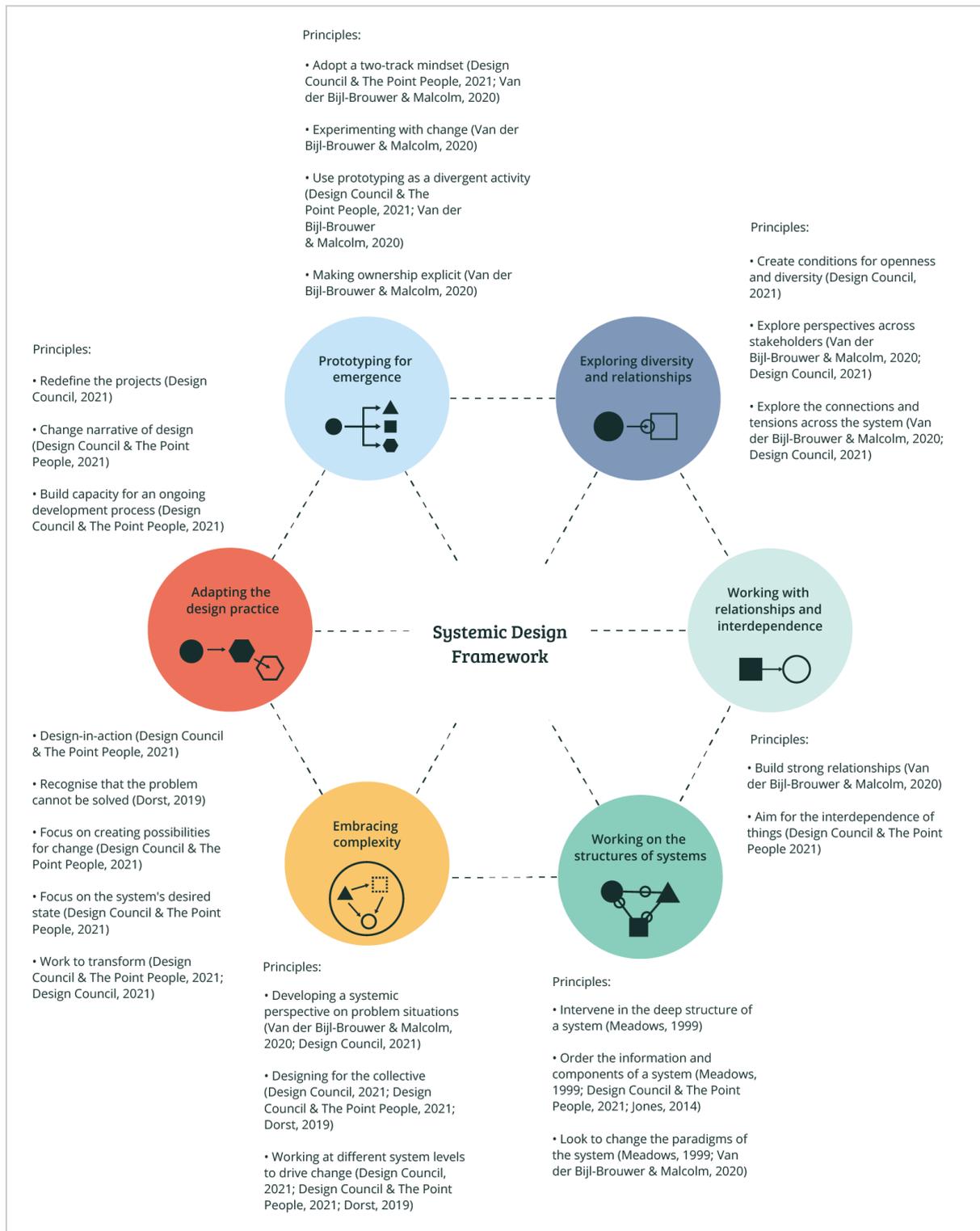• Look to change the paradigms of the system (Meadows, 1999; Van der Bijl-Brouwer & Malcolm, 2020)

Figure 1. Systemic design falls into principles that designers can use to guide their practice. These principles were grouped into six groups shown above.

In this project, the lessons from the literature were coupled with the experience of Butterfly Works. They introduce themselves as "A social design studio pioneering the use of co-creation and design thinking in international development" (Butterfly Works, 2022). The aim was to find principles that could guide design agencies to organise projects around systemic change.

Method: the process of integrating systemic design

Equipped with the insights from literature, the first author engaged with the BW team in a series of codesign workshops following the path of expression (Figure 2). The first step was to understand their current design practice and methodology. Second, to compare the approach to one of their projects with the systemic design framework shown above, and third, to identify matching practices and challenges the team faced. The fourth and last step was to create strategies to overcome those challenges and validate their applicability in their future practice.
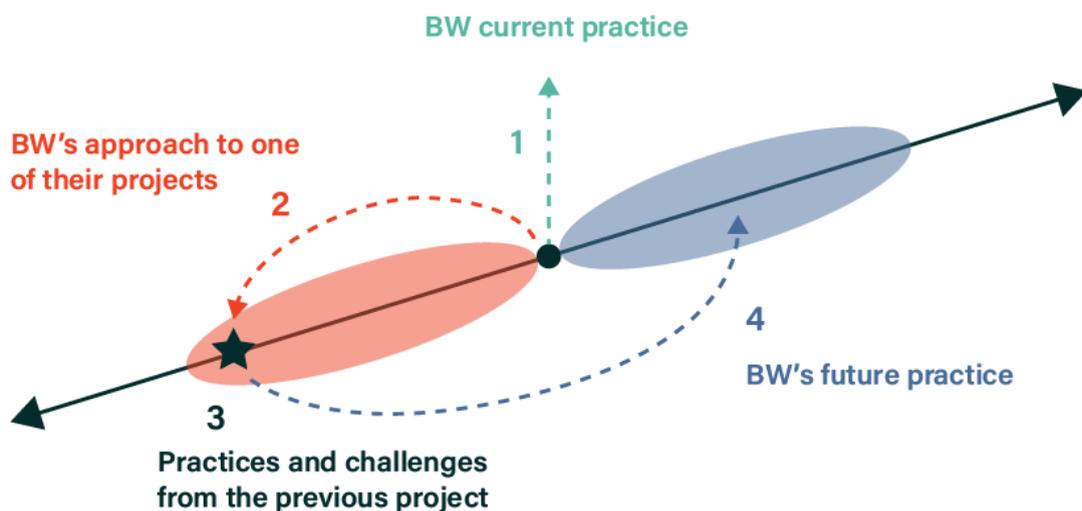

Figure 2. The path of expression is a codesign methodology that guides participants to reflect on past experiences to uncover underlying patterns and values. Figure 2 is adapted from Sanders & Stappers (2012).

Insights into an experienced design practice

The sessions reviewed two earlier projects of BW: 'Work in Progress (WIP) and 'Technical and vocational education and training schools' (TVET). The WIP is a three-year programme led by Oxfam Novib in alliance with BW and other organisations. Its goal is to address unemployment in Africa by supporting youth in getting jobs. Programmes like this bind together several projects from the partners. In TVET, BW aimed to improve the school's impact on young people by preparing them for the job market. These projects were used to analyse BW's existing approaches through a systemic design lens.

The result shows that BW's current practice already contains several systemic design principles. And four of the challenges they faced throughout were characterised as systemic design challenges. Therefore, the value that systemic design could bring to BW was synthesised in four aspects:

1. To understand the relationships, tensions, interactions, and dynamics between stakeholders.
2. To understand how a system works and find the root cause of the problems.
3. To test with several prototypes in a minimum viable way and learn from the system's feedback.
4. And lastly, to become explicit about their intentions with the project with stakeholders and identify where ownership can be grounded.

Creating a strategy to overcome systemic design challenges

Using the systemic design framework (Figure 1), the team working on the TVET project came up with ideas to apply the principles and address their challenges.

Their ideas included tools and activities they already use, such as stakeholder maps and interviews. However, these had not been used before to address those aspects explicitly. The ideas were organised and synthesised into strategies.

A hypothetical project in the future was used to validate the applicability of the strategies during several sessions with the BW team. The team brought their expertise in two ways: by zooming in on each of the strategies' activities and evaluating aspects

like the interactions they would have with the stakeholders; and by zooming out and seeing how this would fit their overall process and what it could mean for their business development.

From five to an eight-phase method

BW had a five-phase design thinking method that they used in all their projects (Figure 3). The proposed framework highlights the importance of three phases that were not part of BW's design thinking approach. Understanding the problem becomes a separate phase from design research as it is meant to include the stakeholders and not be exclusive to designers, who are the primary conductors of design research. Envisioning also has more relevance in this framework as it is an essential activity that guides the following phases. Onboarding the stakeholders in implementation aims to show that this is as important as other phases and that a project cannot continue without it.

The systemic design practices they already implemented in TVET were also made explicit. These were activities like building the capacity of the stakeholders to innovate, which do not belong to a particular phase of the method. Therefore, they were described as responsibilities of the team to carry out throughout projects and divided among the different roles of the team members (Figure 5). After integrating the strategies created by the team into their method, new phases emerged to make the importance of carrying out those activities in a systemic design project explicit. The complete approach is shown in Figure 4.

Setting the scene   Design research   Ideation   Create & test loop   Handover

Figure 3. BW's previous design method comprised five phases.

1. Setting the scene of the system

To set the stage of the project, know who will be involved, the context in which we will work and get set to start.

Activities:

• *System scanning*

• *Assumption scanning*

• *System context*

• *Client validation and green light*

2. Systemic design research

To learn about the system in which we are working from diverse perspectives.

Activities:

• *Stakeholder perspective scanning*

• *Stakeholder perspective deep dive*

• *Analysis & synthesis*

• *Stakeholder relationship analysis*

• *Client insight alignment*

3. Understanding the problem

To frame the problem and create common ground with the stakeholders involved.

Activities:

• *Insights validation with stakeholders*

• *Understanding the problem*

• *Sense-making and system mapping*

4. Envisioning

To visualise the ideal state of the system where we are working.

Activities:

• *System envisioning*

5. Ideation of system interventions

To identify where to intervene in a system and ideate ways of doing it.

Activities:

• *Identifying leverage points*

• *Ideating*

6. Prototyping the interventions

To plan how to prototype and test the interventions. To show, in a minimum viable way, how the interventions will.

Activities:

• *Intervention planning*

• *Prototyping interventions*

7. Onboarding stakeholders in implementation

To seek commitment from the stakeholders with decision making power to test and implement the interventions.

Activities:

• *Intervention demo*

• *Impact visualising*

8. Testing the interventions

To test the effectiveness of the interventions and uncover the system around them. To gather the insights from testing and recognise the feedback from the system.

Activities:

• *Testing interventions*
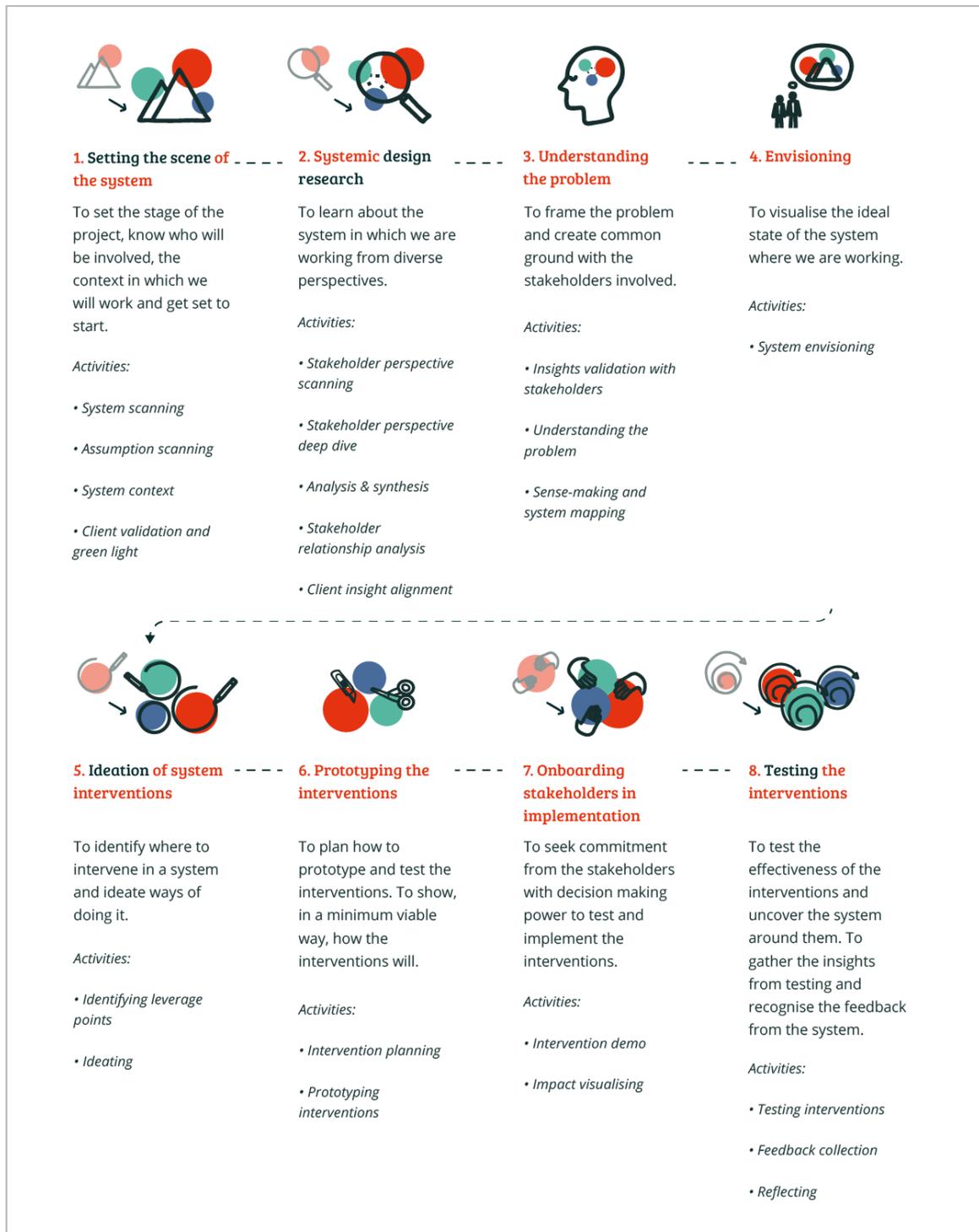
• *Feedback collection*

• *Reflecting*

Figure 4. Eight phases comprise the new method for systemic design projects from BW. Note that phases 1,2,5,7, and 8 build on earlier practice in Figure 3.

Systemic perspective

• Identify, connect and build strong relationships with crucial in-country partners to help them understand how the system works and navigate through it, building bridges between BW and stakeholders in the country

• Advocating for the systemic design approach by becoming a storyteller and a leader who makes sure that the partners and stakeholders are on board with the system's vision

• Aim for interdependence and strengthening relationships with the created concepts

• Be determined to transform the system in the target countries

Project Navigator

• Connecting interventions

• Connecting partners and people with a shared vision by creating spaces that bring them together

• Build strong relationships with the key actors of the system

• Create spaces for open communication with stakeholders to learn about each other's progress and challenges

New business

• Challenging the original brief

LxD

• Build strong relationships with the key actors of the system

• Build capacity in the system for an ongoing development process

• Involved diverse stakeholders, not just the usual suspects and power holders

Product owner

• Changing the common design narrative

• Challenging the original brief

• Create spaces for open communication with stakeholders to learn about each other's progress and challenges

Designer research

• Finding the root cause of the problem

• Build strong relationships with the key actors of the system

• Build capacity in the system for an ongoing development process

• Involved diverse stakeholders, not just the usual suspects and power holders

Strategic communication

• Changing the common design narrative

Figure 5. Proposed responsibilities for each team member to work with a systemic design approach.

Discussion and conclusions

Throughout the process, the team at BW became aware of the importance of addressing their systemic challenges and explicitly including them in their regular activities. They recognised that using the new method would have made the process of TVET more effective. They showed enthusiasm to include the new approach in their proposals for new projects and started using it.

This project showed how a design agency that has already been working successfully for two decades in what we now call the 'systemic change' area could benefit from systemic design theory in a way that builds on and extends its existing expertise.

The value that this project brings to BW is directly linked to awareness. Before this project, BW worked with complexity and found some aspects challenging. They were conscious of the need to address them. However, this project brings a different perspective to those challenges. Power dynamics, relations, and ambiguous ownership are characteristics inherent to systems. And this model, based on academic research, was created specifically for the team at BW, their way of working and involving stakeholders and using their resources like their toolbox and expertise. A sign of success for using this framework and method would be that BW overcomes the challenges and faces new challenges that nudge them to refer to the framework and develop new strategies in each phase of the method. This is the beginning of creating a new approach for BW, and the need for new tools and strategies will grow as their experience working on systemic issues does.

The ease and enthusiasm with which the team at BW included the systemic design principles in their practice indicate that this will also prove valuable for other practitioners. The next step for this project would be to evaluate it to see whether the enthusiasm remains.

References

1. Bijl-Brouwer, M., and Malcolm. B. (2020). *Systemic Design Principles in Social Innovation: A Study of Expert Practices and Design Rationales.* She Ji: The Journal of Design, Economics, and Innovation 6 (3): 386–407.
2. Butterfly Works (2022) website http://butterflyworks.org (accessed June 25, 2022)
3. Design Council (2021, April) *Beyond Net Zero A Systemic Design Approach.* Design Council.
4. Design Council & The Point People. (2021, October). *System shifting design.* Design Council.
5. Dorst, K. (2019). *Design beyond Design.* She Ji, 5 (2) (2019), pp. 117-127
6. Jones, P. H., & Van Patter, G. K. (2009). *Design 1.0, 2.0, 3.0, 4.0: The rise of visual sensemaking. New York: NextDesign Leadership Institute (article).* Retrieved from http://humantific.com
7. Jones, P., (2014). *Systemic Design Principles for Complex Social Systems* in Metcalf, G (eds) Social Systems and Design.
8. Jones, P. H., & Bowes, J. (2016). *Synthesis maps: Systemic design pedagogy, narrative, and intervention.* In Proceedings of Relating Systems Thinking and Design (RSD5) 2016 Symposium. Toronto, Canada.
9. Jones, P., & van Ael, K. (2022). *Design Journeys through Complex Systems (1st ed.).* Publishers.
10. Meadows D., *Leverage Points: Places to Intervene in a System* (Hartland: The Sustainability Institute, 1999), 1–19, available at http://donellameadows.org/archives/leverage-points-places-to-intervene-in-a-system/
11. Meadows, D. H., & Wright, D. (2008). *Thinking in Systems: A Primer.* Chelsea Green Publishing.
12. Ramage, Magnus and Shipp, Karen (2009). *Systems Thinkers*. London: Open University/Springer-Verlag
13. Rittel, H. W. J., & Weber, M. (1973). *Dilemmas in a general theory of planning.* Policy Sciences, 4, 155–169.
14. Sanders, E. B. N., & Stappers, P. J. (2012). *Convivial Toolbox: Generative Research for the Front End of Design.* BIS Publishers.