Workshop: *Working out Strategies to Solve Societal Problems: Introduction to a Method to Find Leverage Points for Positive Change*
Wolfgang Höschele at the Volkshochschule (Adult Education Center) Heidelberg, April 14, 2018
8 Participants

First, the schedule for the workshop was presented:

1 pm	Brief getting to know each other
1:15	Introduction to systems graphics
1:45	Questions/Discussion
2:00	Selecting two problems to discuss
2:15	Break
2:30	Discussion of first problem
4:00	Coffee break
4:30	Discussion of second problem
6:00	End

Excerpts from the Talk (Introduction to a Language of Systems Graphics)

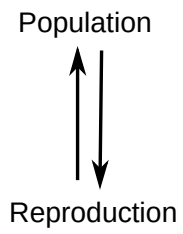
"If we are confronted with complex systems, we are often in a quandary like the blind men and the elefant. Each person recognizes only a small piece of the total reality and can not understand why others see the world so differently.
In this workshop, we learn how to generate shared knowledge about systemic relationships in order to influence systems in positive ways."

Language of Systems Graphics

- Systems elements (for example, population of an endangered species)
- Relationships (effects) connecting systems elements
  - Positive (black arrows)
  - Inverse (red arrows)

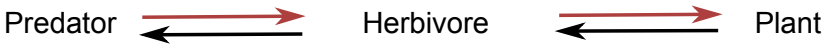
Example 1: Population growth or decline, reinforcing feedback loop

Increase of population allows more reproduction; more reproduction leads to further population growth. Conversely: population decline can lead to reduced reproduction, which leads to further population decline (which happens in the case of endangered species).



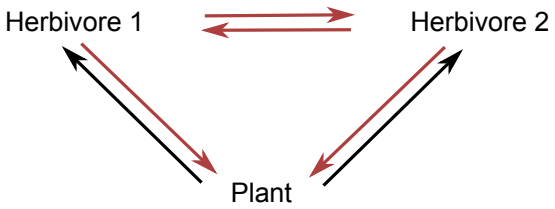
Example 2: simple relationships of eating and being eaten, dampening or balancing feedback loop

More predators reduce the number of their prey; reduced number of prey reduces the number of predators, which allows the prey to proliferate again, allowing the predators to increase. This can allow a balance to emerge, or oscillations around a mean. Similar relationships exist between herbivores and plants.



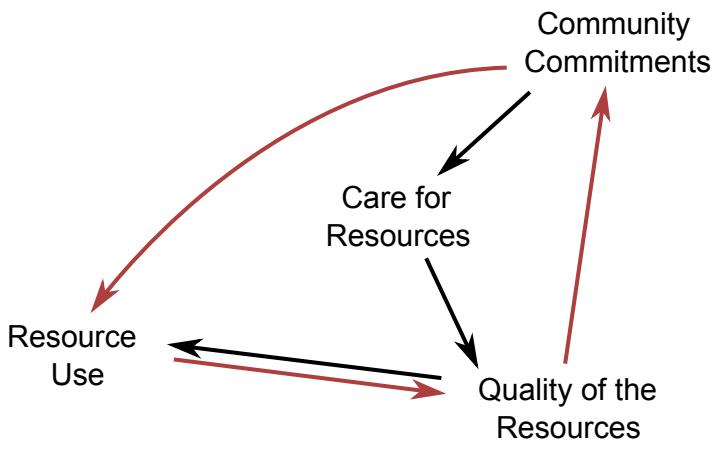
Example 3: Competition: reinforcing feedback loop that can lead to the disappearance of one of the herbivores

Two herbivores compete for one food plant; the more successful one may be able to eliminate the less successful one. Similar relationships prevail between competing firms in a market.

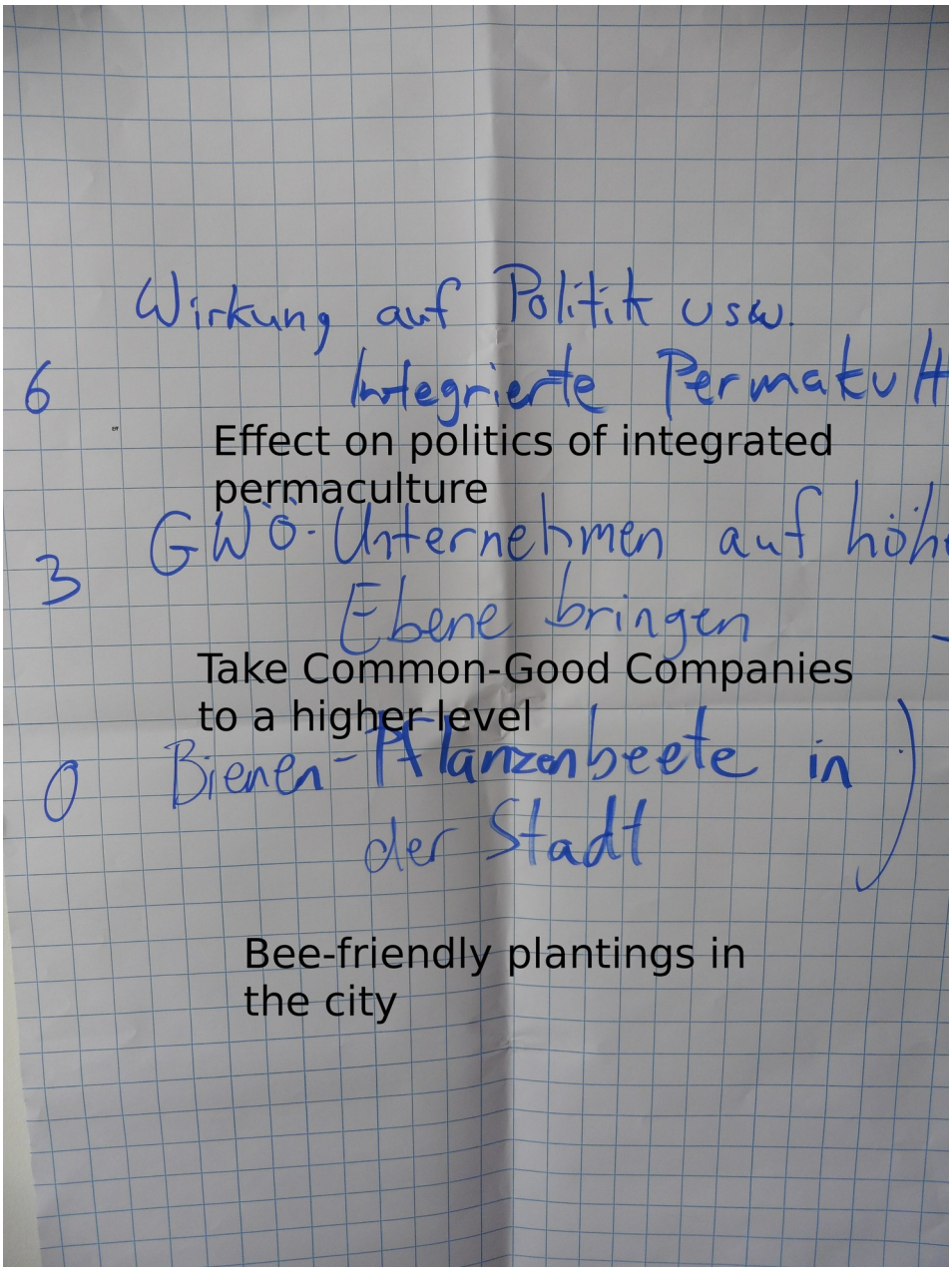


Example 4: Commons ensure the care for a resource that is important to a community

Resource use can potentially put the resource at risk (for example, a grazing land or a fishery used in common). Commitments within the community lead to group members limiting their own use of the resource or contributing to the care of the resource so that its productivity is enhanced. These commitments are reinforced if the resource is damaged for any reason. If the resource is very abundant, the commitments are less important and may not be taken as seriously.



After the talk, suggestions were solicited which societal problems to address in the workshop:

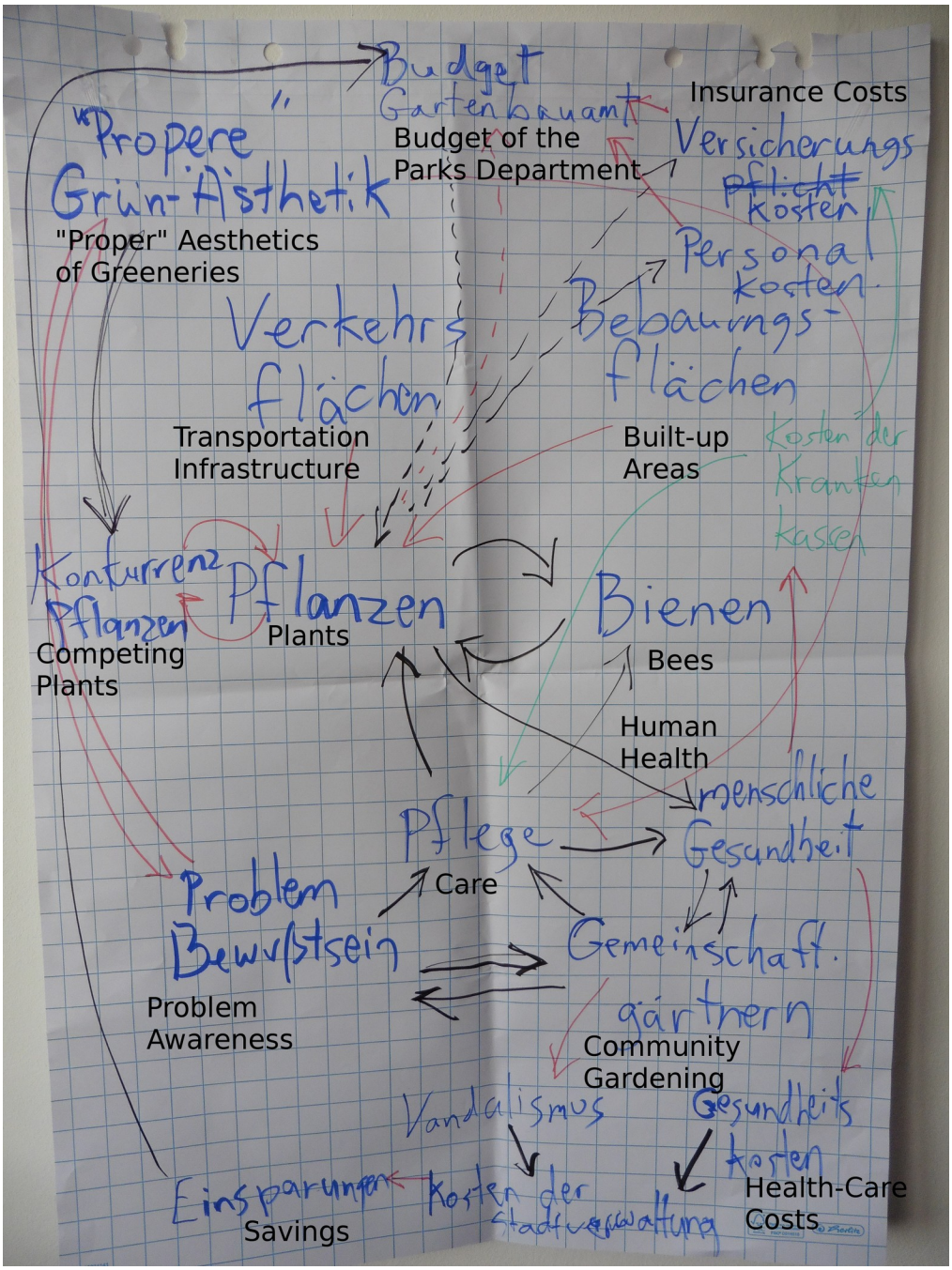


Systemic consensusing was used to decide which topics to address:

- raising two hands meant strong resistance,
- raising one hand meant modest resistance,
- raising no hand meant no resistance (high approval).

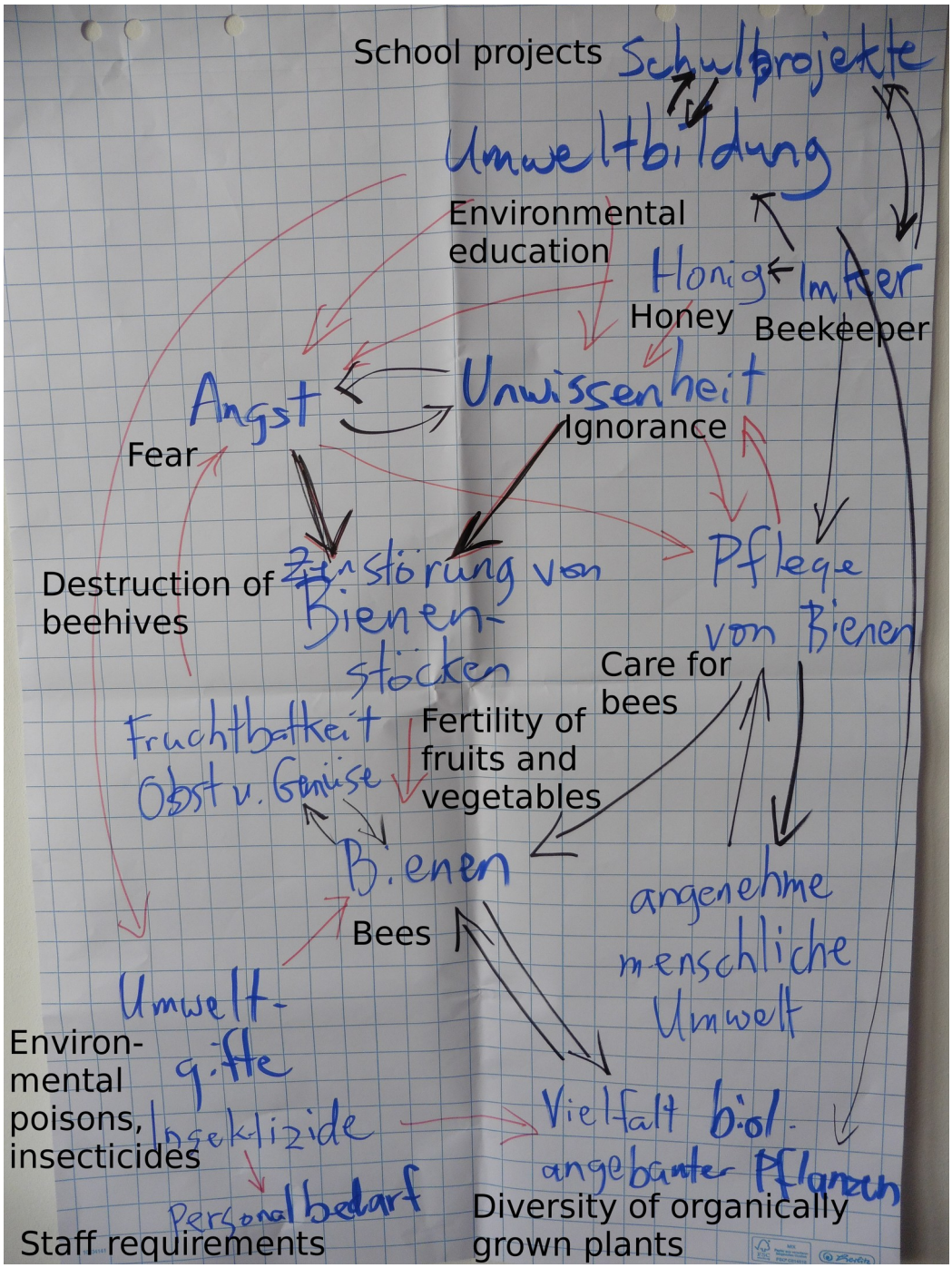
The third topic (promoting the planting of flowering plants that support bees) obtained large support (0 resistance) and was discussed first, followed by the second topic. The latter topic was about endeavoring to increase the number of companies that promote the common good, for example by auditing their activities according to a common good matrix. This is similar to “benefit corporations” in the US context.

The first topic was: how can we get more bee-friendly plants to be planted in the city? Plants that are pollinated by bees are bee-friendly, which includes many fruits and vegetables. First, we created a graphic focused on plants:



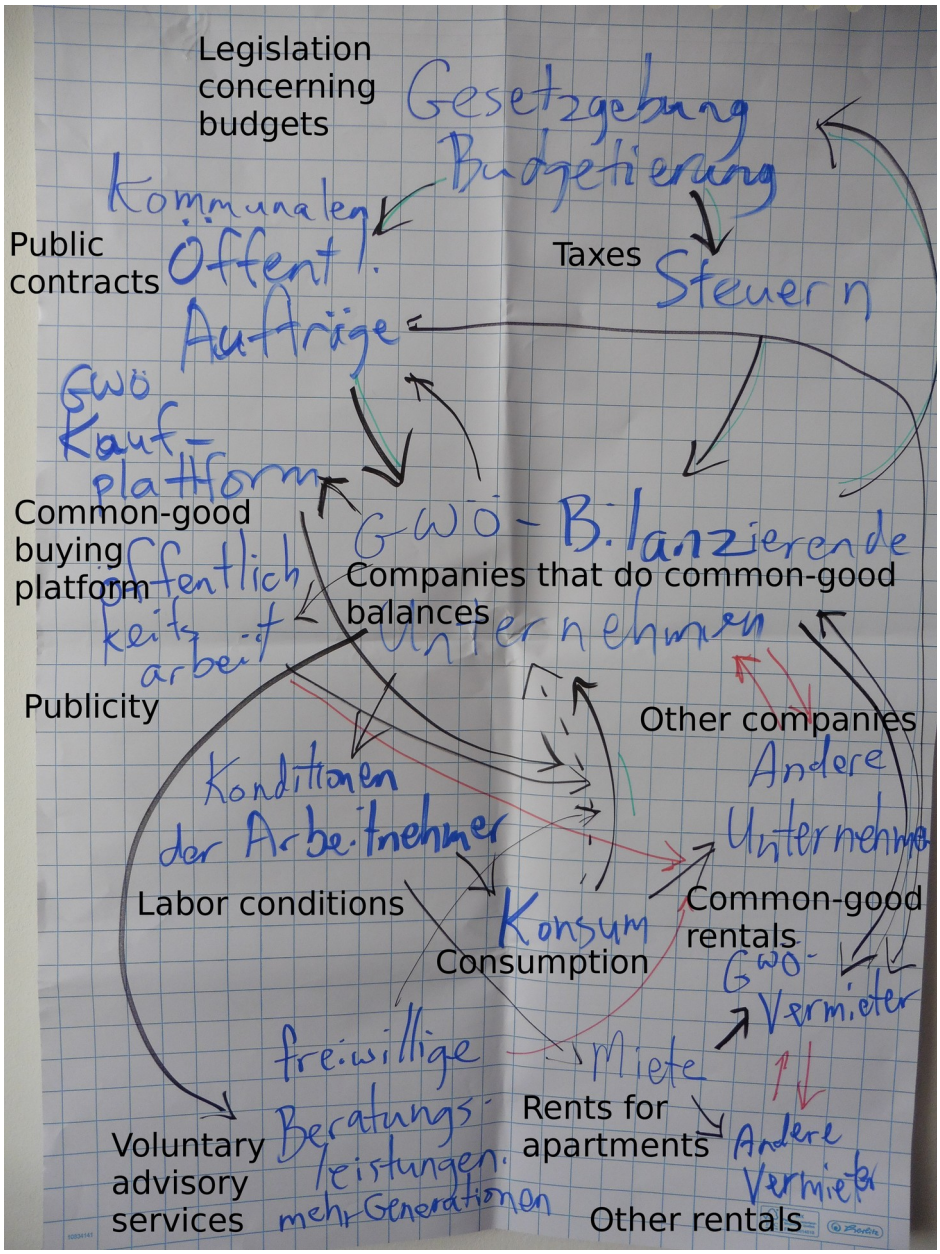
One conclusion: the parks department needs to be convinced that planting bee-friendly plants will not be a financial burden (despite potentially higher personnel costs associated with caring for the greenery). This may be achieved if ways are found to ensure that savings resulting from greater health and reduced vandalism (benefiting the city administration and public health insurance) be used to compensate the parks department for its greater expenses.

Next we turned our focus to the bees:



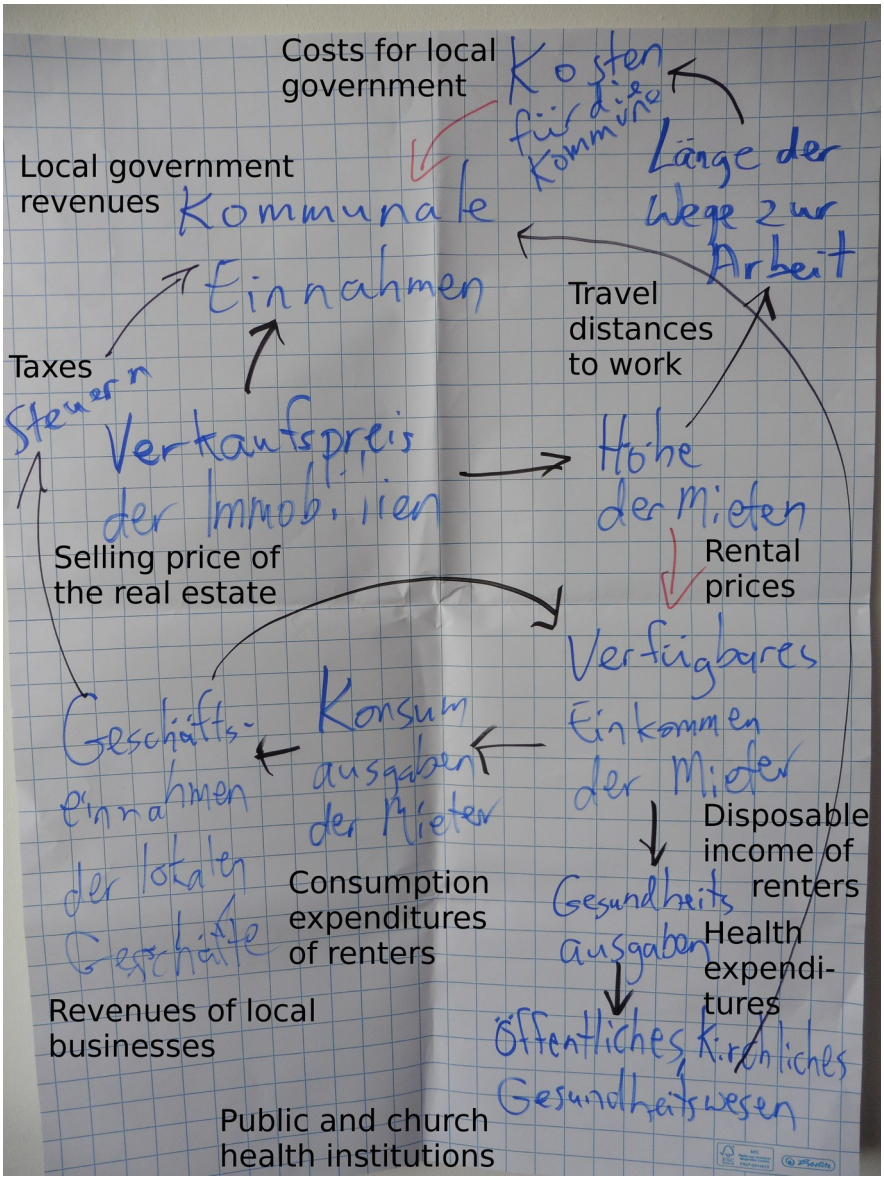
We noted that people sometimes destroy beehives due to fear or ignorance, and do not take care of the bees. Environmental education in cooperation with schools and beekeepers (maybe also: an urban honey brand) are intended to reduce fears and increase knowledge, so that people take more care of bees.
Pesticides were briefly addressed (they are used in order to reduce labor costs. Environmental education is intended to make people aware about alternatives to pesticides.

After a half-hour coffee break we addressed the second topic: how can the number of businesses that observe criteria of common good economy be increased?



The upper part of the graphic indicates how legislation is supposed to improve the competitive situation for common-good companies (according to the Austrian author and activist Christian Felber). We turned to discuss at greater depth how economic circuits can be created to support common-good-oriented businesses. Since many people spend a very large part of their income on rent, establishing such circuits can be greatly facilitated if more rental units are provided by common-good-oriented businesses.

Now we turned to the question how local governments could be convinced not to sell their real estate to the highest bidding investors (who then rent them out at high prices), but instead to common-good-oriented firms that keep the rents affordable on a permanent basis:



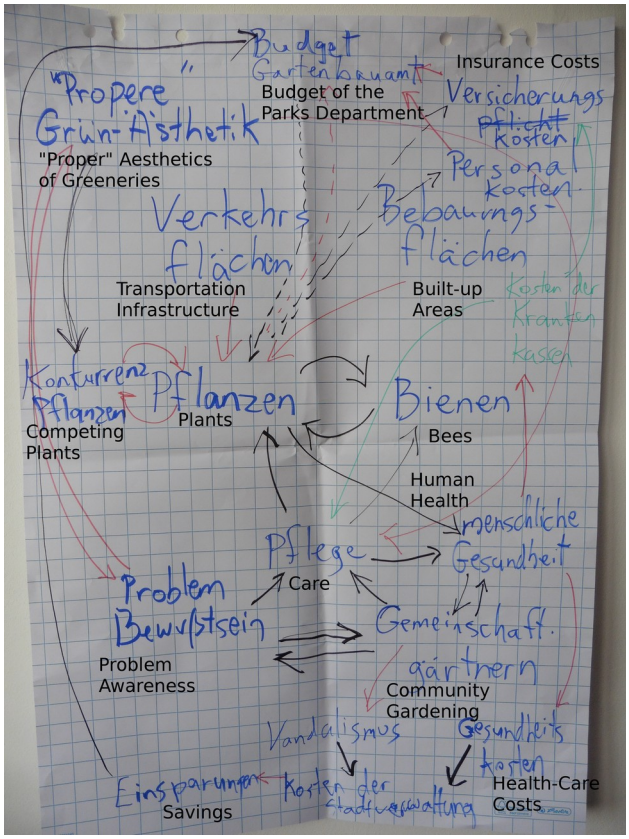
This graphic shows how the budget of the local government may benefit if people who work in the city can also afford to live there. They spend more of their money in the city, generating revenues for local businesses – and local tax revenue. The people who live in the city use public as well as church-run hospitals in the city, which can therefore be run more economically. And they make less demands on the transportation infrastructure because they travel shorter distances to work. Thus, real estate sold cheaply can generate higher revenues or less costs for the local government.

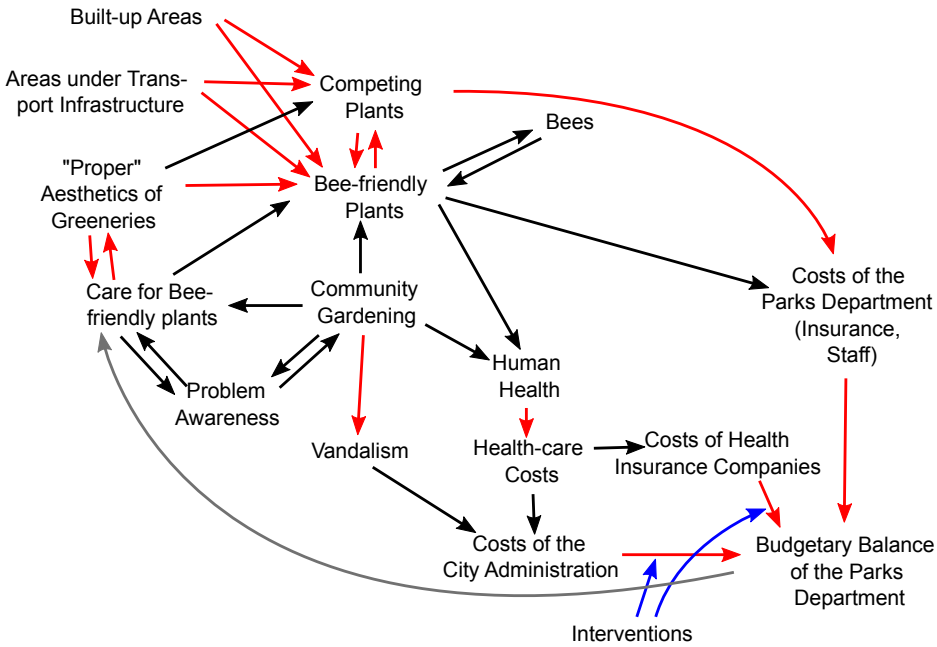
Creating these graphics as a group undertaking generated numerous eureka moments! The participants devised solution strategies that they had never thought of before. The visualization helped them to understand complex systemic relationships that would hardly be comprehensible via texts alone. Several expressed the thought that such graphics should be used much more in research and teaching!

Next steps

These were first steps to find leverage points for positive change. In one afternoon, only first steps could be undertaken, but what would the next steps be?

First, the systems graphics can be “cleaned up.” The first graphic regarding bee-friendly plants can for example be shown as at the bottom of this page.





The graphic shows that the (real or imagined) higher costs of bee-friendly plantings deter the parks department from supporting such undertakings. However, savings generated in the city administration or health insurances might be used in order to financially support such plantings and thus reduce the resistance by the parks department. The “interventions” (blue arrows) are intended to create these new connections. As a result, via the gray arrow (from “budget of the parks department” to “care for bee-friendly plants”), a reinforcing feedback loop could be generated to support the spread of bee-friendly plantings. Strategic development could now focus on the question how this loop can actually be established in practice.

In the upper left of this graphic, you can find the terms “built-up areas” and “areas under transport infrastructure.” Increases of such areas reduce the area available for all plants (whether bee-friendly or not). This topic was not discussed in the 90-minute session. However, further workshops could focus on how to redesign such areas in order to yield more space for bee-friendly plants. Indeed, every systems graphic can be further elaborated, with the potential to yield leverage points for additional action strategies!

The graphics can also be regarded as testable hypotheses. It may be worth while to investigate certain relationships quantitatively, for example to answer the question what impact reduced rents would actually have on local tax revenues.

These are just a few of the ways to use such graphics to help design effective action strategies.

Evaluations by Participants

M. S., lawyer:
An excellent method to lead the discussion process in a group, to bring to light complex relationships, to portray the essential parts in their interrelationships – and to find the best leverage points for action. In our case, the participants did not know each other beforehand, but even groups with long experience working together may expect new insights. On top of that, the workshop was fun...

Christiane Goldbach:
The systems graphic workshop opened my eyes how complex systems and relationships can be portrayed by simple means, not only dispensing with writing long texts, but also making visible pathways to solutions that would otherwise have remained hidden. It is a wonderful tool for all people who wish to open their thinking to creative solutions. At the same time, the systems graphic is the perfect form of presentation in order to convince others.

Ralf Philipp Stern, architect (focus on city planning/land use planning):
This tool has provided me with a tool that I have been searching for years in order to show complex connections between and within levels with effects that transcend those levels (at the so-called metalevel). Many disciplinary experts, all the way up to Nobel prize winners, are too often blind on this eye. Or they act as if they were, which in its ultimate conclusion means sacrificing our “one Earth” at the altar of their own, excessively egoistic careers.

I.G., artist:
This fun and interesting workshop helped me to clearly understand both the concept and the application of Wolfgang Höschele‘s systems graphic method. I will now be able to use the method for my work on the interconnections between nature conservation and art.

Note on the method of creating the graphics

These graphics are created in several steps, whereby individual steps can be repeated several times.

1. The central element that serves as the focal point is defined and placed in the center of the page. For example, “bee-friendly plants”, the number of which one wishes to increase.
2. Important factors that influence this central element are written on the page. Their effects on the central element are indicated using black or red arrows. For example, “competing plants” that are not bee-friendly but that can be planted in the same spaces, require space. More space for these plants means less space for bee-friendly plants, and vice versa. Therefore red arrows were drawn in both directions between the two types of plants.
3. Important effects emanating from the central element are shown. For example: the parks department fears that the care for bee-friendly plants will generate costs. Therefore, a black arrow was drawn from “bee-friendly plants” to “costs of the parks department.”
4. In a similar way, indirect influencing factors and impacts are shown.
5. By this procedure, one seeks to identify feedback loops, whereby an effect of the central element has an impact on at least one of the factors affecting that element. For example, planting bee-friendly plants creates “costs of the parks department,” which have an impact on its balance, which influences their decision about whether to care for bee-friendly plants. This generates a feedback loop, which in this case reinforces the decision not to plant bee-friendly plants.
6. The search for solutions consists of contemplating how problematic feedback loops identified in the previous step can be altered. In this case, community gardening is expected to reduce the costs in other parts of the city administration. The suggested strategy is to find a way to make use of these savings in order to pay compensation to the parks department and thus alter their decision-making process.

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