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## Snapshot: Expressions of Urban – Peri-Urban – Rural Relationships

### School Eco Gardens

Ljubljana Urban Region, Slovenia

#### 1. Brief Description

School Eco Gardens (SEG) is an initiative managed by the Institute for Sustainable Development. The initiative wants to enhance the understanding of sustainable food systems and involvement in food production as a meaningful outdoor activity. According to SEG, many children are not aware of food systems and are passive consumers of information.

SEG is active across Slovenia. In 2013, 109 educational institutions (kindergartens, primary schools, high schools, boarding institutions and schools for children with special needs) were members of SEG Network and almost half (45) of these institutions were in the Ljubljana Urban Region. The work of the Institute for Sustainable Development on the SEG initiative is funded by donations, while the schools themselves fund the establishment of school eco garden. Schools can be supported by the parents and/or local communities, often with contributions in kind (e.g., seeds, fertilizers, tools). Schools get SEG-certified by enrolling into the initiative and with oversight by the Institute for Sustainable Development.

SEG supports schools and kindergartens to start a garden patch and grow, among other things, organic vegetables, fruits and herbs. Moreover, it has established a network of Eco Garden Schools and now supports them with trainings, exchange of good practices and educational materials. By getting involved in gardening, the children can learn about food production, importance of food quality and organic production, learn about environment and enhance social interaction and outdoor activity.

Many of the participating schools are using the gardening and the garden patch for various educational activities across the school curriculum, for example in natural sciences, biology and geography. The school gardens are planted with plants that can be harvested during the school year and in the summer the gardens are either fallow or cared for by the school staff.

In Slovenia, kindergartens and primary schools are obliged to provide a snack and lunch and, while an increasing number of schools outsource the cooking, many still operate their own kitchens. It is possible that gardening has led the schools to also get involved in various

initiatives for sourcing the food locally, such as the Jarina cooperative initiative, and got their municipality authorities (i.e. their funding bodies) involved.

## 2. Questions and/or Challenges

- > What are the long-term effects of hands-on education about sustainable food production? Do they affect food consumption patterns?

SEG has been running for a while now and many schools now independently grow a garden patch. The children are very perceptive and can influence the behavior and spending patterns of their parents, thus it would be interesting to see to what extent has gardening influenced consumption patterns of the families of children involved. Moreover, the first children involved in SEG are now adults and possibly SEG has affected their attitude to food and sustainable food systems of production. No research has so far been done on that.

- > Does the character of the area (rural/urban) influence the approach to participation in rural areas vs. urban areas?

The premise of the Institute for Sustainable Development was that the children today are detached both from the concept of food systems and from outdoor activities, spending a lot of time indoors and at the computer. Moreover, according to the Institute the children in rural areas are more familiar with food production processes and many live on farms, however, they are mostly not familiar with organic farming. No quantitative data are available on that, but surely the children's experience, as well opportunity to involve the parents who are farmers affect the approach that rural and urban schools are taking for establishment and management of eco-gardens. Moreover, the rural schools tend to be smaller and have better opportunities to establish a garden patch due to better land availability. The urban schools on the other hand are larger and restricted in terms of potential garden area because they often have very small green/unpaved areas and the soil and plants may be affected by various environmental factors. This might also affect the level of success at obtaining the SEG certification.

- > What motivates schools and kindergartens to participate in eco gardening? To what extent do schools integrate eco gardening into their programme and in which subjects?

Schools and kindergartens may be driven by different motivations and factors to participate in the SEG scheme. It is likely that the strongest motors are the teachers, who try to introduce a different, more hands-on and holistic teaching approach. Currently the schools are using their garden patches for teaching the concepts of biology, chemistry, maths, physics, music (source of materials), arts, history, geography, languages, ethics, and household management etc. No research has been done so far on how extensively the gardens are used in regular curriculum and whether there is any difference between rural and urban educational institutions.

- > What are the main infrastructure challenges for establishing and managing school eco gardens?

School eco gardens do not require infrastructural investments. The main infrastructural challenge is to provide enough space for gardening in urban schools, which often have small and mostly paved yards.

There is no information available on the practices used in participating schools. It is possible that some of the schools are attempting to use or at least pilot innovative approaches that require specific infrastructure, such as greenhouses, irrigation, hydroponics and similar. It would be interesting to know about these practices and if they are not applied at any of the schools at the moment, if it is possible that some schools will attempt to apply them in the future.

### 3. Main Insights

#### 3.1. Indications of the application of the new concept of 'New Localities'

Most of Slovenia is rural and even the inhabitants of urban areas often originate from rural areas or have parents from rural areas. Thus, in combination with strong family ties to relatives living in rural areas, most Slovenes used to be quite aware of the rural areas and their role in sustainable food systems. However, this is declining with newer generations where urban youths are already the third or fourth generation of urban dwellers. This is particularly strong in Ljubljana Urban Region. While these urban dwellers are still regular visitors to rural areas, this is mainly through outdoor activities and gastronomic tourism. As a result they are vaguely familiar with the role agriculture plays to shape the landscape in rural areas, but they are unfamiliar with food production systems, the scale of farming, current farming techniques and technology, and how demanding modern farming can be (those interested in food and its impact on health may be an exception).

On the other hand, at least over the last 15 years, an increasing number of urban dwellers are moving to rural areas due to a variety of factors, including expensive real estate in Ljubljana and lifestyle choices. In the case of young families, rural areas are often perceived to be a better fit for children's needs. Increased interest and influx into the rural areas, particularly from Ljubljana as the most urban city, helps to increase the gap between the urban and the rural population and urban and rural localities.

As a result, the new generations of children attending kindergartens and schools in rural areas might be a mixture between those from rural households practicing at least some subsistence agriculture and those from "ex-urban" households that are not familiar with farming systems (seasonality, food cycle etc.) and whose parents are possibly only learning how to tend a garden. Mapping of such the rural/periurban/urban gradient based on children's awareness and perception of food systems has not been attempted yet. It would be interesting to research it, as it might affect the free time activities and professional orientation of children when growing up.

The schools in rural and peri-urban areas may deal with the differences among children from rural and “ex-urban” households differently and vice versa – schools in urban areas may involve children from rural households in a different way. There is no analysis of this topic done so far, however it is an interesting research topic.

### 3.2. Insights related to the broad area of 'Smart Development'

SEG initiative contributes to “smart development” only to a limited extent, because it raises the awareness of natural and endogenous resources. Nevertheless, its impact may be felt on the long term as it stimulates hands-on learning and creativity with different techniques, tools, materials etc. The effect might be felt as:

- Developing smart teaching methods to improve the quality of teaching and creativity of students,
- Activities contributing to “smart development” by the experts in different fields who were involved in SEG as children. Their fields will likely vary, ranging from agriculture to engineering.

The analysis of the first point can be done in cooperation with participating schools that have been certified for SEG for a long time. However, the last point will take longer time and will be difficult to research without a carefully set up research model.

### 3.3. Other insights that could be relevant for further work

Participation in SEG contributes to more beneficial social relations. Tending the garden patch is an opportunity to involve different groups of children and establish new ways to communicate and cooperate. As it is an outdoor group activity it helps to improve the social as well as motor skills of the participating children and provides the opportunity to children who have difficulties with the “classical” classroom teaching and to children from farming households to excel at a school-related activity. This leads to improved self-esteem and confidence, as well as respect by other children. This is important for children from rural, farming households in peri-urban and urban localities, where these children may be mocked by their urban peers. There is no research done on this specific topic but empirical evidence shows that children with farming backgrounds are often mocked for their perceived backwardness.

Moreover, through involvement of parents and possibly some of the locals (farmers, agricultural advisers, cooks) new bonds and networks can be established in the local community, especially in peri-urban and urban areas where the communities are not that tightly knit and where people who recently moved to the area find it difficult to meet people and establish a connection.

SEG provides an excellent tool for teaching innovation. The Institute for Sustainable Development that operates the SEG scheme provides trainings and support for the exchange of experience and teaching materials. Schools that have been SEG certified for a

longer period are improving, upscaling and further developing both the gardening and the teaching methods. This might be especially important in high schools that are implementing vocational programmes in the field of agriculture, cooking, and catering, as well as forestry, nature conservation and veterinary professions. Innovative teaching in these schools might have a positive knock-on effect on the sustainable food systems in the future. Biotechnical Educational Centre Ljubljana, for example, uses their garden to teach the importance of food quality as well as biodiversity. Moreover, teaching innovation, particularly in high schools, might lead to technical and other innovations in gardening (for example in fertilization, irrigation, pest control).

#### 4. Data Sources and Indicators

School Eco Gardens (SEG) collects certain information on schools and children participating in the SEG program. More detailed information can be obtained directly from the participating schools.

Ministry of Education, Science and Sport does not perform special analyses on the effects of various school initiatives such as SEG. However, it can provide some information on similar initiatives that might be overlapping (e.g. Eco-schools), and some other data on school performance and children performance by school.

*Table 1 Data / Indicators for School Eco Gardens*

Data / Indicator	Source
Number and type of educational institutions involved in SEG	Institute for Sustainable Development, Ministry of Education, Science and Sport
Number and age of children involved in SEG, per year	Institute for Sustainable Development, participating schools
Topics of the curriculum where school garden was used	Institute for Sustainable Development, participating schools
Estimated number of farmers participating as support in SEG	Institute for Sustainable Development, participating schools
Educational effect on children involved in SEG	Institute for Sustainable Development, participating schools, agricultural high schools and University faculties
Volume of organic production, per type of product	Agency of Republic of Slovenia for Agricultural Markets and Rural Development, <a href="http://www.arsktrp.gov.si/">http://www.arsktrp.gov.si/</a> , Agricultural Institute of Slovenia, <a href="https://www.kis.si">https://www.kis.si</a>
Number of SEG-certified schools that also participate in any of the local food supply schemes	participating schools

## 5. Critical Appraisal of Data Use

School Eco Gardens (SEG) and individual schools have a variety of data available. Besides basic statistical data already processed by SEG, the analysis of data will likely need more work as they vary in form, quality and quantity between different schools. Processing and adjustments for use in large databases is needed.

The data available at Ministry of Education, Science and Sport may be useful for comparing the schools with SEG and other schools, however, there might be issue of confidentiality of data. There is a number of initiatives that might contribute to similar activities outside of SEG, such as Eco-school Network. These need to be checked with the Ministry as well as the institutions in charge of these initiatives.

It would be interesting to compare schools with SEG in rural areas and urban areas – whether there are any differences in involvement of children, experience of children, approach, crops etc. Analysis could be done on the basis of data of SEG and individual schools.

## 6. References

European Commission (2010) Europe 2020: A Strategy for smart, sustainable and inclusive growth. <http://eur-lex.europa.eu/LexUriServ.do?uri=COM:2020:FIN:EN:PDF>

School Eco Gardens. Final Report (Program “Šolski ekovrtovi”. Končno poročilo). December 2013.

School Eco Gardens, <http://www.solskiekovrt.si/o-programu/solski-ekovrtovi/>

Ministry of Education, Science and Sport, <http://www.mizs.gov.si/>

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