

CASE STUDY ON SUSTAINABLE ATTITUDE FOR ENVIRONMENT IN ADULT EDUCATION

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Abstract. UNESCO document states that education has a crucial role to play in climate change, building capacities and attitudes for climate change mitigation as well as stimulating and reinforcing understanding and attentiveness of climate change. A particular attention should be paid to adult education. People are living longer in an increasingly global world, jobs are evolving and the impact of climate change is growing. To cope with these changes, there is need for adult education that promotes change by improving social, economic and environmental opportunities and also by improving learners' sustainable attitudes towards the environment. Adult educators are key drivers for achieving this change in the world. Educators have the ability to guide the positive energy of learners to make change possible. It is adult educators who can stimulate adult curiosity and provide learners with the tools and resources to explore, understand, engage and understand the importance of sustainability. Despite it, adult educators identify lack of systemic approach for SDGs implementation working in non-formal adult education field, systemic implementation guidance and daily working manuals for adult educators are missing. For that reason, adult educators from six countries have started Erasmus+ Strategic partnership project "Sustainable Attitude for Environment in Adult Education". Project is aimed to prepare manual for adult educators. For that reason, in the framework of this project a survey of adult educators as the experts in this field was carried out to analyse adult educators needs and competencies on sustainability topics and to identify measures taken daily to reduce the impact of CO₂. The article analyses the survey results in Latvia.

Key words: adult education, CO₂ impact, ecological intelligence, environment, sustainable development goals.

JEL code: I21, I29, Q01

Introduction

On 1 January 2016, the world officially launched the transformative plan of action "The 2030 Sustainable Development Agenda", announcing 17 Sustainable Development Goals (SDG) with 169 associated targets, to address urgent global challenges over the next 15 years (UN, 2015). The United Nations emphasizes the role of education in transforming lives, recognizing the important role of education as a key driver of development and in achieving the other proposed SDGs. According to UNESCO (2015), "Education can, and must, contribute to a new vision of sustainable global development". Thus, the biggest challenge for educational institutions today is the integration of SDGs into the educational process, as well as the promotion of sustainable development ideas throughout the learning/ teaching process.

Sustainable Development Goal 4 emphasizes the role of education in creating a more sustainable world and calls for "inclusive and equitable educational education and the promotion of lifelong learning opportunities for all" (UN, 2016). Target 4.7 specifies the role of education in development and global citizenship: "By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development" (UN, 2016).

A particular attention should be paid to adult education. People are living longer in an increasingly global world, jobs are evolving and the impact of climate change is growing. To cope with these changes, there is need for adult education that promotes change by improving social, economic and environmental opportunities and also by improving learners' sustainable attitudes towards the

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environment. Within the "Europe 2020 Strategy for smart, sustainable and inclusive growth" (EC, 2010), the Commission called for a renewed European Agenda for Adult Learning where quality education and training, equity, and social cohesion become a widespread reality.

Adult education contributes to the individual as well as societies development in many ways (Adult Education and ..., 2018): provides knowledge, skills and competences that can be used both in professional and private life as well as promotes transversal and generic skills, i.e. social skills, communication skills, analytical skills etc., sometimes also called "life skills". It should be noted that more recent concepts of adult civic education are based on the idea of education as a tool for empowerment.

Several studies show that there is a strong link between adult education and sustainable development goals (UN, 2015), as adult education promotes learning and training to acquire and update skills, knowledge and competences, while SDGs is a global framework for addressing common challenges and for the development. Therefore, adult education and lifelong learning are seen as transversal goal and method to achieving the SDGs (European Association for ..., 2018).

As adult educators are key drivers of change in the world, adult educators are who have to direct learners' positive energy to make changes. When learners are empowered with knowledge, critical reflection tools and media literacy, they are better prepared to act and make changes for themselves and others around the world. It is adult educators who can stimulate adult curiosity and provide them with the tools and resources to explore, understand, engage and understand the importance of sustainability. (Manitoba Council for ..., 2018). Therefore, ways need to be found for adult educators to reshape the curriculum to address the threats that human daily activities pose to environment.

Despite the above, the sector is languishing all over the world. Adult educators identify lack of systemic approach for SDGs implementation working in non-formal adult education field. There are policy mechanisms and different declarative documents but systemic implementation guidance and daily working manuals to reach local, national, European and worldwide context for adult educators are missing. For that reason, it is necessary to perform research on SDGs implementation into adult education at European and national level, in order to disseminate the outcomes among the adult education institutions.

In view of the above considerations, adult educators from six countries: Slovakia, Latvia, Sweden, Lithuania, Estonia and the Netherlands have started Erasmus+ Strategic partnership project "Sustainable Attitude for Environment in Adult Education". Project is aimed at developing and extending competencies for adult educators and staff who support adults in sustainability in a broad sense of challenges of environment and climate changes with a focus on less consumption, zero waste movement, healthy lifestyle, influence of physical activity on the physical and mental health and quality of life, active citizenship. One of specific objective of this project is to prepare manual for adult educators. For that reason, in the framework of this project a survey of adult educators as the experts in this field was carried out to analyse adult educators needs and competencies on sustainability topics.

The questionnaire includes several components that characterize sustainable environmental behaviour: ecological intelligence (Goleman D., 2009), sustainable consumption (Valko L., 2003), environmentally friendly transport, energy efficiency (definition is based on Environmental and Energy Study Institute), sustainable lifestyle (Ainoa J. et al., 2009) as well as sustainable living (Winter M., 2007) etc.

139 adult educators from different adult education institutions in Latvia participated in the survey, but only 43 questionnaires were completed, which is also taken as a basis for this study. Therefore, it should be noted that this was a case study and it only reflects the views of those who participated in the survey. The study mainly used the self-assessment method, so the results were based on the opinion of the respondents and therefore the results cannot be generalized, but can be used to identify problems and identify future actions or research directions. The questionnaire (in Latvian) is available at: <http://www.iipc.lv/surv/index.php/394491/lang-lv>.

Research results and discussion

The survey results show that about one quarter of respondents are very familiar with sustainable development goals, while half do not (Fig. 1). 5 % of respondents have never heard of SDGs. Adult educators were asked also to you name three SDGs. Quality education and access to it, renewable energy, good health, well-being, protection of the planet, gender equality are the most frequently mentioned SDGs. Various actions that promote sustainable development are also mentioned as sustainable development goals: sorting waste and choosing environmentally friendly packaging; a healthy lifestyle; reducing household chemicals and everything that causes CO₂ emissions; eradicate poverty, hunger; use cloth bags and cardboard disposable tableware etc. It should be noted that nine respondents were unable to name any SGD.

Despite the lack of knowledge about the SDGs, more than half of the respondents claim that they possess ecological intelligence (Fig. 2). Ecological intelligence here is understood as ability that lets us apply what we learn about how human activity impinges on ecosystems so as to do less harm and once again to live sustainably in our niche - these days the entire planet (Goleman D., 2009).

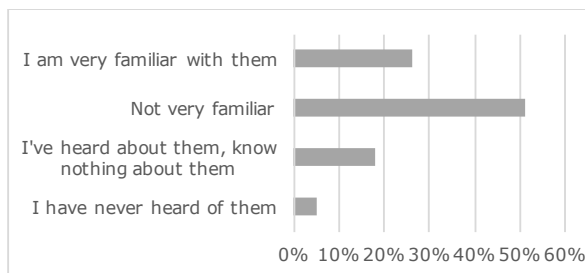


Fig. 1. Awareness of the sustainable development goals

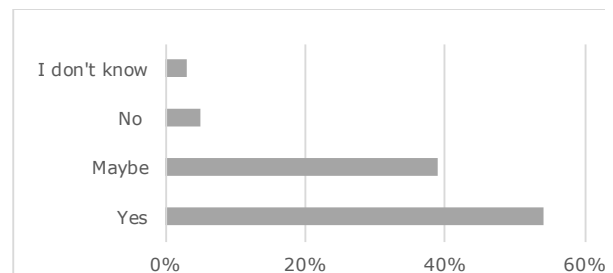


Fig. 2. Self-assessment of ecological intelligence

To the question "Are you applying following sustainability ideas: sustainable living, lifestyle?" 35 % of respondents answered *yes*, but 60 % - *sometimes*. 80 % of those who always and 23 % who sometimes applying sustainable living and lifestyle encourage also others to live in a sustainable way. Sustainable living here is understood as a lifestyle that attempts to reduce an individual's or society's use of the Earth's natural resources and personal resources (Ainoa J. et al., 2009) According to Winter M. (2007), practitioners of sustainable living often attempt to reduce their carbon footprint by altering methods of transportation, energy consumption, and diet.

42 % of respondents applying the sustainable ideas all their life, 19 % - just started, but 7 % - plan to start. 65 % of respondents inspire themselves to live in a sustainable way. Internet and community is the second influencing factor (for 30 % of respondents). Family members (28 %) and colleagues (23 %) also have an impact on adult educators' lifestyle. They are least affected by books (only 9 %) and TV (16 %). It should be noted that the non-governmental sector (NGO) also has a significant influence on living in a sustainable way - for 21 % of respondents. Some adult educators have argued that it is this survey that makes them think about these issues.

Respondents were asked define their sustainable life elements. The most frequently mentioned answers were: nature friendly and healthy lifestyle; regularly monitoring of health parameters; non-polluting nature, waste sorting; usage of public transport and bicycle instead of cars; not using plastic bags; turn off electricity when no one is at home; saving energy; economy of water resources; recycling, reuse of materials; less consumption, transfer good belongings to others for further use; to teach children not to pollute; buying food directly from farmers, etc.

The survey results show that the fifth of adult educators surveyed believe that they lack the competences to teach adults the topic of sustainability. Only 35 % of respondents feel that they have competencies to guide adults on sustainability topics, 40 % - are unsure of themselves. Despite the fact that only a quarter of respondents have a strong knowledge of how SDGs are being implemented and about a quarter - lack such knowledge. 42 % of respondents say that they follow education for sustainable development (Fig. 3).

According to Coss R. (2013), there are several strategies for developing effective learning communities, structured conversations for exploring and questioning these themes; collaborative lesson design for educators to think interdisciplinary, as well as across grade levels; and teaching rounds for reflecting and improving pedagogy. However, based on the results of the survey, only 19 % of respondents answered that their educational institution has an action plan for integrating SDGs and environmental issues into the non-formal education programs offered by their institution. To the question "How SDG and environmental education is implemented in your adult education institution?" 12 % of respondents answered that SDGs and environmental themes integrated into all specific subject, programs and courses, 16 % - provided specific subject programs and courses, but 23 % - nothing is done in this direction. The following actions integrating SDGs and environmental issues also are mentioned: applying for the projects to insulate buildings with energy efficient results; including sustainable development topics in the learning process; increase professional capacity, implement the principle of inclusive education and reduce the risk of social exclusion; energy efficient light in the educational institution; schools involved in eco-school project; several projects about ecology and SDGs etc.

Adult educators were asked to evaluate on a 5-point scale (1- do not agree at all, 5 – totally agree) which competencies they think adult educators needs to develop about sustainable life. As seen in the Fig. 4, the greatest need for knowledge about a healthy life style. Knowledge about active citizenship and sustainable consumption also very important. Sustainable consumption here is defined as "the term for the use of services and products in a way that corresponds to the basic needs, results in a better quality of life but, at the same time, it reduces the use of natural resources and toxic materials to the minimum, as well as the emission of waste and pollutants during the specific service or whole lifecycle of the specific product in order not to jeopardise the needs of future generations" (Valkó L., 2003). Eco-literacy, daily life skills are also very important for adult educators in Latvia.

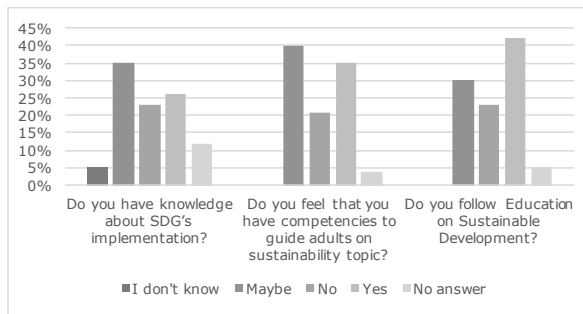


Fig. 3. Competence to implement SDGs

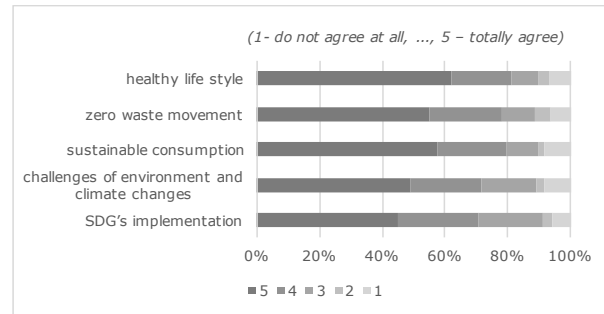


Fig. 4. Competencies on sustainability

Sustainable Development Goal No. 4 is one that adult educators most often help solve in their daily work. Then follow the decent work and economic growth (SDG 8), industry, innovations and infrastructure (SDG 9) and partnership to achieve SDGs (SDG 17) etc. (Fig. 5). Adult educators have mentioned sustainable development activities such as the promotion of youth mobility, exchange projects and dialogues to strengthen democracy, human rights etc.

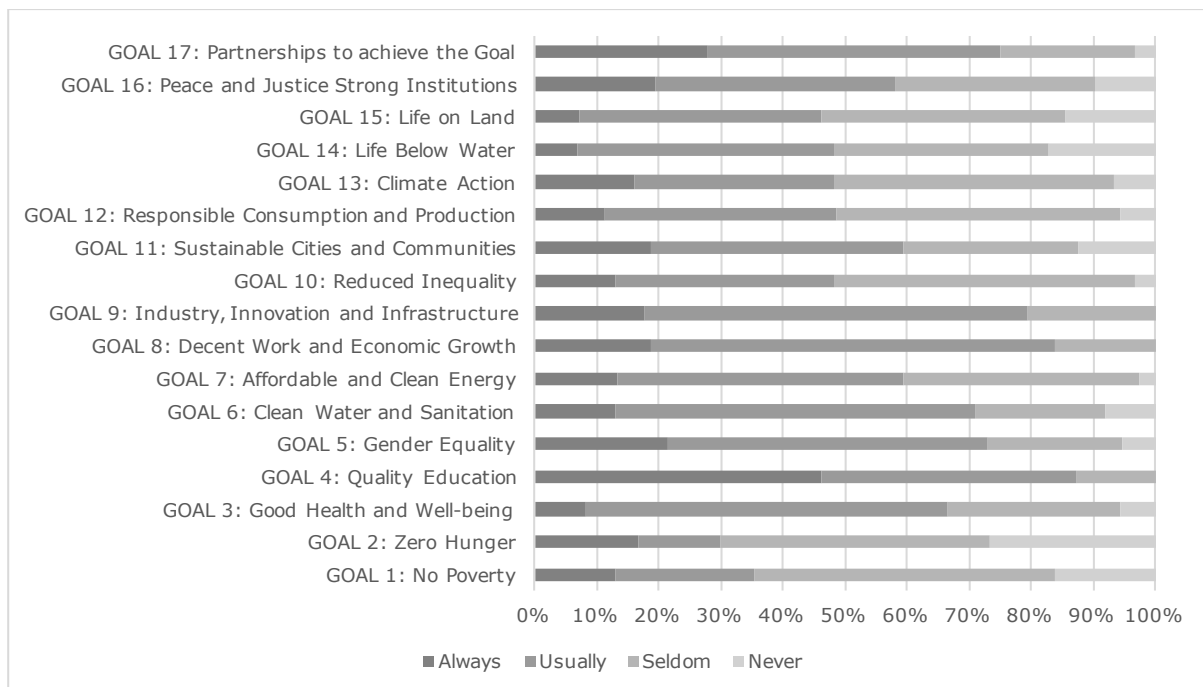


Fig. 5. Implementation of SDGs into adult education

Sustainable development goal 13 claims to take urgent action to combat climate change and its impacts. According to target 13.3, it is necessary to improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning (UN, 2016). Education, awareness-raising and public information play an essential role in increasing the capacity of communities to counter climate change and adapt to its impacts (Action for Climate ..., 2016).

In terms of public awareness, reference should be made to a survey of more than 2,000 Latvian residents conducted by the NGO "Green House", which looked at people's views on global warming and climate change, as well as possible solutions and changes in daily habits to reduce the negative climate impact. 92% of Latvian respondents have noticed climate change but 91% of respondents admit that global warming and climate change seem to them to be topical issues.

According to several science-based studies, since the beginning of the industrial revolution, greenhouse gas emissions into the atmosphere have increased rapidly, mainly at the expense of CO₂

(carbon dioxide). Therefore, reducing the output of greenhouse gas emissions is one of the most critical responses to climate change. 90 % of Latvia's residents also understand this, pointing out that atmospheric pollution is very closely related or rather related to CO₂ emissions. Although Latvian citizens understand the harmful effects of CO₂ emissions on the atmosphere, only half of respondents approved of their personal contribution to reducing them. Therefore, in view of the above considerations, adult educators were asked what they personally do to reduce the impact of CO₂.

A more positive view of the situation is the fact that the majority of respondents (81 % a) are aware of energy efficiency, although only 48% of adult educators doing an energy audit of their home. The concept "energy efficiency" is based on Environmental and Energy Study Institute description: Energy efficiency simply means using less energy to perform the same task – that is, eliminating energy waste. Energy efficiency brings a variety of benefits: reducing greenhouse gas emissions, reducing demand for energy imports, and lowering our costs on a household and economy-wide level. To reduce CO₂, the majority of respondents reported that they almost always or usually switch lights off when you leave the room and unplug your electronic devices when they are not in use and also they change incandescent light bulbs (which waste 90 percent of their energy as heat) to light emitting diodes (LEDs) (Fig. 6).

According to the results of the survey, the habits of adult educators, such as bringing own reusable bag when they shop (always and usually in 85% of cases), reducing food waste by planning meals ahead of time, freezing the excess and reusing leftovers (always and usually in 83 % of cases), choosing organic and local foods that are in season (always and usually in 78 % of cases), are reducing the CO₂ impact.

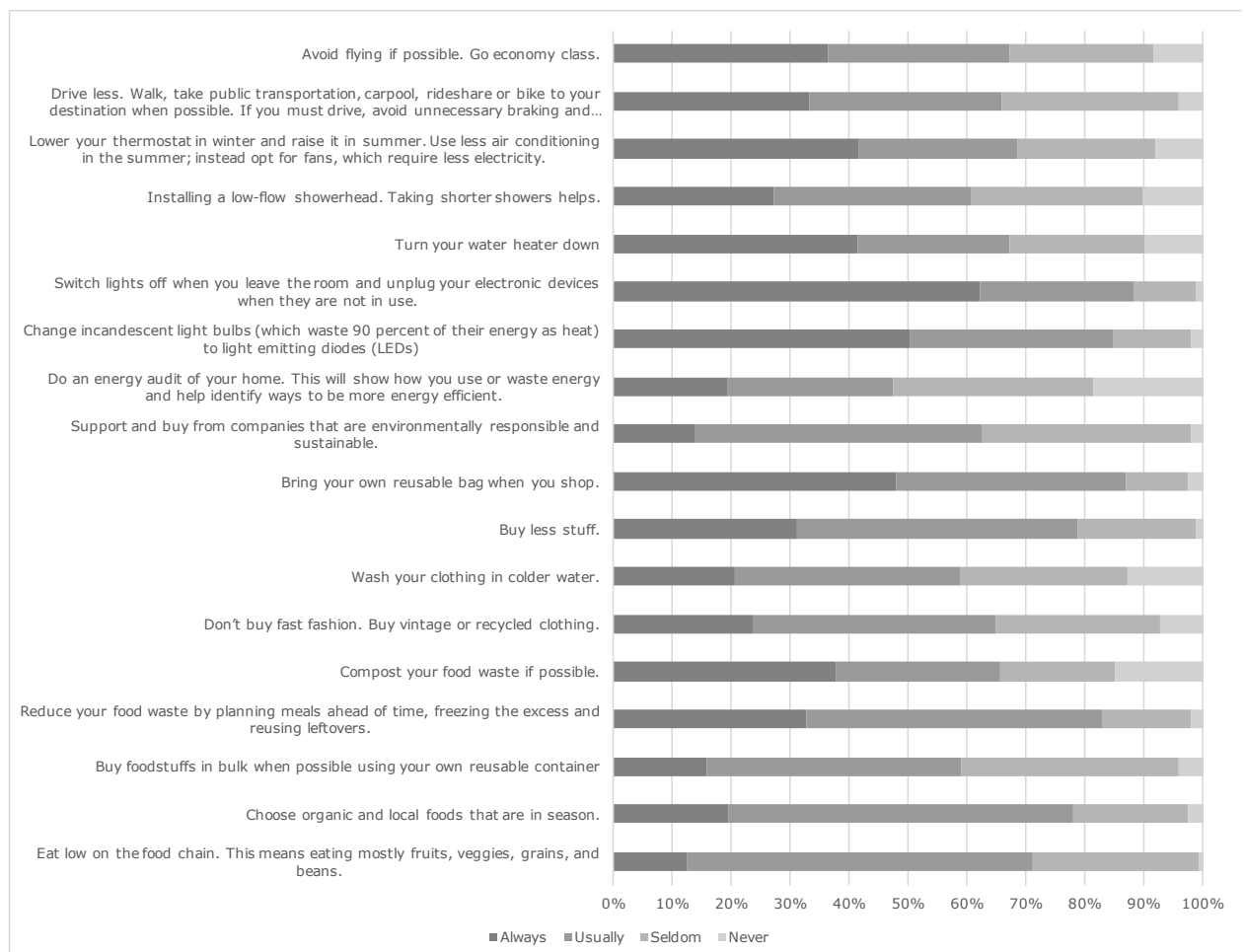


Fig. 6. Daily measures to reduce the CO₂ impact

The lowest rates are related to the use of warm water. Only 41 % of adult educators have habit to turn water heater down and wash their clothing in colder water, 58 % - installing a low-flow showerhead, taking shorter showers. Only 65 % of respondents drive less. Walk, take public transportation, carpool, rideshare or bike to your destination when possible. If you must drive, avoid unnecessary braking and acceleration. Only 65 % of respondents try to drive less. They walk, take public transportation, carpool, rideshare or bike to their destination when possible.

10 university teachers also took part in the survey. 3 of them are very familiar with SDGs, 6 - not very familiar, and 1 - I've heard about them, but know nothing about them. 4 university teachers always applying the sustainability ideas, but 6 - only sometimes. 2 teachers plan to start applying the sustainable ideas. To live sustainably university teachers are most inspired by colleagues and the community, 7 feel that they have competencies to guide adults on sustainability topic, but only 3 have knowledge about SDG's implementation. More than half of the university teachers surveyed say that their knowledge about sustainable consumption, zero waste, influence of physical activity on the physical and mental health and quality of life are not enough.

University teachers also were asked how SDG and environmental education is implemented in their university. In 2 cases SDG and environmental themes integrated into all specific subject, programs and courses, in 3 - provided specific subject programs and courses, but 2 teachers claim that nothing is done in this direction. According to the survey results, only 2 from 10 universities have specific activities for educators related to implementing sustainability goals.

When it comes to the competencies that educators need to develop in the field of sustainable living, it should be noted that almost all the competencies mentioned in the questionnaire are equally important for university teachers. Practical examples related to the relevant curriculum, the educational environment - waste sorting, various sustainable development challenges, the responsibility of university management for the implementation of SDGs are the three most frequently mentioned measures in universities to support responsibility for the future. In order to integrate the Sustainable Development Goals into the program(s), the methodological, didactic needs of university teachers include practical examples from different specialties as well as interactive visual materials on SDGs and sustainable development in general.

Conclusions, proposals, recommendations

- 1) Awareness and motivation for sustainability is high in Latvia. However, more specific knowledge and skills are missing, especially about practical tips to reduce the CO₂ impact.
- 2) Although the survey results show that adult educators in Latvia lack knowledge about the UN's Sustainable Development Goals, they still have an understanding of the dimensions of sustainable development in society.
- 3) Most adult education institutions in Latvia do not have a specific action plan to implement SDGs. Only 19 % of the adult educators surveyed say their adult education institution has an action plan for integrating SDGs and environmental issues into their non-formal education programs. It is regrettable that there are still educational institutions where nothing is done in this direction.
- 4) According to the survey results, the most often mentioned non-formal and informal ways/methods that are focused to support communities to think and live with responsibility for future are:
 - Eco projects, awareness projects about SDGs, equality projects;
 - Public debates on climate change and environment;
 - Public seminars on healthy eating and agricultural sustainability;

- Workshops on sustainable housing/ cooking/ consumption;
 - Practical examples of relevant curriculum;
 - Seminars, information in the media, in shops - description on goods;
 - Place appropriate waste bins in institutions and on the streets, include more information on the consequences in the mass media, and plastic bags would not be available in stores, as there are currently very few methods that promote the public's environmental concerns etc.;
- 5) Results show, that in order to mainstream sustainable development objectives into non-formal education programs, adult educators in Latvia need the following support:
- Methodical, didactic materials/ A short and clear handbook on SDGs, healthy life style, daily life skills related environment and sustainable development, active citizenship, sustainable consumption, zero waste, eco-literacy;
 - Good practices in SDGs incorporation, good example of explain SDGs;
 - More high quality handbooks on sustainability and circular economy based on the last scientific data;
 - More professional knowledge how to encourage and explain for adults about sustainability;
 - Appropriate methods, tools and activities that would enable adult educators to reach approach those topics;
 - An interactive web-page with examples;
 - Information about SDGs, seminars, workshops, tools how to include the information into non-formal education programs;
 - Real examples, worksheets, tests, games etc.
- 6) Almost all the competencies that educators need to develop in the field of sustainable living mentioned in the questionnaire are equally important for university teachers.

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