DOI: 10.4403/jlis.it-12500



Sustainable libraries – fashion or necessity?

Malgorzata Fedorowicz-Kruszewska^(a)

a) Nicolaus Copernicus University in Toruń, http://orcid.org/0000-0001-6089-1130

Contact: Malgorzata Fedorowicz-Kruszewska, <u>fema@umk.pl</u>.
Received: 12 June 2018; Accepted: 25 July 2018; First Published: 15 January 2019

ABSTRACT

The article concerns a new libraries development strategy, which means taking account of the sustainable development concept in which the main emphasis is put on minimizing the negative influence on the natural environment, social and intergeneration justice. This organization activity concept plays more and more essential role nowadays, when there is growing natural environment devastation, social and economic anxiety and social stratification. The libraries have been interested in the idea of sustainable development since the 1990s. In the article, the sustainable library idea was presented as well as some selected examples of sustainable libraries, the appropriate tools for measuring these types of institutions and the prospects of their development.

KEYWORDS

Sustainable development; Sustainable libraries; Green libraries; Sustainable Development Goals.

CITATION

Fedorowicz-Kruszewska, M. "Sustainable libraries – fashion or necessity?" *JLIS.it* 10, 1 (January 2019): 92–101. DOI: 10.4403/jlis.it-12500.

^{© 2019,} The Author(s). This is an open access article, free of all copyright, that anyone can freely read, download, copy, distribute, print, search, or link to the full texts or use them for any other lawful purpose. This article is made available under a Creative Commons Attribution 4.0 International License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited. JLIS.it is a journal of the SAGAS Department, University of Florence, published by EUM, Edizioni Università di Macerata (Italy).



Introduction

We live in times of unrest and transformation that flow out from the IT revolution, which was emphasised by Alvin and Heidi Toffler as early as in 1980. This revolution – as in the case of the two previous big transformation waves: agricultural and industrial – introduces a new way of life and the new civilisation provides a new behavioural code (Toffler and Toffler 1996, 17–18), which we can notice on the example of the activities of our own and other people. Partially, one of the extratechnological dimensions of the new civilisation is the issue of taking responsibility by every man, institution and organization for the impact of their actions on the environment, society and the economy. As Daniel Goleman states in the book entitled Ecological Intelligence "Our world of material abundance comes with a hidden price tag. We cannot see the extent to which the things we buy and use daily have other kinds of costs - their toll on the planet, on consumer health, and on the people whose labor provides us our comforts and necessities [...] And yet these unseen impacts of all that stuff may be their most important aspect" (Goleman 2009, 9-10). And while our behaviours undergo changes, that are due to the regulations we have to abide by, such as the obligatory waste segregation, withdrawal of products that do not satisfy the energy-efficiency requirements from the market; or under the influence of the pro-environmental education, such as refusal to purchase products which are manufactured without complying with the principles of health and safety at work, provision of reusable bags, commuting by bike or public transportation, we still are not doing enough to make the effects of these efforts appear spectacular. We are all entangled in activities that threat the ecological niche which hosts the man (*Ibid.*, 16); therefore it is not a moment too soon to take the activity aimed at prevention of the environmental degradation, but also social stratification. With this end in view we should responsibly manage the natural resources, restrict the excessive consumption and make sure that the economic, social and technological developments take place in line with nature. In this area, also the libraries may prominently demonstrate as their roles and functions, although discussed on and on, can be reduced on the one hand to satisfying the social needs and triggering them on the other hand (Jochumsen and Rasmussen 2012; Leon and Pope 2016; Malschaert 2016). From the points of resource collection and satisfying predominantly the information, education and social needs, the libraries emerge as the creators and promoters of certain activities and ways of thinking. Among the concepts that are propagated nowadays by the international organizations and taken into account by the international and national legislations, we find the sustainable development which has an impact on the activities of the libraries of different types and sizes.

The UN 2030 Agenda and SDGs

In September 2015, during its summit, the United Nations (UN) adopted the world-wide agenda for sustainable development entitled *Transforming our world: the 2030 Agenda for Sustainable Development* (in short the UN 2030 Agenda) which embraces 17 Sustainable Development Goals – SDGs). They are associated with 169 targets that will be monitored using appropriate indicators and ensure the balance between the three aspects of the sustainable development: economic, social and environmental. The objectives and targets are universal, indivisible and interlinked (United Nations, "Resolution..."). The 17 SDGs that nota bene form a continuation of the so-called Millennium Development Goals are as follows:



- 1. End poverty in all its forms everywhere.
- 2. End hunger, achieve food security and improved nutrition and promote sustainable agriculture.
- 3. Ensure healthy lives and promote well-being for all at all ages.
- 4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.
- 5. Achieve gender equality and empower all women and girls.
- 6. Ensure availability and sustainable management of water and sanitation for all.
- 7. Ensure access to affordable, reliable, sustainable and modern energy for all.
- 8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.
- 9. Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation.
- 10. Reduce inequality within and among countries.
- 11. Make cities and human settlements inclusive, safe, resilient and sustainable.
- 12. Ensure sustainable consumption and production patterns.
- 13. Take urgent action to combat climate change and its impacts.
- 14. Conserve and sustainably use the oceans, seas and marine resources for sustainable development.
- 15. Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.
- 16. Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels.
- 17. Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development (*Ibid.*).

The definition of the SDGs is the result of an unprecedented agreement of 193 UN Member States concerning the sustainable development priorities. The listed goals are of global character and can be implemented throughout the world, taking account of the different conditions of the individual countries, their capabilities and levels of development and their compliance with the national strategies and priorities. The implementation of the targets is supposed to lead to achieving the sustainable development with a special emphasis on the consistency of three key components: economic growth, social inclusion and environmental protection (United Nations, "The Sustainable…").

IFLA towards the UN 2030 Agenda and SDGs

It is worth stressing that the development of the final version of the UN 2030 Agenda also involved the representatives of the International Federation of Library Associations and Institutions (IFLA) which was among the stakeholders of the UN 2030 Agenda. IFLA was primarily lobbying in favour of inclusion in the document of the issue of access to information, safeguarding of cultural heritage, universal literacy and access to information and communication technologies (ICT). IFLA has taken the view that the access to information is crucial for the success of the 17 SDGs and the libraries are



not only the partners for the government agencies, but they also contribute to the achievement of the listed goals. Therefore in 2016 IFLA launched the International Advocacy Programme (IAP) whose aim is to raise the awareness of the librarians on the SDGs, promote the role of libraries in planning and implementing the UN 2030 Agenda and SDGs, and supporting the access to the public information (IFLA, "Libraries, Development...").

Jacques Malschaert believes that the SDGs constitute the backbone of the public libraries activities, while as the most important he considers the fourth and sixteenth goals which focus on the access to education, information (including those at risk of social exclusion) and promoting the policy for the sustainable development (Malschaert 2016). Meanwhile, IFLA in its publications indicates that the libraries may support the implementation of each of the 17 SDGs, even those seemingly distant from their activities. For example, the libraries enable access to information and resources, in this way giving people the opportunity to improve the quality of their lives; teach new skills and train for new competences (implementation of goals 1 and 8); provide data and reports from the studies on how to make the crops more efficient and sustainable; provide information useful to farmers on the local markets, weather forecasts, modern equipment (implementation of goal 2); give access to information in the field of health and to the medical research results (implementation of goal 3); engage qualified staff so they can offer early education and lifelong learning activities; enable access to information and studies to students; offer space where one can acquire new knowledge and skills free of charge (implementation of goal 4); offer a safe and friendly meeting space; offer programmes and services tailored to the needs of women and girls; give access to information and ICT which helps women gain business competence (implementation of goal 5); allow access to data on good practices in the area of management of water and energy (implementation of goals 6 and 7); constitute a neutral and friendly places for all, including the refugees and immigrants, the disabled and other vulnerable to marginalisation, which is important in terms of the social, political and economic inclusion (implementation of goal 10); document and protect the cultural heritage for the future generations (implementation of goal 11); limit the consumption through the ability to borrow materials; provide information and data on the climate change, the environmental impact of hunting and fishing (implementation of goals 12, 13, 14 and 15); train how to make use of information; form politically neutral space (to 16); produce a global network of institutions that support the local development plans (implementation of goal 17) (IFLA, "Libraries can...").

There are many more activities that the libraries may take in order to achieve the SDGs and they also concern the management of a library perceived not only as an organization, but also as a building and its surroundings. For since the SDGs comprise actions in the field of climate change, clean and accessible energy and responsible consumption and production, then in addition to the sharing of information on this subject, there should also be taken educational actions in this field and an example given of how to manage the thermal power and water, minimize greenhouse gas emissions and the consumption of resources or restrict the excessive consumption.

A useful tool to determine how the libraries may take account of the sustainable development in the processes of design, construction, furnishing and functioning, is the checklist developed by Klaus Ulrich Werner, *Nachhaltigkeit bei Bau, Ausstattung und Betrieb. Eine Checkliste* (Werner 2013, 395–404) which has received translations into eighteen languages (Humboldt Universität zu Berlin). It may act as a reference in designing a new library building or upgrading an existing one aimed at



meeting the conditions of a green building and planning of the furnishings, determining the portfolio of services and selecting a model of the library management. Among the criteria which have been included in the checklist we should mention the following: location near the public transportation stops, bicycle parking space, reasonably planned space, stocking of the roof surface (e.g. green roof, solar panels), application of compact storage, use of building materials which are harmless to health, natural ventilation and limitation of the air conditioning use, usage of the renewable energy sources, saving energy consumption, natural light reaching the building interior, lighting system with motion sensors, limitation of hot water consumption, use of grey water and rainwater (watering, toilet flushing). From the perspective of the sustainable development, equally important are the origin, durability and recyclability of the library furnishings, considering the ICT equipment certification, fitting the power strips and optimization of the energy consumption (stand-by). Also the arrangement of the library and information services should follow the principles of the sustainable development. It is therefore advised to scan instead of printing, printing in duplex if necessary, find alternatives for the plastic bags, use pottery instead of plastic vessels in the library bar/café and sell the Fair Trade products, also rent the non-bookish materials, such as garden tools, white goods etc. In turn, when it comes to the library management, it is recommended to implement the Environmental Management System ISO 14001 whose aim is to improve the environmental performance of organizations. In addition to the building management, there is an indication of the necessity of the waste separation and recycling, efficient use of cleaning equipment, replacement of chemicals when cleaning buildings with odourless and biodegradable agents, saving paper, adjustable heating. The mentioned checklist also indicates some sample certificates of the green construction, environmental management and other products (Werner 2013, 395–404).

The – very selectively – presented checklist items are not exhaustive and therefore the list of criteria to be met by the sustainable libraries in terms of building, furnishings, services and management is expandable.

Green libraries and sustainable libraries - definitions and examples

Although the UN 2030 Agenda was announced in 2015 with the participation of the librarians' community, it is worth to emphasize that the libraries have got involved in the implementation of the principles of sustainable development since the 1990s, when the definition of sustainable development started to gel. Often referred to nowadays is the one set forth in ISO 26000 standard dated 2010, which claims that the sustainable development is "a form of development that meets the needs of the present without compromising the ability of future generations to meet their own needs", covering simultaneously the three goals that are interdependent and complementary to each other: social, economic and environmental (ISO 26000: 2010).

Following the interest of the libraries in the idea of sustainable development, especially from the environmental perspective, emerged the terms of green library and sustainable library, often comprehended as synonyms, which cannot be, however, accepted (Fedorowicz-Kruszewska 2014, 122–123). A green library is one that is "designed to minimize negative impact on the natural environment and maximize indoor environmental quality by means of careful site selection, use of natural construction materials and biodegradable products, conservation of resources (water, energy, paper), and responsible waste disposal (recycling, etc.)" (Reitz 2017). And since the sustainable



development is – as already mentioned – the balance between the environment area, the economy and social equality, then the same ideas need to motivate the sustainable libraries (Noon 2008, 130). Therefore, a sustainable library is one that cares for all, environmental issues (infrastructure, maintenance), economic ones (financing, budget, human potential development, impact of local economic circumstances) and social ones (access to knowledge and technology, sufficiently high salaries for the employees, healthy working and studying conditions) (Aldrich *et al.* 2013, 17).

The further section gives some examples of libraries, some of which meet the criteria for the green libraries, focusing on the environmental targets, other – for the sustainable libraries. The latter – as already indicated – apart from the environmental goals, also implement the economic and social objectives that ultimately are not new components of the libraries' activities. For the libraries, especially public ones, for a long time have undertaken initiatives aimed at acquiring various competencies and skills, raising awareness and mastering knowledge in numerous areas. An innovative thing with respect to the sustainable libraries is rather to include and consistently implement all the aspects (goals) of the sustainable development in their activities.

The American exemplification of a library considering the sustainable development as regards the environment is the Hunt Library of the North Carolina State University. The library building has been granted a Silver level as per the LEED certification system.¹ It is inter alia equipped with solar panels, active chilled beams, filtering storm runoff, devices to reduce the water losses, green roof. In 85% the building is made from recyclable materials while 82% of the used wood is certified to the Forest Stewardship Council, an international organization promoting the responsible management of forestry resources. In order to conserve the potable water, the building front is planted with drought-tolerant plants (Hunt Library).

A multi-faceted approach to the sustainable development features the Australian Library of the Macquarie University in Sydney which holds the Australian green construction certificate, Green Star. The building has an energy management system capable of storing the thermal energy and by 25% reducing the greenhouse gas emissions as well as a system collecting rainwater which is then used for watering plants and flushing toilets. The library roof not only forms a heat insulation of the building but it also holds garden full of plant species specific for the region of Australia. The materials used for the construction of the library to a large extent come from the recycling and furniture are certified to Good Environmental Choice Australia (GECA). The library is a kind of "living lab" as it is an integral component of the teaching, learning and research system, which is confirmed by the research and student consultancy on the improvement of the library Environmental Management System. It is therefore legitimate to say that the library helps broaden the knowledge on the sustainable development. 79% of the expenditure on the collections is spent on e-collections that in accordance with the most recent findings are more sustainable than card copies since they feature a lower carbon footprint. The café located in the library also takes account of the sustainable development principles in terms of the offered products, packagings, minimising the energy consumption and certified furniture. The implemented storage and resource search system (Automated Storage and Retrieval System – ASRS) allows for fitting twice the collection within the same space, and obviously the smaller

-

¹ The LEED (Leadership in Energy and Environmental Design) is the American system of sustainable construction certification, used throughout the world.



building, the lesser environmental impact due to the lower greenhouse gas emissions. A lot of materials are made available in the open access within the university repository. The library promotes a partnership between the staff and users. On the one hand it ensures satisfaction of the customer needs, whereas on the other hand it minds the librarians' well-being who should realize a multidimensional satisfaction with the work they do (Brodie 2012, 4–16).

In Europe, an example of green library is the Robert de Sorbon Library of the University of Reims – one of the first libraries in France to take account of the stringent environmental requirements. These include those which have a particular impact on the building users experience, such as the use of natural light, acoustic comfort, correct temperature inside the building in summer without air conditioning, cost-effective approach to heating, collection of rainwater for the toilet use, dependency of the artificial lighting on the natural one (El Bekri-Dinoird 2008, 124–128).

The principles of the sustainable development were also referred in launching the McClay Library of the Queen's University Belfast in 2009. When designing the library, the engineers adopted five crucial criteria to be met which included: reducing the energy consumption; efficient use of the energy supply; minimizing the time of equipment operation through a default powering off or going into standby mode; use of the simplest and most user-friendly solutions; and use of passive systems for the environment adjustment (Latimer 2013, 206).

In turn, an Asian example is the Eco-Library of the Kasetsart University in Bangkok that was established in 2012 in order to, on the one hand, promote reading by creating a friendly climate in an appealing interior, and on the other hand to draw attention to the necessity of pro-environmental actions. The Eco-Library consists of two parts: the library and Scrap Lab of the Faculty of Architecture, where the engineers design environment-friendly products which are then produced from the refuse, waste, or even garbage collected from sponsors and local businesses.² The Scrap Lab collaborates with many companies, not only in the field of acquiring the materials to be processed from them, but also in the advice on how to minimize the negative environmental impact. Both parts of the library are motivated by the same underlying idea, namely reducing the consumerism and energy consumption through the replacement of stuff produced from new materials with those made of things intended for recycling. Interesting examples in the library section are e.g. sofa made of materials sourced from the uniforms of bank staff; lampshades and curtains made of material clippings and old fabrics; or the customer service post arranged using residues of buttons. Although it has a status of the university library, it is open to all, including children living in the vicinity, and consists of a common space for reading, a room for children and the reading room for the university graduates. The developers of the Eco-Library were motivated by three objectives: to allow for the wide access to information and library resources; to raise the public awareness on the environmental protection (e.g. through collection of the relevant subject-matter contents or DIY workshops); to limit the maintenance costs (i.a. through the use of open source programmes or furnishing the rooms with recycled objects) (Tinarat 2013, 213-228).

Another Asian exemplum is the library of the Chinese University in Hong Kong which in terms of the sustainable development provides for the best possible availability of resources for the users and saves

2

² In the case when it takes a specialized equipment to manufacture a product the production is moved to other places such as factories of the sponsors.



power. In addition, on the roof of the library they arranged a garden in which several dozen of librarians farm vegetables using natural methods, which on the one hand is to broaden the knowledge on the sustainable development, while on the other hand to foster positive interpersonal relations (Jones 2015).

An example of the first library for children which implements the sustainable development principles (mainly environmental ones) is the My Tree House that was launched in 2013 in Singapore as part of the Central Public Library. The library was designed and built in accordance with the green building principles, thence the installed energy efficient lighting, refurbished old book shelves, environmentally-friendly carpets. The central point of the library is a tree with the crown (canopy) made of three thousand of plastic bottles. The library design is harmonized with the collection of books, mainly composed of items on the environment, animals, plants, recycling and climate change as well as the classes offered for children, devoted to the environment, energy saving and minimization of the waste production (National Library Board Singapore).

For each of the cited examples the primary role plays a green (often certified) library building, yet the implementation of the SDGs often takes place in libraries that do not have green buildings so far (IFLA, "Access..."). There, the library services include activities aimed at elevating the digital competence; active job search; acquisition of financial resources; a healthy lifestyle and disease prevention; reading and writing skills; social inclusion of people at risk of exclusion (e.g. the disabled, ethnic minorities, senior citizens); social and occupational activation of women and girls; proenvironmental behaviours; promotion of open educational resources. All these activities are undoubtedly intended to achieve the previously mentioned SDGs.

Conclusion

The libraries around the world endeavour to achieve the goals set for the sustainable development to varying extent and range. Some focus exclusively on the environmental aspects, while the others feature more complementary approach and in their activities also take account of the issues of economic growth and social inclusion. No matter how they act, the most important thing is that they aim at achieving the objective of the sustainable development of the world without hunger, inequalities and irresponsible use of our planet resources. The study title comprises the question whether the sustainable libraries, or to put it better – the integration of the sustainable development principles in the librarian sector, is a fashion or necessity? I think that the answer should be phrased even otherwise – it is a moral obligation which the libraries use to pay off the debt of the trust of society. Moreover, to be a role model to the public, to encourage compliance with the sustainable development principles is the right choice because... a green image is a good image (Werner 2013, 402).



References

Aldrich, Rebekkach S., and Susan Benton, and Louise Schaper, and Jeffrey A. Scherer. 2013. "Sustainable thinking. Passageway to better buildings, budgets and beyond." In *The green library: the challenge of environmental sustainability = Die Grüne Bibliothek: Ökologische Nachhaltigkeit in der Praxis*, edited by Petra Hauke, Karen Latimer, Klaus Ulrich Werner, 15–37. Berlin: De Gruyter Saur.

Brodie, Maxine. 2012. "Building the sustainable library at Macquarie University." *Australian Academic & Research Libraries* 43:4–16.

El Bekri-Dinoird, Carine. 2008. "From one library to another: the new Robert de Sorbon Library of the University of Reims." *Liber Quaterly* 18:124–128.

Fedorowicz-Kruszewska, Małgorzata. 2014. "Koncepcja zrównoważonego rozwoju – perspektywa bibliotekoznawcza." *Toruńskie Studia Bibliologiczne* 2:117–134.

Goleman, Daniel. 2009. *Inteligencja ekologiczna*. Translated by Andrzej Jankowski. Poznań: Dom Wydawniczy Rebis.

Humboldt Universität zu Berlin. "Green Libraries – Checklist." Accessed June 10, 2018. https://www.ibi.hu-berlin.de/studium/studprojekte/buchidee/bi12/checklist.

Hunt Library. "Sustainability." Accessed June 10, 2018. http://www.lib.ncsu.edu/huntlibrary/sustainability.

IFLA. "Access and opportunity for all. How libraries contribute to the United Nations 2030 Agenda." Accessed June 10, 2018. https://www.ifla.org/files/assets/hq/topics/libraries-development/documents/access-and-opportunity-for-all.pdf.

IFLA. "Libraries can drive progress across the entire UN 2030 Agenda." Accessed June 10, 2018. https://www.ifla.org/files/assets/hq/topics/libraries-development/documents/sdgs-insert.pdf.

IFLA. "Libraries, Development and the United Nations 2030 Agenda." Accessed June 10, 2018. https://www.ifla.org/libraries-development.

ISO 26000: 2010. Guidance on social responsibility.

Jochumsen, Henrik, and Casper Hvenegaard Rasmussen. 2012. "The four spaces – a new model for the public library." *New Library World* 113:586–597.

Jones, Louise. 2015. "The Chinese University of Hong Kong Library Annual Report 2014/2015". Accessed June 10, 2018. http://www.lib.cuhk.edu.hk/sites/cuhk/files/page/about/inside the library/Annual Report en 14-15.pdf.

Latimer, Karen. 2013. "Sustainability in all phases of the building's life-cycle...: A case study of the McClay Library, Queen's University Belfast." In *The green library: the challenge of environmental sustainability = Die Grüne Bibliothek: Ökologische Nachhaltigkeit in der Praxis*, edited by Petra Hauke, Karen Latimer, Klaus Ulrich Werner, 197–212. Berlin: De Gruyter Saur.



Leon, Jorge A. jr., and Barbara M. Pope. 2016. "Juggling collection and connections to community: changing role of libraries." *Kansas Library Association College nad University Libraries Section Proceedings* 6 [on-line] [access: 06.08.2017]. Accessed June 10, 2018. Doi: 10.4148/2160-942X.1054.

Malschaert, Jacques. 2016. "Making knowledge/Connecting people." In IFLA WLIC 2016 Columbus. Accessed June 10. http://library.ifla.org/1546/1/213-malschaert-en.pdf.

National Library Board Singapore. "My Tree House – Green Library for Kids Information." Accessed June 10, 2018. http://www.nlb.gov.sg/labs/my-tree-house-green-library-for-kids-information/.

Noon, Pat. 2008. "The Lanchester Library – building a sustainable library." *Liber Quaterly* 18: 129–136.

Reitz, Joan M. 2017. "Online Dictionary for Library and Information Science". Accessed June 10, 2018. http://www.abc-clio.com/ODLIS/odlis-s.aspx#sustainablelib.

Tinarat, Sirirat. 2013. "Loads of scraps become precious raw materials. The Kasetsart University Eco-Library in Bangkok, a prototype for the next generation of sustainable buildings in Thailand." In *The* green library: the challenge of environmental sustainability = Die Grüne Bibliothek: Ökologische Nachhaltigkeit in der Praxis, edited by Petra Hauke, Karen Latimer, Klaus Ulrich Werner, 213–228. Berlin: De Gruyter Saur.

Toffler, Alvin, and Heidi Toffler. 1996. *Budowa nowej cywilizacji. Polityka trzeciej fali.* Translated by Jerzy Łoziński. Poznań: Zysk i S-ka.

United Nations. "Resolution adopted by the General Assembly on 25 September 2015. 70/1. Transforming our wolrd: the 2030 Agenda for Sustainable Development (A/RES/70/1)." Accessed June 10, 2018. http://www.un.org/ga/search/view_doc.asp?symbol=A/RES/70/1&Lang=E.

United Nations. "The Sustainable Development Agenda." Accessed June 10, 2018. http://www.un.org/sustainabledevelopment/development-agenda/.

Werner, Klaus Ulrich. 2013. "Nachhaltigkeit bei Bau, Ausstattung and Betrieb. Eine Checkliste – Sustainable buildings, equipment, and management. A checklist." In *The green library: the challenge of environmental sustainability = Die Grüne Bibliothek: Ökologische Nachhaltigkeit in der Praxis*, edited by Petra Hauke, Karen Latimer, Klaus Ulrich Werner, 395–404. Berlin: De Gruyter Saur.