A national conference summarising the project
"Social education in the conflict between urbanisation and ecology at the Wilanów Palace Museum"
implemented with the support provided by
Iceland, Liechtenstein and Norway
as part of **the Financial Mechanism of the European Economic Area**.
26-27 November 2015
The Orangery at The Museum of King Jan III's Palace at Wilanów

On 26-27 November 2015 the Orangery at the Museum of King Jan III's Palace at Wilanów housed a national conference summarising the project *"Social education in the conflict between urbanisation and ecology at the Wilanów Palace Museum"*. The project ***"Social education in the conflict between urbanisation and ecology at the Wilanów Palace Museum"*** **has been implemented with the support provided by Iceland, Liechtenstein and Norway as part of the Financial Mechanism of the European Economic Area**.

The group of invitees included natural scientists, ecologists, ecosystem economists, representatives of academic circles and the local community, opinion pollsters and employees of the Museum of King Jan III's Palace at Wilanów, involved in the project.

The conference was opened by Paweł Jaskanis, Director of the Museum of King Jan III's Palace at Wilanów, who spoke about the natural-science fascination of King Jan III Sobieski, the founder and first owner of the Wilanów palace. Mr. Jaskanis also made a brief presentation of the palace's history in the context of its natural values, and of the contemporary challenges related to the local environment and its protection.

The objective of the project, the first summary of which was made during the conference, is to disseminate the knowledge of ecosystem biodiversity within the borders of the historic Wilanów palace among the public, to inspire a sense of social responsibility for preserving the biological, ecological and economic values of this unique area where culture blends with nature, and to identify threats and prevent further degradation of the ecosystem situated within a big city.

The innovative character of the project stems from the complexity of the project's activities that set the best practices which have not previously been used in Poland. These include combining the conducting of studies on ecosystem biodiversity with its efficient protection, and taking diversified cultural and environmental education-oriented measures.

The materials and study results obtained in the project will be used in follow-up educational and research activities while the use of modern technologies will provide unlimited access to the project content.

Using the example of selected German and Dutch cities (Hamburg, Amsterdam and Hague), Dirk Neumann, from the Institute of Sustainable Urban Development at the Braunschweig University of Technology, outlined the assumptions that combine urban expansion with the planning of green areas, such as squares, alleys, parks and suburban forests. He pointed to their influence on residents' activities, and hence on their well-being and state of health. He further stressed that the related problems were becoming intensified as the metropolis expanded, and that this triggered the need to strike a balance between built-up and green spaces in the process of expanding urbanised areas.

Prof. Joanna Pijanowska, PhD hab., from the Faculty of Biology at the University of Warsaw, described the benefits flowing from the water basins situated in the Wilanów Gardens. These include climate benefits (decreasing the amplitude of the daily temperature fluctuations, ensuring water retention, and increasing the groundwater level), ecological benefits (preserving the local biodiversity, ensuring the suitable conditions for inter-species interactions, and establishing ecological corridors), and finally cultural values (creating the conditions that foster water sports, recreation and educational activities, and provide unique aesthetic experiences). These benefits can be translated into economic values. Referring to Singapore, Prof. Pijanowska spoke about the *ABS Waters* project that integrates the activities conducted in various sectors, with a view to solving urban problems arising from an inappropriate water economy. The speaker emphasised the need to draw up complex water economy plans in the course of urbanisation processes (Water Sensitive Planning in Design).

Prof. Ewa Symonides, PhD hab., from the Committee on Nature Conservation of the Polish Academy of Sciences, focused on the substantial natural values of the Wilanów park, which is both a habitat and the source of educational materials, providing an opportunity to learn about various tree and plant species, and the ecosystems they create. As pointed out by Prof. Symonides, one tree satisfies the yearly oxygen demand of ten people, not to mention that trees regulate the hydro-economy and provide shelter to dozens of animal species. This offers a chance to explore the diversity of fauna, providing multiple visual, tactile and olfactory stimuli. In her speech, the Professor also enumerated the current threats to the natural diversity of Wilanów, including the urbanisation process covering some parts of the Wilanów area, water and air pollution resulting in the degradation of plant species, e.g. disturbing the cycle of shedding leaves and needles, bough deformities, and the loss of qualities which are indispensable to the proper functioning of ecosystems.

During the discussion, the need to expand the currently insufficient knowledge on the beneficial processes related to plant life was emphasised.

Prof. Ryszard Chróst, PhD hab., Head of the Microbial Ecology Department at the University of Warsaw, presented the results of microbial studies conducted in May, July and October 2015 in the Wilanów Lake. The studies have revealed high bacteria contents, including bacteria typical of water basins and those of human and animal origin, usually encountered in human and animal intestines, which suggests foetal contamination. Pathogenic microbes have also been identified. The Służewiecki Stream is the main source of contamination. Polluting matter also flows into the Wilanów Lake with rainwater, especially in the springtime.

Krzysztof Poszytek, representing the Faculty of Biology at the University of Warsaw, outlined the results of the chemical studies conducted in the Służewiecki Stream and the Wilanów Lake, in which such parameters as temperature, oxygen concentration, salinity, the presence of multiple chemical elements and compounds, including heavy metals were analysed. Unfortunately, the results did not allow for establishing a thorough classification of the waters under analysis, but only for making attempts to do so. In general, the waters of both the stream and the lake were classified as having good or very good quality. At the turn of March and April 2015, an unpleasant smell was observed near the Służewiecki Stream estuary to the Wilanów Lake, along with peculiar sediment at the stream cascade and bottom, and the fish flowing up to the water surface, which might suggest weak oxygenation. In the reference period, intensified water monitoring was conducted, revealing, among

other things, increased nitrogen and phosphate content, along with high chemical demand for oxygen in the waters under analysis. Although those values gradually reached their normal levels in mid-April, this incident clearly evidenced the need to continually monitor the Służewiecki Stream and Wilanów Lake waters.

During the discussion, the results of the studies presented by Mr. Poszytek raised certain controversies. It was therefore clarified that the studies had been conducted on the surface waters. The conference participants then shared their observations arising from the analyses of deeper water levels and bottom sediments, including the studies conducted by the Warsaw University of Technology since 2005, which had not been previously presented to general public. They revealed high contamination of waters and sediments of the reference basins. The discussion attendees pointed out the insufficient measures taken with the aim of controlling environmental pollution by the authorities that usually react to strong pressure exerted by the local community but, once the pressure is put down, are likely to abandon the activities oriented towards improving the quality of the natural environment. Attention was also drawn to the numerous irregularities in the general functioning of the bureaucratic system, which frequently allow for taking actions detrimental to the environment.

Bartosz Rewerski, a contamination analyst from Faculty of Biology at the University of Warsaw, discussed the results of the air quality analysis conducted within the area of the Museum of King Jan III's Palace at Wilanów, covering biological, physical and chemical air parameters. The results have revealed that the microbial air content rarely and only slightly exceeds the standard levels, and this concerns fungi more frequently than bacteria. The amount and type of the microorganisms identified depends on both the frequency of tourist visits and the number of plant species. As regards the physical parameters (air dust concentration), the results have turned out to be dependent on the plant vegetation periods (with high values being recorded in late autumn and winter, followed by considerable drops at the outset of plant vegetation), and also on the wind strength and direction. The highest air dust concentration has been recorded with south-eastern wind, i.e. opposite to the location of Warsaw. The speaker suggested that this might be caused by the Kozienice power plant, with the busy Przyczółkowa Street acting as a contributing factor. The chemical parameter analyses have shown that the carbon monoxide, ozone and volatile compounds concentrations do not exceed the permitted levels whereas the levels of sulphur dioxide and nitrogen dioxide are always very high or exceed the norm. In the case of sulphur dioxide, this usually happens in winter, which may result from the vicinity of single-family houses, most of which have their own heating systems. The comparison of the chemical air content with the results obtained in the nearest measurement station (Ursynów) has revealed a much higher air concentration of chemical compounds in the area of the palace and park complex than around the measurement station. This might be connected with the natural topography – Wilanów is situated in a valley which inhibits air circulation. Similar to the physical parameters, the chemical air content is influenced by the wind strength and direction, and by the vicinity of the Przyczółkowa Street. The speaker therefore emphasised the need for continual air monitoring.

Konrad Ratowski, a geophysicist and environmental engineer, dealt with the acoustic assessment of the Wilanów Palace, based on the noise level tests conducted from the end of summer (August) until late autumn. The Przyczółkowa and Vogla streets turned out to be the major sources of noise whereas the park area was the most silent. The noise levels were relatively uniform, showing an increase in

the noise from the side of the Przyczółkowa Street in November, due to the falling leaves that form a noise-absorbing layer, and a decrease in the palace area at the turn of August and September, due to the beginning of the school year, and the related drop in the number of visitors, including especially children and youth. These observations prove that the city, nature and people exert an impact on the acoustic parameters in the reference area. As regards the problem of noise levels being higher than permitted, it stems from the fact that Warsaw is an urban area where the noise level near the roads reaches 65 dB during the day and 60 dB at night, whereas 70 dB marks the pain threshold. As a result, those values can never be exceeded.

During the discussion, Agnieszka Laudy, PhD, Project Manager and Deputy Head of the Architecture and Environment Department of the Museum of King Jan III's Palace at Wilanów, referred to the summarising and cross-sectional character of the results of all studies presented, mentioning the plans to introduce a silence strategy at the Museum. In relation to the paper by Piotr Rapiejko, PhD, which had not been read out, Ms. Laudy elaborated on the pollen count performed in the area of the palace and park complex nearly 10 years earlier, revealing that it had the cleanest and the healthiest air among all similar facilities in Warsaw. This gave rise to a discussion on the "Royal Garden of Light" project currently implemented by the Museum. Strong concerns were raised regarding the potential harm which the high noise and light levels may do to the local environment. The counter-arguments included the popularity of this undertaking among visitors, clear demands for continuing those kinds of events, and their obvious financial benefits drawn by the Museum, which allow for fulfilling its mission, conducting educational activities, undertaking the necessary maintenance works and ensuring the protection of the most sensitive historic exhibits, both in the palace and surrounding gardens. On the second day of the discussion, Prof. Tomasz Żylicz, PhD hab., Dean of the Faculty of Economic Sciences at the University of Warsaw, and the founder of the Warsaw Centre for Ecological Economics, presented various tools that can be employed during investigations into the qualities offered by ecosystems. The categories on the basis of which the ecosystem values are assessed include producing utility goods (e.g. fish stocking), rendering services used in the course of production, referred to as regulation services (e.g. the price of artificial pollination vs. natural pollination done by insects) and providing recreation services (e.g. the efforts made by visitors coming to see the place). Using the example of silence, to which no market price can be assigned, the speaker presented how its value can be established by referring to the difference in real property prices, depending on the actual noise level, or the prices of soundproof windows, and by using other similar ways of attaching tangible values to natural environment resources. Such analyses may show that those values are comparable to GDP. It appears that the three appraisal categories presented could be used with respect to the park and palace complex.

Piotr Łukasiewicz, PhD, and Grzegorz Kowalczyk, representing Millward Brown, a company conducting market research and opinion polls, discussed the results of the opinion polls regarding the need to have a contact with nature, conducted among visitors of the Museum of King Jan III's Palace (foreign tourists) and residents of the neighbouring Wilanów district. The surveys conducted among foreign visitors have led to the conclusion that in many aspects (including aesthetic, recreational and educational ones), the presence of the park is extremely significant when choosing the Wilanów Museum as a destination of tourist visits. What's more, the park, rather than the palace, tends to be more often chosen as the only destination. The park has also gained importance among residents of

the Wilanów district, being the place of frequent walks or visits with guests coming from outside Warsaw. Among their connotations with the Museum, the residents usually mentioned the park and called the entire complex "the heart of Wilanów", i.e. the crucial place which creates the district's identity. According to the speakers, such a huge value assigned to the park and palace complex might have resulted from the current fashion to spend time in the bosom of nature, as an alternative to the hectic industrial lifestyle. The Wilanów park has the prospect of becoming a place where the local residents will escape from their everyday hustle and bustle, dominated by modern technologies, thereby becoming an intrinsic element of their leisure activities.

It was clarified during the discussion that the opinion polls run among foreign visitors and local residents were two separate analyses and did not serve comparison purposes. Attention was also drawn to the projected lack of active engagement in environmentally friendly activities and the fading passion for learning about the fauna and flora among residents of the Wilanów district, which finds confirmation in the conducted surveys.

Elżbieta Grygiel, Head of the Social Communication Department at the Museum of King Jan III's Palace, spoke about the strategies of communicating the content of the reference project and its outcomes. "Communicating vessels" can be used as a metaphorical presentation of the communication strategy employed by the Museum in the project implementation, which entails combining and supporting diversified activities oriented towards a common goal. To this end, various tools were used, including professional analyses (scientific studies) and popularisation activities (such as educational events, workshops, social debates and communication through social media). It is worth noting that the essential project elements were not invented specially with the aim of obtaining support from European sources but resulted from the previously implemented *genius loci* (the interpenetration of the cultural and natural elements in protecting valuable resources and disseminating knowledge). They also formed part of the usual Museum activities, the scope of which was extended by new aspects, owing to the financial support received from Iceland, Liechtenstein and Norway within the Financial Mechanism of the European Economic Area. As part of the project, the activity areas of individual Museum departments are combined with, and support, various research projects. The project content was communicated through press conferences (which, as the speaker regretted to say, inspired little interest on the part of the media), information sent to the bulletins of the Polish Press Agency, a specially launched website, which is intended to remain the source of up-to-date knowledge also after the project completion, leaflets and brochures distribution, and – most importantly – social media (e.g. Facebook), the impact of which has proven the widest and most effective. The project "Social education in the conflict between urbanisation and ecology at the Wilanów Palace Museum" has come to be part of the regular activities of the implementing institution, and the Museum will aim at its extension and the consolidation of the achieved outcomes

Monika Klimowicz, representing the Development Department, responsible for the Wilanów Facebook account, familiarised the attendees with the product dissemination techniques used on social networking sites. Articles regarding the project, initially treated with polite caution, gradually became more popular, including especially the posts concerning the animals that can be encountered in the Wilanów park. Announcements concerning pro-ecology events held outside the Museum walls (e.g. Biodiversity Day) also enjoyed considerable popularity. Information regarding the project activities was posted on the Museum profile next to invitations to exhibitions, concerts and other

events organised by the Museum. Eye-catching illustrations and photographs also made the posts more interesting, and so did their concise format. The information published was usually short, possibly containing a link to a longer text available in the Museum's *"Pasaż Wiedzy"* vortal. Debates were promoted by setting up events on the networking site, and inviting the followers to participate. All invitations were sent via private accounts, through bottom-up activities undertaken by Facebook users. This has proven to be an effective method of project promotion through the social media

Martyna Sowińska-Pasek vel Paszkowska, Head of the Development Department, spoke about the organisation and outcomes of the debates held as part of the project. Despite the rich tradition of holding debates in the Museum, the organisers were surprised by the huge interest inspired by the last two debates devoted to the natural environment, even though they were held on working days (on Thursday afternoons). The first cycle comprised three debates concerning the biodiversity of the Morysin nature reserve, the social role of bees and the influence of the Wilanów district development on the local natural environment. A nature reserve protection plan adopted a few weeks before the debate devoted to the Morysin nature reserve allowed discussion of feasible proposals for educational activities, consistent with the plan, within the Morysin area, along with the priorities related to protecting its natural wonders of the animal and plant world. The interdisciplinary nature of the bee debate made the topic extremely interesting – as well a discussion on the means of bee protection, attention was drawn to the threats arising from the clashing worlds of people and bees. The lecture on using honey in Old Polish cuisine, along with honey degustation, was an additional attraction offered to the debate participants. The debate on the landscape transitions occurring in the closest vicinity of the Museum attracted not only ecologists and residents, but also authorities responsible for spatial planning and representatives of the local government. In the next year of the project implementation, in line with the original plan, the second cycle of meetings was launched, devoted to the historic gardens, the diversity of the Wilanów ornitofauna and the threats connected with the Służewiec Stream and the Wilanów Lake pollution. The debate on the historic gardens comprised a walk round the reconstructed vegetable garden. The discussion on ornitofauna focused on the wide array of bird species to be found both in the Wilanów park and in the palace decorations, along with the methods for using this knowledge as part of the museum education programme. The debate on water pollution also attracted a large group of people, including representatives of local authorities, scientists, residents and journalists. The debates brought a new wave of potential visitors to the Wilanów Museum, giving its authorities an insight into their expectations. It is envisaged that further discussion cycles will be organised after the project completion.

Julia Dobrzańska, PhD, representing the Education Department of the Museum of King Jan III's Palace, spoke about the educational activities undertaken as part of the project. These included family workshops attended by specialists, workshops for schools as part of the *"Lato w mieście"* project, "*Pod parasolkami*", a summer programme addressed to schoolchildren and young people, museum lessons at schools, workshops during the Days of Wilanów, activities organised as part of the Night of Museums, and meetings within the framework of the Wilanów Festival of Education. Three new tourist routes were also established – two within the park area (*"The Wilanów Gardens – at the junction of history, culture and nature"* and *"Natural diversity of the Wilanów Gardens"*), and one in the Morysin nature reserve (*"The Morysin wilderness"*). In order not to distort the natural park landscape by putting up information plates, the routes description was made in the form of booklets

containing a map and featuring relevant information and news. Nature walks and art workshops were also organised. They began in 2014 and focused on the ecosystem elements present in Wilanów park, including bats, birds, and dragonflies, as well as water and air, and garden plants. In 2015 these meetings were devoted to the mallard, fish species and invertebrates inhabiting artificial water reservoirs, and insects inhabiting dead trees, hollows and old trees, as well as exotic plants growing in Poland. The speaker also sent an invitation to the planned workshops concerning insects, to take place within the Wilanów Festival of Education.

Hubert Francuz, working for the Development Department and coordinating projects related to the development of new technologies, talked about the establishing of a mobile app which will allow the most important information regarding the biodiversity of the natural resources of the Museum to be disseminated through a new medium. Diagnosing the potential recipient groups and the underlying objective (i.e. what message is to be sent to the general public, why and how) is key to designing the mobile app in question. The app is to encourage its users to go on walks and explore the nature, without involving an intensive interaction with technologies, so as to prevent the device from outshining the very message it is supposed to send. The app is also intended to solve the problem of providing the visitors with a map of the park. It was further agreed that this solution would be used to disseminate the results of the analyses carried out as part of the project. To this end, a sub-group has been established to deal with obtaining information from the personnel involved in the project implementation, and then with disseminating its final version. The information to be disseminated will focus on three categories, i.e. birds, plants and the micro-world. The fourth element is the way in which they interact with one another. The app will assist the user in choosing the direction he or she can follow in order to acquire information on particular elements included in these categories. The assumption is also to provide the user with tangible benefits flowing from the use of the app (e.g. a recipe for a dish contains a plant encountered while walking through the park). The app is planned to be released in March 2016.

Małgorzata Przeździęk, from the Documentation and Digitalisation Department of the Museum, familiarised the participants with the advantages of the Geographical Information System (GIS). The system is designed to present each object included in the database on a map, along with a detailed description, using structured tables. This means that each entry in the table corresponds to one real object. The system comprises information, data, measurements, and archive and maintenance information, which can be read directly from the map. Each object also receives its own number. This makes it easy and fast to access substantial information related to selected objects. The system has been divided into the following modules: archaeology, the park, buildings, façades, interiors, nature, and water and sewage systems, and is planned to be extended with a new biodiversity module. All data are available on the Museum website. It is currently planned that the GIS system will also feature the data obtained in the studies conducted within the framework of the project.

Nela Kokoszka, representing the Education Department of the Museum, involved in rebuilding former plant collections, spoke about the works conducted in the historic gardens. Their idea was inspired by various educational programmes (including environmental and culinary). To date, the utilitarian and fruit garden has been recreated, along with the rose house. Stock lists dating back to the times of Elżbieta Sieniawska were used as the primary sources of information about the utilitarian garden, as they contained detailed descriptions of the shape and plants growing in various garden

sections. The works were conducted in cooperation with the Botanical Gardens in Powsin and Skierniewice. At present the vegetable garden is not open to individual visitors, but groups can access it during museum lessons. The second project entailed recreating historical roses, as part of which the rose species bred before 1800 were planted. Also in this case, stock lists were used as the source of information, in combination with the then publications devoted to gardens. Bud shapes and flower colours are the most obvious differences between the contemporary and historical gardens – contemporary roses have thinner buds, and, in contrast to the historical ones, can be found in yellow colours. Among the flowers growing in Wilanów, Apothecary's roses can be found, whose names relate to both the Lancaster and York families.

Marta Walewska, also representing the Education Department and dealing with ensuring access to the Museum to the disabled, stated that the project activities have been oriented towards the needs of people with visual and auditory impairments. Aiming at people with auditory impairments, the results of the studies and the knowledge acquired in the course of the project have already been translated into sign language. Also part of the GIS information has been made available in this language. Further plans include organising guided tours across the palace gardens and Morysin, conducted in sign language. As regards visually impaired visitors, the project is yet to be implemented, covering publications released in Braille and large fonts, an audio description of plant and animal species, and garden architecture, and a cycle of walks across the palace gardens and Morysin, combined with audio descriptions, for visually disabled visitors.

The discussion participants praised the diversity of the activities being undertaken by the Museum. However, concerns were raised regarding the understanding of the terminology and nomenclature used in the presented reports. These pertained to the economic assessment of the role of the Wilanów park ecosystem in neutralising environmental pollution. In response to the aforementioned doubts which related to the limiting of the target project activities to the local community, it was clarified that their outcomes were available to the general public, including not only residents of Warsaw, but also people from different corners of Poland. This finds confirmation in the fact that the debates were conducted in the attendance of representatives of various regions of the country.

While discussing the development of the mobile app, the need was expressed to make the contents available to the elderly, who very often deal with passing their knowledge to younger generations and require access to information through the channels adjusted to their perception abilities. In response to this issue, employees of the Museum listed the activities addressed to this age group, including family workshops, thematic walks and activities organised in senior clubs and at Universities of the Third Age, also outside the project framework. Andrzej Kruszewicz, the conference moderator, enquired about the most interesting ornithological observations, in response to which Julia Dobrzańska, PhD, referred to the migrations of the Eurasian coot, going as far as to the Kraków area and then returning to the Wilanów park. When asked to assess the debate formula, Martyna Sowińska-Pasek vel Paszkowska, emphasised the positive outcomes of its interdisciplinary character, encouraging the participation of a wide group of recipients, rather than being limited to the specialists in a given field. Actually, the participants in the first debates turned out to be the speakers in the last ones, which both reflected the “communicating vessels” metaphor and testified to the efficiency of the knowledge exchange process and the growing interest in the project. When asked about the plant species grown in the fruit garden, Nela Kokoszka stressed the criteria for choosing cultivated species,

namely the limited space and the rare occurrence of those species in contemporary gardens. For birds, gardens serve as places to search for food. For instance, non-harvested grain is eaten by birds when access to other sources of food is limited. Prof. Pijanowska stated her admiration for the harmonious interest in the goods of culture and nature, and proposed that this model be followed at the Museums and Historic Houses Forum, with a view to setting up standards for future activities of this kind. In the debate summary, it was emphasised that the overall project objective had been achieved, being manifested in increased interest in biodiversity on the part of the general public and specialists, in more questions being asked and in opinions being expressed to encourage further activities oriented towards pro-ecological issues. This would not be achieved without the social-communication formula, which allows the sharing of our passions, interests and concerns, while also increasing the overall awareness of the threats to the priceless natural treasures which the Museum takes care of in line with its mission and strategy.

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