Campus Albano, Stockholm

- Creating a social-ecological ‘best practices’ campus area in the Baltic region for supporting learning, innovation, and sense of community

Johan Colding, Stephan Barthel, Erik Andersson, and Maria Schewenius

Campus Albano is the newest addition to the Stockholm University campus, Stockholm, Sweden. Production commenced on Nov. 30, 2015, after a five-year planning and design process. The student- and researcher accommodations, and the university buildings are expected to be ready by 2018 and 2019, respectively. The project is significant both for its participatory planning process, and for the strong focus on supporting ecosystem services, for example wetlands and allotment gardens, in the final campus design.

1. The Campus Albano site

The site where Campus Albano will be built is situated just north of the inner city of Stockholm on formerly industrial land that has long been the subject of conflict and controversy. In 2009, the old industrial area was used primarily for temporary parking and as a storage area. However, this strategic location, right at the edge of the dense inner city fabric, flanked by two of the major urban development areas and at the intersection of the three major universities in Stockholm, made it interesting from an urban morphology perspective. The Albano site is also located within the borders of the world's first national urban park, Stockholm National Urban Park (NUP), protected by law since 1995. This double strategic importance makes the site not only the subject of extraordinary development potential, but also a vital ecological link in Stockholm.
Fig. 1: The campus (left), and an example of the landscape design that is intended to support social and ecological diversity (right). Source: Barthel, S, Colding, J., Ernstson, H., Erixon, H., Grahn, S., Kärsten, C., Marcus, L., Torsvall, J. 2013. Principles of Social-Ecological Urbanism - Case Study: Albano Campus, Stockholm. TRITA-ARK Forskningspublikationer 2013:3, Stockholm. ISBN 978-91-7501-878-2.

Table 1: Campus Albano in brief

<table>
<thead>
<tr>
<th>The Campus Albano in brief</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Region</strong></td>
</tr>
<tr>
<td><strong>City</strong></td>
</tr>
<tr>
<td><strong>University</strong></td>
</tr>
<tr>
<td><strong>Campus</strong></td>
</tr>
<tr>
<td><strong>Transportation</strong></td>
</tr>
<tr>
<td><strong>Aspirations</strong></td>
</tr>
</tbody>
</table>

The 27-km\(^2\) NUP is protected as a national interest with extraordinarily high biodiversity and cultural values. The park holds vast and diverse areas of meadows, forests, lakes, and streams. It is also associated with a motivated network of civic associations that played a pivotal role in obtaining the protective laws for the park,
and many of the same NGOs are also managing and taking care of habitats within the park. (Barthel et al. 2005; Ernstson et al. 2008). This aspect of co-management has also to a great extent informed and shaped the design vision and development plan for Campus Albano (Barthel et al. 2013).

2. Accessibility

Campus Albano is located in one of the most problematic areas of NUP; the road Roslagsvägen separates the large park area known as Hagaparken, located west of the Albano site, from Norra Djurgården, which is located east. Although Albano is part of a string of university facilities and departments lining NUP, the transportation passages traversing the area today, such as the road (Roslagsvägen) isolate Albano from the rest of the city rather than connecting it.

![Map of Stockholm showing Campus Albano, Hagaparken, and Norra Djurgården.](image)

Fig. 2: Campus Albano with Hagaparken in the west, and Norra Djurgårdsstaden north and north-east. Stockholm University (Frescati) is just north of the Albano site, and the Royal Institute of Technology (KTH) is just south-east.

Today, large transformations are taking place in the border zone between the northern part of central Stockholm and adjacent areas. In the new development plan for the city this area is divided into three parts: Norra Stationsområdet (not on the map), Albano and Norra Djurgårdsstaden, all three described as strategically important for the city centre (Stockholms översiktsplan (Development plan of Stockholm) 2010, SBK (City Planning Office)). Norra Djurgården and Norra Stationsområdet are important for the future housing supply in the city, and many new housing developments are already being planned and built. However, the development plan also emphasizes the importance of the northern central part of the city and its boundary zones for Stockholm as a future knowledge city, especially highlighting Norra Stationsområdet and Albano. The shared vision for all three parts is to integrate them with the central city and what it has to offer in terms of urban lifestyle, while at the same time keeping and strengthening the high cultural and natural values present in the areas. In this regard, the strategic location of Campus Albano is unique.
The strategic location and potential of Campus Albano resonate with the ambitions held by the building proprietor Akademiska Hus and the primary tenant Stockholm University. In addition to the objectives of an integrated and living urban environment with preserved natural and cultural values they see a list of further questions that could, and need, be addressed at the same time. These questions include the development of internationally competitive knowledge environments and how the research environment may contribute to the development of advanced sustainable constructions. The fact that Albano is situated in an area of national interest, and that one of the future tenants likely will be the Stockholm Resilience Centre, with its international reputation in the field of sustainable development, emphasizes the uniqueness of the location.

Campus Albano offers a unique opportunity to build an internationally competitive research environment that binds together the Royal Institute of Technology (KTH), Karolinska Institutet (KI), and the Stockholm University (SU). It holds the potential to become a leading example of a sustainable large-scale campus area that could take the lead in creating a more inter- and transdisciplinary university environment of international repute, and a living knowledge interface with Stockholm. Thus, it can come to serve as a model for creating more resilient urban developments at a more general level. Such examples of new ways forward are of highest importance for the future economic and social development in Stockholm, and Sweden as a whole.

3. The campus in a context: history and projections of the surrounding area from 2000 to 2030

Stockholm municipality has a population density of 4924 inh./km². From a temporary drop in population size between 1960 until almost year 2000 (due out-migration to rural landscapes in Sweden and due to expansion of public transport for location in other municipalities in the Stockholm region), Stockholm City has witnessed a dramatic population increase in later years – from some 750,000 people in 2000 to today’s 900,000 and the expected 1,000,000 inhabitants by year 2020.

Currently Stockholm City has approximately 450,000 homes. By 2030 some additional 140,000 new homes will have been built. This 31 percent increase means that the city is growing at a size corresponding to a new Malmö, Sweden’s third largest city.

The city’s rapid growth is a confirmation of Stockholm as an attractive city, located in an innovative and strong region with diverse opportunities for both businesses and citizens. Yet, this growth occurs at the expense of more and more green areas and ecosystems being appropriated for built structures, with loss of biodiversity and ecosystem services in its wake (Colding et al. 2006; Colding 2013). This challenge represents a cornerstone in the design of Campus Albano, where the ambition has been to promote biodiversity through careful urban design rather than erode it. At the regional scale urban densification (compaction) has been identified as the most desirable urban development trajectory (RUFS 2010).

In the year of 2014, the employment rate was 70.9 percent, compared to 64.6 percent in Sweden as a whole. Unemployment was 6.3 %. Dominant sectors of activity is finance, health care, commerce, and education (Läget i länet Arbetsmarknad och ekonomi februari 2015, Länsstyrelsen Stockholm).
In a European perspective, the Stockholm region holds a considerable amount of green space. Ten green wedges constitute the backbone of the green structure and, together with large areas for recreation in the region’s outskirts, play an important role in the generation of ecosystem services. For example, about 40% of the CO$_2$ generated by traffic and about 17% of total anthropogenic CO$_2$ can potentially be sequestered by the green structure of Stockholm County (Jansson and Nohrstedt 2001). Despite the political ambition to preserve the green wedges as a regional structure, the wedges are becoming increasingly fragmented by urban expansion (Fig. 3).

4. Timeline of the campus development

| Building commenced: November 30, 2015 |
| Planned initial occupancy, housing: 2018 |
| Planned initial occupancy, University premises: 2019 |

The design work of this campus area sprung from the collaboration between researchers at The Beijer Institute of Ecological economics, the Stockholm Resilience Centre and the Royal School of Architecture in Stockholm, together with practicing architects. In 2010 this group, called the PatchWork Group, presented an alternative vision for the site to the city planning office, to local politicians, and to the university leadership. The vision won their unison support. The principles and designs made it all the way into the development of the detailed plan, a process that was co-designed with the city architect in Stockholm. Further investigations, reports and alterations were undertaken until 2012, when the City Council of Stockholm approved of the detailed plan. The construction work of Albano started in November 2015.

5. The campus in numbers

Campus Albano will consist of 150,000 m$^2$ of university facilities, including 50,000 m$^2$ of housing for students and researchers. The campus will host 15,000 students and scholars, approximately 1000 student apartments and location of commercial services such as restaurants and cafes.

6. The history of the site

Due to its location in the National Urban Park of Stockholm, Campus Albano is part of the great Gustavian palace project surrounding Brunsviken, with sight lines and ideals stemming from the 18$^{th}$ century. Broadleaf stands, especially oak trees, has played an important role throughout history, from the Middle Ages when oak was being a valued hardwood species, to the 1600s when it was used for shipbuilding to cater the needs of the Crown’s navy, to today, when oaks are appreciated for their biological values (Barthel et al. 2005). A keystone species, oaks produce a unique set of niches for flora and fauna that depend on old hollow trees, hosting up to 1500 species of insects, mosses, fungi and lichens and providing nesting and feeding sites for many birds and bats (Andersson 2003).

In 1452, the southern sector of an area called “Djurgården” became royal property, and a century later the entire locale was at the disposal of the Swedish King Gustav Vasa (Stockholm Planning Administration 1997). This marked the beginning of a royal stewardship that, to some extent, continues today. Over time the park was inspired by the English landscape park concept with its romantic ideals. The
landscape management objective during this time was to enhance the scenic beauty of the natural landscape, and not the pruned nature prescribed by the French ideal (Barthel et al. 2005). With these ideals in mind, King Gustav III initiated a large English landscape park project around Lake Brunsviken in 1781. The industrial revolution in the mid-1800s led to major changes in society that, in turn, had a profound impact on the NUP. For example, the main harbor in Stockholm was built there, along with a railroad and adjoining station buildings and manufacturing industries. One outcome of the industrialization, probably in response to the process of migration from rural areas (cf. Nilsson 2000), was a demand for gardens. The Garden City, the Swedish allotment gardening movement and the botanical gardens were created during this era. Stockholm’s first allotment garden was established in 1904 and today 5 allotment gardens are situated in the park, and in 1814 the Royal Swedish Academy of Agriculture established an area for experimental agriculture in the park. During the 1960s and 1970s, the public became increasingly concerned about the environment, and a vital environmentalist movement was born. Consequently, the development threats of the 1980s ignited a passionate response at all levels of the community. A network of informal associations, comprising more than 175,000 members, actively campaigned to protect the park (Barthel et al. 2005).

7. Local and city-wide drivers behind the campus development

There are at least three essential reasons and drivers for why Campus Albano is being created. First, Stockholm has since the 1980s steadily increased its population, and in recent years this has happened at a breakneck speed. Between late 2008 and the end of 2014 the city's population increased with just over 100,000 people, which is about 46 people per day on average. Hence, with an increasing number of students and researchers, new university and student housing facilities need to be created.

Second, it has long been an ambition to tie the Stockholm University closer together with the campus of KTH, with the aim to provide synergies in both research and education. The Rector of Stockholm University, Astrid Söderbergh Widding, and the Rector of KTH, Peter Gudmundsson, have expressed this desire as a strong motive for creating the new campus. In turn, this synergy also results in a closer coupling of the campus with the city of Stockholm (Barthel et al. 2013).

Third, a strong ecological aspiration underlies Campus Albano. Urban expansion has over the last century created a substantial loss of ecosystems and biological diversity, with some 50% of red-listed species having disappeared from the most centrally located green areas of Stockholm since the mid 1970’s (Colding 2013). Hence, an important aim of the alternative design vision by the PatchWork group was to demonstrate that ecological values of NUP and its surrounding ecosystems could be increased through building an ecologically oriented campus area. The ecological design of Campus Albano explicitly aim to support two of the main features of NUP, the oak landscape (unique to Northern Europe in terms of size) and the time-honored gardening tradition.

8. Links to current and ongoing local- and/or regional development strategies and plans

A main goal of decision makers in the Stockholm region has been to make the region one of the world’s leading development areas, and to promote international competitiveness, high and equal living conditions, and a long-term sustainable
environment (RUFS 2010). This should be reached based on the regional strategies adopted by local and regional policy makers and planning authorities. These strategies include business development, education and research, housing and infrastructure development, and climate and energy adaptation (Colding 2013). Campus Albano can be seen as contributing to the fulfillment of most of these goals.

While local and regional policy makers increasingly recognize the importance of addressing climate change, strategies for this has foremost been based on technology, e.g. creating more energy efficient housing systems and public transport to reduce CO₂ emissions. The guiding vision of the new housing area of Hammarby Sjöstad, located in the southern part of Stockholm, could be seen as part of this endeavor. While Hammarby Sjöstad was planned and designed according to the principles of ‘smart growth’ (or ‘New Urbanism’), the area holds few green areas. In addition to novel technical energy solutions, Campus Albano has been planned and designed based on nature-based solutions, meaning that living ecosystems will generate an extensive supply of ecosystem services.

It is, however, increasingly clear that social and ecological systems truly are interconnected across spatial and temporal scales, and therefore the physical urban environment needs to capture such integration in considerably new ways at the local levels of urban design and form (Barthel et al. 2010a; Colding et al. in review).

Currently, it is difficult to reach certain regional planning goals, such as to protect the green wedge system and green infrastructure (Colding et al. 2006). Thus, there is an expressed need for improved inter-municipal coordination to reach the goals of the Stockholm region (RUFS 2010). More recently, finding solutions to social segregation has become an ever-increasing challenge (Legeby 2015), together with the acute housing shortage. With an increasing number of refugees from the Middle East and Africa, Stockholm is faced with a number of dire challenges in the years to come.

9. Dilemmas and obstacles that preceded the acceptance of the plan

In 2010, the PatchWork Group presented an alternative vision for the site to the City Planning Office, to local politicians, and to the university leadership. The vision won their unison support and was transferred into a detailed plan, which was co-designed with the city architect in Stockholm. Revised plan proposals were issued during the period of July 18th to August 15th, 2012. The matter was taken up for approval by the City Planning (Stadsbyggnadsnämnden) in late October and in the Development Committee (Exploateringsnämnden) at the end of November 2012. The City Council (Kommunfullmäktige) approved the proposal in December 2012, which was then appealed.

On April 12, 2013 the County Administrative Board dismissed appeals, adding that "only university-related dwellings could be built".

The plan was appealed to the Land and Environment Court, and then went up to the Land and Environmental Court. On April 9, 2015 the Land and Environmental Court rejected all appeals. Thereby the zoning plan for the new campus and about 1,000 student residences was approved. The plan cannot be appealed.
At the design stage, the PatchWork group arranged several crucial meetings with local groups (NGOs) and key persons in the National Urban Park. The intention was to receive relevant inputs on the building and landscape design in order to improve it, and take into consideration the knowledge that key actors had of the site that Campus Albano was to be built. Trust making and an early involvement of key stakeholders in the area were deemed critical factors in facilitating a more inclusive design process.

10. Possible pressures of the new campus area on the nearby local community

It is estimated that the NUP attracts 15 million visitors each year, many of whom visit the park for recreational purposes (Barthel et al 2005). With the new university campus it is a risk that the NUP is becoming increasingly exploited unless careful legal measures are taken and obeyed. While it is highly likely that the ecological values will be enhanced through the creation of new wetlands, green roofs, meadows and garden habitats on the campus area, increased human pressure on the NUP ecosystems is to be expected. The impact on disturbance sensitive species remains to be seen in the years to come, and this should be part of the future ecological monitoring agenda.

11. The degree of influence on the design, and decision-making capabilities by different stakeholders

The design work of this campus area came about in collaboration between researchers in ecology and architecture and with practicing architects of KIT Architecture, the tenant Stockholm University, the building client Akademiska Hus, BSK Architects, and Christensen and Co Architects. Moreover, and as earlier pointed out several key stakeholders and NGOs were part of the design process. Hence, this inter- and transdisciplinary design and planning process is a unique example of collaborative planning.

12. Property rights

The land where Campus Albano is situated is owned by the City of Stockholm. Stockholm University and KTH will be the tenants of the university facilities and housing. Building clients are Akademiska Hus (University premises) and Swedish homes (Students and Scholars dwellings).

Institutional research shows that that no single type of property-rights regimes (i.e. state-, private-, and common property rights systems) can be prescribed as a remedy for resource overuse and degradation. Rather, policy should focus on establishing a multitude of property rights regimes that are designed to fit the cultural, economic, and geographic context in which they are to function (Hanna 1998). A diversity of property rights regimes promote diversity in management of urban land as well as access to land in cities (see e.g. Colding 2011; Colding and Barthel 2013).

The current global shift to private property rights in contemporary cities is a worrying sign (Webster 2003; Lee and Webster 2006). As many cities lack the financial means to adequately withhold and manage public lands, privatization of public land is the trend. This often leads to that many people in cities are excluded from entering and make use of such land. Colding and Barthel (2013) have shown that Common
property systems, where land is managed by a group of people or a community of users, offers an alternative to privatization of public lands in cities, with potential to provide many benefits in the sustainability building of cities. Not the least, people that manage land collectively become co-creators of land in cities and by virtue designers of local land (Barhtel et al. 2010).

This aspect of common property systems was accounted for in the alternative vision of Campus Albano through the establishment of allotment gardens and wetlands in the detail plan, tended and managed by people with an interest in gardening and wetland management (read more in Appendix 1).

13. How local businesses and residents can be involved in creating and using the campus

Thorough a better linkage between Stockholm University and KTH, Campus Albano could become a stronger magnet for business and innovation development. For example, through the spatial design component Active Ground (see Appendix 1), through which user rights are given to many actors, both internal and outside actors can have access to and make use of the campus. For example, it can provide a wider array of recreational activities, e.g. connected to research institutes or association based activities such as allotment gardening and experimental fields. Actors interested in recreational services are of course of special interest. Services could be commercial, like gyms or renting out bicycles or canoes, or non-profit like dissemination of knowledge to the public through a visitor centre with activities that for example could include tours in the National Urban Park. Restaurants and cafes will of course also become part of the campus area. Shops for books, kiosks and a grocery shop are likely to become part of Campus Albano since so many people will live at the campus.

Through the Spatial design component Green Arteries (see Appendix 1) access to the area is envisioned to increase accessibility to the campus for humans along nice walking and biking paths lined with vegetation corridors designed to support certain species (e.g. pollinators, seed dispersion) by connecting different parts of NUP and promote species migration. Hence, Green Arteries will likely increase the opportunity for non-residents and city inhabitants of Stockholm to use the campus area to a higher extent than today where traffic and poorly developed routes make it highly problematic to reach the building site.

The combination of spatial components and institutional components could be said to facilitate and increase both social and ecological services at the campus (Appendix 1). Through the institutional design of providing user rights to several different interest groups, the alternative vision of the PatchWork Group aimed to increase the diversity of activities and actors at the campus. In this context, it is important to recognize that design elements like Performative Buildings, Green Arteries, and Active Ground need to be tended, managed and supported in order to function across space and time, and thereby providing ample opportunity for participation among staff and student involvement. Courses in sustainability science at the Stockholm Resilience Centre, the Beijer Institute, the School of Architecture at KTH, and other academic research departments, could conduct research on monitoring the performance of different activities at Campus Albano.
The alternative vision for Campus Albano by the PatchWork Group showed, at least theoretically, how spatial planning processes by way of intelligent design could achieve better integration of several different types of stakeholder groups, their practices and informal institutions at different scales in the urban landscape. Hence, insights can be seen as a toolbox for achieving collaborative planning (Healey 2007), fostering increased participation with civil society with a potential to mobilize collective action to achieve strategic urban governance targets (Neuvel and van der Knaap 2010; Ernstson et al. 2008; Colding et al. 2013). The incorporation of a broader set of civic society actors in ecosystem management may provide several advantages, including economic benefits (Colding et al. 2006) and wider ecological learning among urban residents (Barthel et al. 2010b).

**GREEN ARTERIES: SOCIAL & EKOLOGISK TILLGÄNGLIGHET**


Through a deeper integration of ecosystem services and urban form and design, city inhabitants can play a more active part in managing and making use of urban space. Such integration is important not only to make cities more resilient to climate change; it is equally critical for making the links between natural and human systems more visible in urban settings, in recognition of the man-nature dichotomy that has led to an increased ‘environmental generational amnesia’ among city dwellers (Miller 2005), and resulted in ‘extinction-of-experience’ of nature in many cities (Pyle 1978). The alternative vision of Campus Albano shows how smart building- and landscape designs could make urban habitats more connected to the Biosphere as a whole, by way of careful planning and thoughtful design.
14. External communication

Campus development and design ideas have so far been communicated by members in the PatchWork Group at different presentations such as conferences, seminars and workshops. Both scientific and non-scientific publications have been developed, as well as film footages. Good examples include the book Principles of Social-Ecological Urbanism (Barthel et al. 2013) and PatchWork: Q-book Albano 4 - A case-based exploration of urban social-ecological design (2010), and booklets. Swedish Daily press and the university press and channels are also spreading information about Campus Albano. Target group is the wider society in general. The key message conveyed is that the campus will become a world-leading campus in the area of sustainability science.

15. Sustainability

The Campus Albano design accommodates local solutions for energy production, and aligns the greening of buildings with vegetation in the surrounding landscape. New habitats are designed to support the ecosystem processes of species migration, pollination and seed dispersal. The design also involves development of institutional designs related to urban green commons (Colding and Barthel 2013), by which local civil society organizations, students and scholars can become managers and stewards of habitats and green areas in the area (from wetland ponds to allotment gardens).

PERFORMATIVE BUILDINGS: GRÄNSER

Fig. 3: Performative Boundaries. The different natural and man-made elements in the campus landscape have been analyzed for their capacities to provide ecosystem services, and support accessibility and inclusivity. Source: Barthel, S, Colding, J., Ernstson, H., Erixon, H., Grahn, S., Kärsten, C., Marcus, L., Torsvall, J. 2013. Principles of Social-Ecological Urbanism - Case Study: Albano Campus, Stockholm. TRITA-ARK Forskningspublikationer 2013:3, Stockholm. ISBN 978-91-7501-878-2.
The project is expected to make a positive contribution towards a low-carbon economy. Designs focus on social-ecological resilience (adaptations to climate change) and mitigation measures to reduce carbon consumption of Campus Albano. For instance, the integrated campus development plans will include better mobility solutions between the city and the campus, as well as within campus (walking, bicycling and public transport), and also includes novel energy solutions that will be continuously updated in step with technological innovations. The climate adaptation designs include carbon absorbing design elements (nature based solutions) that simultaneously support the generation of local ecosystem services.

One unexpected effect of the design process was the theoretical merging of social-ecological urban systems thinking with urban morphology thinking inspired by Jane Jacobs, which gave birth to what we now call Social-Ecological Urbanism (Barthel et al. 2013; Marcus and Colding 2014). The combination of these two thought lines provides a cognitive step towards the city’s goal of generating an ecosystem-based urban transformation, where cities are seen as embedded in the biosphere, and where social-ecological relations on the micro-scale are combined with spatial features (Marcus 2010) for combating social segregation and for creating walkability and safety. From a discourse point of view, Social-Ecological Urbanism can be seen as a second generation following the dominance of the smart growth paradigm, since it deals not only with designs for mitigation of carbon emissions, but also with adaptation measures to enhance adaptive capacities in relation to emerging surprises. It does so by searching for synergies between ecological and socio-spatial systems, where resilience is used as the systems’ capacity to absorb shocks, utilize them, reorganize and continue to develop without losing fundamental functions. In this sense, social-ecological urbanism can rather be viewed as a scientific upgrading of landscape urbanism concepts. Insights from the design process behind this work include the importance of: 1) respectful interdisciplinary working conditions, including exchange of knowledge and terminology in productive ways, 2) translation of scientific knowledge into physical, institutional and discursive artifacts that both ‘protect’ and communicate the ideas, and 3) respect for and careful consideration of how to navigate within the power landscape in which urban planning and design is embedded.

16. Key social, ecological, and financial aspects for a sustainable campus

Campus designs should be based on the principles of Resilience Thinking (see for example the short Youtube video How to apply resilience thinking). Natural elements, selected and designed so as to support the provisioning of ecosystem services, i.e. nature based solutions, should be included in campus designs so as to produce climate-smart campus areas, and create urban services and ecosystem services.

- The capacity of urban design to produce social and ecological services depends on a mix of formal and informal institutions
- The capacity of urban designs to generate social and ecological services depends social spatial accessibility and on ecological spatial connections
- Informal management of urban space may increasingly become instructive to let people become co-creators of urban space.
- Strive towards a shift away from a focus on biodiversity conservation in special places to one integrating ecosystem services in urban form and design (i.e. adopt nature-based solutions in urban planning and design!)
• Plan for support and integration of social networks that include diverse interest groups in management of urban ecosystems, and open urban spaces
• Promote institutional diversity (e.g. property rights) in governance of urban social and ecological services as an alternative to the ongoing trend of privatization of public space
• Strive for collaborative urban planning and design that can integrate knowledgeable stakeholders at various urban scale-levels to support continuous learning, management and stewardship of social and ecological services
• Strive for urban forms that are socially inclusive and promote a fair distribution of spatial accessibility to urban services and to ecosystem services
• Solutions should be able to be continuously replaced by new technological innovations related to the above
• Legible architecture: the architecture should reflect visually all such above sustainability solutions

17. Provisioning of key aspects of sustainable urban development by Campus Albano

The campus design summarized in Appendix 1, as well as in specific Campus Albano publications in the reference list, demonstrates that it is possible to design a new university campus, which simultaneously can improve the social and ecological values of the site itself and of the surrounding areas. The integration of nature-based solutions in the spatial design in combination with novel institutional designs, can generate a whole cadre of critical social and ecological services, fostering sustainability. The theoretical foundation behind the unique social-ecological design comes from long-term empirical studies in ecology and architecture. Together with professional architectural ingenuity, it is the firm hopes of the PatchWork Group that Campus Albano will realize its high ambitions over the years to come, and by 2019 present a cutting-edge, world-renowned university campus. Key aspects of such a university is that it stimulates learning, participation and connectivity, as well as promote diversity in social and ecological interactions and linkages, self-organization and adaptation towards a more resilient future. Such transformation is necessary to reconnect cities more thoroughly to the Biosphere as a whole.

Expected research deliverables in the LBC-project

A Best Practice Report of Campus Albano, partly based on interviews with the actors involved in producing the campus design, will be produced during the LBC project. Displaying examples of novel design solutions that are part of the process will be of particular interest. An added aim is to compare the final detail plan of Campus Albano with the alternative vision produced by the PatchWork Group, in order to identify critical tradeoffs, limitations and improvements made in the detail plan.

A synthesis study of ecologically designed campus areas will be conducted. The aim is to collect international examples and to publish the findings in a high-ranked scientific journal.
References


Volume: 26, Issue: 2, Sp. Iss. SI, Pages: 283-296


Statistics Sweden 2010. (http://www.scb.se/Pages/TableAndChart___308468.aspx )


APPENDICES

Appendix 1.

Resources: webpage of the campus, other relevant links, literature

Photos, maps, diagrams