



FOREST & LANDSCAPE

Urban forestry and the EU QF system

Implications for expert competences and skills

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Outline

- European QF
- Urbanisation and green space failures
- Introducing urban forestry
- Innovations in European urban forestry
- Education requirements
- Urban forestry education at the University of Copenhagen



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European QF: knowledge

“Knowledge” means the outcome of the assimilation of information through learning.

Knowledge is the body of facts, principles, theories and practices that is related to a field of work or study.

In the context of the European Qualifications Framework, knowledge is described as theoretical and/or factual.

THE EUROPEAN QUALIFICATIONS FRAMEWORK
FOR LIFELONG LEARNING (EQF)



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European QF: skills

“Skills” means the ability to apply knowledge and use know-how to complete tasks and solve problems.

In the context of the European Qualifications Framework, skills are described as cognitive (involving the use of logical, intuitive and creative thinking) or practical (involving manual dexterity and the use of methods, materials, tools and instruments)



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European QF: competence

“Competence” means the proven ability to use knowledge, skills and personal, social and/or methodological abilities, in work or study situations and in professional and personal development.

In the context of the European Qualifications Framework, competence is described in terms of responsibility and autonomy.



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European QF

- Eight levels, from 1) basic general knowledge to 8) knowledge at the most advanced frontier of a field or work or study
- Focus here on levels 6, 7 and 8: advanced knowledge, highly advanced knowledge, and frontier knowledge



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A different view on cities

- Urban ecology
- Sustainable urban development
- Urban footprint
- Urban resilience – e.g. in adapting to climate change



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Some important trends – apart from urbanisation

- Globalisation of markets and values – and times of economic crisis
- Demographic changes
- Lifestyle changes
- Information and entertainment society
- Climate and environmental change



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'Urban green space failures'

- High pressures and hunger for urban land
- High maintenance costs vs. falling public budgets
- Ageing parks, vegetation
- Diseases (e.g., Dutch Elm Disease)
- Impacts of climate change
- Call for more public involvement
- Wrong political decisions, design, etc.
- Focus on establishment, not maintenance



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Cities as challenging environments for trees and forests

- Biotic and abiotic conditions
 - Tree planning in cities typically under difficult conditions
 - Harsh growing conditions – often man-caused
- Anthropogenic pressures ('direct')
 - Vandalism and mechanical damage
 - Overuse
 - Pollution
 - Infrastructure/urban development
- Societal developments
 - Changing politics, demands, economics
 - Conflicts, wars and crises

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NEW YORK IN A FEW YEARS FROM NOW
(A prophecy of 1881)

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Urban forestry

The art, science, and technology of managing trees and forest resources in and around urban community ecosystems for the physiological, sociological, economic, and aesthetic benefits trees provide society

(Helms 1998, based on Miller 1997)



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Photo: Jasper Schipperijn



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Key characteristics of urban forestry

- **Integrative:** *all* tree resources; urban and peri-urban; planning & management
- **Strategic:** long-term vision, multiple use
- **Inter-/multidisciplinary:** wide range of disciplines/fields
- **Participatory:** stakeholder involvement
- **Urban:** urban conditions; meeting urban demands



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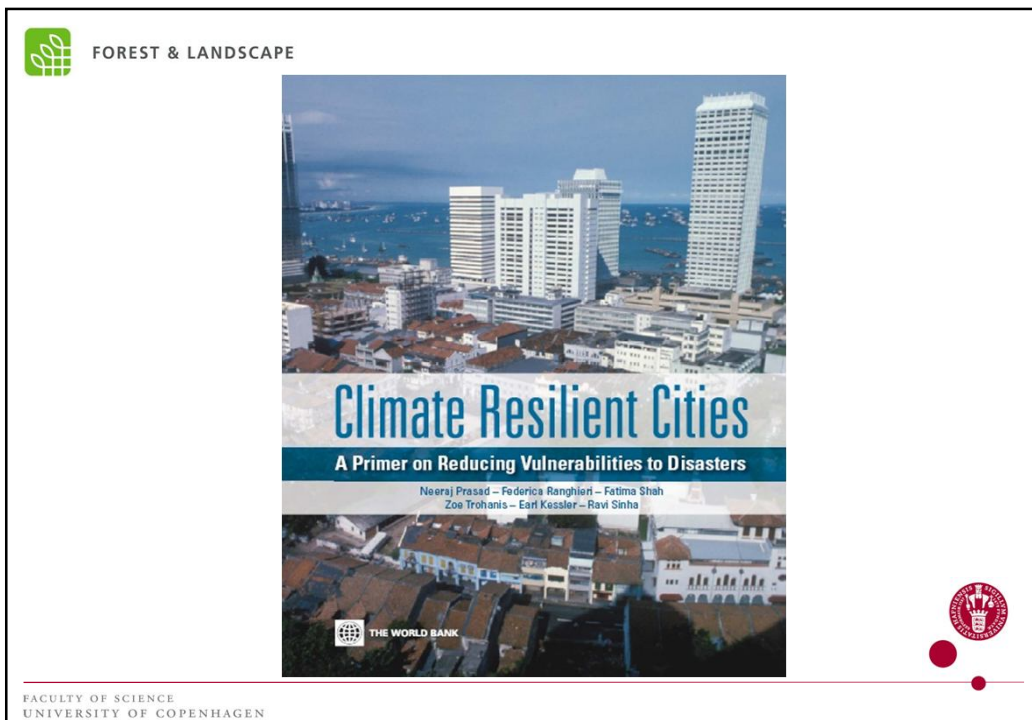
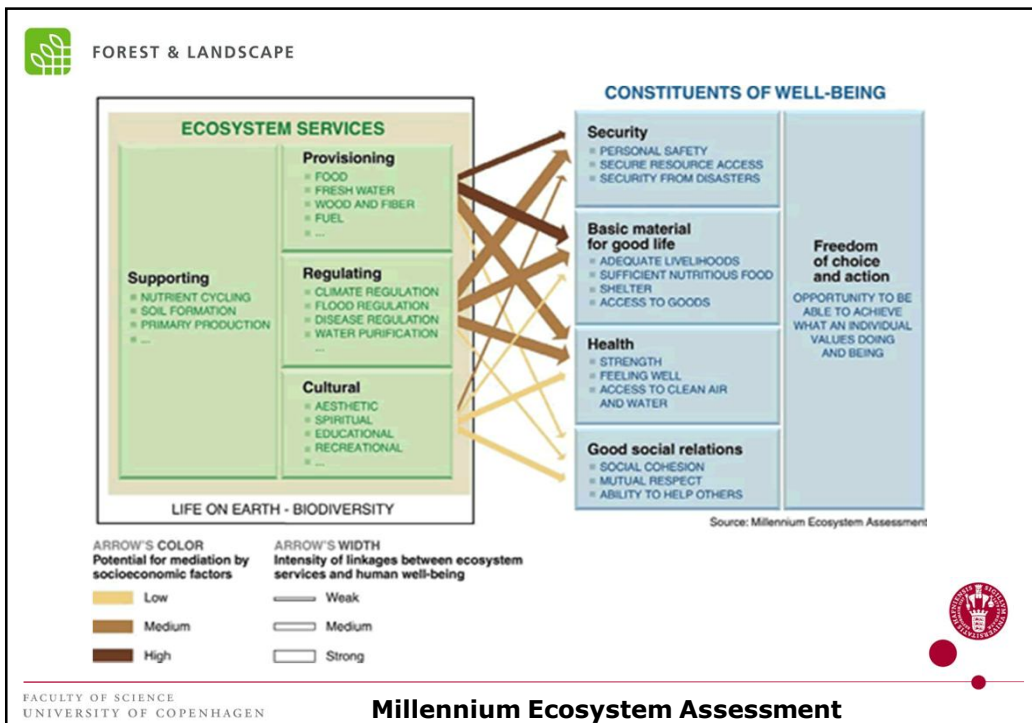
Innovation in urban forestry

- *Innovare*: to renew or to change
- To introduce something new
- A new idea, method, or device
- Innovation generally refers to the creation of better or more effective **products, processes, technologies, or ideas** that are accepted by *markets, governments, and society*



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Merriam-Webster's online, Wikipedia



Global Burden of Disease, WHO

The dominating reasons for global burden of disease

2004			2030		
Disease or injury	As % of total DALYs	Rank	Rank	As % of total DALYs	Disease or injury
Lower respiratory infections	6.2	1	1	6.2	Unipolar depressive disorders
Diarrhoeal diseases	4.8	2	2	5.5	Ischaemic heart disease
Unipolar depressive disorders	4.3	3	3	4.9	Road traffic accidents
Ischaemic heart disease	4.1	4	4	4.3	Cerebrovascular disease
HIV/AIDS	3.8	5	5	3.8	COPD
Cerebrovascular disease	3.1	6	6	3.2	Lower respiratory infections
Prematurity and low birth weight	2.9	7	7	2.9	Hearing loss, adult onset
Birth asphyxia and birth trauma	2.7	8	8	2.7	Refractive errors
Road traffic accidents	2.7	9	9	2.5	HIV/AIDS
Neonatal infections and other ^a	2.7	10	10	2.3	Diabetes mellitus
COPD	2.0	13	11	1.9	Neonatal infections and other ^a
Refractive errors	1.8	14	12	1.9	Prematurity and low birth weight
Hearing loss, adult onset	1.8	15	15	1.9	Birth asphyxia and birth trauma
Diabetes mellitus	1.3	19	18	1.6	Diarrhoeal diseases



Slide courtesy of Matilda Annerstedt

Källa: Health statistics and informatics, WHO



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Governance

- Focus on role of non-state actors in politics and the assumption that they become influential over policy
- Governance by / with / without government
- Governance *with* government: boundaries between and within public and private sectors have become blurred

Source: Kleinschmit et al. (2009)




Why Green Space Award? - Windows Internet Explorer

http://www.greenspaceaward.com/ds-DK/Why-Green-Space-Award.aspx

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Why Green Space Award?



Green Space Award

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Logbook and announcements

Why Green Space Award?

Debate and FAQ

Open process

Special places

How are we organized?

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Why Green Space Award?

We work towards a shared understanding of the needs and prospects for a Nordic quality assessment and award scheme, that promotes the delivery of high quality services within park and nature management.

Background

- A need to focus on the quality and standards of services.
- A need to see green spaces as a true 'public' services.
- A need to focus on user experience, public preferences, expertise or the quality and efficiency of long term management.
- A Nordic project in order to exploit synergies and share knowledge.
- It is up to the urban green-space manager to adopt strategies and deliver services of high value for local communities and stakeholders.


Search

Announcements

D. 18. januar - Temadag om Spaceshaper på S og L

D. 19. januar - GSA partnermøde i København

D. 31. maj - Ansøgningsfrist til International Awards for Liveable Communities 2011



Vigerslevparken i København
Fodbolddrenge under træning

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Glowing trees could light up city streets

25 November 2010 by Frank Swain

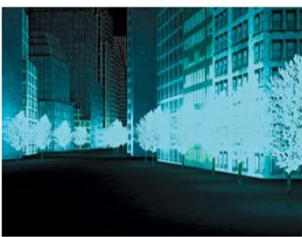
Magazine issue 2788. [Subscribe and save](#)

IMAGINE taking a midnight stroll, your route lit by row upon row of trees glowing a ghostly blue. If work by a team of undergraduates at the University of Cambridge pans out, bioluminescent trees could one day be giving our streets this dreamlike look. The students have taken the first step on this road by developing genetic tools that allow bioluminescence traits to be easily transferred into an organism.

Nature is full of glow-in-the-dark critters, but their shine is feeble - far too weak to read by, for example. To boost this light, the team, who were participating in the annual International Genetically Engineered Machines competition (iGEM), modified genetic material from fireflies and the luminescent marine bacterium *Vibrio fischeri* to boost the production and activity of light-yielding enzymes. They then made further modifications to create genetic components or "BioBricks" that can be inserted into a genome.

The team managed to produce a range of colours by putting these genes into the *Escherichia coli* bacterium. They found that a volume of bacterial culture about the size of a regular wine bottle gave off enough light to read by.


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Street lamps with a difference (Image: Theo Sanderson)

This week's issue

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15 January 2011

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Using virtual reality

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Source: Annerstedt et al. (submitted)



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Green infrastructure

- Strategically planned and delivered network of high quality green spaces and other environmental features.
- Designed and managed as a multifunctional resource capable of delivering a wide range of environmental and quality of life benefits for local communities.
- Includes parks, open spaces, playing fields, woodlands, allotments and private gardens.

<http://www.naturalengland.org.uk/ourwork/planningtransportlocalgov/greeninfrastructure/default.aspx>

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Towards a green infrastructure for Europe - Green infrastructure - Windows Internet Explorer

http://www.green-infrastructure-europe.org/

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Q green infrastructure SEARCH

Towards a green infrastructure for Europe - Green inf...

Workshop - 25-26 March 2009 Brussels, DG ENVIRONMENT, Beaulieu 25

Towards
a **green infrastructure** for Europe
Integrating Natura 2000 sites into the wider countryside

Home Programme The workshop Venue Proceedings Background Contact us EC study

Green infrastructure

The need for healthy ecosystems is now widely recognised, not just to halt the loss of biodiversity, but also to benefit from the many valuable services they provide. An essential condition for healthy ecosystems is the maintenance of ecological coherence. However, habitats throughout Europe are becoming increasingly fragmented. Many initiatives are already playing a role in tackling this issue, such as the Natura 2000 Network. But, given the scale of the challenge, more needs to be done to build an ecologically coherent

Purpose of workshop

Against this background, the main aims of the workshop were to determine an appropriate Community response to these developments and to identify the actions that would be most effective at EU level. The aim is to build on the experiences of existing initiatives across Europe. The conclusions will contribute to further thinking on how a Green Infrastructure for the European Union could be shaped and

Latest News

- The workshop proceedings are now available, to download [click here](#)

Proceedings



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Requirements regarding knowledge, skills and competences

- Transdisciplinary and interdisciplinary approaches
- Strategic thinking
- Communication and branding
- Conflict management
- Focus on multiple benefits
- Socio-cultural, ecological and economic aspects
- Still also come 'traditional' core knowledge



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The Urban Forester – a profile

- Forester, but took landscape architecture and social subjects in the studies
- Using forestry knowledge in an adaptive way – but relying on a strong core of knowledge
- Specific interest in social and urban issues
- Skills, 'mindset':
 - open, communicative
 - can operate in a highly political setting
 - creative, flexible, innovative
- High level of competence – natural resource management in urban settings



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Urban forestry aspects in Danish education (1)

- Park Diploma (vocational)
- Engineer in Garden- and Park management (specialised)
- Forest and Landscape engineer (some aspects included)



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Urban forestry aspects in Danish education (2)

- Master in Landscape Architecture
 - Specialisation on 'green space management'
 - Thematic course (15 ECTS) on urban forestry & urban greening
 - Additional courses, e.g. Design by Management, Conflict management, Master thesis
- Master education in Forest & Nature Management
 - Option for taking 'urban forestry'-style courses
- PhD-studies



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Urban Forestry & Urban Greening

- Ca. 30 students per year – from across the world
- Strategic view on green space management
- Interactive, e.g. developing a park management plan
- Topics covered during the course:
 - Concept, history, benefits of UFUG
 - Governance, policies and planning
 - Branding, communication, public involvement
 - Management and maintenance
 - Implementation of UFUG



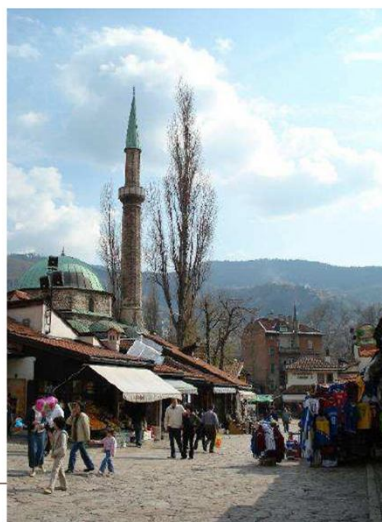
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Expected number of hours per activity

Lectures (1 lecture is 2 x 30 minutes)	60 hrs
Exercises	30 hrs
Project work with supervision	90 hrs
Discussion of literature	10 hrs
Exam	1 hr
Own preparation	225 hrs
Total	416 hrs



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Main learning objectives

- Understand and describe the characteristics, roles and complexity of UFUG at different levels, from strategies to implementation.
- Apply your own professional background and knowledge to the interdisciplinary context of UFUG.
- Be able to prepare a strategic management plan for green space, in collaboration with colleagues from different backgrounds as well as other stakeholders.



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