Environmental Responsibility and Marine Spatial Planning in the Arctic

Strategic objectives and cooperation tools for the EU Governance of Natural Resources

Russian State Hydrometeorological University, St.-Petersburg, Russia, September 25-26, 2018

Устойчивость портовых городов Российской Арктики
Sustainability of the Russian Arctic Port Towns

Opportunities for and challenges to urban development and social cohesion in Russia's Arctic under climate change impacts

Nikolai Bobylev[1], Veli-Pekka Tykynnen[2], Marian Paschke[3], Alexander Sergunin[1]

[1]Saint Petersburg State University, Russia
[2]University of Helsinki, Finland
[3]Universität Hamburg, Germany

E-mails: n.bobylev@spbu.ru

project outline

- “Opportunities of and challenges to urban development and social cohesion in Russia’s Arctic under climate change impact” financed by
- Era.Net RUS (RUS_ST2017-527) and Russian Foundation for Basic Research (№18-55-76003).
- Funder ERA.NET Plus with Russia – strengthening STI links between Russia and the European Research Area
- http://www.eranet-rus.eu

RFBR RUSSIAN FOUNDATION FOR BASIC RESEARCH

ERA.Net RUS Plus

project pertners

- Dr. Nikolai Bobylev, Institute of Earth Sciences, Saint Petersburg State University
- Prof. Alexander Sergunin, School of International Relations, Saint Petersburg State University
- Prof. Veli-Pekka Tynkkynen, Aleksanteri Institute, University of Helsinki
- Prof. Marian Paschke, Law Faculty, University of Hamburg

Research aims

1.To develop an Arctic City Sustainable Development Index (ACSDI), which could be helpful for assessing the consequences of global climate change and anthropogenic activities for the Arctic Zone of the Russian Federation (AZRF) urban centers.

2. The ACSDI will be used to evaluate the current situation and measure sustainability outcomes and progress toward achieving those outcomes in the AZRF cities that are growing due to resource development/transport infrastructure projects and migration, as well as those that for some reasons lack this growth.

3. Policy recommendations on sustainable development/social cohesion strategies for the AZRF local and regional governments as well as for the federal authorities and international organizations concerned will be developed.

project workpackages

- WP 1 – Development of an Arctic City Sustainable Development Index;
- WP 2 – Assessment tools;
- WP 3 - Sustainability outcomes;
- WP 4 – Policy recommendations.
- WP 5 – Towns visits and interviews, data collection;
- WP 6 – Dissemination;
- WP 7 – Publications preparation

Sustainability of the Russian Arctic Port Towns

1. Western Kola
2. Central Kola
3. Khibinsky
4. Arkhangelsky
5. Kotlassky
6. Vorkutinsky

Source: Ekologicheskoe sostoyanie impaktnikh rayonov sushi arkticheskoy zoni Rossiyskoy Federacii (2010) Severnash.ru

Sustainability of the Russian Arctic Port Towns

Russian Arctic cities of Severodvinsk (top left), Murmansk (top right) and Vorkuta. Photos by Y. Ageeva.

United Nations Global Goals

http://www.un.org/sustainabledevelopment/cities/

United Nations Global Goals

UN SDGs

Goal 11: Make cities inclusive, safe, **resilient and sustainable**

Goal 9: Build **resilient infrastructure**, promote sustainable industrialization and foster innovation

Goal 7: Ensure access to affordable, reliable, **sustainable and modern energy** for all

Goal 13: Take urgent action to combat **climate change and its impacts**

SUSTAINABLE DEVELOPMENT GOALS
17 GOALS TO TRANSFORM OUR WORLD

United Nations Global Goals

Goal 11: Make cities inclusive, safe, resilient and sustainable

Cities are hubs for ideas, commerce, culture, science, productivity, social development and much more. At their best, cities have enabled people to advance socially and economically.

However, many challenges exist to maintaining cities in a way that continues to create jobs and prosperity while not straining land and resources. **Common urban challenges include congestion, lack of funds to provide basic services,** a shortage of adequate housing **and declining infrastructure.**

The challenges cities face can be overcome in ways that allow them to continue to thrive and grow, while improving resource use and reducing pollution and poverty. The future we want includes cities of opportunities for all, with access to basic services, energy, housing, transportation and more.

http://www.un.org/sustainabledevelopment/cities/

United Nations Global Goals

Goal 11: Make cities inclusive, safe, resilient and sustainable

Half of humanity – 3.5 billion people – lives in cities today

By 2030, almost 60 per cent of the world's population will live in urban areas

95 per cent of urban expansion in the next decades will take place in developing world

The world's cities occupy just 3 per cent of the Earth's land, but account for 60-80 per cent of energy consumption and 75 per cent of carbon emissions

UN-HABITAT

UN Environment Programme : Cities – investing in energy and resource efficiency

UN Environment Programme Climate Neutral Network

UN Environment Programme: Cities and Climate Change

UN Population Fund: Urbanization

ICLEI – Local Governments for Sustainability

SUSTAINABLE DEVELOPMENT GOALS

17 GOALS TO TRANSFORM OUR WORLD

http://www.un.org/sustainabledevelopment/cities/

Sustainability of the Russian Arctic Port Towns

Challenges –

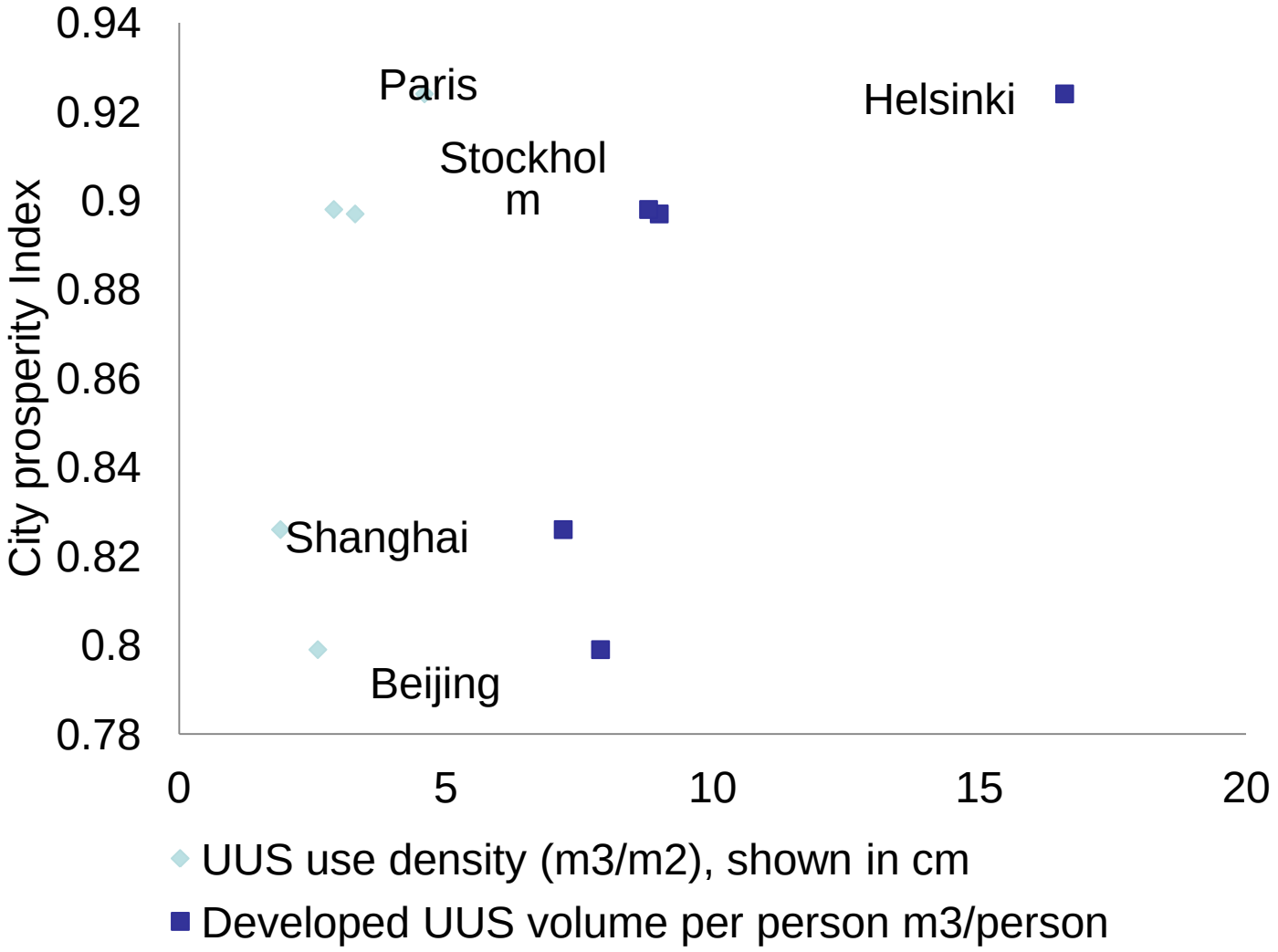
Aging infrastructure

Accumulated environmental damage

Climate change uncertainties

Planning for sustainability: two types of planning:
(1) map based (e.g. master planning), and
(2) policy based, or strategic planning

Sustainability of the Russian Arctic Port Towns



Source: Bobylev, N (2016) Underground Space as an Urban Indicator: Measuring Use of Subsurface. Tunnelling and Underground Space Technology, Elsevier. Volume 55

Henriksdahl Sewage Treatment Plant, Sweden

Sustainability of the Russian Arctic Port Towns

Caverns for storage (gas, compressed air, etc)

Publishing plan 2018

- Russia’s Arctic towns physical infrastructure resilience under climate change impacts

- Challenges to a sustainable urban development and social cohesion in Russia’s Arctic under climate change impacts

- Environmental challenges and investment potential of Russia’s Arctic towns

Thank you for your attention!

E-mail: nikolaibobylev@gmail.com