Citizen Science and policy: A European perspective

Muki Haklay, Extreme Citizen Science (ExCiteS) research group, UCL
Outline

• The place of citizen science within environmental knowledge production & use
• Policy dimensions of citizen science: geographical, policy formation stage, mode of engagement
• Examples from EU and member state research
• Next steps in Citizen Science: Doing It Together Science (DITOs)
Eras of environmental information

- Information has been central to environmental decision making since the emergence of the new environmental movement (1960s)
- Information flows between experts, policy makers, and the public
- Aspects of information: Fitness for purpose, reliability, quality, and accuracy play a role in directives and regulations (e.g. INSPIRE)
Third era: Since 2012

Information by experts and the public, for experts and the public

Citizen Science in the 3rd Era

• Benefiting from societal transition (levels of education, longevity of healthy life, increase in leisure time) and technological changes (smartphones, web, data standards)
• Citizen Science increasingly accepted by scientists & decision makers
• Integrated in legislations and operational programmes (EEA, US EPA, Germany, UK)
‘Often the best information comes from those who are closest to it, and it is important we harness this local knowledge if we are to tackle climate change adequately... people are encouraged to give their own opinion on the quality of the beach and water, to supplement the official information.’
WaterWatch - Bathing water quality for Europe

Official data
Yearly and seasonal bathing water data
Bathing water data (below 1:1,000,000)
- Unknown
- Excellent
- Good
- Sufficient
- Insufficient sampled
- Poor
- Closed

Citizen Observation Layer
Rating:
- Very bad
- Bad
- Moderate
- Good
- Very Good

Edited seconds ago
Delete
Save
Policy dimensions

- **Level of Geography** – scale or operation + jurisdiction / governance structure. neighbourhood, city/town, regional, national, continental

- **Stage in policy formation** – evidence plays different role and use in different way: from identifying issues, formulating action, to implementation

- **Mode of engagement** – The degree of involvement that is required from a participant. From passive sensing to active participation in the design of the process
WideNoise Community Experience Experience Map

Data Gathering:
This map was created from data collected using the freely available smartphone application - WideNoise
www.widenoise.com/widenoise
The app allows users to take short sound measurements which are geolocated and made publicly available through a web interface.

Map Design:
The goal of this map is to capture the dynamics and characteristics of the WideNoise database around Heathrow Airport. Each colored dot represents a single sound measurement made by a localWideNoise user. The colour of the dots is an indication of the noise level at that time and location. Users are encouraged to describe their experience to give the size of the text represents the level of annoyance.

Map Legend:

- 0 - 22 dB
- 22 - 44 dB
- 44 - 66 dB
- 66 - 89 dB
- 89 - 111 dB

2011 Heathrow Airport Standard Noise Contour (www.gov.uk)

This project was carried out by the Extreme Citizen Science research group (UCL) as part of "BrelyAware" (FP7 PET Open grant no.260423).
Hyper Local

- **Geographical scale**: neighbourhood
- **Policy stage**: Implementation, raising issues
- **Policy domain**: environmental monitoring
- **Engagement**: participatory sensing, civic/community science
- **Data and information**: ad-hoc, local systems (paper, spreadsheets). Offering centralised system can streamline sharing
Karte der Sammler

Was Sie sehen und Benutzung

Auf dieser Seite finden Sie eine deutschlandweite Kartendarstellung mit den Fundpositionen der jeweiligen Sammler. Sie können mit der Maus auf einen orangen Punkt in der Karte klicken, um Fangdatum, Fundort und Name bzw. Pseudonym des Sammlers zu erfahren.

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Darstellung (79 Fundorte)

Jahr: 2015  »» Alle Bundesländer anzeigen »»
Regional

- **Geographical scale**: regional
- **Policy stage**: discovery/Implementation
- **Policy domain**: ecology/public health
- **Engagement**: ecological observations
- **Data and information**: research institution, with potential for QA, centralised analysis and regional sharing of information
SAUVAGES DE MA RUE
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Accueil > Sauvages de ma Rue > Présentation

PRÉSENTATION

Sauvages de ma rue est un programme de science citoyenne : c’est à la fois un projet pédagogique animé par l’association Tela Botanica, et un projet scientifique du laboratoire CERSP du MNHN.

Une biodiversité à découvrir dans vos villes [Photo Bernard Faye | © MNHN].
Country scale

- **Geographical scale**: country
- **Policy domain**: education / environmental awareness / environmental monitoring
- **Engagement**: environmental and ecological observation, participatory sensing
- **Data and information**: national NGOs or research organisations, linked to national information systems & national decision making
Geographical scale – as the geographical scope increases, the role of the individual participants in the scientific process diminishes.

Citizen science is especially effective at the local, city, and national level - organisational structures, transport networks, ICT abilities.

Technology can scale up of existing activities, help in coordination, standarisation, information sharing.
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by Muki Haklay
Analysis outcomes

• Need to increase European capacity in coordinating, initiating, and using citizen science across geographical scales and policy areas.

• Coordinated effort can increase the visibility of citizen science – both for the wider public & to policy makers.
This project has received funding from the European Union’s Horizon 2020 research and innovation programme under grant agreement No 709433
11 Partners
10 countries
500 events
290,000 participants
+1,300,000 online

In 36 months...
This project has received funding from the European Union’s Horizon 2020 research and innovation programme under grant agreement No 709433
UCL coordinating, with ECSA growing in capacity & size over the life-time of the project

Four partners leading on critical areas

Five partners with cross engagement across civil society, SME, research, art & museums

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1000s of Europeans active in DIY biology
40,000 participants in British Trust of Ornithology
150,000 members of World Community Grid
1M people have taken part in Zooniverse
3M yearly visitors to the London Science Museum
500M EU Citizens

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• Deep public engagement in scientific knowledge production through citizen science;
• An ‘escalator’ that allows people to enter at a level of engagement that matches their needs, interests, and abilities, while also encouraging them to move beyond;
• Strengthening of European cooperation through capacity building of the European Citizen Science Association;
• Participatory activities, with a strong focus on cross-European fertilisation and knowledge sharing between hubs and activity centres.
• Particular effort towards engaging currently excluded groups

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DITOs is part of a wider discourse:

- Open Science
- Open Data
- Open Access
- Open Innovations
- Responsible Research & Innovation (RRI)
- Skills (STEAM)
- Citizen Science

See TogetherScience.eu
Active engagement with policy-makers

**Discovery Trips...**
Tailor-made international visits and exchanges for decision makers to facilitate **knowledge transfer** and **network building**

**Local and European level Roundtables**
Dialogues with affected stakeholders to discuss policy issues at both local and pan-European scales

**Perspectives on Citizen Science Conference and Pan-European Policy Forum**
Workshops, talks, “unconference” activities that bring together multiple stakeholder groups

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Discovery Trips for DITOs

Bringing policy makers, industry representatives, opinion leaders to consortium events:

• Exposure to latest trends in DIY science
• Provision of high-quality analysis and audio-visual materials
• Facilitating interactive discussions between decision makers and grassroots
• Collectively exploring citizen science policies that support Responsible Research Innovation (RRI) and current policy priorities

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Upcoming policy events for DITOs

Art & Science Policy Workshop (part of Ars Electronica Festival)
  Focus on network building and funding
  *Linz, Austria: 8 September 2016*

Local Stakeholder Seminar (in partnership with Nesta)
  Focus on citizen science and responsible innovation
  *London, UK: 18 October 2016*

European Stakeholder Roundtable
  Focus on Responsible Research and Innovation (RRI)
  *Berlin, Germany: 8 November 2016*

Discovery Trip for policy makers:
  Focus on Biodesign and Innovation
  *Paris, France: early March 2017*