CITIZEN SCIENCE & SDGs: Opportunities, Challenges, Recommendations

Dilek Fraisl, Steffen Fritz, Linda See, Ian McCallum, Inian Moorthy
UN Sustainable Development Goals

1. NO POVERTY
2. NO HUNGER
3. GOOD HEALTH
4. QUALITY EDUCATION
5. GENDER EQUALITY
6. CLEAN WATER AND SANITATION
7. RENEWABLE ENERGY
8. GOOD JOBS AND ECONOMIC GROWTH
9. INNOVATION AND INFRASTRUCTURE
10. REDUCED INEQUALITIES
11. SUSTAINABLE CITIES AND COMMUNITIES
12. RESPONSIBLE CONSUMPTION
13. CLIMATE ACTION
14. LIFE BELOW WATER
15. LIFE ON LAND
16. PEACE AND JUSTICE
17. PARTNERSHIPS FOR THE GOALS
IIASA Workshop on Citizen Science and SDGs
3-5 October 2018, Austria

How can we improve the understanding and acceptability of citizen science by national statistical offices, UN custodian agencies and other policy makers?
Citizen Science
Citizen-generated Data

• **Citizen science:**
  • Involvement of citizens in scientific research
  • Inclusive generation of knowledge

• **Citizen-generated data:**
  • Data produced by citizens
Improving the quality of Earth Observation-based Land Use & Land Cover maps/products

Uncovering the potential of citizen science and earth observation to improve the way we see, map and understand the world

Lowering cost of in-situ (ground-based) data collection methods
FotoQuest Go: Mobile App

Mobile application for in-situ data collection to promote community-based LULC monitoring and awareness.

fotoquest-go.org
FotoQuest Go: Process

Step 1: Navigate to Location
Step 2: Take photos
Step 3: Answer questions
Step 4: Submit for QA
Step 5: Feedback to contributor

Photos in 4 cardinal directions plus target location itself
FotoQuest Go: Campaign

- Quality control & assurance process
- Feedback to contributors via app & email
- Monetary incentive of 1 to 3 EUR per point

User Survey – 2017 Campaign

<table>
<thead>
<tr>
<th>Activity</th>
<th>Rating</th>
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<tbody>
<tr>
<td>Contribute to science</td>
<td>4.7</td>
</tr>
<tr>
<td>Strong interest in project</td>
<td>4.6</td>
</tr>
<tr>
<td>Enjoy being outdoors</td>
<td>4.5</td>
</tr>
<tr>
<td>Discover new landscapes</td>
<td>4.3</td>
</tr>
<tr>
<td>Enjoy using the app</td>
<td>4.2</td>
</tr>
<tr>
<td>User friendly app</td>
<td>4.1</td>
</tr>
<tr>
<td>Excited about rewards</td>
<td>4.1</td>
</tr>
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11 weeks

140+ Contributors

1680+ Quests = 1647 accepted (%98) - about 46% perfect - %52 good quality

7677+ Photos
Potential of Citizen Science

Help leverage the SDG efforts with the application of new methodologies to enhance the quality of such data.*

Support SDG implementation through transformative practices - attitude and behaviour change.

Opportunities: Citizen Science

- Addresses current data gaps
- Contributes to the achievement of SDG 17 Partnerships for the Goals - inclusive
- Cost effective
- Increases accountability and trust
- Contributes to transformation towards Sustainability
## Challenges/Solutions: Citizen Science

<table>
<thead>
<tr>
<th>CHALLENGE</th>
<th>SOLUTION</th>
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<tbody>
<tr>
<td>Geographical and thematic coverage</td>
<td>Scaling-up to different locations (FotoQuest Go for Europe), and other themes (Picture Pile)</td>
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<tr>
<td>Data Quality and Reliability</td>
<td>FotoQuest Go – Near Real Time Feedback Quality Assurance Tool</td>
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<td>Data Privacy</td>
<td>Anonymizing data sets</td>
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<td>Reluctance on its use for policy making</td>
<td>Recognition for citizen science</td>
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Way Forward

• Build partnerships with official data producers

• Liaising with UN custodian agencies for input in developing methodologies (e.g. particularly for Tier III, where there is no methodology agreed)

• Evaluating where actively generated citizen science/data may contribute most to SDG in order to increase the acceptability. Examples from Libby!
Thank you!

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