DATASHIFT

FLOAT BEIJING
CITIZEN-GENERATED DATA ON AIR QUALITY

CASE STUDY

INITIATIVE NAME:
FLOAT BEIJING

ONLINE PRESENCE:
HTTP://F-L-O-A-T.COM/

GEOGRAPHICAL SCOPE:
BEIJING, CHINA

FLOAT Beijing was a community-driven project developed in 2012 to allow citizens to generate their own data on air quality in the city using kites.

It addressed issues of sustainable development – specifically urban development – by finding a constructive, concrete way for Beijing residents to engage with an issue that is important to all of them.

When the project was conceived, the Chinese government "tend[ed] to resist publishing air quality data"[1]–so the project addressed a serious need for accurate, timely air quality data in one of the world's most polluted cities.

[1] Ben Blanchard, "China says only it has right to monitor air pollution", Reuters, June 5, 2012, accessed September 10, 2015, http://www.reuters.com/article/2012/06/05/uk-china-environment-idUSLNE85400D20120605

CONTEXT

2010–2011 news reports suggested that the Chinese government's official readings often reported only "slight" pollution in Beijing. In the run-up to the 2012 Beijing Olympics, the Chinese government reportedly "tweaked" air quality indices so that the city would reach the required number of "blue sky days" in 2011.

The U.S. Embassy in Beijing increased pressure on the Chinese government in 2011 by setting up an air quality sensor on top of the embassy to make their own measurements. They shared these with the public by tweeting them out regularly under the handle **@BeijingAir**[2]. In response, a Chinese minister publicly stated: "Foreign consulates in China taking it on themselves to monitor air quality and release the information online not only goes against the spirit of the Vienna Convention … it also contravenes relevant environmental protection rules."

Despite this, the US Embassy expanded their sensor network to consulates in other parts of the country. Then in August 2012, the Beijing Municipal Environmental Monitoring Centre began releasing their own data **through a newly expanded network of sensors**[3]. Following this, in 2013, **state media's coverage of air quality** was reportedly much more comprehensive and "unflinching" about its true state. It's unclear whether the FLOAT Beijing project had a role to play in this opening up of information.

We spoke to one of the co-founders of the project, Xiaowei Wang, who was then a student at the Harvard Graduate School of Design. Together with her project partner Deren Guler, they worked with communities in Beijing to put open source hardware air quality sensors on kites. The sensors activated a red LED on the kite when the air quality was bad, and a green one when it was good.

FLOAT wasn't a typical 'citizen science' project–instead, it was conceived as a community-driven art project. It involved citizens at every step–in summer 2012, Xiaowei and Deren held four workshops with Beijing residents[4] to teach them how to build the sensors themselves, and produced online tutorials so that others could learn how to collect their own data and readings. The fact that lights on the kite changed colour depending upon the air quality allowed not only those directly engaged in the project to understand the findings, but also anyone who could see the kites flying.

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2 https://twitter.com/BeijingAir

3 Louise Watt, "Stations Monitor Beijing's Air Quality After U.S. Embassy Pressure", Associated Press, August 10, 2012, accesed September 10, 2015, http://www.laboratoryequipment.com/news/2012/10/stations-monitor-beijings-air-quality-after-us-embassy-pressure

4 Workshop schedule, 2012, accessed September 10, 2015, http://f-l-o-a-t.com/post/27842765857/workshop-schedule

By building the project around something important to people in Beijing – kite flying – it turned a familiar cultural reference into an object of citizen empowerment. This meant that some of the people who turned up to the workshops were initially attracted because of the focus on kites, rather than air quality: Xiaowei says some of the older participants were "intense kite hobbyists".

At the time that the project was running, in 2012, the data produced was disseminated online through the popular Chinese social media network Weibo, and through the FLOAT project website (which was on Tumblr and accessible in China at the time). However, towards the end of the project, the Chinese government forced FLOAT Beijing to make a choice: they could either take down all of the data from their website, or be more broadly censored. In the end, Xiaowei says they decided it was "ultimately more important for the tutorials to be accessible to as many people as possible" than for the data to be publicly available – so they took down the data.

LESSONS LEARNED

According to Xiaowei, FLOAT should have focussed more on spreading the data through local communications channels rather than more 'Westernised' internet outlets. In this case, making it more widely available actually turned out to be less useful than getting it locally available. This could have helped communities in the affected areas to get better access to the data, and understand how to to use it.

CHALLENGES

Despite the fact that the FLOAT data was being generated by a number of people, Xiaowei said that "the Chinese government saw us [Xiaowei Wang and Deren Guler] as the instigators". The government actually sent someone to one of the workshops to monitor them. Despite this monitoring, Xiaowei says that the government were actually quite reasonable, and that she didn't hear from them other than requests to take certain things off their website.

MEASURING IMPACT

When asked about what she learned from the project, Xiaowei focused on sustainability and scalability:

> *"What is success, to me, is to create a healthy data collection/production ecosystem in one community or place, where the practice is able to become embedded across a diverse set of users and stakeholders."*

If they could do the project again, Xiaowei said they would also spend more effort on supporting the community to carry on generating, collecting and using the data to push for social change.

Some of the more intense kite hobbyists brought with them expertise and excitement from the start: when they left the project, they mentioned the idea of making kites and distributing them at local kite and toy markets. Xiaowei has no idea if this ever happened, but says she would be interested to see that kind of model emerge–"at least something to make it worth people's time to continue making and sharing knowledge about the devices!"

The FLOAT Beijing initiative shows the importance of embedding citizen-generated data initiatives within communities, if they are to continue past the initial period, and work towards a sustainable, ongoing citizen-generated data initiative.

> *"...it's the relationships that keep the initiative, the motivation to collect, analyse and use the data that is being produced. At the end of the day, it's a community behind the data and building those kinds of relationships are really important–it's what separates citizen-generated data from data generated on citizens."*

DataShift is a multi-stakeholder, demand-driven initiative that builds the capacity and confidence of civil society to produce and use citizen-generated data to monitor sustainable development progress, demand accountability and campaign for transformative change. Ultimately, our vision is a world where people-powered accountability drives progress on sustainable development.

DataShift is an initiative of **CIVICUS**, in partnership with **the engine room** and **Wingu**. For more information, visit **www.thedatashift.org** or contact **datashift@civicus.org**.

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