Foster the "mores", counter the "limits"

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ABSTRACT

This paper reports an ethnographic study of a Chinese environmental volunteer organization in Mincheng, China and the Transition Town movement in Totnes, UK. We examine limits that affected local sustainable activities, and how people attempted to counter the limits. Our use of the term "limits" is a little different than "limits on computing" but pertinent to the larger issues.

Author Keywords

Sustainable HCI; sustainability; community; civic capacity; civic engagement; Information and Communication technology; Transition Town movement; Transition Town Totnes; social organizations; moral capital

INTRODUCTION

This paper focuses on limits that hinder people from taking sustainable actions: psychological limits, knowledge and skill limits, and social limits. We use the term "social limits" to denote the limits imposed by local institutions, political systems and culture. We report on our research at two sites: Transition Town Totnes (TT Totnes), UK, and a Chinese environmental volunteer organization called "the Environmental Guardian Group (环保卫士队)."

TT Totnes is the original Transition Town, one of many in a global network of 1200 Towns supporting a social movement devoted to sustainability through local action. Transition Town is concerned with the massive problems of the "highly vulnerable, non-resilient, oil-dependent state in which we live" [11]. The movement espouses bottom-up community strategies to tackle these problems. Totnes is a town in Devon, UK with about 8500 residents [20]. TT Totnes serves Totnes, and residents in surrounding parishes. Participants organize projects around a set of themes: Arts, Food, Building, Housing and Energy, Reconomy, Inner Transition, Skillshares, Transportation, Transition Streets, Play, and Education.

The Environmental Guardian Group is a volunteer organization located in Mincheng, China. "Mingcheng" is a pseudonym to anonymize participants. We chose Mincheng as a study site because of its high ratio of registered volunteers. In China, registered volunteers enroll in organizations using their resident identity card, a mandatory document containing a citizen's basic information such as name, gender, data of birth, and identification number. The Environmental Guardian Group had 5000 registered volunteers. Officers manage functions including coordinating activities, safeguarding members as they conduct activities, documenting activities through photos, contacting local media,

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organizing social media accounts, coordinating logistics of activity supplies and events, registering new members, and training newcomers. At the highest level of responsibility is a Secretary-General and deputy Secretary-General. According to its website, the Environmental Guardian Group aims "to organize volunteers to green and beautify the city, protect the environment, and create

sustainable communities." Most members of the group were low-income migrant workers with a middle or high school education.

We refer to the Environmental Guardian Group as a "volunteer organization." But as a social organization registered with the government, and therefore subject to Chinese policy, the Group differs significantly from Western environmental volunteer organizations, including non-governmental organizations (NGOs). Chinese authorities use the term "social organization" (社会团体) to denote voluntary, non-profit organizations that Chinese citizens form to achieve a shared objective [22]. The government controls and administers these organizations [6, 13, 14]. For example, China's Regulation on Registration and Administration of Social Organizations requires that "Local social organizations must register with and be managed by the local People's Government registration and management agencies."

METHODS

We conducted the study of Totnes in July and August 2013, and the study in Mincheng from August, 2014 to September, 2014. In Totnes, as a participant-observer, the first author worked as a volunteer, participating in skillshares, fundraisers, project meetings, and Transition Walks. She audio-taped in-depth, semi-structured face to face interviews with 20 participants between the ages of 25 and 74. She observed local practices, and stayed in the home of one of the most active TT Totnes members, Chris Bird (real name used with permission). Bird was the facilitator of the Building, Housing and Energy group. He is the author of the influential book *Local Sustainable Homes: How to Make Them Happen in Your Community* [2]. Study participants included the manager of TT Totnes, project coordinators, and rank-and-file participants. We collected official handouts and workbooks and took photos of community projects.

In Mincheng, China, the first author, a native speaker, participated in and observed a series of Environmental Guardian Group activities, including group meetings and local community garden work. She conducted a focus group with five local Environment Protection Bureau government officers, including the director, deputy director, office director of environmental education, and two employees, and another focus group with four Environmental Guardian Group officers and three officers from two other environmental groups in the same province. The groups met when attending Mincheng's annual festival. The first author conducted 16 semi-structured, audio-taped interviews with group officers and ordinary members. When we report quotes from documents and interviews, we retain original orthography and punctuation. All names in the paper are pseudonyms.

COUNTERING PSYCHOLOGICAL LIMITS

Trying to face difficult global problems is psychologically daunting. TT Totnes participants created a strong sense of community to overcome such limits to action. "We want to stand together; we don't want to feel alone," said one participant, expressing a sentiment we heard often in the interviews. A cohesive community was inseparable from efforts to achieve sustainability. People in the Transition movement were genuinely concerned about climate change and resource depletion. Such prospects are more than a little scary, and having others to turn to for support is critical. One participant told us:

It can be quite disheartening when you look what's happening in the world, and little is happening to put things right. But when you are working with other people and doing things that are positive, that stops you from getting depressed. It would be quite easy to just be worried and thinking about negative things...The psychological support you get from being part of a group of people is very important.

Study participants noted that Transition activities generated neighborliness, which they considered a powerful resource for coping with possible future events such as natural disasters and environmental threats. One compared his past life in London and his life in Totnes:

In London, on my street, for 20 years, I didn't know anybody on the street. I knew the man at the corner store, the barber, and the people at the food store, that was it... So for example, if things [were ever to] get very very bad in London, I would expect, if you don't know your neighbors, and you've got food and they don't, they are gonna come and beat you up and take your food, right? Because you are not friends with them, [there is] no relationship. But here, I think if things get really really bad with climate change, I know everybody on my street. We've all been together in groups. We've all had dinner together. We are all friends. So if something goes wrong, we're not gonna fight. We are gonna say: "How can we work together? What can we do? How can we share our food? I have a little bit of bread, I have some croissants, I have a bag of flour, we are gonna share everything, and work together to make it work." So, social cohesion is very important.

This imagined scenario indicates how serious people were about community, and how participation in Transition projects enhanced confidence in facing potential challenges. Being surrounded by like-minded people brought emotional courage to counter psychological limits. One participant explained that:

Climate change is getting worse. We're using more and more fossil oil rather than less. The distribution of wealth is getting worse. The economic situation is declining all the time. If you are just sitting around receiving all these things, that can be quite depressing. If you try to do something about it on your own, it can seem like an impossible task, and never to be. I think also you will not achieve very much. But if you are able to do some positive things, even decide to make a quite small change, you can both start to tackle the problem and feel that you are surrounded by and working with people of like minds. Instead of being depressed, you will feel happy and inspired.

As we contemplate why it seems so difficult for the ordinary person to take appropriate action in the face of the global realities science has documented for decades, perhaps the words of these TT Totnes participants can help us make sense of our fears. As traditional communities have given way in modernity to increasingly atomized individuals ("dividuals" as Deleuze called

them [3]), staring down ruinous futures requires the aid and comfort of a cohesive community. The moral imperative of acting responsibly in our current conditions is made possible by connections forged through strong social bonds. A supportive environment within a community can facilitate positive change. One of our participants told us how the sustainable actions of people in his community encouraged him to change his own lifestyle:

I used to just jump in the car to go somewhere. I was used to being able to just turn the lights on or turn the heating on. When you think no one [else] is changing, it's psychologically very challenging [to change]. If you feel a lot of people are also making changes, it's much easier to do so... It's really nice to be in a community where lots of other people [are making changes] as well

The moral choice to not "jump in the car" is reinforced by knowing the action makes a difference in a context in which others are making similar choices.

COUNTERING KNOWLEDGE AND SKILL LIMITS

The Environmental Guardian Group struggled with members' knowledge and skill limits. Most members were low-income migrant workers with a middle or high school education. Few possessed the essential know-how the Group needed in environmental protection, management, and public relations. The deputy Secretary-General of the Group commented: "We don't have the ability and the courage to run influential things such as environmental projects.... We don't have people with expertise in environmental protection, management, or media." Group members were enthusiastic and hard-working, but crucial skills such as public relations were lacking.

The Group considered two solutions: recruit new, expert members, or enhance existing members' skills. But they did not have staff for recruiting. They thus recruited new members through their website, during activities, or through personal connections. Attracting and retaining members with expertise was challenging. The deputy Secretary-General said:

The things we are doing cannot attract people with relevant expertise. They are busy. They don't want to waste their time and talent on low-level things. Some people with expertise never came again after weeding the community gardens and collecting batteries with us....We don't have enough money and opportunities to hire experts or train our members.

People with more expertise felt that the Group's efforts were not likely to have impact, so they were not motivated to join. Providing in-depth training to existing members was not possible because of lack of funds. After the 2011 Red Cross scandal [11, 20], in which China's largest charity organization, the Red Cross Society of China, and its affiliates, were accused of corruption and misuse of public donations, Chinese citizens lost trust in non-profit organizations' management of funds. Any fundraising could easily ignite public concern. The Group operated cautiously and avoided fundraising. The Secretary-General remarked in an interview: "We don't touch anything related to money... Since the Red Cross scandal, the money issue is very sensitive. Any doubt can totally destroy us."

Lack of funds, experts, and training opportunities created a poor learning environment in which the group could not bootstrap iknowledge and skills. Members focused on mundane activities such as recycling batteries and weeding community gardens.

These humble activities in turn discouraged more expert citizens from joining. The Secretary-General told us, "Our whole team lacks the ability for innovation. Our leaders are not able to think at a high level."

This situation demoralized the Group. For instance, one active member told us:

Sustainability is a general, international trend with many paths. However, we can only make use of our meager power due to our limited knowledge and skills. For example, we help take care of community gardens...We mostly are ordinary workers. We are only confident in doing these low-level, physical, and easy things. I actually doubt our influence.

The Group sincerely wanted to improve the environment of their city, but they felt powerless and doubtful, and these psychological limits further hindered their efforts.

TT Totnes participants emphasized the lack of basic skills and local knowledge. They realized that without basic skills, individuals and communities would be vulnerable if conditions worsened. One participant said:

In the First World, we are so far away from our basic skills. If things go wrong, we'll really have difficulties. I mean, we don't know how to grow food, we don't know how to do pastry. I think compared to Cuba or the Third World, although they are much poorer, when things get difficult, they'll be actually in a better position... If things go wrong, they haven't got so far to fall. They are actually used to kind of surviving. We don't know how to survive any more. We gotta relearn those skills. Skillshares is about that...Let's not say survival, let's say sustainability.

As its members did not possess the expertise the group wanted, the Environmental Guardian Group tried to recruit new members and seek training opportunities from outside to counter knowledge and skill limits. This effort largely failed for financial and social reasons. By contrast, TT Totnes participants countered knowledge and skill limits by planning and carrying out free, shared activities in which they could learn from each other within the community. This was possible because the expertise they needed was present in the community. For example, in the Skillshares project, participants focused on the Transition concept of "reskilling," i.e., helping people learn practical skills, many of which everyone used to know, such as growing food and repairing clothing. They shared skills such as keeping chickens, upgrading old computers, repairing bicycles, baking bread, and foraging for wild food such as rose hips and birch sap. People even shared "skills" such as "laughing for no reason"—a way to enhance wellbeing!

It was remarkable how many times we heard the word "happy" in connection with TT Totnes activities. Participants drew energy and excitement from one another. The experience of working toward sustainability developed into much more than sustainability—it became a blissful experience of what Durkheim called "collective effervescence" when people feel joyously connected to one another [4]. Although motivated by grim projections of future decline, the empowerment of learning how to "make things happen," and the strong feelings of social and moral connection left people feeling "positive" and "happy."

COUNTERING SOCIAL LIMITS

Political conditions imposed limits on the Environmental Guardian Group. They depended on local government funding, as many Chinese social organizations do [26]. Government funding,

though in small amounts, was indispensable to their daily operation. The Group needed the local government's permission to conduct volunteer activities in public spaces, such as the community garden and the beach. The Group's officer in charge of activity supplies said, "We need to have accesses and permissions so that we can conduct some activities in some places."

Although government funding and permits enabled the Group's activities, these benefits came with government supervision. For instance, government officials required that the Group submit activity proposals and seek approval before acting. The officer in charge of coordinating activities told us, "Associational activities must happen under the government's nose. Some activities were rejected because the government thought they were like mass demonstrations. The government's principle is: things you plan to do must be consistent with what the government wants to do." By favoring activities that aligned with government interests, the government restricted the form and purpose of Group activities. For example, at one point, the government canceled a monthly "bicycling together" event. While there were some safety concerns on the government's part, the cancellation was not something the Group wanted, and they felt they could have dealt with the safety issues.

Sometimes the government directly commanded a group action. For example, they ordered the Group to assist in a national project called "Building a Civilized City." Ignoring the fact that Group members were volunteers who also had jobs, the local government asked that 60 members spend full days directing traffic at road crossings. Volunteers found this demanding and arbitrary. The Group understood the project's intent, but directing traffic did not align with their mission. They knew that if they denied the government's request, they would suffer negative consequences. The deputy Secretary-General told us:

These commands were very detrimental to our group's development. Every time we dealt with such commands, we lost some members. Some members used to be passionate and active. But after seeing or doing what the government ordered us to do, they felt these were not their purposes for joining the group. Some of them even felt the government treats us as tools or pawns. So they stopped coming.

The social limits imposed by the local government constrained the Group's efforts. Pragmatic needs dictated that they maintain non-confrontational relations with the government, which meant that group officers usually made the choice to compromise in the face of governmental commands.

For TT Totnes participants, social limits came from other local residents, as not everyone was willing to participate. The challenge was to change local culture, to work toward the goal of being "best prepared for times of great uncertainty and change" [11]. One of our participants said, "All Transition is trying to do is try to get people think more." Participants believed that everyone possesses some values about sustainability in some degree and some way. One explained:

Everyone has values, and it's about strengthening the values good for us all, and weakening the values harmful for us. You know, even someone who is very concerned with power, money, wealth, and status, we all have some values around the environment in some way: animals, biodiversity, fairness for people. We all have them, but they may be very weak. So how can you strengthen these values? It's not that you have to put them there. They are already there.

Such optimistic attitudes were characteristic of TT Totnes participants, encouraging them to continue to counter the limits, reach out to the wider community, and to persist in their own sustainable actions.

FOSTER THE "MORES", COUNTER THE "LIMITS"

TT Totnes activities empowered participants to be an active civic force by fostering shared activity and a shared moral sense of sustainability and caring for the community. The Environmental Guardian Group members, by contrast, failed to counter the limits imposed by the governmental restrictions. Their conditions created a vicious circle: the problems demoralized the Group and hindered the effectiveness of their actions, which further reinforced the problems.

Sustainable HCI has focused on persuading *individuals* to take sustainable actions [2]. Yet, since the problems we face are global, "It is essential that we sustain and promote empowered citizens of all kinds to work together to confront what will be very severe changes" [17]. It is important to empower *groups* to become more effective agents of sustainability activism. ICTs "have had a profound impact on society in extending new kinds of participation to formerly disempowered groups" [17]. ICTs can potentially help empower less favored groups by drawing on lessons from the ways well-established groups such as TT Totnes counter limits. But there are limits to such lessons. Organizations such as the Environmental Guardian Group cannot simply replicate TT Totnes's projects because conditions are so different.

However, themes emerged from TT Totnes's efforts do point to possible directions for others. Sustainability in computing has largely focused on a theme of *less*: less energy consumption, less waste, less obsolescence. TT Totnes shows that we can also focus on a generative, positive theme of *more* to counter limits: more community, more shared activity, more collaboration, more shared moral sense of sustainability, more neighborliness, more empowerment. Indeed, we believe that these "mores" may be imperative to real changes in sustainable behavior. TT Totnes offered collaboration, celebration, excitement, joyfulness. A moral sense of sustainability, a sense that ordinary people can indeed make a difference, was grounded in positive, collective, community interactions. How to design technology to foster the "mores" is a genuine challenge we should address.

For example, a typical strategy is to use competition and social comparison to motivate sustainable behaviors. Some systems rank users' energy consumption [6, 18]. The competition and social comparison mechanism "satisfies an individual's need for social status through competition, motivates through peer pressure, and taps the unconscious human strive to comply with the actions of like-minded individuals" [18]. Many studies have shown that competition and comparison are effective at the individual level [5, 6, 7, 8, 12, 16, 18, 19]. However, they do not draw on the spirit of everyone working together in a community, instead pitting one individual against another. Helping people counter limits together requires sustainable HCI to encourage strategic collaboration between people.

Fostering the "mores" calls for understanding local resources. To foster empowerment, we should acknowledge the significance of local knowledge, and incorporate rich local knowledge into design. There will be no sustainability without greater potential for citizens to take control of their own lives and environment. But local citizen-based knowledge and understanding are often excluded from design. Brynjarsdóttir et al. [3, 10] argued that most

sustainable HCI research adopts a modernist approach that places trust and agency in top-down, expert knowledge. Designers are given responsibility to decide what constitutes desirable behavior, and how to accomplish behavior change. Brynjarsdóttir et al. warned that this approach tends to "abstract away from the details on the ground" and "deal poorly with socio-cultural particularities" [2]. Our study shows that an alternative approach rooted in local conditions (taking account of local farming practices and species of wild plants, for example) can be productive and generative at community scale. TT Totnes participants came together to envision and explore their community's sustainable future. They were not passive recipients of aid from experts. They utilized their skills and knowledge to contribute to community sustainability. Scaffolded by a supportive community, TT Totnes participants trusted one another's knowledge and wisdom, valued their collective competence, and learned from each other. TT Totnes participants' knowledge sharing practices is consistent with Baumer and Silberman's argument [1] that knowledge sharing "may have the additional benefit of creating a community of those involved" and may lead to "civic action toward environmental ends."

Fostering the "mores" requires deep understanding of the local contexts that influence limits. For example, all legal voluntary, non-profit groups must register with the government, and are subject to government intervention. In such political contexts, civic actions differ from those in Western groups. To foster the "mores" in the Chinese context, we must take account of voluntary organizations' relationships to government. Designers must consider how to promote the autonomy of voluntary organizations within a context in which government will be always present.

REFERENCES

- Baumer, E.P.S. and Silberman, M.S. When the Implication Is Not to Design (Technology). Proceedings of the 2011 ACM conference on Human Factors in Computing Systems, ACM Press (2011), 2271–2274.
- Brynjarsdóttir, H., Håkansson, M., Pierce, J., Baumer, E., DiSalvo, C., and Sengers, P. Sustainably Unpersuaded: How Persuasion Narrows Our Vision of Sustainability. Proceedings of the 2012 ACM conference on Human Factors in Computing Systems, ACM Press (2012), 947– 956.
- 3. Deleuze, G. Postscript on Control Societies. *October 59*, (1992), 3–7.
- 4. Durkheim, E. *The Elementary Forms of Religious Life*. Free Press, New York, 1995.
- Erickson, T., Li, M., Kim, Y., et al. The Dubuque Electricity Portal: Evaluation of a City-Scale Residential Electricity Consumption Feedback System. Proceedings of the 2013 ACM conference on Human Factors in Computing Systems, ACM Press (2013), 1203–1212.
- Erickson, T., Podlaseck, M., Sahu, S., Dai, J.D., Chao, T., and Naphade, M. The Dubuque Electricity Portal: Evaluation of a City-Scale Residential Electricity Consumption Feedback System. Proceedings of the 2012 ACM conference on Human Factors in Computing Systems, ACM Press (2012), 675–684.
- 7. Foster, D., Lawson, S., Wardman, J., Blythe, M., and Linehan, C. 'Watts in it for me?' Design Implications for

- Implementing Effective Energy Interventions in Organisations. *Proceedings of the 2012 ACM conference on Human Factors in Computing Systems Extended Abstracts*, ACM Press (2012), 2357–2366.
- 8. Froehlich, J., Patel, S., Landay, J.A., et al. The Design and Evaluation of Prototype Eco-Feedback Displays for Fixture-Level Water Usage Data. *Proceedings of the 2012 ACM conference on Human Factors in Computing Systems*, ACM Press (2012), 2367–2376.
- 9. Gao, B. Problems Related to the Legitimization of Associations in China 社会团体的合法性问题. *Social Sciences in China* 2, (2000), 100-109.
- Holmer, H.B., DiSalvo, C., Sengers, P., and Lodato, T. Constructing and constraining participation in participatory arts and HCI. *International Journal of Human-Computer Studies* 74, (2015), 107–123.
- 11. Hopkins, R. *The Transition Companion: Making Your Community More Resilient in Uncertain Times.* Chelsea Green Publishing, Vermont, 2011.
- Kjeldskov, J., Skov, M.B., Paay, J., and Pathmanathan, R. Using Mobile Phones to Support Sustainability: A Field Study of Residential Electricity Consumption. *Proc. of* CHI 2012, ACM Press (2012), 2347–2356.
- 13. Liao, Q. and Shi, L. She Gets a Sports Car from Our Donation: Rumor Transmission in a Chinese Microblogging Community. *Proceedings of the 2013 ACM conference on Human Factors in Computing Systems*, ACM Press (2013), 587–597.
- Lu, Y. Non-Governmental Organisations in China. Routledge, 2008.
- Ma, Q. Non-Governmental Organizations in Contemporary China: Paving the way to civil society? Routledge, 2005.

- Mankoff, J., Fussell, S., Glaves, R., et al. StepGreen.org: Increasing energy saving behaviors via social networks. Proc of the 4th International AAAI Conference on Weblogs and Social Media, (2010).
- Nardi, B. The Role of Human Computation in Sustainability, or, Social Progress is Made of Fossil Fuels. In P. Michelucci, ed., *Handbook of Human Computation*. Springer, New York, 2013, 1011–1020.
- 18. Petkov, P., Goswami, S., Köbler, F., and Krcmar, H. Personalised Eco-Feedback as A Design Technique for Motivating Energy Saving Behaviour at Home. Proceedings of the 2012 Nordic Conference on Human-Computer Interaction, ACM Press (2012), 587–596.
- 19. Thieme, A., Comber, R., Miebach, J., et al. "We've Bin Watching You" Designing for Reflection and Social Persuasion to Promote Sustainable Lifestyles.

 Proceedings of the 2012 ACM conference on Human Factors in Computing Systems, ACM Press (2012), 2337–2346.
- Transition Town Totnes. Transition in Action: Totnes and District 2030, An Energy Descent Action Plan. Green Books, Cambridge, 2010.
- 21. Valli, R. Chinese Red Cross Still Feeling Impact from 2011 Scandal. *Voice of America*, 2014. http://www.voanews.com/content/china-red-cross-still-felling-impact-from-2011-scandal/1972844.html.
- Regulation on Registration and Administration of Social Organizations (Peoples Republic of China State Council Order No. 250). People's Republic of China, 1998.