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# HCI for Participatory Futuring in Sustainable Communities: Reconciling Visions with Everyday Practice

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## ABSTRACT

Current food consumption patterns are unsustainable. The food system is globalized and dominated by a few large organisations, which dis-empowers people to make changes to it. However, grassroots communities are important in engendering positive change from the bottom up. Long-term thinking is a key to empowering these communities in transitioning towards sustainable food systems. This research is concerned with practices of "futuring" in grassroots communities and how HCI can facilitate openness, participation, and coordination in constructing visions of the future, and in reconciling these with the everyday practices of the communities.

## CCS CONCEPTS

• **Human-centered computing** → **HCI design and evaluation methods; User studies; Field studies; User centered design;**

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**KEYWORDS**

Grassroots communities; sustainability; visioning; transition; food systems; speculation; design fiction.

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**INTRODUCTION**

The dominant food system is unsustainable. DuPuis et. al argue that "place" is important in bringing about alternative food systems, but that large-scale industrial agriculture has resulted in a systemic "placelessness" [7]. Numerous social and ecological food practices are local, small-scale or grassroots initiatives, running parallel to the mainstream food system [10]. These have the potential to influence cities to transition towards sustainable practices [17], community building [5], food security [8], and reconnecting to food [18]. My PhD research is concerned with how can HCI support grassroots initiatives in collective action to transition to "place-based" alternative food systems.

My approach follows a recent turn in SHCI to systemic perspectives [14]. This includes shifting the onus for unsustainability from individual behaviour change [6], which can be disempowering for individuals [9], to practice perspectives [17] that account for the social nature of everyday life and its impacts. In relation to food, Norton et. al., take a critical stance on techno-solutionism perpetuating environmental unsustainability and social injustices of current food systems [13]. In my research, I take a perspective on bottom-up systemic change that foregrounds citizen participation and long-term thinking.

**PROBLEM STATEMENT**

This research extends recent work in HCI about food and sustainability, aiming to address the issue through systems thinking and scale sensitivity [14]. Norton et. al. suggest that sustainability in food systems needs to be addressed in terms of reducing inequalities, by regaining and retaining sovereignty through the ability to control the production of food at a local level [13]. Local grassroots initiatives face challenges related to sustaining, growing, and scaling [3]. Some of these challenges relate to focusing on immediate concerns at the expense of setting and following longer-term sustainability agendas. My work centers on long-term thinking for transitioning to more sustainable food systems. Imagining alternative futures is difficult as the scope of possibilities is limited by assumptions and expectations about the present. We need to challenge the global food system by creating sustainable



**Figure 1: Exploring technologies in a sustainable future world.**



**Figure 2: Game, Interpreting food sustainability in future worlds.**



**Figure 3: Speculation on poems and its interpretation through future technologies.**

and simpler alternative futures but we are locked into stabilized food practices [15] comprised of cultural norms, values and socio-technical structures that can inhibit significant change [16], and make it difficult for people to think beyond the mainstream system. This promotes reformist approaches to change while neglecting radical alternatives, that are required for sustainability.

While visioning and long-term thinking show potential in bringing different perspectives together to create shared, pluralistic visions that address underlying conflicts, trade-offs, and tensions [12], in reality they can be restricted to the initial interests and visions of an exclusive group [2][9], and can be quite static and inflexible. Visions also have to be reconciled with the present by tracking their evolution and measuring their impact, while depending on unpredictable external factors like funding, infrastructure and stakeholder change. To overcome these limitations, we aim to investigate how HCI might facilitate what DuPuis and Goodman [7] term "reflexive" localism, which is concerned with "articulating "open", continuous, "reflexive" processes which bring together a broadly representative group of people to explore and discuss ways of changing their society."

Further, this negotiation should be democratic, involving potentially large numbers of participants that are interacting on different timescales and are not physically co-located, and where future visions both shape and evolve in response to the everyday practices of the community. This leads me to consider the potential role of HCI in scaling visioning practices of local food communities, and how established speculation and design fiction methods [4] might be adapted for this purpose.

## RESEARCH QUESTIONS

My overarching research question is "How can HCI support participatory visioning for grassroots sustainability communities and the reconciling of long-term thinking with everyday practice?". The key sub-questions that will help answer the main question are:

- (1) What does citizen participation mean in visioning or long-term thinking for creating local sustainable food systems, and how can HCI effectively address this?
- (2) Can interactive systems be designed to promote long-term thinking and visioning for transitions, to better connect these processes to everyday practice?
- (3) How can HCI address visioning and long-term thinking in different cultural and socioeconomic contexts of food?

## RESEARCH APPROACH AND CURRENT RESULTS

A series of pilot studies (Figure 1, 2 and 3) have helped define methods and a human-centered approach to answer the research questions.

<sup>1</sup><http://transitionnetwork.org>

<sup>2</sup><http://transitiontowntotnes.org>

- (1) Understanding futuring in grassroots communities: I am currently conducting ethnographic fieldwork to investigate the material landscapes of current visioning or long-term thinking processes used by local food communities, and the roles of digital technology in this. Transition<sup>1</sup> Towns<sup>2</sup> offer a real-world opportunity for understanding successful bottom-up approaches, localization and visioning.

Citizen participation and social cohesion are seen to be crucial in influencing sustainability parameters [9]. Questions of diversity, power and affluence have also been raised in grassroots communities [2]. So, practices pertaining to internal functioning, volunteering, external exchange and the current role of technology in this space will be studied, to increase participation and as a prerequisite for the co-creation workshops in (2).

- (2) Co-designing a visioning platform: Based on the contextual understandings developed in (1), I will also be conducting co-creation workshops by using fictional scenarios similar to the magic machines method [1] to translate visioning practices into digital tools to create future visions around local food systems. This will take the form of a human-centered design process that involves the development and evaluation of initial design concepts with workshop participants. A high-fidelity prototype will be created, field trialed and evaluated, to understand the design of digital interactions for participatory futuring.

- (3) Understanding cultural contexts: Food practices, infrastructure, and culture will vary in different geographical and socioeconomic contexts [11]. I will explore this specifically by contrasting UK and India. My initial studies for this exploration were conducted in the city of Auroville in the south of India, and Totnes in the UK. These contexts were specifically chosen as they have existing visions or visioning processes that relate to sustainability, enabling me to understand perspectives on them and established practices. By conducting (1) and (2) within established towns and other grassroots communities in both countries for cross-pollination and analysing cultural differences that influence design concepts, participation, and interactions around futuring.

## EXPECTED CONTRIBUTION

This research seeks to extend HCI work within grassroots sustainable food communities while considering systemic and multiscale perspectives of the food system. Through the design of interactive

tools to facilitate long-term thinking processes by integrating citizen perspectives and bottom-up approaches, while remaining sensitive to cultural contexts that influence food, participation, and futuring, I aim to contribute to the design of digital technologies to support local grassroots communities in transitioning towards sustainable food systems.

### RESEARCH SITUATION

Simran Chopra is a doctoral student at Northumbria University under the supervision of Dr. Adrian Clear. She started her doctoral studies in October 2017 with an expected completion date in October 2020. This doctoral consortium submission reports on her first year of work.

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