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Designing Urban Women's Safety:
An Empirical Study of Inclusive Innovation through a Gender Transformation Lens

Anke Schwittay, University of Sussex

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This article analyzes the use of human-centered design to make urban areas safer for marginalized women. Through an empirical investigation of Amplify, the UK Department for International Development's (DFID) flagship innovation program, I ask to what extent design as a particular inclusive innovation strategy can result in gender-transformative urban safety development. I argue that on the one hand, the projects supported by Amplify reinforced instrumentalized notions of women's economic empowerment, while on the other they enabled forward-looking approaches such as the inclusion of men in anti-violence programs. Ultimately, Amplify's support for mainly small-scale, individualized and technical solutions, which resulted from its use of human-center design, prevented more transformative changes to emerge. At the same time, there are opportunities to 'design in' spaces for more structural interventions.

Keywords: inclusive innovation, gender transformation, design, DFID, urban safety

In 2014, the UK's Department for International Development (DFID) launched Amplify, the flagship initiative of its Innovation Hub. In doing so, it joined other development actors who have embraced innovation as necessary to generate breakthrough ideas, more cost-effective programs and scalable technologies. Expressing a collective sentiment, Judith Rodin, former President of the Rockefeller Foundation, argues that 'innovation alone will not solve all of the problems facing humanity, but we certainly won't solve many without it' (2016, p. 6). At DFID, Amplify was expanding early and ad-hoc support for innovation such as M-Pesa into a more focused and visible approach. It aimed to create a 'platform [that] could galvanize truly transformational and unprecedented innovation by attracting new sources of expertise,' resulting from the collaboration of non-traditional actors such as designers, entrepreneurs, diaspora communities, technologists, engineers, the public at large, and importantly also poor people themselves as 'end beneficiaries' (Amplify, 2013, p. 3).

In order to achieve this ambitious goal, DFID contracted IDEO, a California-based design company known for its innovation culture and design thinking; its non-profit subsidiary IDEO.org managed all aspects of Amplify (Schwittay and Braund, 2017). The program's innovation approach was two-fold. Firstly, it engaged in open innovation through the use of an online crowdsourcing platform, which allows physically dispersed groups of people to collaborate remotely on joined projects (Brabham, 2003). Between 2014 and 2018, eight challenges have been posted on the Amplify website, asking participants to collaborate to solve issues from refugee education and early childhood care to agricultural development and creating opportunities for disabled people. Participants post ideas and develop them through online interactions, with the best ideas winning

DFID money and IDEO design support. Secondly, innovation also came from IDEO.org's human-centered design, which it describes as 'a creative approach to problem solving . . . that starts with the people you are designing for and ends with new solutions that are tailor-made to meet their needs' (IDEO.org, n.d.) Through this approach, the solutions created by Amplify were thought to be more appropriate for poor end beneficiaries, who were themselves involved in the Amplify process by providing feedback on proposed ideas. I have written about the crowdsourcing platform elsewhere (Schwittay and Braund, 2019) and here examine Amplify's use of human-centered design through a gender lens. In doing so, I answer calls in this journal for new empirical research into the gendered nature of innovation practices in development (Vossenberg, 2018).

Amplify's first-ever challenge in 2014 asked 'How might we make low-income urban areas safer and more empowering for women and girls?' This topic was chosen in accordance with ministerial priorities at the time and also responded to important international policy initiatives, such as UN Women's *Safe Cities free of Violence Against Women and Girls*, UN-Habitat's *State of Women in Cities* and the Cities Alliance Gender Equality Plan 2014 – 17, among others. These initiatives have shown that the world is heading towards a 'feminised urban future' where women will soon constitute the majority of urban residents and where many urban households will be female-headed (Moser, 2016, p. xvii; Chant and McIlwaine, 2016). Deep and persisting gender-based discrimination prevents women from taking full advantage of the opportunities offered by cities, while contributing much to their wealth (Chant, 2013). This is especially the case for urban informal settlements: because of their location they can benefit from rising urban prosperity or become 'urban poverty traps' (Chant and Datu, 2015, p. 41). Which of these situations prevails depends partly on how cities are designed, governed and inhabited in specific ways.

To date, much of urban design and planning has been undertaken by and for men, and even gender-blind practices often unwittingly support normative male activities. Thus, the obstacles women face in their daily urban struggles are calling for new kinds of responses. In this article, I ask what design, as a growing innovation practice in international development, can contribute to these efforts. I will show that Amplify's use of human-centered design generated ideas that reinforced instrumentalized notions of women's economic empowerment, but were also able to produce potentially transformative approaches such as the inclusion of men in anti-violence programs. My arguments are informed by a gender-transformative approach (Gupta, 2000), conceptualized as 'an inherently political act [that is] closely associated with changing social or gendered power relations,' be it from the top through institutional changes, from below through grassroots mobilization or from the interaction of both (Moser, 2016, p. 233). Gender transformation results in structural change that goes beyond the empowerment of individual women. By contrast, Amplify's support for mainly small-scale, individualized and technical solutions prevented meaningful transformative change to emerge, which does not preclude opportunities to 'design in' spaces for more structural interventions.

My analysis of Amplify is based on three years of online and offline research. Numerical and discourse analysis of the first five challenges examined who submitted ideas as well as their content and progression through the challenges, using data from the posted idea and participants' personal profile pages. In addition, I analyzed the secondary

material on Amplify, consisting of policy papers, a business plan, program evaluations, blog posts and YouTube talks. Primary research has included fieldwork with five Amplify winners in Nairobi, interviews with three DFID managers in London and (via Skype) with four IDEO designers in San Francisco and 15 participants on the platform, as well as participation in online office hours. For the first challenge in particular, I interviewed all of the five DFID and IDEO managers involved, as well as three of the five finalists. With the help of two research assistants, I conducted a detailed content analysis of the 573 ideas submitted on the website, examining by whom they were submitted and what they proposed to do. Information about the 15 shortlisted ideas, five finalists and three eventual winners were then analyzed in-depth.

In the remainder of this article and following a brief literature review of innovation and design in the context of development, I show how the issue of women's urban safety was framed on Amplify and how this shaped submitted ideas. This focus on discursive practices on the Amplify website is then complemented by an analysis of the material engagement of Amplify designers with two winning organizations in Nairobi, Kenya. Working across these different scales shows how ideas generated by a global online initiative were translated into situated design practices. The conclusion returns to the possibility of gender transformation through design and innovation in a forward-looking way.

Innovation and Design for Development

In international development, innovation has been framed through a discourse of inclusive innovation, defined most succinctly as 'the inclusion within some aspects of innovation of groups who are currently marginalized' (Foster and Heeks, 2013, p. 335). Inclusive innovation serves as an overall placeholder for practices that are also known as pro-poor, below-the-radar, grassroots or frugal innovation, which, with different nuances, refer to the use of innovation processes to reduce inequality as a major contributor to poverty and marginalization. Critical analyses examine how power and politics shape the outcomes of inclusive innovation models (Heeks et al, 2014) and point to the dangers of a-historicism and the pursuit of novelty for its own sake (Sandvik, 2014; Scott-Smith, 2016). Recently there have been calls to correct the gender blindness of innovation research, which leaves it ill-equipped 'to conceptualize and capture . . . gender dimensions which are important markers of "inclusiveness"' (Vossenberg, 2018, p. 35). Paying attention to the gendered nature of innovation means asking when and how it can contribute to women's empowerment and gender equality, how participation in and control over innovation is experienced by women and men and how values and benefits are created differently for both groups. These questions can only be answered through empirical research into specific initiatives, such as Amplify.

A growing aspect of inclusive innovation is the use of design methodologies like design thinking and prototyping, as can be seen in high-profile initiatives such as an exhibition at the National Design Museum in New York called *Design for the Other 90%*; design strategists at the World Bank and United Nations, commercial design companies like IDEO establishing non-profit subsidiaries and the proliferation of design social enterprises in the Global North and South (Schwittay, 2014). Academic research in this area has coalesced around the study of humanitarian design, showing how designers have successfully constituted themselves as legitimate development participants by

redefining the problem of development as one in need of experts able to tackle the complex, fast-changing and 'wicked' problems of persisting poverty through integrative thinking and innovative solutions – designers in short. Because 'design represents perhaps the most common channel through which humans intervene, directly and indirectly, in the lives of other humans,' humanitarian design is an inherently moral and political project (Murphy, 2016, p. 435). It has antecedents in the humanistic design traditions of universal, ecological and feminist design and is guided by a particular contemporary sensibility of concern for distant others and an ethics of care (Redfield, 2016).

Feminist design in particular emphasizes the gendered nature of design practices, questioning traditional dichotomies, such as public/private, and how they shape the spatial dimensions of women's lives (Rothschild and Rosner, 1999). Focusing on women in urban environments, researchers have highlighted, among others, the importance of transportation, showing how designing for the mobility of care can support gendered care practices (Sanchez de Madariaga, 2016) and the provision of water and sanitation to ensure women's safety, especially in informal settlements (Greed, 2016). Here, women's bodies become a site of contestation but also of information about visceral experiences that can help planners and communities make places safer (Sweet and Ortiz Escalante, 2015).

Amplifying Women's Urban Safety[1]

According to the program's homepage: 'Safety is a basic human right. But for the millions of women and girls living in low-income urban communities across the world, personal safety can be difficult to achieve – giving way to gender-based violence, social isolation or a lack of basic social services' (Amplify, 2014). Even though the challenge question had asked to make urban areas safer and more empowering for women and girls, empowerment had disappeared in the opening statement, which elided difficult questions about the form and extent of empowerment and positioned the challenge on more simplified grounds from the outset (Cornwall and Rivas, 2015). In this section I show how this elision made way for a depoliticized framing of safety that emphasized personal and pragmatic dimensions and significantly shaped the content of ideas submitted to Amplify.

Framing Women's Safety

Safety was framed through an overarching discourse of human rights, in accordance with international treatises. Researchers agree that women's limited abilities to negotiate urban spaces because of patriarchal systems 'must be seen as violations of women's basic rights to live and work in cities' (Viswanath and Mehrotra, 2007, p. 1543); the goal therefore becomes to 'render cities spaces of equal rights' (Chant and McIlwaine, 2016, p. 4). The Amplify challenge further defined safety according to three aspects: gender-based violence, social isolation and missing social services.

Gender-based violence (GBV) results from attacks on people because of their gender. It can take the form of physical, social, political, economic and institutional violence, but in many places its most distinguishing characteristic is its normalized and ongoing character (Viswanath and Mehrotra, 2007). While both women and men can be victims of GBV, 'women are twice as likely as men to suffer acts of violent aggression' (Chant,

2013, p. 20; McIlwaine, 2013). Relatedly, GBV can occur against women at all social levels, but poor women, including in informal urban settlements, are both more exposed to it and least likely to be able to escape it (Chant and McIlwaine, 2016; Kabeer, 2013). The relationship between cities and GBV is open-ended: cities do not produce gender-based violence, but their processes of urbanization create situations that make women more vulnerable to violence and can also create ways to counter such violence (McIlwaine, 2013). The second dimension of women's safety identified by challenge designers was social isolation. This is often the result of women's curtailed mobility through urban spaces and corresponding limited use of their resources. Limited movement can result from GBV, but is also shaped by gender-blind design, gendered norms of conduct and propriety and women's own feelings of fear and insecurities (Chant and McIlwaine, 2016). Social isolation therefore calls for comprehensive approaches that make women legitimate users of urban space, in contexts where their use is frequently restricted to certain times of day, purposeful activities and circumscribed places. The third component was a lack of basic social services. Although often associated with more technocratic aspects of service provision, access to services can also become a tool for subjugating women, which is exacerbated in informal settlements with their make-shift dwellings, insecure tenure and insufficient toilets, lighting and policing (Chant and McIlwaine, 2016).

In addition to this overarching conceptualization of women's safety on the challenge homepage, other information provided by Amplify designers in sections called Guiding Principles and Opportunity Areas also influenced the ideas submitted to the challenge (Amplify, 2014). Firstly, challenge designers prompted participants to regard safety as an 'inherently personal experience.' This description recognized that women are not a homogeneous group and that the experiences of poor women living in informal settlements are shaped by age, status and dis-ability, among others (Tacoli and Satterthwaite, 2013). The prompt was also meant to inspire participants to think about their own experiences and how they might inform ideas on the platform. This emphasis on the individual accords with humanitarian design's micro-scale, which leads to personalized solutions implemented in specific local contexts (Redfield, 2016). However, characterizing women's safety as inherently personal naturalizes and individualizes conditions that often have structural causes. This can, and did, result in an over-emphasis on challenge ideas that put the responsibility for keeping safe on women themselves, aiming to change their behavior or to equip them with safety-affording devices. While these can be reassuring on a personal level, they are not based on a right to the city approach (Whitzman et al, 2014). Furthermore, to achieve gender transformation it is necessary to move from such private security measures to consultative processes and collective responses (Moser, 2016).

Second was an assertion for participants to 'stay neutral' in several regards. Policy neutrality, described as not pointing fingers at governments, called on participants to forgo ideas about how governments could contribute to women safety for a 'focus on other levers we can pull - from urban planning to behavior change.' But neutrality also meant that participants should avoid 'ideological debates' around particular cultures, societies and religions and should use descriptive, non-offensive language appropriate for a global, diverse audience. These calls for neutrality were meant to facilitate online collaborations and did result in a generally positive and pragmatic tone among participants. But they also created a neutralized space where critical questions, for

example about why women are not safe in the first place or how governmental policies contribute to patriarchy, were elided. Politics were uninvited, and consequently absent from, the online discussions. This 'stay optimistic, hopeful and focused on positive solutions [which] will help us to design better, together' approach accords with a general design orientation that IDEO's CEO has described as 'no matter how challenging the constraints of a given problem, at least one potential solution is better than the existing alternatives' (Brown, 2008, p. 3).

In the context of Amplify however, this neutral and pragmatic optimism raises the question of whether the resulting depoliticization stood in the way of generating gender-transformative ideas. Did the bracketing of political considerations from the outset make it harder for Amplify participants to create ideas that addressed the structural reasons of urban women's lack of safety? At the least, the Amplify guidelines do confirm that too often, humanitarian design removes problem-solving from 'the realm of political struggle and state planning and restricts [it] to the drafting table, conference room or charette' (Johnson, 2011, p. 470). In addition, neutrality takes on particular relevance in the urban context, where a gender-neutral approach has resulted in the experiences of a small, usually male, group of experts shaping planning and design practices (Ortiz Escalante and Valdivia, 2015).

Third, Amplify managers called on participants to think about 'turning challenges into opportunities,' which corresponds to designers using constraints such as 'poverty, ignorance and an enormous unmet need' as 'creative springboards' towards design solutions (Brown, 2008, p. 7). Specifically, Amplify designers proposed to 'leverage' existing urban conditions, such as high population density, established connection points like marketplaces and infrastructures of various kinds, as departure points for participants' ideas. This meant working with prevailing social and physical resources, in line with designers' technical abilities to augment the built environment to help women feel safer (Koskela and Pain, 2000). This approach accords with characterizations of design as modest rather than revolutionary, bringing about remedial action and careful change (Latour, 2008). It does not, however, foreclose the possibility of more transformational change through cumulative micro-design practices (Escobar, 2017).

In sum, the way in which women's urban safety was framed by challenge designers meant that the focus was on 'practical gender needs' addressing immediate material concerns, rather than on 'strategic' needs working towards changing gendered regimes (Moser, 1989; Molyneux, 1985). It suggested an emphasis on technical safety solutions and elided difficult questions around structural change. What then were the ideas proposed in response to the challenge question and framing?

573 Ideas

Through a content analysis of all 573 posted ideas, eight single-issue categories - social change, urban forms, devices, economy, networks, health, education and politico-legal - and an additional multidimensional category comprising ideas that spanned two or more categories, emerged emically.[2] My analysis of these ideas shows that while some gestured towards gender transformation, this ultimately remained elusive because of an overarching individualizing and technological focus.

The largest category, with 155 ideas (27%), related to *social change*, defined as changing collective and personal attitudes towards women and girls. On the one hand, many ideas suggested ways to raise awareness among society at large about women's lack of safety and to correct damaging and objectifying attitudes towards women held by dominant groups, mainly men. A typical example is the *Harrassing women is a cowardly act. Give respect, be a man campaign*, which aimed to use slogans, graffiti, social media and popular culture to change male behavior in India. On the other hand, ideas also talked about the importance of empowering women and girls themselves to become more confident and assertive. This ranged from making them more aware of their rights, for example by jointly writing an urban constitution, to teaching them self-defense and encouraging more women to become community leaders. Overall, these ideas correspond to policy interventions that advocate community-based approaches, include awareness raising, community assessments, fostering leaders and repairing social relations (McIlwaine, 2013). At first glance, this focus on changing gender-damaging attitudes could feed into a gender-transformative agenda that critically examines gender norms. However, to be truly transformative, an interrogation of why certain norms are held in the first place needs to take place, and most of the proposed ideas only focused on forward-looking actions.

The next two categories focused, not surprisingly, on design-related ideas. The second largest group of ideas (74 ideas, 13%) addressed *urban forms*. Many of them proposed better lighting using anything from fluorescent paint to sophisticated self-activating devices with integrated alarm systems. There was also a range of proposals for safer transport, with several ideas built around bikes and women-only transportation, as well as ideas advocating for safer service provision, especially in the sanitation area. The most far-reaching ideas proposed designing more encompassing safe public spaces for women. By disrupting the symbolic aspects of forbidden and allowed space use governed by patriarchal power relations and often mapping unto public and private spaces, such designs can begin to question and undo inequitable relationships (Chant, 2013). The third category (73 ideas, 12%) suggested a range of *devices* in the form of personal safety gadgets designed to protect women from harassment, danger and assault, to enable them to defend themselves or to send messages for help. Many of these ideas included phones, wearables such as jewelry and garments, and traditional female items like safety pins and pepper spray. This was the most individualizing category as it put the responsibility to stay safe squarely on women and often saw technology as a saving device. These ideas were 'built around minimalist forms of care' by proposing modest and limited techno-fixes (Redfield, 2012, p. 180).

The next category was *economic* ideas (59 ideas, 10%), aiming to strengthen women's economic standing through gender-specific skills development, such as training in catering or handicrafts. This was often combined with proposals to enable women to start their own businesses, sometimes with the help of microfinance. Many ideas acknowledged that economic factors rarely stand alone and that women's social and economic empowerment goes hand in hand. In other words, economic self-sufficiency was seen as a prerequisite to social changes in women's status and roles. Consequently more than half of the multidimensional ideas included an economic element, most often in combination with social ones. Taken together, this made economic activities the most frequent suggestions in the challenge. As I show below, this is in keeping with current notions of entrepreneurial empowerment feeding into a smart economics approach that

sees women as good investments for local, national and global economic growth (Cornwall and Rivas, 2015; Calkin, 2017).

Another category of ideas (56 ideas, 9%) aimed to leverage *networks* of two kinds. Firstly were ideas around physical networks, often glossed as community, for example proposing that women travel together or that neighbors watch out for each other. The authors of these ideas thereby heeded the call to use existing conditions, such as informal settlements' high population density and points of connection. One particular idea suggested that children should make loud noises in front of houses where domestic abuse is known to take place, to bring the issue out in the open and transform domestic violence from a private into a public issue. The second kind of networks comprised practices of mapping, tagging and scoring to help women identify and avoid unsafe areas. This included digital maps with GPS functions, but also scorecards for roads, workplaces or pubs. The underlying idea was once again to use collective knowledge to identify and ultimately prevent danger from occurring. An important predecessor to this are safety audits, which evolved from 'safety by design' checklists developed by urban planning experts to activities now often carried out by women collectives who are advocating for changes in their neighborhoods (Whitzman et al, 2014). There were also three smaller categories addressing (formal) education and health, with 15 ideas each, and 7 politico-legal ideas. The latter included proposals to legalize prostitution and to establish a Women's Political Leadership Incubator in Rwanda. One idea, to provide women's rights training for men in Afghanistan, was shortlisted, in line with arguments that engaging (predominantly male) political, cultural and religious leaders who can effect system-level interventions has the potential to institutionalize such change (Pease and Flood, 2008).

Of the 573 proposed ideas, then, the majority focused on improving women's economic situations, changing social and individual attitudes and designing safety-enhancing environments and devices. Many ideas also recognized the multidimensional character of the challenge and proposed ideas that spanned two or more categories. While some proposals suggested ideas for specific places and a few focused on particular groups – albinos, victims of domestic violence, disabled women - the great majority of ideas were addressing women and girls as an undifferentiated group. While the designers' prompt to see safety as a personal experience was thus incorporated into the design of personalized solutions, it did not translate into attempts to understand and address the situated experiences of marginalized women. This is in keeping with both the global nature of the Amplify challenge and the generalizing tendencies of remote design, as I show below. To counter these tendencies, Amplify designers engaged in more hands-on ways with challenge winners in Nairobi.

Designing in Nairobi

Winning Amplify ideas were chosen by an unnamed group of DFID internal and external gender experts. During later challenges, selection criteria were made much clearer, but for this first challenge, criteria such as amenability to design input and ability of the organization to carry out the proposed projects were not publicized. Two of its three winning ideas were implemented in informal settlements in Nairobi, where Amplify designers worked with the staff of winning organizations to develop prototypes of their

ideas. Here, they operated in a local context characterized by pervasive gender inequality. According to Amnesty International (AI), 'violence against women is endemic in Nairobi's slums and settlements, goes widely unpunished and significantly contributes to making and keeping women poor' (AI, 2010, p. 5). The two-way relationship between violence and poverty means that women lose income when they are too hurt to work, and that their poverty curtails their ability to escape or resolve violent situations. Importantly, as is the case for GBV in general, 'violence is inextricably linked to [women's] daily lives and routines,' exacerbated by a lack of access to socio-economic opportunities and basic services such as sanitation, lighting or policing (ibid., p. 11). This situation extends beyond Nairobi. In spite of Kenya being a signatory to all relevant international treatises addressing women's rights and a Ministry of Gender having been established in 2003, because of the country's patriarchal culture 'gender mainstreaming has remained elusive' (Kivoi, 2014, p. 174). This manifests in Kenya being ranked 145 of 186 countries on the 2012 Gender Equality Index; women's low participation in formal politics; communal stereotypes resulting in disempowering and oppressive roles for women; poor institutional frameworks that ignore or condone violence against women, and male-favoring inheritance laws. This situation provides a challenging background to any project aiming to improve women's safety.

The limits of female entrepreneurship

One challenge winner was a small social enterprise working to help women in one of Nairobi's largest informal settlement establish daycare centers in their homes by giving them start–up training and materials. Branded by Amplify as mama-preneurs, the women were constituted as hybrid development subjects, combining traditional female roles as maternal caregivers with contemporary entrepreneurship. As such, they embodied the articulation of morality and markets that is a hallmark of humanitarian design (Redfield, 2012) and also reinforced the instrumental view of women's empowerment as part of smart economics (Chant, 2012). Mama-preneurs reveal that assumptions about women's economic virtues are often rooted in essentialized ideas about their inherent qualities (Calkin, 2015). Furthermore, harnessing women's labor for the benefits of economic growth and efficiency 'relies upon, extends and deepens gendered inequalities' (Wilson, 2015, p. 803). These processes can be compounded by informal urban dynamics.

Like most women and youth in Nairobi's informal settlements, the daycare owners operate in the self-employed sector, where 'economic informality . . . constitutes a socio-cultural logic of managing poverty and creating employment. It is also a strategy for inclusion in the urbanism project' (Kinyanjui, 2014, p. 75). This is vulnerable employment characterized by precarious conditions, low pay and exploitative working relations that can directly impinge on women's safety (Chant and McIlwaine, 2016). Female-run enterprises usually provide small returns for low levels of investment and the informal sector in which they are located is frequently stigmatized by regulatory and planning institutions. Often it is not choice but a lack of choice that forces women to seek paid employment, necessitated by poverty and lacking social protections that make additional incomes essential for especially women-headed household survival (Banks, 2013). Such employment also changes power dynamics within the household, where it is not so much money earned by women that shapes how their male partners will respond, but the value attached to women's (financial) contributions to the household (Tacoli and Satterthwaite, 2013). While more economic independence might enable

women to resist or leave violent situations, earning money can also lead to a backlash, especially when male partners see this as a direct challenge to their role as economic provider (Kabeer, 2013).

In keeping with current development thinking, the social enterprise's staff had identified women's lack of control over income as a barrier to their safety and empowerment and saw women-owned in-home businesses as a solution to this problem. As many studies of financial resource allocation through microfinance have shown, such assumptions often do not hold as women are situated in complex kin networks of consumption and obligations through which claims on earned (or borrowed) money are made. In Kenya specifically, patriarchal relationships, marriage arrangements and other social norms determine control over resources in the household, often to the detriment of women. While such attitudes might be changing, especially for young urban men with secondary education (Barker, 2014), microenterprise programs that aim to empower women in transformative ways need to address these entrenched gender norms.

Of particular importance for home-based enterprises are considerations of housing. Because 'male ownership [of land and housing] effectively equates with male control over women' (Hughes and Wickeri, 2011, p. 850), women's safety cannot be achieved without addressing the existing ownership gap.[3] Housing is a key resource and critical asset for women, especially those with care responsibilities or home-based work, both of which were combined in the social enterprise's proposal. The latter did not address the precarious housing situation pervasive in the informal settlement, just as housing was more generally absent from the Amplify ideas. This could be because it was not mentioned in the initial brief or opportunity areas laid out by Amplify designers. In addition, housing is often inseparable from questions of land tenure that require initiatives such as collective land acquisition or building schemes, titling programs and para-legal services (Chant and McIlwaine, 2016). For Amplify managers, such political questions lay outside the usefulness of design; one DFID manager argued that only certain technical areas were amenable to design interventions and would be selected as challenge topics. She thereby implicitly acknowledged that humanitarian designers 'create and circulate micro-social technologies as solutions to structural inequality' (Johnson, 2011, p. 454).

Amplify designers worked with social enterprise staff to design training material for the skills they had identified as lacking in the daycare owners. These ranged from marketing and financial management tools to teaching materials, for example a box with learning materials that daycares could rent and then exchange for a new box. This emphasis on material artifacts accords with the remote design logic that favors small-scale solutions that are easy to design at a distance (Donaldson, 2008). These designs also built on established practices of women in Nairobi's informal settlements taking care of neighbor's children in their homes for a small fee, but often in conditions that the social enterprise staff judged to be unsafe and unsanitary. Equipping mama-preneurs with the means to run high-quality daycare centers was thus also seen to enable other women to work outside the home in the knowledge that their children are well cared for, showing the virtuous cycle that economic empowerment interventions are seen to create. However, initial attempts to charge women a small fee to participate in the project were unsuccessful (Amplify, 2015). According to a social enterprise manager,

women were not willing to pay for what they saw as non-essential items to fix a situation that they did not really perceive to be a problem. They thus disagreed with the problematization of Amplify designers and social enterprise staff and also did not readily embrace the commodification of pre-existing neighborhood relationships that instrumentalizes social relations in the name of development (Elyachar, 2002).

While seemingly ameliorating women's care responsibilities through designing safe places to leave children, the market-based, individualized nature of Amplify designers' work on this project reinforced both the 'grassroots privatization' of care responsibilities and the primary female identification with care giving (Johnson, 2011, p. 460). It excluded demands for better public daycare services and efforts to balance gender responsibilities by valorizing women's unpaid care work. This absence is in line with the larger development field, even though Sustainable Development Goal 5 advocates to 'recognize and value unpaid care and domestic work through the provision of public services, infrastructure and social protection policies and the promotion of shared responsibility within the household and the family as nationally appropriate'.[4] Importantly, a neglect of unpaid care work is intimately related to urban space design, where built environments prioritize (male) paid work carried out in public spaces, while unpaid care work is relegated to the (female) private space of the home (Ortiz Escalante and Valdivia, 2015). This division also maps unto a gendered mobile – fixed binary. While initiatives such as conditional cash transfers have monetized care work, the task at hand is to make this private work public and reframe it as a collective responsibility whose realization will contribute to gender equity. The social enterprise did aim to turn women's invisible care work into a remunerated activity, but this stops short of explicitly addressing the need to recognize, remunerate and redistribute women's unpaid care responsibilities (Fraser, 2005).

The in-home daycare project reinforced instrumentalized and entrepreneurializing notions of empowerment that did not challenge gendered labor divisions or patriarchal relationships in the informal settlement. The assumption that the women would automatically be more safe and empowered if they owned their own small business and were equipped with the right knowledge and materials to run it efficiently is based on development narratives that lift women 'out of the very webs of social, cultural and economic relations that produce and sustain . . . inequalities and discrimination' (Cornwall and Rivas, 2015, p. 400). One of the reasons for this is that the daycare project did not address local gender relations, thereby potentially improving the economic situation of individual women but not achieving transformational change. Some practitioners are addressing these shortcomings by getting men and boys to participate in caregiving activities. Relatedly, Amplify's second winning idea in Nairobi did propose to involve men and boys in the fight against GBV.

Involving Men

The second winner in Nairobi was an NGO that had proposed to develop a peer-to-peer campaign to educate men and boys about GBV and turn them into advocates for gender equality. Its idea was to design a curriculum that would involve existing activities such as soccer clubs, computer classes and theater performances and add an additional educational component focusing on gender violence. This resonates with efforts to work within already-existing spaces inhabited and valued by men, and to engage them throughout their life course (Casey et al, 2018). It also corresponds to increasing efforts

to incorporate boys and men into GBV prevention programs, which range from raising awareness to fostering their capacity for respectful and equitable relationships to engaging them as active advocates for policy and social norm changes. These efforts are based on the recognition that programs 'that do not explicitly challenge participants' ideas about their own gender identities and norms elide a fundamental contributor to intractable interpersonal violence' (ibid., p. 2). Conversely, because male behavior towards women is shaped by broader social values, involving men in violence prevention can result in behavior changes on multiple levels.

Amplify designers and NGO staff decided to tackle the underreporting of GBV in the informal settlements, through the design of Speak Up boxes that made it easier for both men and women to report violent incidences. Increasing the number of reports was seen as important because women often do not report abuse (AI, 2010). Especially in cases of domestic violence, women believe that it would not be regarded as a crime and no action would be taken by authorities or community networks, or worse, that they would suffer reprisals. This is part and parcel of the normalization of violence and corresponding expectations that women sort it out with their partners. The few reports that had come to the NGO had been from women, creating the perception that it was a woman-only issue, which staff thought discouraged men from becoming involved. They argued that this perception positioned men mainly as perpetrators, which did not allow them to see themselves as part of the solution. To rectify this situation, the clearly-marked Speak Up boxes were placed in easily accessible and sometimes anonymous places, such as (men's) public toilets. While the number of GBV reports did increase from an average of two to 13 per week as a result of the boxes, the designers also realized that people preferred to talk to a person rather than fill out a form. The next iterations of the box therefore included a helpline number as well as training for people, such as shop keepers working in the locations of some of the boxes, on how to direct people towards the NGO's services. This led to a better system, which also involved the organization's legal team, of what to do with the information generated by the boxes (Amplify, 2015).

From a gender-transformative perspective, the boxes and service extension go some way towards enabling men to participate in the fight against GBV. However, because 'acknowledging and addressing gender norms is ... central to change work with men' (Jewkes et al, 2015, p. 117), providing better opportunities to report GBV without working on changing the attitudes and beliefs that lead to violent behavior will not bring about transformative change. Care also has to be taken that men are not integrated as a fundamentally oppositional gender category where they are the victimizers and women their victims:

> efforts . . . to recalibrate these dualisms [between masculinity and femininity] with talk of "male responsibility" echo[es] the dualism in which women are responsible and men are not, or of "women's empowerment" in which "men" are the ones with power and "women" without. (Cornwall and Rivas, 2015, p. 403, original emphasis)

This not only excludes attention to violence against men, but can also set up new essentialisms. In addition, the boxes reinforced the individualization of GBV by making it easier for individuals to report incidences and receive advice and help. In the course

of working with Amplify designers, the NGO's proposed idea, which had aimed at broader curriculum development, had been narrowed down to a box. This was because of staff changes at the NGO and Amplify's own teething problems, but also because of remote design's tendency towards 'artifacts with manageable scope' (Donaldson, 2008, p. 36). Similar to the box created for the mama-preneurs, designs contained within clearly delimited spaces, incorporating existing products and processes, came easiest to Amplify designers operating from their home base in California.

A photo posted on IDEO.org's social media feed showing designers working on the Speak Up boxes in a San Francisco alley manifests the location of design work as firmly embedded in established circuits of expertise, finance and power. Their engagement is an example of 'remote' or 'parachute' design, where the designer is geographically (and often culturally and socially) distant from the design users (Donaldson, 2008). To maintain a truncated version of the user focus that is so central to IDEO's human-centered design, designers will fly in for short periods of time to conduct user focus group or interviews and field test prototypes.[5] Research results are then taken back to design studios in California, London or national capitals, where the actual designing work takes place. Remote design has been criticized by designers themselves as paternalistic and imperialist and as responsible for the failure of many humanitarian design interventions (Nussbaum, 2010). It relates to larger debates around the location of expertise, which inclusive innovation initiatives like Amplify have been trying to challenge. DFID's Innovation Hub's first Director wanted Amplify to replace a (closed and hierarchical) Encyclopedia Britannica approach with an (open, collaborative and technology-based) Wikipedia one (Wong, 2016), in line with ideas of innovation as the incorporation of new knowledge sites (Bessant et al, 2014). In spite of this rhetoric, the program remained situated within existing development structures that have now welcomed humanitarian designers into their fold. Local users' perspectives might be enlisted as feedback, but 'without altering norms and expectations of expertise that shape and influence decision making' (Johnson, 2011, p. 463).

In sum, the two winning projects in Nairobi did address important issues that have been identified by women living in informal settlements there as negatively affecting their safety and well-being to varying degrees. The first deployed market-driven notions of the economic empowerment of individual women, and the second incorporated boys and men into the fight against GBV. The latter moves into a gender-transformative direction, but without challenging the structural reasons for this violence its potential remains unfulfilled. Ultimately, both projects resulted in the design of small objects, in keeping with the dictates of remote design and the micro-focus of humanitarian design on personal needs. That they were well within the remit of Amplify and did fulfil the larger challenge brief as laid out by Amplify designers raises the question of whether design can contribute towards gender transformation.

Conclusion: Towards Transformation

What is the potential of inclusive innovation initiatives like Amplify to generate gender-transformative ideas that recognize and address structural impediments to urban women's safety, empowerment and equality? While the above analysis of proposed and winning ideas seems to suggest that humanitarian design can only produce limited,

technological solutions, more far-reaching ideas were not entirely absent from the challenge and two in particular can begin to provide an answer.

The first, by Oxfam's Kenya office, proposed a comprehensive response to the precarious circumstances of women in Nairobi's informal settlements, including more income-earning activities, increased public investments in basic services, sharing responsibilities for domestic work between men and women, all of which would allow women to become more involved in community activities.[6] The proposal also had a direct political dimension by aiming to involve more female politicians in the upcoming election cycle at the municipal and national level. A second idea came from the Urban Development Resource Centre, an NGO in the Indian state of Orisha.[7] The proposal was to work in collaboration with Odisha's Slum Dwellers Association and a local savings group to improve women's access to land, shelter and sanitation. The focus was on women's collective mobilization and engagement with state and other agencies and their involvement in development and planning activities, including a women-led housing scheme that also provided building and mapping skills and finance. The proposal explicitly mentioned women's double burden of domestic care responsibilities and their need to earn incomes as well as the importance of access to secure tenure and basic services.

Both ideas are examples of comprehensive responses that recognize unpaid care work and a lack of participation in public decision making as a major source of women's insecurity. Their presence on the Amplify website shows that inclusive innovation initiatives can generate ideas that address structural obstacles to transforming gender relations; that they did not progress beyond the initial stage also makes clear that such ideas need to be directly nurtured. It is here where opportunities arise to 'design in' spaces for transformative change. Firstly, while I have shown how on Amplify the framing of urban safety and designers' briefs depoliticized ideas and projects, designers' prompts and guidelines could conversely invite critical and uncomfortable debate. Secondly, the mandate of humanitarian design initiatives needs to expand beyond generating innovative ideas for new products or services towards creating a space where participants can interrogate their own assumptions and think about how their ideas might challenge established gender norms and inequities. In fact, the Amplify challenge began with a research phase where some of this discussion took place; this phase was abandoned in later challenges because designers did not think it added value to the subsequent idea generation. Against such instrumental thinking, research-based design phases can provide room for public debate that also needs to include marginalized groups. Thirdly, humanitarian designers should recognize and support the importance of collective mobilizations.

Some humanitarian designers might continue to favor technical fixes in line with their expertise and toolbox. However, because technologies are situated in social contexts and imbued with material and ideological interests, they lend themselves to appropriation and subversion (Johnson, 2011). It is no accident that the two ideas described above were put forward by a human-rights INGO and a coalition of community-based and social movement groups. By linking up with such groups, supporting their collective struggles and explicitly acknowledging the political nature of design, humanitarian designers can contribute to transformative change in the global urban agenda. The time is right: 'if the conditions ever existed for constructing a design

agenda from within the theoretico-political space of the social struggles of the day, that moment is today' (Escobar, 2017, p. 15). The same holds true for inclusive innovation, which should aim to grow beyond producing new products, services or business models to engaging with questions of values, power and equality that will ensure that any innovative solution benefits marginalized men and women in transformative ways.

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[1] I will use 'urban women's safety' as a shorthand to refer to the safety of marginalized women and girls living in urban informal settlement. I use the latter term to avoid the contestations over the term slums (see Chant and McIlwaine, 2016).
[2] This analysis was undertaken with the help of two research assistants, who first examined the titles of the ideas to generate a preliminary list of possible categories. Then each idea was read in-depth, looking for its fit with the preliminary categories, which were subsequently adjusted and fine-tuned. I then undertook a final cross-check on 10 percent of ideas in each category to ensure accuracy.
[3] According to UNFPA, in 2007 less than 15 percent of land or property was owned by women globally (cited in Chant and McIlwaine, 2016, p. 74).
[4] http://www.un.org/sustainabledevelopment/gender-equality/, accessed Sept 15, 2017
[5] Other reasons for this short-termism include that many professional designers work on such projects pro-bono. If they are paid, then often such high consultancy fees that sponsoring organizations cannot afford more than a week or so.
[6] https://challenges.openideo.com/challenge/womens-safety/ideas/socio-economic-and-political-intergration-of-kenya-s-urban-poor-women, accessed Sept 15, 2017
[7] https://challenges.openideo.com/challenge/womens-safety/ideas/empowerment-of-urban-poor-women-through-a-bottom-up-governance-process-to-negotiate-with-state-for-women-s-larger-access-to-land-shelter-sanitation-services-and-city-management-roles, accessed Sept 15, 2017

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