

# THE ROLE OF SOCIAL INNOVATION IN THE CONTAINMENT OF COVID 19 IN SLUMS

This article examines the role of social innovation in the management of COVID-19 in slums. Drawing on the existing literature, three relevant cases of social innovation – two in India and one in Hong Kong - were analysed to ascertain the qualitative attributes of these innovations and the latter's contribution to the management of the pandemic. The findings suggest that social innovations have the potential of effectively managing COVID -19 in slum communities and informal settlements, as these take into consideration the pertinent special needs.

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## INTRODUCTION

What started in late 2019 as unexplained cases of pneumonia in the city of Wuhan, China quickly escalated into a global health disaster prompting the WHO to declare the novel Corona Virus Disease (COVID)-19 a global pandemic on the 11<sup>th</sup> of March 2020. This contagion has wrecked health, economic, and social havoc of immeasurable magnitude on nations across the globe, and containing its devastating effects remains a formidable challenge to all and sundry. One of the most vulnerable and worst affected segments of society in terms of the pandemic is slum communities [1], [2].

The main measures being deployed to prevent or control the pandemic include social distancing, regular washing of hands with soap under running water, the use of alcohol-based hand sanitisers, the use of nose masks, a fourteen-day quarantine for those who have been exposed to the virus, self-isolation for those with symptoms, and lockdowns. While these preventive measures have proven to be largely effective in flattening the infection curve, the feasibility of some of these measures in slum communities remains a major challenge [1]. As a result, it becomes imperative that innovative solutions are adopted to address the peculiar COVID-19 related needs of slum dwellers, and social innovation may be of significant relevance in this regard.

Substantial COVID 19 related literature has been and continues to be churned out [2], and some of these focus on the impact of the pandemic on slum communities. What remains unclear however, is the salience of social innovation in addressing the COVID related needs of slums. The purpose of this article therefore is to shed light on the attributes and role of COVID-19 responsive social innovations that meet the special needs of slums or informal settlements.

## SLUMS AND COVID-19

Slums are communities characterised by overcrowding, insecure residential status, poor housing facilities, inadequate access to potable water, poor sanitation, and lack of other basic and essential social amenities [2]. The world's largest slums include Orangi Town in Karachi-Pakistan, Dharavi in Mumbai- India, and Kibera in Nairobi- Kenya. Slums host approximately a billion of the world's population and are home to the poorest and most vulnerable urban dwellers [1] [2].

The living conditions and other situations in slums and informal settlements make these communities unsuitable for many of the COVID 19 prevention and mitigation measures. For instance, the overcrowded situation in slums, where a small single room shack accommodates an entire family of five or more people, and where ten or more families share a water tap and a pit latrine makes the practice of social distancing

unfeasible [1]. Moreover, the overcrowded situation makes self-isolation of those with symptoms a great

challenge. Furthermore, the limited availability of basic social amenities such as potable water, and toilet facilities makes the observance of personal hygiene protocols such as regular handwashing with soap under running water and maintaining basic hygiene a tremendous challenge. These peculiar situations of the slum communities necessitate socially oriented innovations that are effective in addressing the pertinent challenges.

## Social innovation and COVID-19 in slums

We define social innovation as new ideas that work to meet pressing unmet societal needs and improve peoples' lives [3]. It operates in an environment of unmet existing or emerging social needs, provides solutions that create value for society as a whole rather than for private individuals, operates on the basis of co-creation and co-participation, and takes place at the community level supporting collective wellbeing and promoting sustainable development. Through social innovation interventions such as holistic health and hospices, self-help health groups, neighbourhood nurseries, Open University and Wikipedia, crowdfunding and microcredit, charity shops, restorative justice, zero carbon housing schemes and community wind farms, many pressing social, environmental, and economic needs of society are being addressed [3]. In this time of COVID-19 pandemic, social innovation can serve as a potentially powerful tool for addressing the unique and peculiar needs of slum communities and other marginalised sections of society.

## CASE STUDIES OF COVID-19 RELATED SOCIAL INNOVATIONS FOR SLUM COMMUNITIES

A brief overview of three slum focused COVID-19 interventions that meet the attributes of social innovations is provided to highlight the latter's critical role in addressing special needs of people dwelling in slums and other informal settlements. These Interventions are: *Chasing the Virus* and *Vegetables on Wheels* which were rolled out in India, and *Project Ultra Violite* which was deployed in Hong Kong.

### Chasing the virus

Chasing the virus is a proactive multisectoral approach spearheaded by the Municipal Corporation of Greater Mumbai (MCGM) to contain the pandemic in Dharavi, the largest slum in Asia and one of the largest in the world [4]. This intervention which is also referred to as the *Four-T model* is comprised of four main activities, i.e., tracing, tracking, testing and treating. It entails the

mobilisation and swift deployment of health teams, technical experts and community volunteers to carry out door to door screening, monitoring and risk communication, regular sanitisation of public toilets, and supply of essential groceries [4]

The attributes that qualify *chasing the virus* as a social innovation include the following: first, it adopts a novel approach to addressing the health, sanitation and feeding needs of the slum communities through regular sanitisation of public toilets, medical treatment of infected persons, and the provision of food packets and grocery kits. Social innovations are novel solutions that address societal challenges, and to that extent *chasing the virus* can be described as a social innovation. Second, the intervention employs a collaborative and multi-stakeholder approach to co-create solutions that are effective in meeting societal needs; and third, the intervention is a community level solution aimed at containing the spread and effects of COVID-19 among slum dwellers.

*Project Ultra Violite* is a disinfectant and sanitation technology deployed to address COVID-19 related sanitation needs of Hong Kong's low-income families living in sub-divided units [5]. Sub-divided units (SBUs) are flats that have been illegally divided into two or more separate units for rents by low-income families. The SBUs are characterised by many safety and hygiene issues, thereby exposing the residents to considerable risks of infection and other health and safety hazards [5]. To address this peculiar need, a team comprised of social workers, medical practitioners, academics and engineers collaborated to design a technology to provide disinfecting services to the SBU communities. The resultant technology is a low-cost, scalable, and easy to use ultraviolet germicidal irradiation (UVGI) device effective for addressing the identified sanitation needs.

### Project Ultra Violite

Recognising that the poor sanitation situation in the SBUs exposed the residents to greater risks of COVID-19 infections, *Project Ultra Violite* devised a solution to address this peculiar need and by so doing facilitate the containment of the pandemic in this disadvantaged and vulnerable segment of society. Moreover, the project is a collaborative effort of multi-disciplinary stakeholders to ensure a well thought through intervention that holistically and effectively address the identified need. The SBU residents were an integral part of the process. The active involvement of community-based organisations (CBOs), volunteers, and other relevant

community-level stakeholders was for the purpose of ensuring that the resultant solution effectively addressed the identified need, and that it was accepted by the people for whom it was designed. Furthermore, by factoring pertinent cultural and social norms into the design and deployment of the technology, the Project ensured that the intervention was context-sensitive and accepted by the targeted beneficiaries.

### Vegetables on wheels

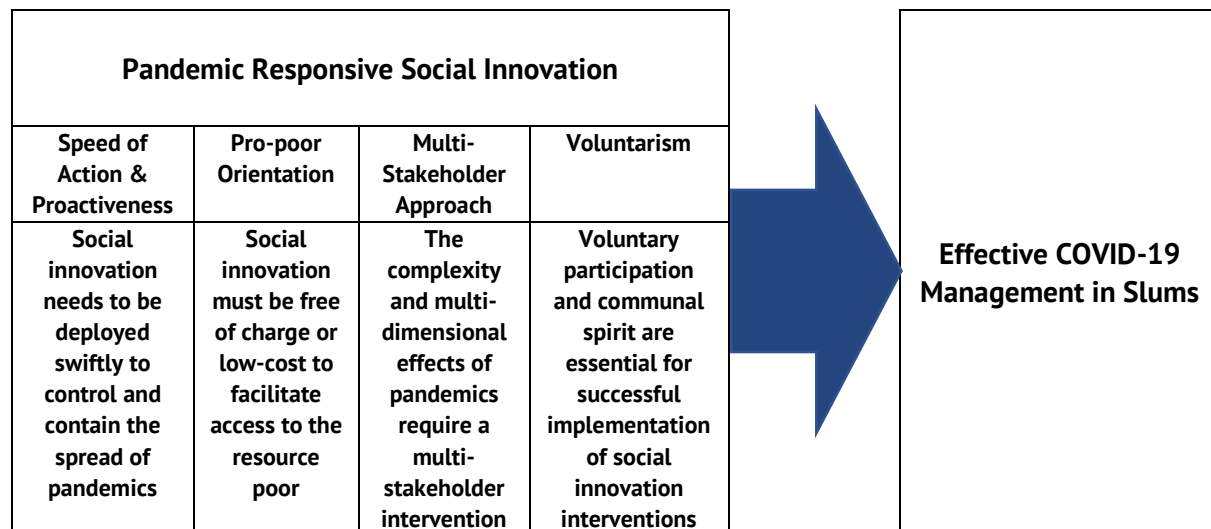
*Vegetables on wheels* is an innovative initiative designed to circumvent the disruption in food supply chain occasioned by COVID-19 induced lockdown. This innovation emerged from Ahmedabad in India as an approach to addressing the food needs of residents including slum dwellers who were affected by a 21 days lockdown which started on March 24, 2020 [6]. *Vegetables on wheels* is a collaboration between the Ahmedabad Municipal Corporation (AMC) and the Self-Employed Women’s Association (SEWA). Members of the association who consist of women street vendors were engaged by the AMC to procure and supply essential food and milk to residents in areas of the city that were in lockdown. In this way the feeding needs of slums and other communities affected by curfews were catered for while the livelihood of the street vendors was protected.

The COVID-19 situation and associated lockdowns have exposed many to the risk of starvation and loss of livelihood. By meeting these critical socio-economic needs creatively and innovatively, *Vegetables on Wheels* satisfies the key objective of social innovation.

Furthermore, this initiative is a participatory and collaborative effort that co-create solutions for societal rather than individual needs. Consequently, *Vegetables on Wheels* can be referred to as a social innovation, taking into consideration its objectives, process, scope and expected outcome.

### OBSERVATIONS AND CONCLUSION

The COVID 19 pandemic has once again highlighted poignantly the abysmal socio-economic conditions and the vulnerability that characterise slums and informal settlements. This low-income and vulnerable segment of society has special needs which may require special solutions, especially in situations such as the COVID-19 pandemic. For instance, solutions such as self-quarantine, social distancing, and regular handwashing under running water may not be feasible in slums communities where there are issues of serious overcrowding and lack of basic amenities such as potable water and sanitation facilities [2]. This gives rise to the necessity of devising special solutions to cater for these special needs. This is where social innovation can serve as a useful tool for making a real difference in the health and wellbeing of these vulnerable and marginalised segments of society. Examining three social innovations being deployed to manage COVID-19 challenges in slum communities brings to light the following four qualitative attributes of pandemic responsive social innovations for slum communities.



Characteristics of COVID-19 Responsive Social Innovation for Slums

The above illustrated attributes of pandemic responsive social innovation are elaborated as follows:

**First, speed of action and proactiveness.** To facilitate effective containment and management of the pandemic in slums and the larger society, social innovation needs to be deployed promptly and in a timely manner, as delay in intervention may lead to the pandemic getting out of control. This requires proactiveness of action as well as speedy development and deployment of relevant social innovations. The attribute of proactiveness and speed is reflected in the three innovations examined in this article. For instance, *Chasing the Virus* is characterised by proactive actions by the Municipal Corporation of Greater Mumbai and other relevant stakeholders to keep infection rates in check as well as meet the survival needs of the vulnerable slum dwellers.

**Second, Pro-poor Orientation.** Slums are characterised by extreme poverty, thus, solutions that are not free of charge or low-cost may be out of the reach of this segment of society. In this respect, COVID-19 related social innovations need to take into account the economic vulnerability of the slum dwellers, so that solutions offered are affordable and accessible. The three examined cases of social innovation highlight the need for slum targeted solutions to be affordable or cost free. For example, the sanitation, feeding, and healthcare provided by the *chasing the virus* intervention were virtually free of charge to the beneficiaries.

**Third, multi-stakeholder and multi-disciplinary approach.** Given the enormity and complexity of the challenges created by the pandemic, a multi-pronged approach may be required to effectively address these challenges. From the three social innovations examined, it was observed that stakeholders from different backgrounds and disciplines were actively involved in fashioning out context-relevant solutions to effectively manage the pandemic. The key stakeholders included government or public agencies, technical experts, local community leaders, NGOs, and volunteers. Government agencies played a particularly instrumental role in the development and implementation of the social innovations. This observation highlights the critical role that government agencies can play in the development and successful implementation of social innovations to enhance the quality of life and wellbeing of especially the vulnerable in society.

**Fourth, volunteerism** this came through strongly as a key attribute of pandemic-focused social innovations. From the cases examined, it was observed that volunteers were pivotal in the successful implementation of the interventions. This is exemplified in the *Chasing the Virus* intervention and the *Project Ultra Violite* where volunteers and local community leaders played instrumental role in the diffusion and acceptance of the innovations among the targeted communities.

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