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SUSTAINABLE LIVING BEYOND COVID-19:

CAPABILITIES, COLLABORATION, AND COLLECTIVE ACTION

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SUSTAINABLE LIVING BEYOND COVID-19:

CAPABILITIES, COLLABORATION, AND COLLECTIVE ACTION

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Summary

The COVID-19 pandemic has had various impacts on our living conditions and lifestyles. The restrictions, lockdowns, and changes in behaviour patterns that emerge also present an opportunity to reassess both the sustainability of status quo living and the new conditions arising from the chain reaction of COVID-induced changes. In particular, the pandemic has brought to attention structural inequalities present in society, resulting in the uneven distribution of resources and opportunities. Therefore, it is more important than ever to reconsider how we can enable people and societies to learn from one another and jointly shape inclusive and forms of sustainable living.

This paper introduces five unique cases of ground-level initiatives working for collaborative learning and co-creation of sustainable ways of living in Armenia, Colombia, Brazil, South Africa, and the Philippines. The pandemic and the government's restrictive measures have posed challenges to the project leaders and participants in fostering their collaborative work. However, project teams took proactive steps to enable all actors to re-contextualise their challenges for sustainable and secure living and adapt their actions to better meet their basic necessities through the creative hybridisation of knowledge, skills, spaces and people.

Learning from these cases, the paper argues that the Capabilities approach should be taken into account when we explore sustainable and reliable ways of living. It guides us to think beyond the outcomes to consider the distribution of real opportunities and meaningful choices for living.

Introduction

Since the occurrence of the COVID-19 pandemic, we have repeatedly come across news items reporting the drastic changes in our ways of living. Private and public sectors are keen on shaping new business models or policies to adapt to the so-called "new normal", anticipating that such changes may continue to influence society and our living conditions into the future. Individuals and families are likewise seeking new ways of living to cope with the various shifts in public and private spaces that have accompanied the pandemic.

While the public and private sectors, as well as individuals and households attempt to chart pathways forward, the restrictions, lockdowns, and changes in behaviour patterns that emerge also present an opportunity to reassess both the sustainability of status quo living and of the emerging results from the chain reaction of COVID-induced changes, before embracing such changes as the new normal. Due to the lockdown in many countries during the pandemic, certain lifestyle options like work from home and distanced education models were adopted which reduced GHG emissions from daily commutes,[1]

1 Corinne Le Quéré et al., "Temporary Reduction in Daily Global CO2 Emissions during the COVID-19 Forced Confinement," Nature Climate Change 10, no. 7 (July 1, 2020): 647–53, https://doi.org/10.1038/s41558-020-0797-x.

but it is already being reported that such changes could increase the amounts of plastic waste and household energy consumption[2] due to changing patterns of household consumption. Moreover, the pandemic has also brought to attention structural inequalities present in society, particularly those centred on race, ethnicity and gender resulting in the uneven distribution of resources and opportunities. Exacerbation of structural inequalities was particularly evident in some cases where COVID-induced changes were introduced without careful assessment of the potential for counter reactions with significant negative impacts for these groups of people. These different examples underscore the need to carefully reassess our understanding of sustainable lifestyles, the connected impacts of COVID-induced chains of changes in lifestyles, and different kinds of opportunities available and accessible for different groups of people.

The pandemic has impacted almost every facet of life, from workplaces to schools and households, to transportation systems and not least healthcare systems. Countries around the world have engaged in a diversity of responses to try to contain and mitigate the negative impacts of the pandemic and the resulting responses across society. Acknowledging that it is beyond the scope of this paper to address the full diversity of impacts and response, this paper refrains from jumping into the expectation that we are witnessing the emergence of a "new normal" for two reasons. First, we cannot gain a clear picture of the changes in our lives by focusing on superficial and potentially short-term changes in behaviours, such as remote working or distanced learning models. Behavioural changes come along with and induce deeper shifts in the surrounding contexts of socio-economic systems and technologies that in turn spark further behavioural changes. These continuous chain-reactions of changes will not necessarily lead us, in the short-term, to the new equilibrium point of behaviours and the surrounding contexts which are implicitly assumed in "new normal" thinking. Second, if the changes in socio-economic and technological contexts endanger the subsistence of some of us or alienate us from the benefits of these changes, such a society is not sustainable. In fact, the availability and accessibility of behavioural options in response to the pandemic as well as the resulting positive and negative impacts to our lives have varied greatly across jurisdictions, reflecting the diversity of living conditions and the socio-economic positions in which we are positioned. Hence, we must be mindful of the risk that "new normal" thinking may deflect our attention from such diversified impacts on people and thus uncritically accept the non-equitable and thus non-sustainable outcomes. These two points remind us of the limitation of many standard arguments on sustainable lifestyles that address consumer behaviours that cause negative impacts to the environment. By focusing on these types of consumer-focused arguments, we have paid scant attention to the possible consequences when the contexts in which behaviours are chosen change rapidly. In particular, we have not imagined carefully (or we have dared not to pay attention to) who in our society will be most seriously affected by such shocks.

Sustainable ways of living should cover both fair distribution of results (i.e.: access to secure living with fewer negative impacts), and fair process and recognition (i.e. participation in collective efforts to build sustainable and resilient contexts of living, which ensures the appropriate recognition of the voices of the all). With this overarching understanding, we revisit the ways in which we have thought about (un)sustainable living and the implications due to COVID-induced chain of changes. We discuss five cases of on-the-ground innovations in Armenia, Colombia, South Africa, Brazil and the Philippines, to illustrate collaborative learning and co-creation in the pre-Pandemic era. These cases are particularly selected to pay special attention to a critical aspect of the efforts toward sustainable living, namely through collective actions and collaborative learning for sustainable living. As a framework to reassess the sustainability of present and COVID-induced chain of changes in living, in the discussion section we draw upon the capabilities approach and the concepts of justice as an alternative to avoid the lock-ins of unsustainable lifestyle, and as pathways towards more inclusive ways of living.

2 Ana L. Patrício Silva et al., "Increased Plastic Pollution Due to Covid-19 Pandemic: Challenges and Recommendations," Chemical Engineering Journal, no. January (2020), https://doi.org/doi: https://doi.org/10.1016/j.cej.2020.126683.

2. The (Un)sustainability of our ways of living and the COVID-19 pandemic

2.1. The (Un)sustainability of our ways of living

Economic growth and the development of new technologies have made human life far more affluent than ever. Still, they have also caused irreversible changes to the global environment, tipping us into unsustainable conditions where resources are consumed, and pollution is created faster than the earth's natural systems can regenerate. Out of the nine Planetary Boundaries outlined by Rockström et al. in 2009,[3] Biosphere integrity and Biogeochemical flows have surpassed the threshold of unsustainability, while Land-system change and Climate change are approaching this critical point.[4]

3 Rockström, J., et al. 2009. Planetary boundaries: exploring the safe operating space for humanity. Ecology and Society 14(2): 32. http://www.ecologyandsociety.org/vol14/iss2/art32/

4 Will Steffen et al., "Planetary Boundaries: Guiding Human Development on a Changing Planet," Science 347, no. 6223 (2015), https://doi.org/10.1126/science.1259855.

The climate crisis is an inevitable consequence of the past development and continuing trajectory of global socio-economic systems. For two centuries, societies have put their energy into economic growth through identifying a variety of natural/human resources across their domain and establishing a multitude of systems and infrastructures to take the best advantages of their resources, such as roads and railways, communications, industrial zones, trade and finance. Resources, infrastructure, and institutional arrangements contributed to the continuous growth in resource extraction, production and sales of goods and services. Notably, people have been the most vital resource for this purpose: they have been provided with necessary knowledge and skills to contribute to the establishment of the food, fishery, mining, and forestry as well as manufacturing or service industries. They have also been trained to contribute to growth by purchasing more and more goods and services. In short, people are an integral part of the engine of expanding economic growth around the world. It is thus no wonder that our day-to-day life makes substantial contributions to the deterioration of the global environment, contributing significantly to global unsustainability. For instance, activities of people living in Japan, such as eating, moving, and dwelling, result in the generation of Greenhouse Gas (GHG) equivalent to 7.6 tCO2e a year. At the same time, those in Finland, China, Brazil, and India causes 10.4 tCO2e, 4.2 tCO2e, 2.8 tCO2e, and 2.0 tCO2e respectively.[5]

Yet, this is just one side of the story about our unsustainable living. Despite remarkable growth in income and the progress in poverty reduction, a massive number of people still have difficulty meeting their daily needs. Threats are not limited to developing countries – UNDP's Human Development Reports 2019 pointed out that 1.3 billion people are considered 'multi-dimensionally poor', two-thirds of those being in medium-income countries.[6]

These two aspects of the unsustainability of our lifestyles are not only the consequence of the choices of individual consumers opting to consume excessive amounts of goods and services or behaviours that may increase economic, environmental, and health risks. Most people make such choices out of economic and lifestyle necessity, as well as being prompted by ubiquitous product and service marketing and other information sources while at the same time being constrained by the availability of affordable goods and services and the prevailing level of technology and infrastructure. For example, the following three sets of constraining and enabling conditions work to limit the availability of behavioural options:

1. Relationships with family members, neighbours, colleagues and others often determine our needs for working, learning, moving, eating, caring, etc.;
2. Goods and services that support the types of individual and group behaviours and impacts we value are often not affordable or otherwise available; and
3. The underlying set of technological and institutional conditions determine the availability of options and can enable or constrain individual and group decision making, and are often beyond our control.

The entangled elements[7] that shape the contexts of our lives lock in our options for behaviours and lifestyle choices. Such lock in presents significant resistance to rapid changes in the system, even though we may wish to live more sustainably. It should also be noted well that behaviours and available options differ significantly among societies with different socio-economic conditions, technologies, and norms.

As the socio-economic and technological contexts substantially limit the range of available lifestyles, drastic changes in these contexts may lead to sudden changes in our day-to-day living. The COVID-19 Pandemic has imposed just such rapid changes since the beginning of 2020.

5 Lewis AKENJI et al., 1.5-Degree Lifestyles: Targets and Options for Reducing Lifestyle Carbon Footprints (Hayama: Institute for Global Environmental Strategies, 2019), https://www.iges.or.jp/en/pub/15-degrees-lifestyles-2019/en.

6 United Nations Development Programme, "Human Development Report 2019" (New York, 2019).

7 Marc Dijk et al., "Policies Tackling the 'Web of Constraints' on Resource Efficient Practices: The Case of Mobility," Sustainability: Science, Practice, and Policy 15, no. 1 (January 1, 2019): 62–81, https://doi.org/10.1080/15487733.2019.1663992.

2.2. Some of the (ostensible) changes in our living caused by the COVID-19 pandemic

The disease caused by the novel Coronavirus, now called COVID-19, broke out in late 2019 and spread across the globe in 2020, causing 1 billion infected patients and 2.2 million deaths by the end of January 2021. Governments across the world introduced various sorts of immediate responses such as lockdown, banning of gathering or travel, and closures of workplaces and schools. Such measures drastically changed the socio-economic contexts and availability of goods and services, resulting in sometimes significant changes in our day-to-day behaviours. This subsection touches on some examples. However, it is essential to note that we can cover only a few examples of such behavioural changes, mostly from the wealthiest countries. We should recognise that a far more diverse range of changes in behaviours occurred globally, leading to an extraordinary variety of impacts on people reflecting the different conditions of people across the countries, or even in the same region.

- Working from home: Almost all countries have introduced some form of workplace closures. According to the ILO, workplaces were closed most widely in the last week of March. 68% of the global labour force were in countries where all workplaces except essential sectors were closed. The total reduction of work time during the second quarter of 2020 was equivalent to the loss of fulltime employment for 305 million workers.[8] Work from home arrangements were introduced for a broad range of jobs in response to the workplace closures. An April 2020 Gallup survey showed that 60% of employees in the United States have worked from home due to COVID-19.[9] That said, it is essential to note that only about a fifth of jobs is suited for work from home arrangements, according to the ILO. Thus, quite a few people could not work from home, while many others struggled to do so successfully.
- Distance learning: Schools were also shut down across the globe. One hundred ninety-three countries have closed all schools for some period of time as of 31 March, affecting 1.6 billion students, or 91.2% of global learners.[10] Distance learning was introduced as one of the responses; however, the accessibility and applicability of distance learning differ greatly depending on various conditions such as network infrastructure, education systems, socio-economic situation, and levels of school. For instance, all European countries adopted online education at Primary and Secondary levels compared to about half of the African states, 80% of those in Asia and Latin America and the Caribbean. Preschool education had challenges in enabling distance learning in all regions.[11]
- Eating at home: While people stopped commuting to workplaces and schools and stayed home, many continued or adapted activities which they had previously done outside the home, such as eating, in or near their home. 68.3% of the respondents in Japan answered they eat out less frequently,[12] while 60% in the US answered they cook more regularly at their home.[13] Cooking and eating at home may potentially result in the improvement of nutrition and health. Still, another study revealed that

8 International Labour Organization, "ILO Monitor: COVID-19 and the World of Work. Second Edition.," 2020, https://gisanddata.maps.arcgis.com/apps/opsdashboard/index.html#/.

9 Megan Brenan, "U.S. Workers Discovering Affinity for Remote Work," Gallup, 2020, https://news.gallup.com/poll/306695/workers-discovering-affinity-remote-work.aspx.

10 UNESCO, "Education: From Disruption to Recovery," UNESCO, 2020, https://en.unesco.org/covid19/educationresponse.

11 United Nations, "Education during COVID-19 and Beyond," United Nations, 2020.

12 流通ニュース, "新型コロナウイルス／外食が減少68.3%「免疫力を高める」関心高く," 流通ニュース, 2020, https://www.ryutsuu.biz/promotion/m080542.html.

13 John Murphy, "How COVID-19 Has Changed How Americans Eat," MDLinx, 2020, https://www.mdlinx.com/article/how-covid-19-has-changed-how-americans-eat/7m3f7Ek2uPtTIYOgAUWkvT.

people have also experienced a worsening of their dietary habits, such as the more frequent intake of unhealthy food or eating out of control.[14]

- Participating in online gathering and events: Lockdown made it impossible to meet friends or relatives in-person. In the UK, a virtual meeting with friends was the most popular alternatives to visiting pubs and bars.[15] Mass events have also been impossible during the pandemic. Platforms for virtual events have grown by 1,000%.[16]
- Spending leisure time online, at home or in the neighbourhood: People have spent long hours in leisure/relaxing activities at home. According to a survey, 35% of the global respondents spent more time reading during the lockdown. Likewise, 40% spent significant amounts of time using messaging services and 50% more time watching the news.[17] Streaming services have attracted people most prominently, resulting in 30 to 40% longer watching hours in Europe.[18] That said, many of us went beyond online activities. While people could not travel, they re-evaluated their time relaxing in nearby green spaces or parks as the basis for wellbeing.[19]

People adopted these sudden changes in behaviours in response to the restrictive measures associated with the pandemic. Some of the above may be time-bound and people may revert to their previous behaviours once the restrictions are lifted. However, some of these behaviour shifts may continue for years after the pandemic. For instance, working from home is suited for a limited variety of jobs and sectors, and surveys show that both employers and employees have mixed feelings about whether they want to continue the current arrangement or to return to the previous working styles at offices. For now, we can expect that more people will work from home more frequently compared to the pre-Pandemic time, while many of them will also go to offices, but perhaps not every day. Cooking and eating at home more often may also be continued, though with less frequency compared to the peak time during the lockdown.

Some of the behaviour changes mentioned above may result in positive impacts on sustainability, while others might produce adverse effects. For instance, less frequency of commuting means less distance of travel and thus less energy consumption. However, longer hours of staying at home may potentially increase household energy consumption. Similarly, more frequent cooking and eating at home will result in less food waste in restaurants and hotels. Still, this may potentially increase the amount of food and plastic waste generated at home.

14 Achraf Ammar et al., "Effects of COVID-19 Home Confinement on Eating Behaviour and Physical Activity : Results of The," Nutrients 12, no. 1583 (2020): 13.

15 Statista, "Alternatives to Visiting Pubs & Restaurants during COVID-19 Lockdown in the UK," Statista, 2020, https://www.statista.com/statistics/1118727/alternatives-to-going-out-during-coronavirus-uk/.

16 John Koetsier, "Virtual Events Up 1000% Since COVID-19, With 52,000 On Just One Platform," Forbes, 2020, https://www.forbes.com/sites/johnkoetsier/2020/05/27/virtual-events-up-1000-with-52000-on-just-one-platform/?sh=2287cf3e7a23.

17 Statista, "In-Home Media Consumption Due to the Coronavirus Outbreak among Internet Users Worldwide as of March 2020, by Country," Statista, 2020, https://www.statista.com/statistics/1106498/home-media-consumption-coronavirus-worldwide-by-country/.

18 Statista, "Coronavirus Impact on Video Streaming Consumption Worldwide 2020," Statista, 2020, https://www.statista.com/statistics/1107559/video-streaming-consumption-growth-worldwide-coronavirus/.

19 Melanie Davern et al., "Coronavirus Reminds Us How Livable Neighborhoods Matter for Our Well-Being," Medical Express, 2020, https://medicalxpress.com/news/2020-04-coronavirus-livable-neighborhoods-well-being.html.

2.3. Changes of life revisited: Chain Reactions and Structural Inequalities

We have relatively clear evidence of the changes in our lifestyles mentioned above. However, it bears repeating that most of this evidence is from developed countries. We should keep in mind that a much larger variety of changes in behaviour and in the contexts of living have been taking place globally and are yet to be analysed. Furthermore, we should not only pay attention to the notable changes in behaviours over the past months. We must also explore the contextual changes which may influence our living for years or decades after the pandemic. Two issues are worth attention here.

First, behavioural changes come along with changes in the many elements that make up our choice architecture, such as ideas, skills, materials, technologies, as well as socio-economic systems. Causation runs both ways, with individual and group responses to the pandemic influencing the development and imposition of social and economic restrictions by the government, and vice versa. Business sectors are active in introducing new goods and services that support the new and emerging behavioural patterns which further stimulate behavioural changes in individuals and organisations by making options more available. Note, however, this does not mean everyone can afford or have access to these newly introduced goods and services. To the contrary, it is likely that such innovations are often out of reach for the most economically and socially vulnerable. Furthermore, access to existing basic goods and services have also been affected due to increases in price.[20] Together, these policy measures and business activities further influence other behaviours, practices, and living conditions. In other words, behaviour change can never be a single isolated change; rather, it will necessarily spawn multiple reactions and adaptations.

Many such multiplied effects have begun already, and many others can be expected to emerge. While we have been able to identify several initial impacts and reactions, the chain-reactions will continue as the pandemic continues to develop and new government and private responses emerge. The following is a partial list of already observable behaviour change clusters:

- Online education may lead to changes in the day-to-day practices of learning and teaching among students and teachers, as well as the transformation of educational systems. If schools or national education programmes adopt a long-term hybrid online / in-classroom system, they will need to reconsider whether it is still relevant to maintain current classroom sizes (e.g., 30 students per teacher).[21] Existing pedagogical materials, contents of each subject, evaluation criteria, and even the knowledge and skills to be trained, may be subject to change to comply with an online format. At the same time, the meaning of access to quality education for all should be revisited. Support to families having younger students and those with disabilities is another urgent matter. All of this assumes that a household has access to the necessary technology and infrastructure to participate in online learning. In considering various efforts at distanced learning around the world in response to COVID-19, it is worth noting that for many students an online model is simply not possible.
- The rapid spread of work from home arrangements prompts business, government agencies and other organisations to adapt their styles of communication and collaboration. Furthermore, they will also need to reconsider their offices, organisational structures, training and evaluation systems, and employment practices. Mass changes in workstyle will also

20 Manuel Hernandez et al., "New COVID-19 Food Price Monitor Tracks Warning Signs of Stress in Local Markets," Food Security Portal, 2020, https://www.foodsecurityportal.org/blog/new-covid-19-food-price-monitor-tracks-warning-signs-stress-local-markets.

21 OECD, Education at a Glance 2014, Highlights from Education at a Glance (OECD, 2014), https://doi.org/10.1787/eag_highlights-2014-en.

affect urban socio-technical settings due to the reduction of people commuting to the urban centre. Infrastructure covering urban business areas and suburban housing areas such as transportation, as well as a variety of services targeting companies and businesses such as food, delivery, cleaning, waste management and health care, will need to be improved to accommodate distributed working networks. To illustrate, the two major railway companies in Japan, namely the East Japan Railways and the West Japan Railways announced that they would move forward the last train by 30 to 60 minutes, starting from March 2021.[22] Such changes will then influence the options and norms of a diverse range of behaviours.

- The rapid increase of online shopping for food and commodities has placed intense pressure on delivery and waste management sectors.[23] Both public and private sectors covering these activities will be forced to strengthen their services rapidly. The changes will also affect other conditions of urban socio-economic systems such as transportation demands.
- Many people have re-evaluated doing-themselves (e.g. cooking at home), enjoying locally available recreational activities, gathering with families and neighbours at their communities.[24] Such re-evaluations may open the door for engaging more people in collective actions for creating sustainable communities or activating local economies in the future. If these behaviour changes last longer, governments and business will also strengthen their support in this field by, for example, offering localised products and services or enhancing their collaboration with communities to motivate creative activities in local spaces. The UK Local Governments' Association reports several cases where local governments offered spaces for offline activities and community projects, such as the production of personal protective equipments (PPE) for the vulnerable people.[25]

These are just some of the examples, but they indicate that the changes in lifestyles due to the pandemic may outlast the pandemic.

Second, we should not overlook that the Pandemic experience, the resulting behaviour changes, and the impacts associated have been different depending on where in the world we look, and who we take as our example. Some examples include the following:

- 136 million workers in "human health and social work activities, including nurses, doctors and other health workers, workers in residential care facilities and social workers, as well as support workers, such as laundry and clearing staff" face serious risk of contracting COVID-19 in the workplace.[26] Additionally, 1.25 billion workers, representing 38% of the total workforce globally, engage in the sectors that have experienced the severest impacts in their economic outputs. Those working in the industries of wholesale and retail trade; repair of motor vehicles and motorcycles; manufacturing; real estate; business and administrative activities; and accommodation and food services are at the highest risk, followed by transport, storages and communication, arts, entertainment, recreation and other services.[27] Importantly, informal, low paid and unprotected workers represent a large share in many of the above sectors mentioned above.

22 Yuta Ichijo, "JR East, JR West to Start Last Train Runs up to 30 Minutes Earlier," The Asahi Shimbun, 2020, http://www.asahi.com/ajw/articles/13697072.

23 Sudarmanto Budi Nugroho et al., "Online Shopping Behavior and Its Impact on Residential Waste: A Case Study Online Shopping Foods and Groceries in Bandung City, Indonesia," Journal of the Eastern Asia Society for Transportation Studies, vol. 13 (Eastern Asia Society for Transportation Studies, December 31, 2019), https://doi.org/10.11175/EASTS.13.2452.

24 Taibat Lawanson et al., "The Urban Environment and Leisure Physical Activity during the COVID-19 Pandemic: A View from Lagos," Cities & Health, August 19, 2020, 1–4, https://doi.org/10.1080/23748834.2020.1806459.

25 Local Government Association, "Leisure under Lockdown: How Culture and Leisure Services Responded to COVID-19 - Full Report," Local Government Association, 2020, https://www.local.gov.uk/leisure-under-lockdown-how-culture-and-leisure-services-responded-covid-19-full-report#community-action.

26 Organization, "ILO Monitor: COVID-19 and the World of Work. Second Edition."

27 ILO, "ILO Monitor: COVID-19 and the World of Work. 7th Edition," ILO, 2021, https://www.ilo.org/global/topics/coronavirus/impacts-and-responses/WCMS_767028/lang--en/index.htm.

- Some populations were able to shift relatively smoothly to working from home or distance learning. However, others faced significant challenges in doing so. For example, for parents staying at home with young children whose schools or preschools were also closed, working from home while helping their children participate in online education was quite stressful[28] People living with family members needing care, those living with large families in small houses, or those living in areas with weak network infrastructure had different challenges, respectively. Both examples also impacted women more significantly, as the preponderance of unpaid, in-home work falls squarely on women's shoulders in most countries.[29]

- Some individuals could keep working from home throughout workplace closures. However, the ILO report cited above points out that a considerable proportion of workers were either forced to near or total unemployment or to continue working in essential service jobs that could not be shifted to work from home or physically distanced situations. Such a difference derives from the difference in working conditions across sectors as well as other structural problems. Female workers on average faced more difficult economic situations, having their working hours reduced markedly more than males due to many reasons, including their high tendency to engage in the sectors that have higher risk of contracting the diseases, such as healthcare and service, and the sectors that had highest economic impacts, such as wholesale and retail, hospitality, and services.[30] Female workers also took a more severe economic hit on average, represented in figures such as reduced income or the unemployment rate.[31] It was also reported that racial and ethnic inequalities were aggravated due to the pandemic.[32]

- For women and girls in many countries there are increased and often different impacts from the pandemic and the resulting social responses. We have already mentioned the economic impact, but there are significant in-home impacts as well. Even before the pandemic, women and girls performed the majority of unpaid work in the home, ranging from cleaning and cooking to child and elder care, and care for the ill or disabled. A UN Women survey of 22 countries states that 94% of women report engaging in these activities, while only 56% of men report the same.[33] Since the pandemic, many women are reporting an increase in time spent on such activities, in addition to taking on the role of at-home teacher and potentially working from home. This unequal division of labour is further aggravated where economic resources are strained and access to services is poor. An additional and troubling impact of COVID-19 lockdowns is that for many women and girls their home is not a safe place. Reports from many countries have highlighted an increase in reports of domestic violence during periods of lockdown, so much so that domestic violence has been termed a "shadow pandemic" by the United Nations.[34]

- Research shows that the pandemic induced a series of psychological reactions such as fear, anxiety, frustration, boredom, and loneliness for many people.[35] Importantly, the level of worry or stress among people is markedly different for people, reflecting their economic situations (e.g. whether respondents or their spouses have lost jobs or income; how much

28 Stijn Baert et al., "The COVID-19 Crisis and Telework : A Research Survey on Experiences , Expectations and Hopes," IZA Discussion Paper, no. 13229 (2020): 1–37, http://hdl.handle.net/10419/216771.

29 United Nations, "The Impact of COVID-19 on Women," United Nations, no. April (2020): 21, https://www.unwomen.org/-/media/headquarters/attachments/sections/library/publications/2020/policy-brief-the-impact-of-covid-19-on-women-en.pdf?la=en&vs=1406.

30 Caitlyn Collins et al., "COVID-19 and the Gender Gap in Work Hours," Gender, Work and Organization, 2020, https://doi.org/10.1111/gwao.12506.

31 United Nations, "The Impact of COVID-19 on Women."

32 B.L. Hardy and T.D. Logan, "Racial Economic Inequality Amid the COVID-19 Crisis," The Hamilton Project, Essay, no. August (2020): 2020, https://www.brookings.edu/wp-content/uploads/2020/08/EA_HardyLogan_LO_8.12.pdf.

33 United Nations, "The Impact of COVID-19 on Women."

34 UN Women, "The Shadow Pandemic: Violence against Women uring COVID-19," UN Women, 2020, https://www.unwomen.org/en/news/in-focus/in-focus-gender-equality-in-covid-19-response/violence-against-women-during-covid-19.

35 G Serafini et al., "The Psychological Impact of COVID-19 on the Mental Health in the General Population," QJM: An International Journal of Medicine 113, no. 8 (August 1, 2020): 531–37, https://doi.org/10.1093/qjmed/hcaa201.

income they have) as well as their health conditions.[36]

- The spread of the virus and the measures introduced in response are different among countries and regions, causing differing impacts. Underlying infrastructure and resource constraints, as well as access to technology further complicate country responses and individual capabilities during the pandemic, not least in the public health sector. It should be further noted that impacts and responses also vary, sometimes greatly, between jurisdictions within countries. This trend is also reflective of the differences in underlying capacity present in different locations, as well as differing political situations. The result of these differential capabilities for response to the pandemic has often been higher infection rates and deeper economic impacts, particularly for those working in sectors at high risk of exposure.

These facts show us clearly that the COVID-19 pandemic, government restrictions, as well as the behaviour changes in response, caused diversified impacts to our living based on the multitude of conditions across countries and regions, occupations, gender, ethnicity and personal situations such as family structure. It is too early to get a full picture of such unevenly distributed impacts since the pandemic is still ongoing; however, we can at least argue that the different influences outlined here, among others, indicate who in our societies are exposed to the most severe risks and stresses when the contexts of living change overnight.

With an eye on the changes spurred by the pandemic, people have already started speculating on the shape of "the new normal" for life after the pandemic. We propose that, while this exercise is certainly interesting, time might be better spent observing how the time-bound behaviour changes we have experienced so far induce deeper shifts in the contexts of living, followed by further behaviour changes. Moreover, the prospect of "the normal" may mislead us to avert our attention from the diversity of the impacts to different groups of people, including those under the eminent risks. Thus, we would refrain from thinking of "the new normal" for the time being as we reconsider sustainable living with/after the pandemic.

One alternative to reconsider sustainable living is through understanding from various geographies their interpretation of sustainable living, the pandemic linked trajectories of changes, and the different opportunities and challenges associated with it. The following sections we contribute to these vital points which have largely been overlooked so far. We present a holistic overview of pre- and post COVID trajectories through discussions with practitioners engaged in promoting collaborative learning and co-creation approaches for sustainable living based on the specific needs and opportunities of local societies, schools, or workplaces as part of the Global Search for Sustainable Schools (GSSS) project.

36 Nirmita Panchal et al., "The Implications of COVID-19 for Mental Health and Substance Use," KFF, 2020, https://www.kff.org/coronavirus-covid-19/issue-brief/the-implications-of-covid-19-for-mental-health-and-substance-use/.

3. Trajectories of Pre- and Post-Pandemic Changes Across Collaborative Learning and Co-Creation Projects: Five Case Studies

The authors of the paper have collaborated on implementing the Sustainable Lifestyles and Education (SLE) Programme of the UN-led One-Planet Network, led by the Governments of Japan and Sweden since 2014. The SLE Programme has selected twenty-five on-the-ground innovations addressing locally-specific opportunities for promoting sustainable living, and collaborated with them. The projects worked at the scales of cities, communities, offices or schools to engage with various actors working to reduce the negative impacts from their daily lives (e.g. resource and energy use) and to enable more reliable means of living[37][38]. The SLE programme also carried out the Global Search for Sustainable Schools (GSSS) initiative since 2019.

37 Atsushi Watabe et al., Co-Creating Sustainable Ways of Living 17 Stories of On-the-Ground Innovations, 2020, https://www.iges.or.jp/en/pub/co-creating-sustainable-ways-living/en.

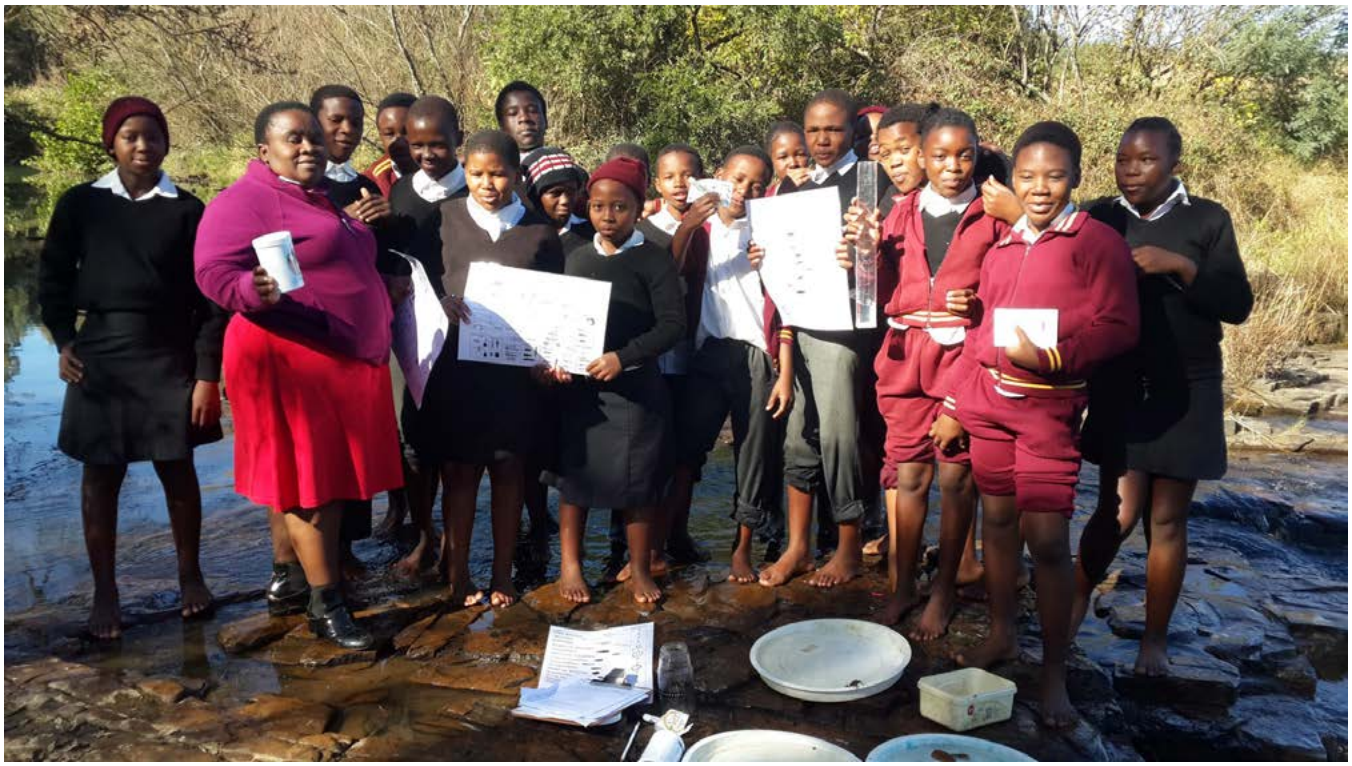
38 Through collaboration with these initiatives, we identified a few vital points for sustainable ways of living.
- a. On-the-ground innovations for sustainable ways of living start from the locally specific issues of day-to-day life, such as livelihoods and household economy, health and nutrition, waste management, nature conservation, and disaster risk reduction.
- b. On-the-ground innovations for sustainable ways of living take advantage of untapped local resources, e.g. renewable energy, food, landscape, and culture.
- c. On-the-ground innovations are most effective when they bring together people with different backgrounds to develop and implement collaborative actions and mutual learning around concrete objectives for improving their life.

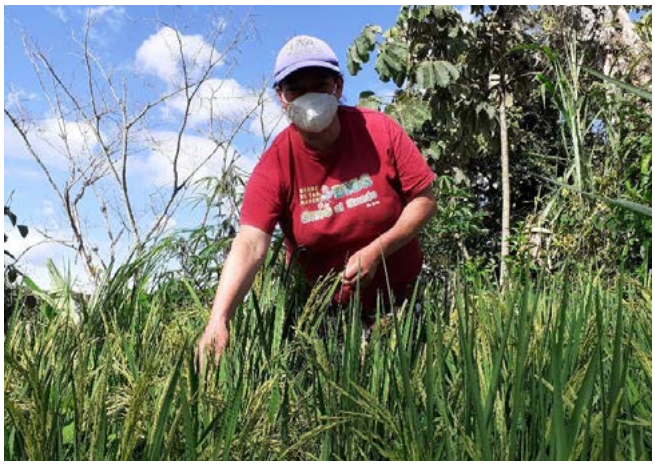
In other words, we have learned that sustainable ways of living are about joint-efforts to build capacity and aspire to engage in reshaping of living contexts, based on the unique needs and opportunities of local societies, workplaces, schools and so on.

The GSSS is carried out in collaboration with nine countries to select and support schools promoting education for sustainable lifestyles.

The SLE Programme's coordinators and the project leads of the two open-call projects from Armenia and Colombia, as well as three countries working for the GSSS, namely, South Africa, Brazil and the Philippines, gathered at a session at the 12th International Forum for Sustainable Asia and the Pacific (ISAP) "Just Transitions Toward Sustainable Societies in Asia and the Pacific: Building forward better for our future beyond COVID-19" and exchanged their activities and responses to the pandemic.

All the cases are structured along four points: the various interpretation of sustainable living through collaborative learning and co-creation; impacts due to the pandemic; responses taken to recover their actions for collective learning and co-creation; and the insights they have gained through such efforts of recovery that inform them in reshaping and enhancing their innovations with/after the crisis.



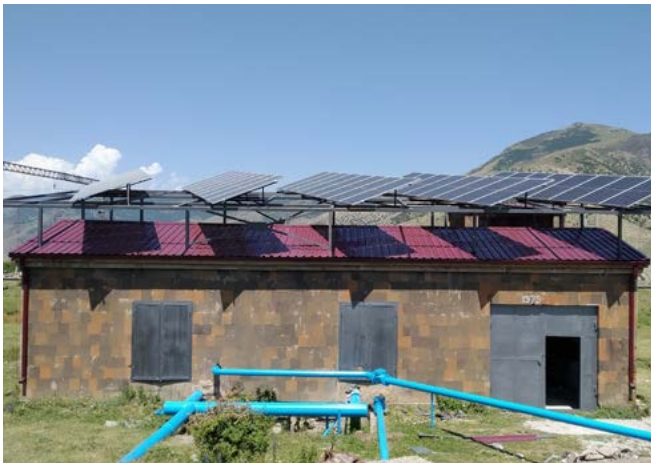


3.1. Rural Internship for Sustainable Food Chain: Armenia

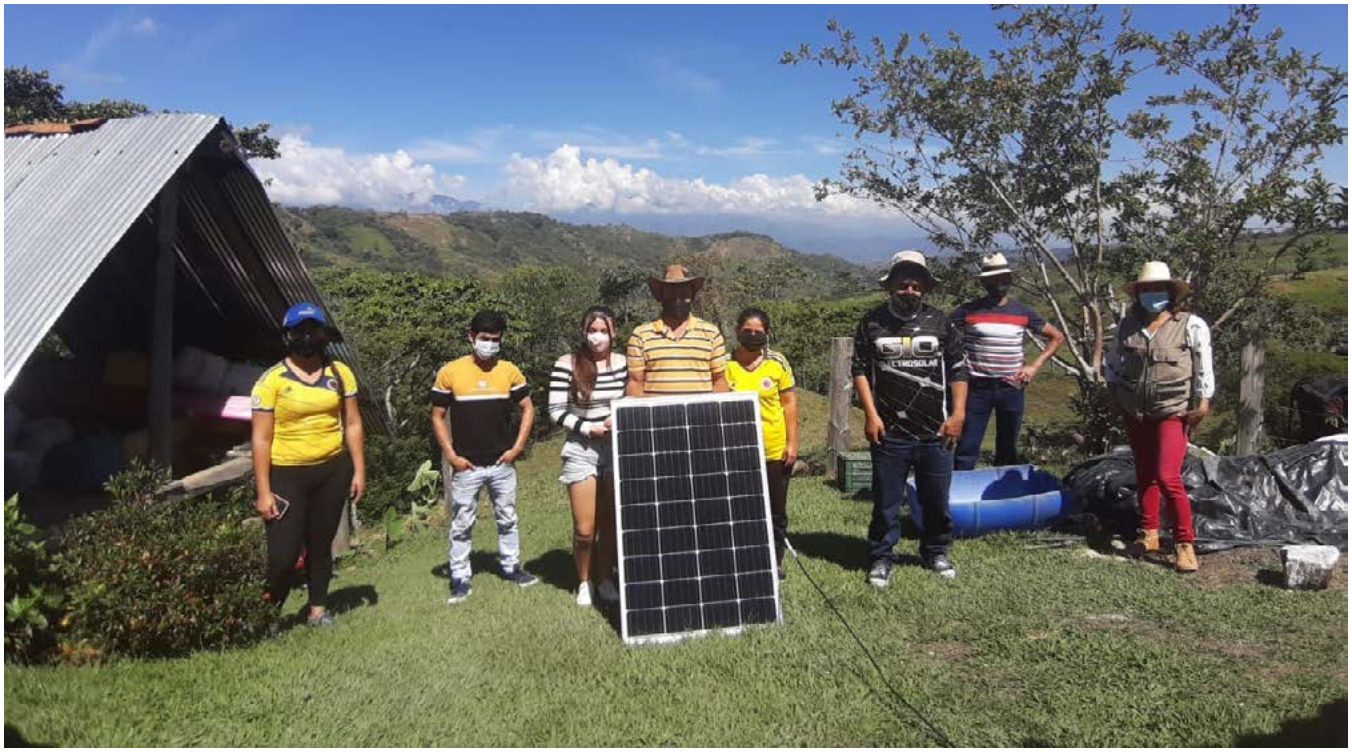
Armenian Women for Health and Healthy Environment and the Energy Centre, University of Chile and two other universities in Armenia collaborate on the project of Encouraging young specialists to power the agri-food value chains and building sustainable business model to tackle these challenges through supporting communities in having healthier lifestyles and power agri-food value chain. This project is a direct response to Armenia's over-dependence on imported fuels, which creates security of supply risks as well as affordability problems for farmers. The agricultural community of Solak relies on natural gas as its primary fuel source, with many poor farmers using wood or manure for heating and cooking. Solar energy use in agriculture is limited to fruit drying. Students from the local university worked jointly with the Solak pilot community to seek and introduce various clean energy solutions along the agri-food chains. As a result, the students participated in powering local water pumps with solar panels for irrigation of endemic lentils and other climate resilient crops. The project also established important cooperation with the local Water User Association.

However, due to the COVID-19 pandemic, the academic program was briefly interrupted. The universities and the Solak community were under lock down for certain periods of time, which impeded field activities; international travel was restricted, which posed difficulties for the full participation of project partners. In response to these challenges, online options were put into practice for project components such as the academic program (which resumed promptly), some field activities (monitoring and training components), international exchanges, and project coordination. Field work and the academic program were conducted in full compliance with national and community restrictions. Business models training for farmers (conducted via Skype) also included messages on personal hygiene and social distancing during the pandemic.

The project partners have been strong in mobilising the capacities of staff and experts, many of them with backgrounds in epidemiology, hygiene, and sanitation. Participating experts conducted a series of online webinars on COVID-19 for Solak community farmers and their children. The project's education partnership expanded to include more university students and professors, as well as engaging the private sector (specifically, solar energy companies). The students involved in the academic component are among first-round finalists of a UNDP-supported incubator of ideas.



3.2. Combination of traditional practices and online communication for creative actions: Colombia



Agro-industrial food production based on monocultures and agro-toxics dominates the current global food system and makes countries and communities dependent on imported foods. Moreover, industrial food production also contributes to global warming, destruction of ecosystems, and devastates agricultural communities by forcing people to abandon traditional practices. The UTA Colombia foundation leads a project to recover the traditional practices of mountain rice and wheat cultivation in collaboration with 21 peasant families in Boyacá and Santander, Colombia.

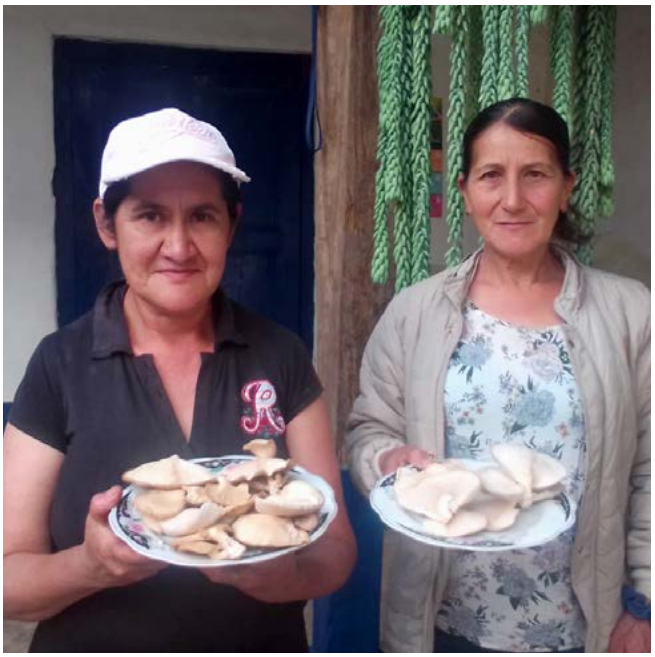
The project aims to unleash creativity and added value to the by-products of family farming, achieving the recovery route for the cultivation of wheat and mountain rice in agroecological systems.

To this end, the project offered "baskets of technologies per family" with a variety of 16 different appropriate technologies identified and learned together with the community members during the process. Participating families create "community machinery and equipment funds" which enables them to secure the technologies for threshing, grinding, polishing, eggs incubation, making pasta, preparing the soil. Thus, the baskets of technologies enabled the project teams and villagers to recover the crops and seeds of wheat and mountain rice as well as the tradition and knowledge of artisan cuisine. Crafts have also been a protagonist in the project, sharing experiences from Colombia and other, even Asian countries. The community leaders, youth and the elderly, professionals from the UTA Foundation collaborated on the project and made progress through learning by doing.

By February 2020, the project had brought together different groups of people to establish the collaborative relationship, which is the foundation of the project. Then, the pandemic hit the country in March 2020. The project team immediately started responding to the crisis first by identifying reliable means of communication. It was revealed that

mostly younger villagers had smartphones. Thus, the project team and participants decided to provide support to the other families to purchase mobile phones. A WhatsApp group was set up where alternative actions were discussed. The project team and the villagers created virtual community spaces where all the families follow the tradition of meeting weekly at 5:30 am on Wednesdays and share a cup of coffee. They listen to audios of the characters created by the coordinators to facilitate the learning of the weekly topic. They also share photos, writings, music and short videos via WhatsApp to share experiences and provide comments to each other. Experts were also invited to the online community spaces to consolidate the knowledge to achieve a more sustainable lifestyle. This generates permanent communication and unites the family and the community for the same purpose "sustainability in the field." Participants and the project team feel more united than ever. The project team visited the corner of each farm and met the whole family, the children and young people, the parents, and the grandparents. Each activity was edited and taken to a podcast that was returned to the families so this allowed people to listen to the programs in their time, calmly.

In short, the basket of technology approach worked very well to enable face-to-face collaboration and mutual learning among families. The virtual communication turned out to be highly effective in maintaining and facilitating communication and encouraging reflection on their achievements even when project participants couldn't collaborate physically. Altogether, the project team and the participants found new ways of collaborating, namely, the hybrid of face-to-face and virtual collaboration. This helped project co-ordinators and the communities to pursue the goals of establishing food sovereignty and promoting sustainable lifestyles.



3.3 Schools as action-learning centres on sanitation and food: South Africa

The aim of the Global Search for Sustainable Schools project in South Africa, facilitated by Water Explorer, has been to support 25 schools that are committed to better environmental learning and management. The coordination team supports schools with practical in-classroom lessons around different sustainability issues. Many teachers do not have the environmental training or content knowledge, and through interactions with teachers and learners the coordination team hopes to inspire and instil an environmental ethic. Seven schools were also selected to receive funding to help realise some of their environmental 'dreams'.

During the hard lockdown the coordination team were no longer able to engage with learners and teachers in the in-classroom lessons. Interestingly the COVID-19 outbreak highlighted many environmental justice short comings. For an example, many schools do not have access to safe water let alone a host of taps for regular handwashing. The coordination team assisted the schools to set-up tippy-taps, a cost effective and water saving way to provide more opportunities for learners to wash their hands. On average two litres per person are used under a running tap per wash, compared with a tippy tap that requires just 50ml per wash - 40 times more water. Saving water could also never be more important and locally relevant as South Africa continues to experience more droughts because of increasing climate crisis impacts.

One of the participating children said, "We worked out that we would need 720,000 litres to keep the hands clean of 600 learners three times per day at our school for one year. With tippy taps, the school would only need an equivalent 15,000 litres per year instead!"

The coordination team also helped teachers in their preparation for re-introducing learners back to the classroom environment by giving them workshops on the Corona virus. Many of the beliefs that people have about the virus are often informed by

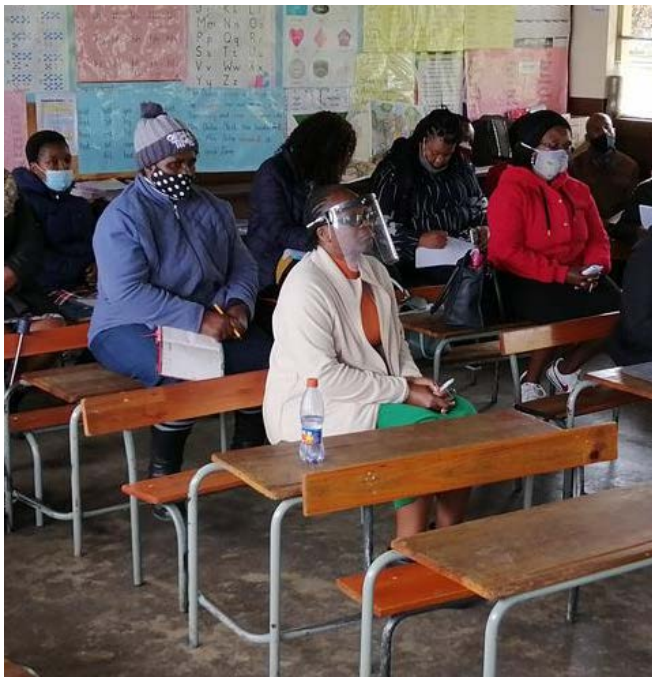
unsubstantiated media reports. Our role was to filter the fiction and deliver the facts. Importantly, teachers were helped to understand the connection between the relationship with the environment and how our actions are contributing to many of the global health epidemics we see today. A follow-on workshop related to nutrition was requested and gave us the perfect opportunity to engage teachers in new knowledge about how our food choices have a direct impact on the climate crisis and also the rise of pandemics such as COVID.

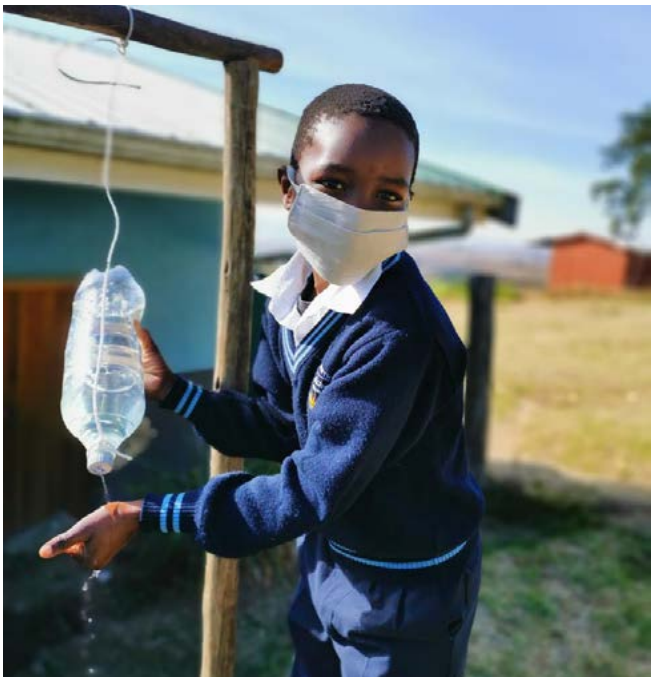
Teachers eyes were opened as they realised that many animal products are not only devastating for the environment with a huge carbon footprint, but they are also detrimental to our health. Whole food plants like grains, leafy greens "imfinos", vegetables and fresh fruit provide all the essential nutrients with none of the saturated fats and added sugars, while having a far lower impact on the planet and having all the phytochemicals needed for a strong immune system to help cope with viruses like COVID.

Due to the hard lockdown The National School Nutrition programme which offers one free meal /day for 9 million children in South Africa ceased, so the COVID health issue quickly became a hunger issue, as for some children this is their only guaranteed daily meal. The coordination team offered to assist with preparing vegetable gardens and replanting, to help supply indigent learners and also to support the feeding schemes that have now opened in providing fresh vegetables as part of the menu.

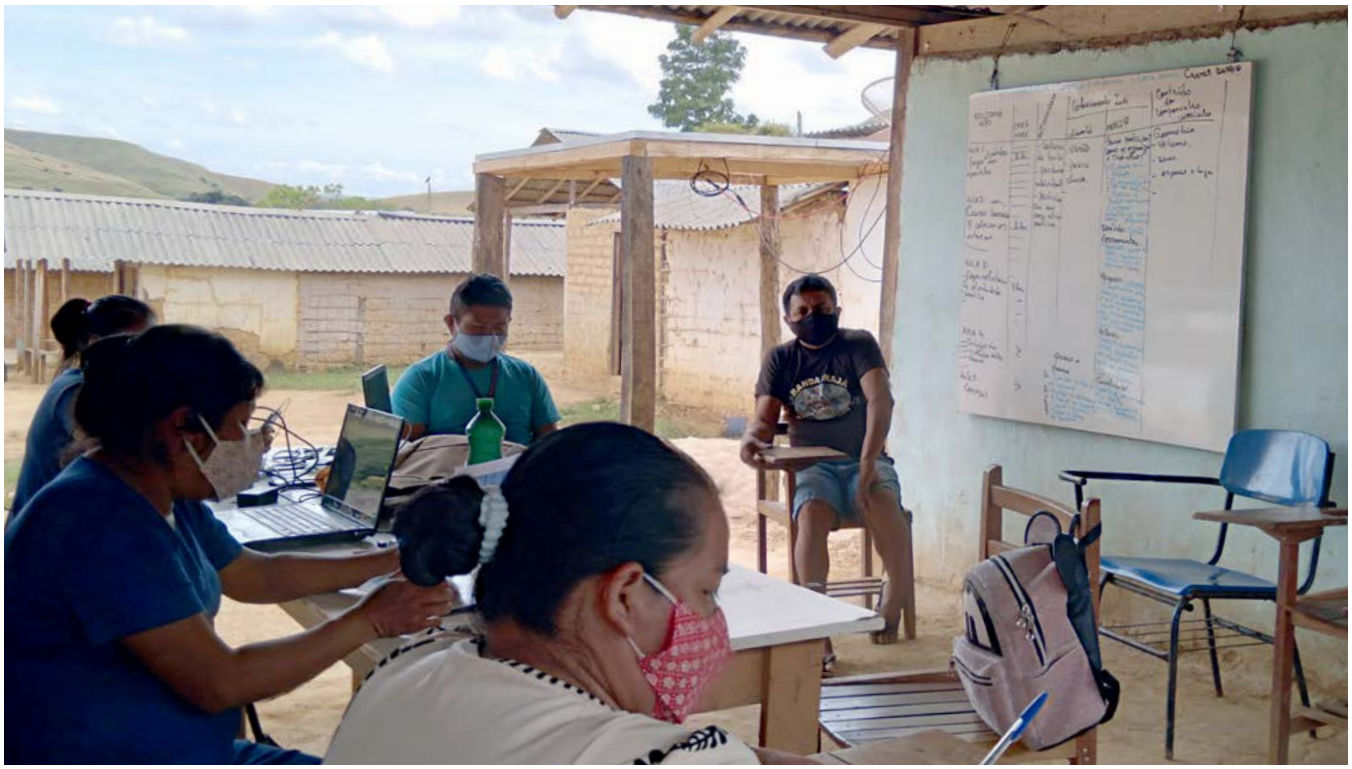
Zama Sibetha from Donnybrook Primary said "The workshop was very informative, we haven't had any specific workshops on the virus, so it has helped to improve our understanding. It is good to know that school is possibly one of the safer places to be as we have learned that children are not infected as easily and also carry a much smaller viral load and don't therefore, infect others as easily."

Bawinile Mkhize from the Provincial DBE said "It so simple, eat plant-based food and you can take better control over your immunity and lifestyle diseases. I know many friends and family members who have diabetes and heart conditions and when I look at their diet I can understand why. We really need to be teaching the children about healthy nutrition. In my family, my youngest daughter doesn't like meat; it's me who like meat and needs to change. Sometime the older people are more resistant to change but I am going to do things differently from now on and incorporate local season vegetables and Mnfino in our meatless meals."





3.4 Pursuit of alternative communication/collaboration toward learning and innovation: Brazil



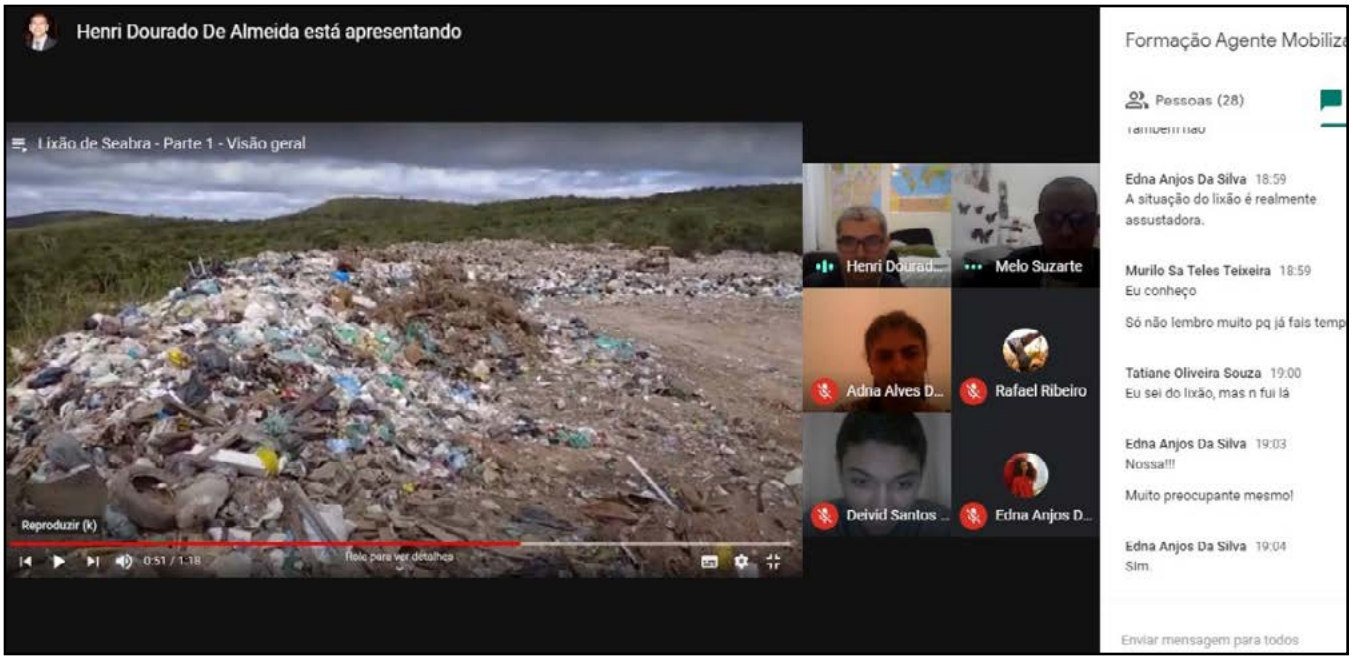
The Global Search for Sustainable Schools in Brazil, coordinated by Akatu, aimed at filling the shortage of methodologies - especially practice-based ones – and incentives to debate, learn and implement education for sustainable lifestyles in the national formal education system. The initiative – in Portuguese, called Desafio Escolas Sustentáveis - has selected the best sustainability action plans (one per Brazilian region) from basic education schools and has given a grant to support the implementation costs of the structural and pedagogical improvements that they've proposed, turning these schools into role models to be showcased and inspire other local schools in the same direction. The five selected schools have submitted diverse sustainability action plans, with pedagogical activities and structural improvements focused on issues as waste management, sustainable food, renewable energy, vegetable gardens, water reuse systems and so on. All the innovations and knowledge exchanges were integrated and debated with students and school communities, to be put into practice through infrastructure renovations.

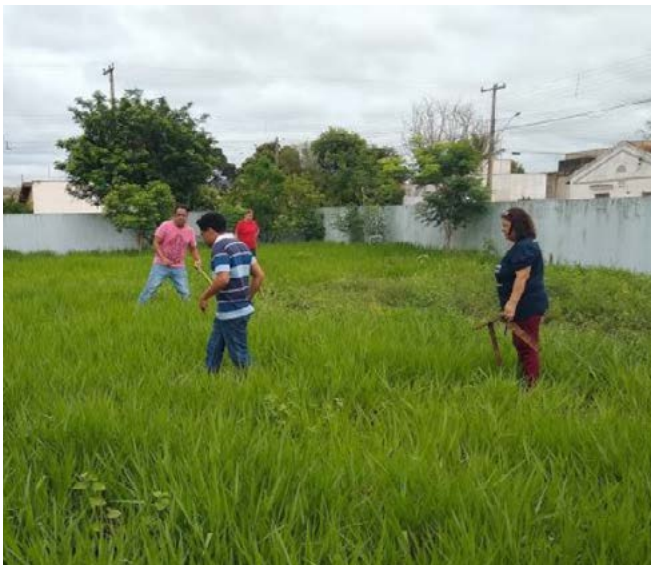
However, after just one month of implementation of the selected GSSS projects, Brazil introduced sanitary restrictions due to COVID-19 pandemic, including the suspension of classes and all in-person activities at schools, for an indeterminate period of time. After a few weeks of lockdown, most formal education institutions have started to resume their activities virtually, using online tools such as Zoom or Google Classroom. But around 20% of students from Basic Education in Brazil – around 6 million kids – have no internet connection at their homes (according to a recent study from UNICEF). Alternatives – such as the use of printed materials and broadcasting classes through TV and other mass media – were applied to try to reach as many students as possible. Teachers and students had to quickly adapt to this new scenario, demanding news skills and approaches to maintain the pedagogical process despite of all the difficulties.

For the schools selected for the GSSS in Brazil, the situation was no different – most of them had

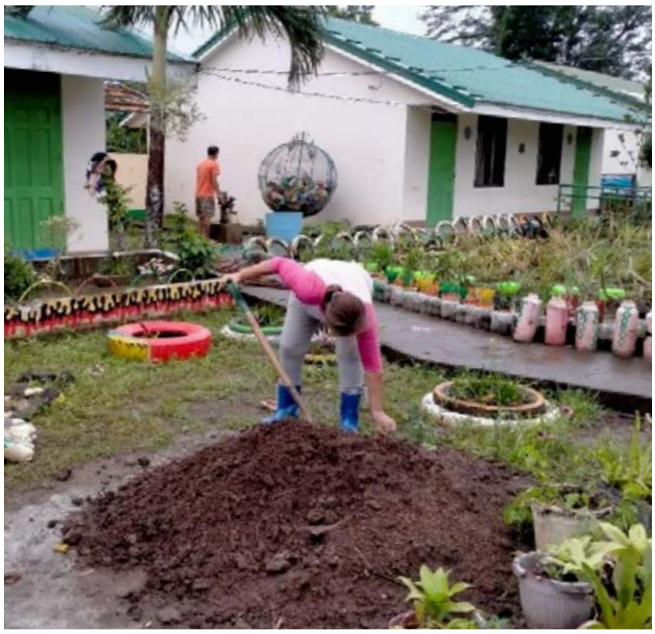
their regular activities suspended in March 2020, and have not yet resumed – at least until October. So, most of the pedagogical actions planned to be implemented had to be adapted, especially those related to in-person workshops with students and the school communities. Online tools were used to foster the engagement of teachers and students, reinforcing the importance of finding new ways and options to engage and raise awareness about the importance of education for sustainable lifestyles.

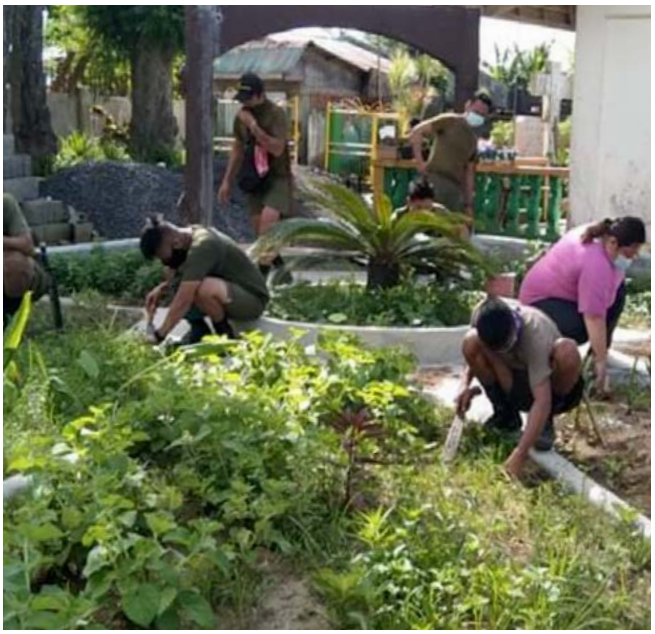
On the other hand, the proposed infrastructure improvements had no important adaptations due to the pandemic – most of the schools were able to keep the scheduled renovations and successfully implement their solar panels, water collection and reuse systems and waste collection sites, among others. However, the results of these new technologies – both in terms of new pedagogical activities as the reduction of the school ecological footprint – will only be fully noticeable in 2021, when hopefully schools resume their regular activities. The preliminary estimates, however, are very promising.





3.5 Engagements with closed schools at home gardens: Philippines





The Global Search for Sustainable Schools Philippines, coordinated by the Philippine Center for Environmental Awareness and Sustainability, is assisting in the scaling of education for sustainable development within the Asia Pacific and contributing to the establishment of an education component to the One Planet Network's SLE programme. Grants provided to schools are to support the schools in their implementation plans to enhance school greening projects - beautifying schools with vegetable gardens. The gardens serve as actual learning areas for science, particularly on the nutritional value of vegetables. Harvests are used in cooking class and excess harvests are brought home for consumption. Vegetables from school gardens have significantly augmented the government mandatory feeding program of the school. Harvested vegetables nourish the school pupils.

Due to COVID-19 Pandemic, students were prevented from going to school, attending classes, tending the gardens, cooking, and eating in the school facilities. In response, the schools modified their teaching modules and enhanced collaboration with community stakeholders. Students were required to have home gardens in unoccupied lots or in empty containers. Teachers monitor and extend the span of teaching science, health, math and other subjects using the home gardens.

Through social media, teachers and parents show off how their gardens flourish, sharing images and stories of their home cultivation. While the use of blended methods enhanced the learning of students and homes have become extensions of schools, the gardens have also expanded and flourished.

The bonds between parents, teachers and students have been strengthened. They found better ways to make use of their harvests to augment feeding the children and their families. Parents and teachers exchange and barter plants and harvest for food: cookies, bread, eggs, fish, meat, rice, or other needed family groceries. The GSSS participating schools have found better ways to integrate education for sustainable lifestyle, despite the limitations posed by the pandemic. The response of the schools was to collaborate with stakeholders. They made more greening to flourish in schools and in homes, then to nourish the children.

3.6 Takeaways from collaborative actions and learning for sustainable living

All the aforementioned projects have facilitated participatory processes to create sustainable ways of living that meet a wide diversity of needs across a range of geographic and socio-economic contexts. Unfortunately, the restrictive measures in response to the pandemic, namely lockdowns, school closures, and restrictions on gatherings and travel have made it difficult for ground-level practitioners to maintain momentum on collaboration and mutual learning. However, the practitioners and participants continued their efforts to recover the collaborative learning and co-creation in communities and schools. Some of them have taken creative approaches and have been successful in engaging new partners that were difficult to collaborate with in the past, or in reviewing the shape of ideal living conditions for the local people and initiating new activities to build skills needed for such ends. The learnings from the five cases above emphasise three aspects of sustainable living:

A. **Sustainable Living in Real-Life Contexts:** Efforts for sustainable living are rooted in the locally-specific needs and opportunities for altering the contexts of living. Hence there is no one universal pathway: the unique approaches taken in the five initiatives cover combinations of contextually relevant challenges, practices, and human technological and financial resources. Local people can positively engage with the ground-level actions when they are aware of the potential benefits and are confident of their capacities to contribute. Therefore, it is not enough to bring in engineering knowledge and technology to make the project work. It is essential to collaborate with local people at every stage of the project so that they can turn new knowledge into practical knowledge that leads to concrete improvements in their lives. Participatory approaches are not only effective in securing the proactive engagement of the stakeholders but also essential in flexibly adapting to unforeseen situations like the COVID-19 pandemic. In other words, on-the-ground changes of the living contexts are not best achieved through a prescriptive approach to the transfer of technologies, skills and needs from those who have them to those lacking them. Changes take place only through collaborative learning and co-creation of the capacities to aspire[39] to alternative ways of living.

B. **Implications of the COVID-19 Pandemic:** The five cases reported unique but connected consequences of the COVID-19 pandemic as follows:

   B.1. **Structural Inequalities:** All initiatives have been addressing particular structural challenges, including inequality or vulnerabilities in securing livelihoods and necessities. The pandemic has aggravated some of these challenges and made apparent the urgent need to manage them, such as sanitation, food security and access to education. However, as these insecurities have become more tangible, local actors have become more proactive in collaborating on these issues, as is shown in the cases in South Africa and Armenia.

   B.2. **Chain reactions of changes:** The Pandemic affected various facets of daily living. In many cases, online modes of education and project activities were introduced; however in many remote locations, internet infrastructure was weak, and in some cases, students did not have access to computers at home. Many teachers were able to adapt and customise their teaching mechanisms to

39 Arjun Appadurai, "The Capacity to Aspire: Culture and the Terms of Recognition," in Culture and Public Action, ed. V. Rao and M. Walton (Palo Alto, California: Stanford University Press, 2004), 59–84, https://gsdrc.org/document-library/the-capacity-to-aspire-culture-and-the-terms-of-recognition/.

suit the individual circumstances of the students in their virtual classrooms. Such efforts to respond to the crisis further prompted the educators and learners to revisit the modes of collaborations and mutual learning, as is illustrated in the case in Colombia where the online communication and learning platform encouraged more proactive collaboration across generations as well as between villagers and experts. Practitioners and educators in GSSS in Brazil and the Philippines have also shown a high level of creativity to recover and enhance the partnerships with communities to activate collaborations.

C. **Coping with the crisis through a hybrid approach:** The five cases have responded to the challenges posed by the COVID-19 in unique manners. However, they share one lesson from their responses, namely, the effectiveness of combining knowledge and practice from different areas to address local challenges:

C.1. **Knowledge**: Many types of general scientific or technological knowledge can work practically with local and indigenous knowledge in the pursuit of sustainable everyday living. Knowledge of specific disciplines such as engineering, agriculture, management, and nutrition can also be combined and formulated into practical knowledge. In the case of Armenia, knowledge about water and energy use was combined with knowledge about local diet, farming practices and weather, as well as the experiences of different community groups such as the women's group. Farmers in Colombia combined their knowledge of traditional crops with the production management techniques introduced from abroad.

C.2. **Topics covered:** Scientific knowledge is often divided into the subjects of food, energy, water, health, and so on. However, real-life challenges often cut across disciplines. Thus, a cross-cutting approach is often most effective. In South Africa, addressing the supply and use of water for washing hands, for example, and addressing the food security anticipated due to the pandemic was seen as a key issue. They set up simple technology (Tippy Tap) and school gardens to deal with these issues.

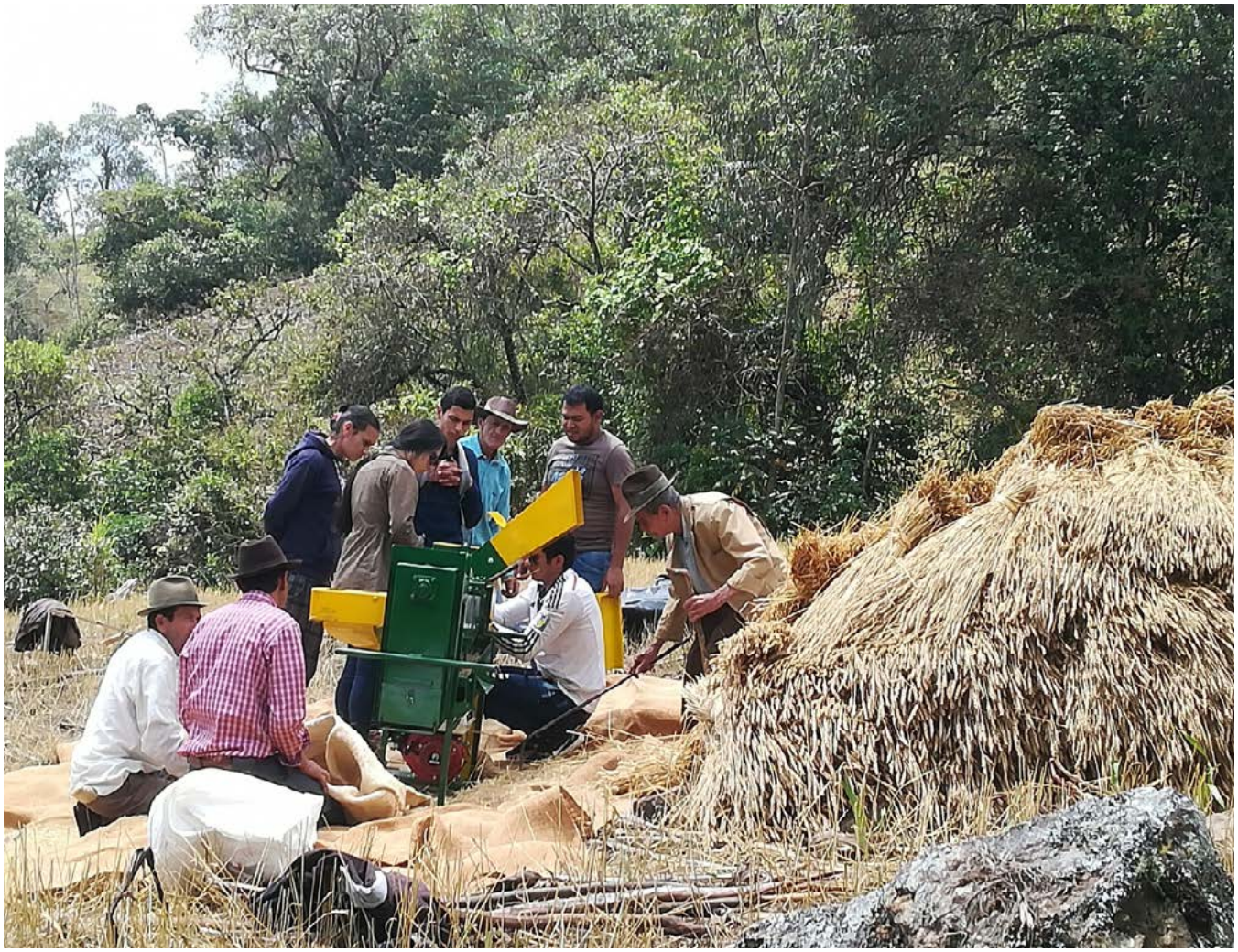
C.3. **Actors' roles:** Through participation in project planning, implementation, and valuation, educators, students and families begin to take on roles that transcend the boundaries between those who teach and those who learn, and those who give and receive benefits. Many schools in Brazil developed their plans with committees involving parents, students, and teachers, in part due to the requirement that learners and communities be involved from the planning stage when selecting school implementation plans.

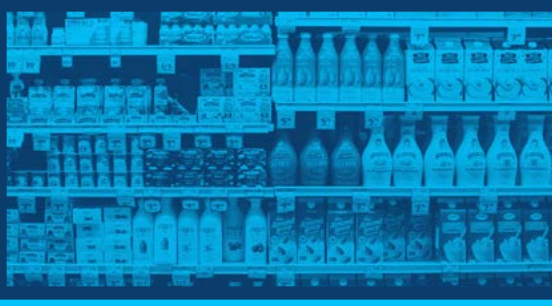
C.4. **Spaces for knowledge formation, transfer and application:** Connecting spaces such as the classroom and home can be useful in making and applying knowledge. In the Philippines, during school closures, parents received assignments from their schools, conducted home studies and submitted their results to the schools. As part of this, records of cultivation in the home garden were used to help students learn science and math. Participants of the Colombian project formed a WhatsApp group and a web-based platform immediately after the pandemic broke out. The online platforms allowed community members and experts to share their knowledge and progress of activities with each other. Furthermore, the traditional practice of farmers to drink coffee and talk early in the morning was used to facilitate communication every morning.

The hybrid approaches taken here, combining different elements such as the types of knowledge and

skills, the topics to deal with, the roles of the participating actors, and the places that enable participation, create practical capacities among participants to create meaningful changes in the ways of living. The COVID-19 Pandemic brought about significant shocks to the daily lives of project participants and their communities, including the school closures, restrictions of meetings, and so on. It also created specific threats to survival, such as the sanitation issues, water scarcity and food security. However, this moment of crisis also opened up opportunities for local people and experts to innovate in crafting cross-cutting and hybrid activities that moved beyond conventional methods.

The learnings from these five cases draw attention to deeper questions around the interpretation of what sustainable ways of living look like and how we can create the societal conditions in which individuals, groups, and communities are empowered to chart their own pathways toward sustainable daily lives. In examining the case studies in the previous section, as well as the examples in section 2, it becomes apparent that the pandemic presents a unique opportunity to reassess some of the unquestioned assumptions on sustainable living, particularly those stemming from the limited attention paid to structural inequalities and the cascade of changes resulting from the sudden shocks. These two issues bring our attention to the limitations of prescriptive approaches to behavioural change that fail to account for society's most vulnerable. Through the next section, we open up the discussion and propose the lens of a capabilities theory of justice as an alternative way to look at sustainable living.





4. Sustainable ways of living as capabilities

In examining the societal and local level impacts of the COVID-19 pandemic and government responses to help mitigate its spread, many people have felt the burden of social and economic restrictions more than others. We have seen how the pandemic has created chain reactions of restrictions and behaviour changes. Many of these changes have deepened pre-existing inequalities, increasing the difficulty of living a good life for individuals and groups such as women and girls, visible minorities, and ethnic groups. The preceding five cases have indicated that there is much that can be done at the local level to take the pandemic as an opportunity to further examine these inequalities and to come together to design smart solutions that empower people to live healthy, sustainable lives.

These observations have presented two sets of questions for assessing not only pandemic responses, but all efforts toward sustainable ways of living. First, what opportunities exist or are being created to support diverse, sustainable lifestyles, and who has access to them? Who is deprived of their basic needs? Who can take advantage of the new patterns of behaviour around goods, services, infrastructure,

or social norms? Who is left out? Second, what social systems and infrastructures can help to reshape the enabling and constraining conditions for sustainable ways of living?

These two sets of questions lead us to consider a capabilities approach to exploring diverse, accessible, sustainable ways of living. The capabilities approach, first developed by Amartya Sen,[40] focuses on the freedoms and opportunities available to people. What resources, services, primary goods, etc. do people have access to, and do they have the liberty to freely choose from this diversity of options a way of living that they have reason to value? The approach is also concerned with the means by which these choices are available and accessible, and how people are able to pursue them. These considerations include the social conditions, laws, and norms that enable or constrain individual choice in how to pursue their desired lives.

According to Sen, a persons' ability to actively participate in the selection and achievement of their own goals and objects is a key part of ensuring their well-being.[41] This implies a central role for participation in a civic life that creates space for individual choice in pursuing their good life. It is important to consider who should decide what a good life looks like, how they should do so, and who, ultimately, takes action to effect change. The capabilities approach suggests that this agency lays with individuals and groups, with governments serving to create the enabling conditions that allow for the exercise of such agency.[42] As we have seen in the cases above, in the pursuit of diverse and contextually relevant and sustainable ways of living, active and broad-based participation in the process of change can lead to significant impacts. This includes collaboration in identifying desired outcomes, identifying challenges, and learning together to develop solutions and pathways that work for all.

40 Amartya Sen, Development as Freedom (New York: Oxford University Press, 1999).

41 David A. Crocker, "Sen's Concept of Agency," n.d., https://hd-ca.org/?s2member_file_download_key=3167f9632139cd9f66c-14d816a910ec2&s2member_file_download=/CrockerAgency7-31-08.doc.

42 Sen, Development as Freedom.

A capabilities approach is thus deeply concerned with matters of social justice, asking the central question of who has access and agency, and on what terms. For a society to foster the capabilities of individuals to choose a sustainable way of life, it must first address the inequalities of opportunity and access that prevent people from realising their desired way of life. This requires a close examination of who in society faces barriers to accessing resources and opportunities.

Below, keeping the capabilities approach in mind, we will briefly examine the impacts of the COVID-19 pandemic on these aspects of justice. We will draw on the experiences of the case studies from section 3 to highlight key aspects.

A Closer Look at COVID-19's Impacts on Distributive and Procedural Justice

The COVID-19 Pandemic has had deep impacts on many aspects of social justice, not least of which are those related to distribution and access to resources. Closely related are the procedural aspects of justice which, when well-crafted and functioning, ensure participation for minority groups in social discourse and decision-making, but also serve to elevate marginalised voices that would otherwise go unheard. The COVID-19 pandemic has exposed and deepened significant structural flaws in all societies related to these aspects of justice, particularly for women and girls, visible minorities, and the disabled. As we move forward in charting new pathways to sustainable living, these failures must be addressed, and efforts must be made to enhance inclusivity in social discourse, policymaking, and access to critical services and resources such as health care and stable employment.

Distributive Justice Impacts

The pandemic has exacerbated the structural inequalities present in society, particularly those centred on race, ethnicity, and gender. This is especially true in terms of health and economic access and outcomes. Mitigation of such inequality should

therefore be prioritised in the recovery from the pandemic. In other words, we should create socio-economic conditions where everyone has access to safe, secure, and sustainable livelihoods. At the same time, it is vital to ensure the fair distribution of the benefits of newly adopted behaviours, such as working from home, distance learning, other habits of food and health, and participating to community.

As we have seen with the five cases in section 3, the rapid adoption of distance learning supported learning opportunities for many; however, as the cases in South Africa, Brazil and the Philippines illustrated, the access to education differed substantially within countries, reflecting the availability of network infrastructure, as well as the conditions of families and educators. The five cases also tell us how sudden shocks may reveal instability of access to critical resources. For instance, local actors in South Africa immediately identified pressing threats to their access to water, food, and sanitation. Appropriate measures can be developed and implemented to ensure access to basic needs for all. The South African GSSS adapted by integrating actions on sanitation, water-saving, and food production across their communities. Other cases also utilised online meeting platforms such as Zoom and Google Classroom, mobile applications such as WhatsApp and WeChat, and TV or Radio broadcast to ensure access to information and other basic needs. Such efforts demonstrate how to strengthen systems of provision for basic needs and access to information. Similar processes could be developed to support fairer access to resources and opportunities post-pandemic.

Procedural Justice Impacts

Participatory and community-based solutions play vital roles during the immediate response phase to crises by quickly supporting immediate actions to meet the basic needs of vulnerable people.[43][44]

Furthermore, participation and recognition are essential for the success of longer-term actions aimed at rebuilding and reshaping society after the immediate shock. As we have discussed earlier, the pandemic stimulated governments to implement new socio-economic rules, which in turn prompted new behaviours among people and businesses, the emergence of new products and services, and altered the relative importance of different technologies. For two reasons it is essential to ensure that design and application of new rules and technologies go through an inclusive and transparent process that takes full account of the voices of multiple groups, instead of being dominated by a limited group of people. First, such inclusiveness is needed to avoid creating groups of people who are left behind and are deprived of access to, for example, health, employment, and education. Second, such a process is effective in growing the capacities of people in learning and working together toward building sustainable ways of living in sustainable societies. Individuals and groups of people able to participate in such collaborative learning and co-creation processes will find it easier to work toward shaping sustainable living, even in the wake of the next crisis. Moreover, it is also critical to ensure that the needs and wishes of all are fairly recognised as being integral for envisioning the desirable future.

The five cases introduced in section 3 revealed that on-site collaboration played a pivotal role in their collective actions and that the barriers imposed on site visits and face-to-face communication by the COVID-19 pandemic caused a serious challenge to them. That said, their efforts to recover and adapt communication channels enabled them to gain stronger ties with local actors and more active participation. These communication-collaboration spaces also supported the exchange of knowledge and skills between different actors such as novices and experts, engineering and social practitioners, teachers and parents. Finally, collaborative learning enabled them to reshape the visions of the sustainable and reliable living that they wish to achieve.

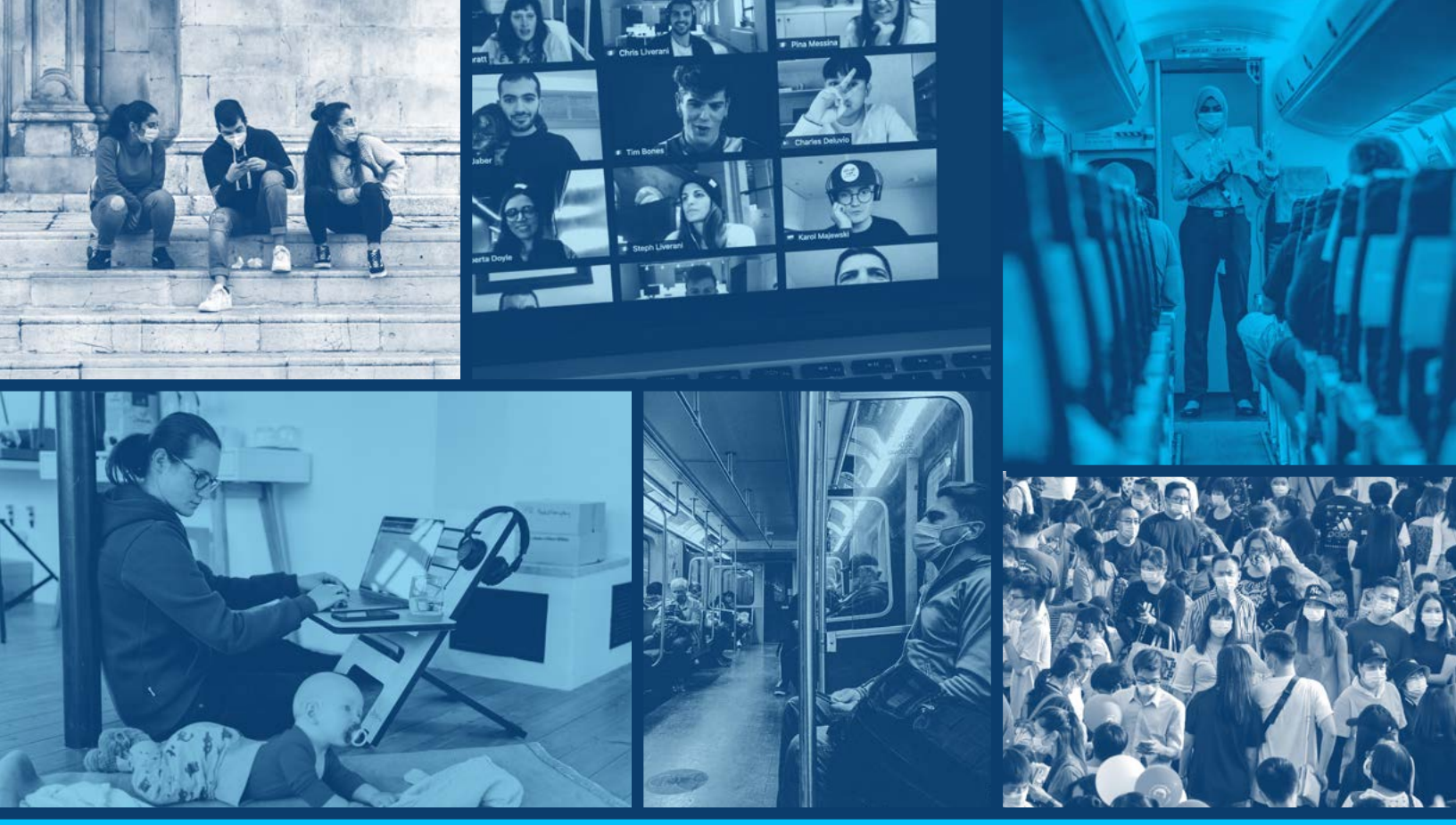
With this discussion of capabilities and justice in mind, we can reconsider our understanding of

43 The World Bank, "Community Responses to COVID-19: From the Horn of Africa to the Solomon Islands," 2020, https://www.worldbank.org/en/news/feature/2020/05/19/community-responses-to-covid-19-from-the-horn-of-africa-to-the-solomon-islands.

44 The World Bank, "Community Responses to COVID-19: The Resilience of Indonesia," 2020, https://www.worldbank.org/en/news/feature/2020/06/01/community-led-responses-to-covid-19-the-resilience-of-indonesia.

sustainable ways of living. On the one hand, sustainable ways of living are those where more individuals adopt behaviours that enable decent living with less consumption and wasting, resulting in fewer negative impacts and taking advantage of easy, logical and affordable options. On the other hand, sustainable ways of living are also those that are inclusive, engaging the broadest possible set of people in the process of envisioning and co-creating a society where everyone can live a decent life with fewer negative impacts. Finally, the question of how we can best support one another in expanding our ability to work together to develop diverse and inclusive living conditions is the fundamental challenge for promoting sustainable ways of living.

We can incorporate the above understanding of outcomes and processes into our examination of the experience of adapting our behaviours and values in response to the pandemic. At the same time, we must also recognise appropriately the stories of people with different backgrounds and different experiences of the pandemic in this investigation. The five cases illustrate the effective ways in which people can re-contextualise their challenges for sustainable and secure living and adapt their actions to better meet their basic neccesities through the creative hybridization of knowledge, skills, spaces and people. Such a process could allow us to learn from one another's experiences and take advantage of the variety of needs, skills, resources, and lessons learned to co-create sustainable and secure living conditions that can persist post-Pandemic. In short, we need to make inclusive processes to ensure that no one is left behind, and everyone has access to the sustainable life they want that is locally relevant and values-aligned.



5. Conclusion

The COVID-19 Pandemic did not have an entirely new impact. Still, it articulated structural inequalities that had existed before and accelerated the changes in the socio-economic context that had already begun. The pandemic had a significant impact on the sustainability and reliability of our day-to-day living. However, it also allowed us to rethink what a sustainable and reliable life looks like.

It is important to note that the superficial changes in our behaviours, such as working and eating at home, are neither only nor the most significant. The changes in behaviours lead to a variety of changes in goods, services, social rules, and infrastructure, which in turn lead to further behavioural changes. Chain reactions will continue for years to come and will cause a further exacerbation of existing inequalities or, in some cases, a trigger for the mitigation of existing disparities.

We have presented five ground-level initiatives that we have collaborated with in the One-Planet Network Sustainable Lifestyles and Education Programme. They deal with sustainable living in the unique contexts of real life. Therefore, they do not merely aim for the transfer of technology and knowledge from one expert to another. They sought to create new knowledge that works in real life by bringing together expertise and knowledge from the field. The pandemic revealed structural inequalities and vulnerabilities in local societies related to educational

opportunities, sanitation, water and food as a pressing issue. Also, school closures and restrictions on assemblies introduced in the wake of the pandemic constrained the co-creation process that has been the drivers for the ground-level actions. However, the five projects have combined online platforms and field activities to create new spaces of collaboration and collaborative learning. They restored and revitalised activities for sustainable and reliable living through mixtures of professional knowledge and field knowledge, school and home, etc. Their responses to the pandemic have prompted the local people to rethink the shapes of sustainable and reliable living that they desire to achieve.

On account of such learnings from the ground-level responses, we argued that the Capabilities approach should be taken into account when we explore sustainable and reliable ways of living. The Capabilities approach guides us to think of the outcomes or the distribution of the real opportunities and meaningful choices for living. It helps us to think of the agency, or the capacities to envision and realise desirable life together with the other actors of the society. Sustainable and reliable living should cover an equitable distribution of access to basic needs, such as food, clothing, shelter, education, income, as well as meaningful opportunities for social participation. It should also encompass a fair recognition and participation in which people envision their desirable living conditions, exchange and share ideas with the others, and work together to achieve them. Therefore, rather than a prescriptive approach to encouraging individuals to adopt a specific set of behaviours (e.g. minimising resource use, waste generation and GHG emissions), collaborative learning and co-creation should be the main focus in the efforts to achieve sustainable and reliable ways of living.

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Sustainable Living Beyond COVID-19: Capabilities, Collaboration, and Collective Action

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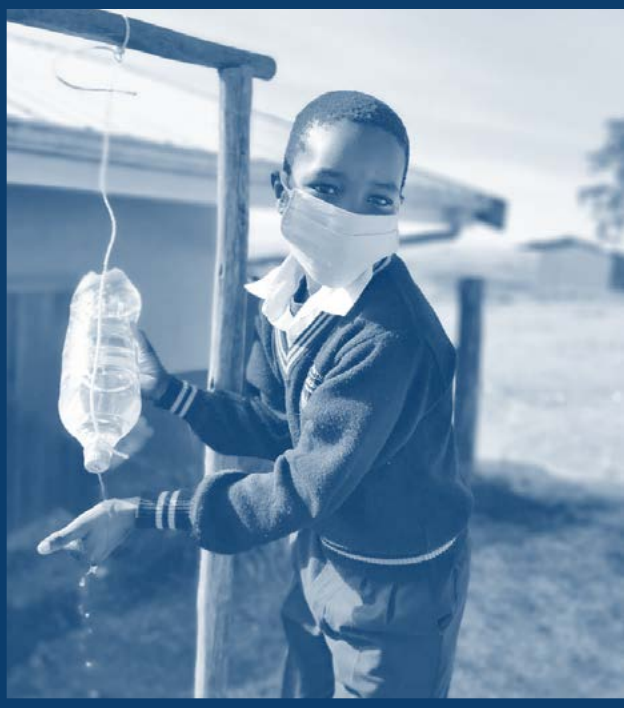

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