

Manual Work Assistance for Outdoor Home Gardening for Adult in Semi-urban Household

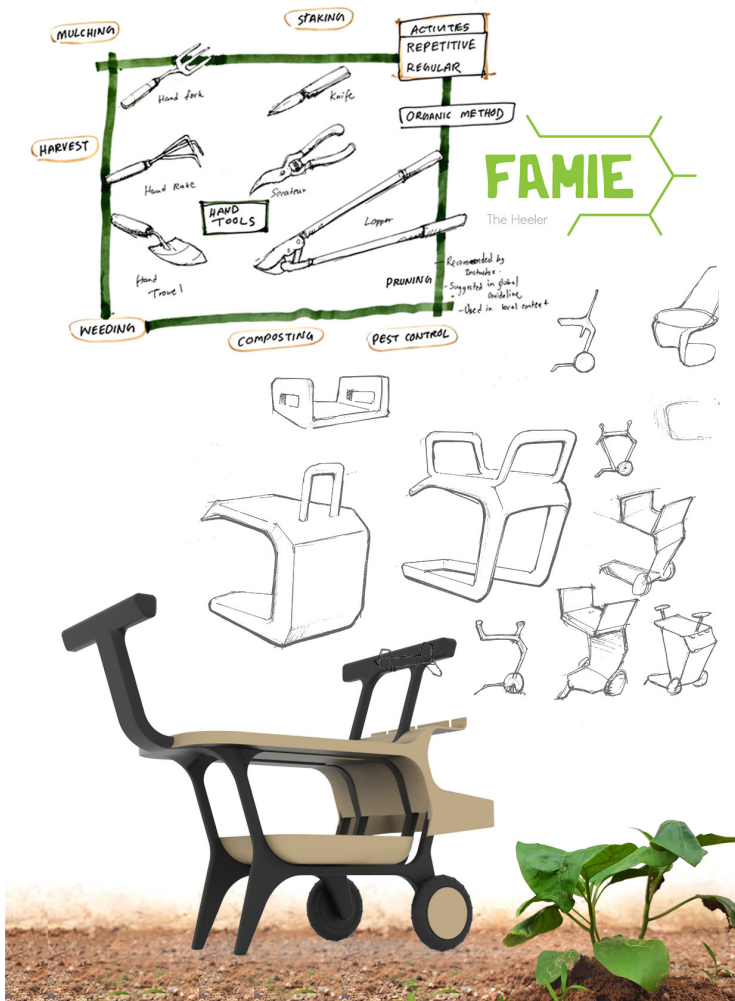
Sri Lanka has been suffering from triple burden of malnutrition crisis for past years[1] and the global reports have denoted the lack of growth to overcome this matter[2]. Covid 19 pandemic has become a viral threat to every socio-economic platform, establishing majority of human preference to spend the time at home and to consume the products made at home. The comfort and safety related implementations have become the most chosen of the people who used to be normal at home[3]. The status of health, wellbeing, sleeping patterns and quality of life were changed because of the restricted mobilization took place during the pandemic period dragging energy expenditure and dietary into a critical situation[4]. Around 70.2% people were accepted the advice of 'stay home' and it has resulted both positive and negative consequences in the lifestyle[5]. A larger proportion of the population who experience extra time at home have started planting essential crops in their home gardens according to the day-to-day needs. The organic practice has raised as a potential method to follow from scale gardens. Even different authorities have already conducted sharing technical information to promote and discuss home gardening as it supported to heal the basic needs[6].

I identified a group of people who have a great interest in gardening in every part of the country. Some of them have enough space in the lands and some of them do not. They have been engaging in home gardening for a long period of time even before the pandemic. The people in semi-urban regions have arranged land space around the house more intensively than before because of the need to produce vegetables and fruits without buying them from outside. It has showed economic ben-

efits for the middle-income community and a satisfaction to enjoy nutritious high-quality food. They started transforming the situation of staying home towards satisfaction by growing vegetables, fruits, flowers, and many varieties of crops. The manual performance in the garden helped physically and mentally to maintain a good health condition.

I identified above 35 years old women who have a great interest in outdoor home gardening in the current context. Specifically, the role of mother in such household is engaging with more repetitive and regular activities such as mulching, staking, and weeding in organic outdoor practice. She is suffering from mild musculoskeletal conditions

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and keep engaging in home gardening while adapting to the 'new normal'. I identified the inability to manage and minimize the excessive manual effort required in organic farming activities as the key challenge to overcome. The struggle is associated with managing the activities, tools, techniques, and physical difficulties of the body during the hours of working in their narrow spaces of 15 perch land slots. I figured out that they face rapid fatigue when exposed to static postures at certain postures such as bending and kneeling. According to the observations the consequence of this problem has been resulting the negative experience to the person.

I identified 6 most important tools: hand trowel, hand fork, hand rake, secateur, knife and lopper at the end of a focused survey concentrated on a region where home gardening is potential, and the need of nutrition intake is high. I identified suitable ergonomic approach for assistance facility combined with the features to support arms at postur-

al transitions and rapid tool storage with the intension of coming up with a product solution as an assistance for outdoor home gardening activities at a particular terrain condition.

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