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Executive Summary

Our project collaborated with Trees for Canterbury (TFC); a not-for-profit organisation (NFP) dedicated to planting native trees. Our objective was to assess TFC's community impact and identify areas for enhancement to boost outreach, amplify influence, and ensure long-term sustainability. Our research sought to answer the question, "How does Trees for Canterbury impact the people/communities they collaborate with, and what can they do better?" We hypothesised that the organisation's impact would be positive, leading to an increase in pro-environmental views and behaviours within the community.

Our literature review emphasised the benefits of volunteering and nature engagement, the multifaceted approach required for sustainability, and the pivotal role of NFPs in environmental conservation. Employing surveys and interviews, our study revealed robust community support and contentment with TFC. Participants frequently reported heightened well-

1. Introduction

Environmental preservation, alongside the sustainable practices that bolster it, are prominent topics on the agendas of international governments. It has never been more vital for the community to protect the earth and encourage healthy practices. Globally, individuals are increasingly becoming aware of climate change and are starting personal attempts to mitigate it (Uyeh et al., 2021).

In the middle of this global environmental movement, some groups have stepped up as conservation leaders and are playing central roles in their areas. Trees for Canterbury (TFC) is one such organisation. TFC is a not-for-profit (NFP) organisation which has been running for over 25 years to produce native plants for independent and community planting (Trees for Canterbury, 2019). They have established a considerable presence in Canterbury, becoming leaders in environmental rehabilitation with their environmental activism, paired with actions such as tree planting and community participation (Trees for Canterbury, 2019).

"Employ, educate, regenerate" are TFC's aims. Their philosophy of inclusive employment supports individuals with disabilities and impairments and at-risk youth by involving them in the community. Through education, they raise environmental awareness, aiming for the regeneration of the environment in Canterbury using native plants. TFC ties together caring for the environment, involvement in the community, and inclusion to create a better future (Trees for Canterbury, 2019).

The primary research question guiding our investigation is: "How does Trees for Canterbury impact the people/communities they collaborate with, and what can they do better?" This inquiry holds significant importance as it encompasses not only the apparent results of the collective effort but also the impacts on the well-being of individuals and their understanding of the environment. This study has two main goals: to find out how widely and effectively tree planting efforts work in Canterbury and to evaluate how TFC affects the health and well-being of their employees and volunteers. This issue is important in many ways, as community-driven projects frequently serve as the foundation for long-term practices. Therefore, it is critical to ascertain the community's feelings and degree of engagement.

disabilities and impairments, but insufficient support hinders their involvement in volunteering

interviews are the primary methods for addressing this challenge, enabling researchers to inquire about respondents' feelings during certain activities. However, even these methods have limitations. Lengthy questionnaires often result in low response rates, particularly when organizations face limited funding. Additionally, shorter questionnaires may lack the depth that longer surveys provide. There is also a potential for bias in results due to differences in demographic openness to participating in surveys and surveyors' approach to specific demographics for data collection.

3. Methods

3.1. Sample and Data Collection

Our study sampled 67 TFC workers, 64 volunteers, and three paid workers. Within this sample, 14 participants were volunteers at a TFC tree planting, 40 participants were from the TFC Facebook page, ten were volunteers at the TFC nursery and three were paid workers at the nursery.

Our project was people-based, aiming to assess the impact of TFC on the individuals and communities it engages with. To understand how the public view TFC and how they can improve, we conducted qualitative data collection. We chose to survey participants using questionnaires and interviews as our main data collection method and applied this technique in three different ways to attempt to triangulate our data. This reduced bias which can result from using a single technique (Flick, 2004).

We designed our two questionnaires in two different formats; a format to be used for surveying volunteers in person, and a format which could be posted on the TFC Facebook page to allow higher response numbers. The questionnaire aimed at tree planting volunteers was conducted both online and in person, whereas the questionnaire for nursery volunteers was conducted in person only and in an interview style.

3.2. Tree Planting Volunteer Questionnaire

Data for the tree planting volunteers was collected through questionnaires, both in person and online. Initial data collection took place during a TFC planting event at Southshore Spit

Map Demographics of the TFC Community

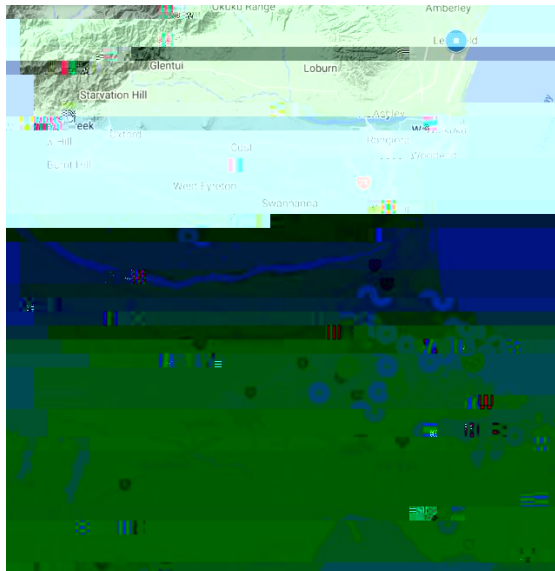


Figure 1: Map demographics of the TFC community. The concentration of people within an area is represented by the colours of the circles; blue = 1, green = 2-4, and yellow = 5+.

Figure 1 presents the distribution of the TFC sample community. There is no apparent correlation between the participants' origins and their likelihood of attending tree planting events. Due to the time constraints of this project, it is uncertain what the overall population distribution of the TFC community is. Therefore, it is not possible to conclude as to whether TFC impacts people differently on a spatial scale.

TFC Workers' Enjoyment Level

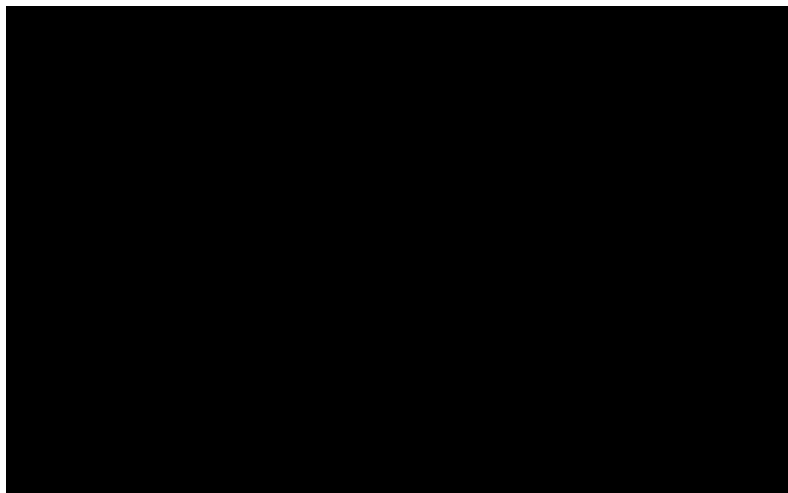


Figure 2: Shows the enjoyment level of TFC workers.

In Figure 2, the participant responses to the question: "Do you enjoy working at TFC?", are displayed. 84.6% of participants responded that they "love it", and 15.4% that they "enjoy it". Overall, 100% of respondents enjoy working at TFC. Although this data may not hold global significance, it holds importance for TFC as it provides them with a meaningful measure of their performance and impact.

How Tree Planting Makes Participants Feel

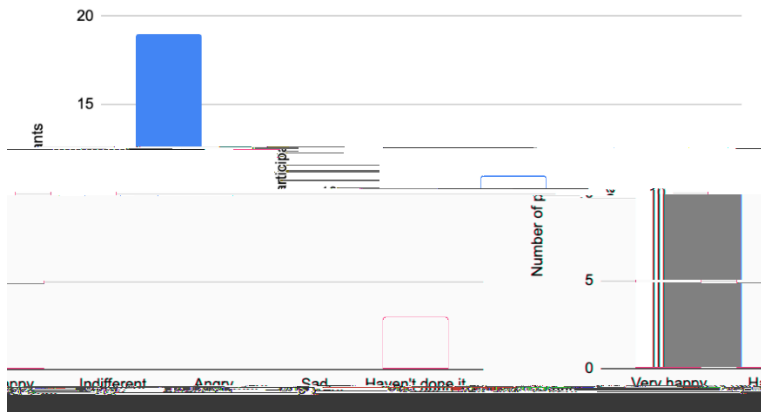


Figure 3: The relationship between participants and how tree planting makes them feel.

Of 33 respondents, 57.6% answered that tree planting makes them "very happy", as shown in Figure 3. 33.3% of respondents stated that it makes them "happy", and the final 9.1% had not participated in tree planting.

Is Tree Planting Rewarding for Participants

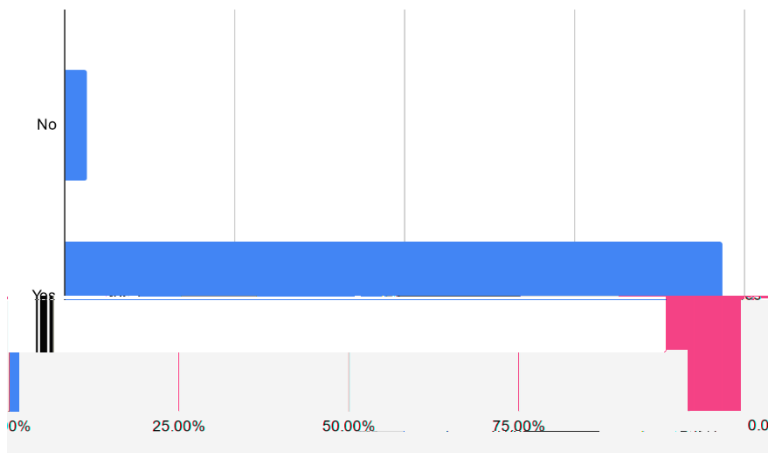


Figure 4: Participant response to the question; "Is tree planting a rewarding activity for you?"

How Volunteering Makes Participants Feel

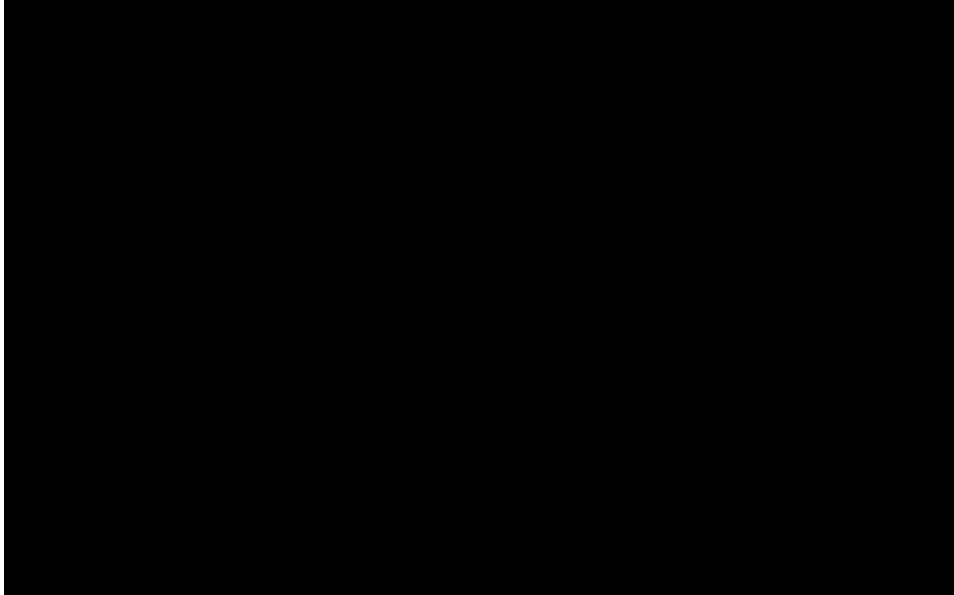


Figure 5: Participant response to the question; "How does volunteering make you feel?"

4.1. Personal Well-being

Figures 3 and 4 above display how participants feel as a direct result of tree planting. Both show significant positive trends, with respondents either finding tree planting "rewarding" or the activity increasing their happiness levels. Figure 5 displays the emotional effects felt by participants through volunteering and demonstrates positive trends, with 91.2% feeling either "happy" or "very happy". Whilst there may be some response bias making the statistics unvalidated, there is clear evidence of positive trends. O'Brien et al. (2010) investigated the effects of volunteering in environmental roles in terms of well-being. The paper argued that environmental volunteering, such as the activities undertaken by TFC, can impact well-being through different mechanisms. These mechanisms are exercise, community interaction and development of relationships, relaxation and mental calming, as well as meaningful contributions and mental stimulation (O'Brien et al., 2010). There is also extensive research to show the positive well-being effects experienced by environmental exposure (Thoits & Hewitt, 2001; Arnold et al., 2021). This information supports the sample data shown in Figures 2-5, providing a clear answer that TFC positively impacts the well-being of people involved.

4.2. Pro-Environmental Behaviours and Attitudes

Our project aimed to assess the impact of tree planting and volunteering activities on individuals' behaviour and to gauge the contribution of TFC's educational programs to this change. Our hypothesis posited that engagement with TFC would positively influence individuals' behaviour and their environmental perspectives. Many participants reported gaining new knowledge through their involvement with TFC. This knowledge encompassed planting native flora in personal gardens, increasing plant survival rates, optimizing plant selection and placement, and enhancing biodiversity to attract birds and pollinators to their surroundings.

Notably, some participants shared their shifts in perspective: one stated that they had become 'more mindful of the environment and its protection,' while another expressed a newfound commitment to 'taking care of the trees.' Prior to joining TFC, only 23% of participants had experience in tree planting, usually limited to 1-5 instances. After joining, this figure increased to 54%, with some individuals participating more than ten times, as depicted in Figure 6 below. This substantial increase suggests that volunteering with trees is personally fulfilling, likely attributed to increased familiarity with the organization, a sense of community, and education about the value of native plants.

In line with our findings, a study by Zhang et al. (2023) discusses the implications of 'environmental group identification' and its role in promoting personal pro-environmental behaviour. The paper highlights three key mechanisms through which group identification enhances personal environmental motivation:

1. Exposure to other group members fosters learning and imitation, providing a reference framework. Our results reflect this point, with 92% of individuals reporting that they learned something new while working with TFC.
2. Involvement in an environmental group encourages and inspires action, as outlined by Zhang et al. (2023). This group action can further motivate personal initiatives.
3. A strong sense of belonging within a group leads to active engagement in group activities (Zhang et al., 2023).

group. By increasing the frequency of native plantings, biodiversity in these regions is on the rise, as supported by Curtis et al. (2019). Their study examined the effects of native planting in Canterbury's farmland regions on invertebrate species and found evidence of increased native spider populations, reduced rates of exotic slugs, and increased populations of ecosystem providers and pollinators (Curtis et al., 2019). In addition to the increase in biodiversity, native tree plantings are enhancing soil health by mitigating erosion (Hughes, 2016) and supporting nutrient cycles and contaminant removal (Dosskey et al., 2010; Mitter et al., 2021). This demonstrates another way in which TFC is bolstering the ecological capacity of community environments.

How Participants Discovered TFC

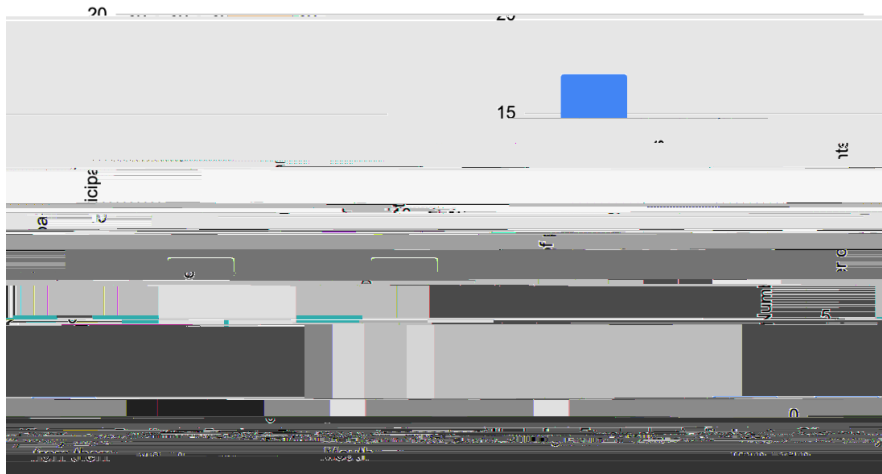


Figure 7: How participants heard about TFC.

Figure 7 reveals that 47.2% of participants learned about TFC through word of mouth. A substantial number also discovered TFC through Facebook and 'other' sources, including their website. Notably, none of the respondents cited Instagram as their source of information. A considerable demographic of young people may be overlooked due to the absence of social media engagement. This data holds significance for the organization, providing insights into the sources of their volunteers and areas where their advertising efforts may need improvement.

Was TFC the Best Organisation Participants Planted for?

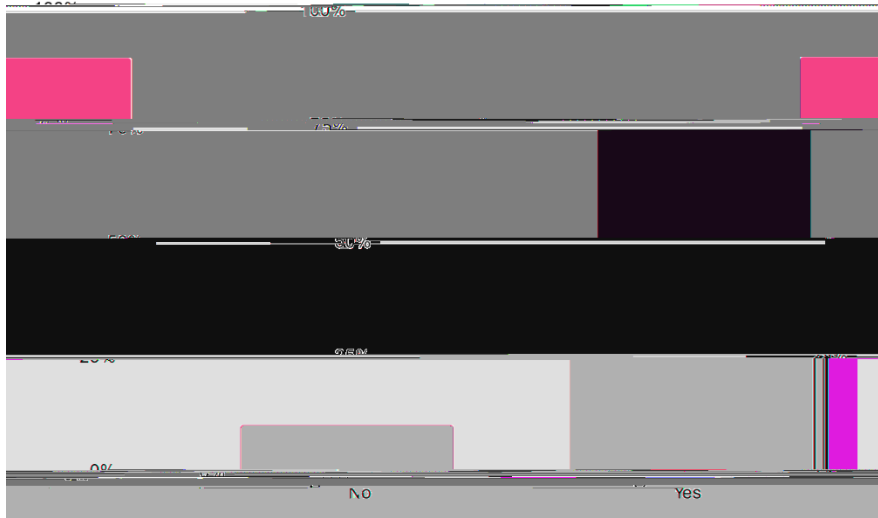


Figure 8: Participant response to the question; "Is TFC the best organisation you have planted for?"

Figure 8 highlights that an impressive 90% of respondents regard TFC as the best organization they have planted for. Participants praised TFC for being 'well organized with good communication,' providing necessary equipment, and offering clear demonstrations of planting requirements. They also commended TFC for their commitment, authenticity, and effective advance advertising. Moreover, 92% of respondents believe that TFC effectively embodies its mantra, 'Employ, educate, regenerate.' They cited examples of collaboration with schools and inclusivity for individuals with disabilities. Such engagement efforts have been shown to boost volunteer participation (Ilyas et al., 2020), indicating TFC's success in engaging and retaining their community. However, it's important to acknowledge that this overwhelmingly positive data may be influenced by response bias, raising questions about the figures' validity and reliability.

How Long Participants Have Worked at TFC

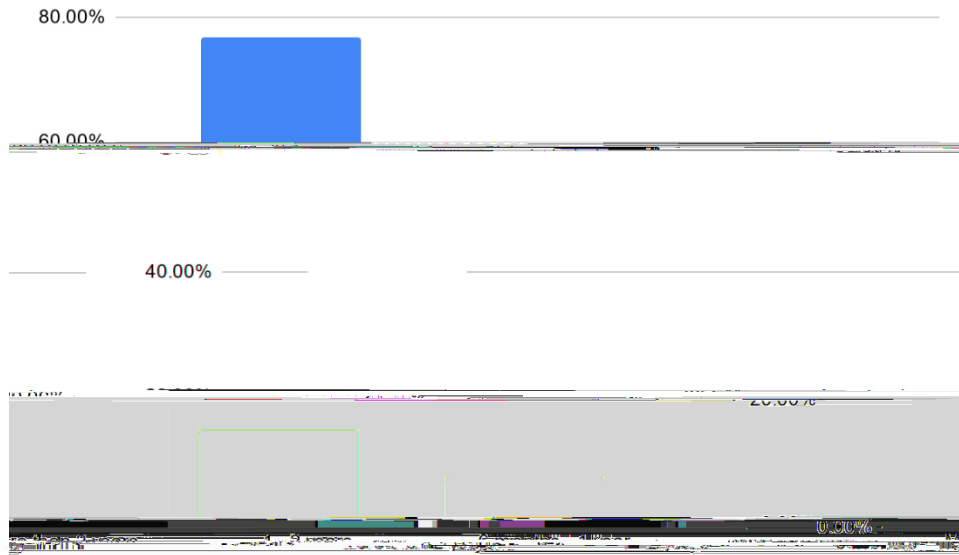


Figure 9: The length of time respondents have worked at the TFC nursery.

4.4. The Importance of NFPs

We aimed to understand the role of NFPs and to address the significance of TFC for individuals. Survey respondents highlighted that NFPs provide a platform for communities to engage in environmental conservation efforts and respondents specifically noted that TFC are a very community-minded organisation as well.

TFC has had a significant impact on the people it works with, and the community recognises it. There is a clear commitment to educate less informed people about native plants and to give individuals with disabilities and impairments a sense of purpose. The results gathered align with our hypothesis, showing how TFC have a positive effect on the people and communities surrounding them; by engaging with communities and providing opportunities, they positively impact personal well-being. Also, through tree planting activities, TFC promotes pro-environmental behaviour whilst simultaneously upkeeping and increasing the health and biodiversity of local environments.

Overall, it is clear to see that TFC impacts the people and communities around them significantly. Whilst the trends are all very positive, there is some room for improvement. A lot

Secondly, in-person surveys were used, introducing potential bias due to surveyor proximity and perceptions of friendliness. This could affect the representativeness of the responses.

Additionally, there were missed opportunities for data collection. More extensive survey efforts, timely distribution, and engagement across various events could have improved the dataset. Our study primarily relied on surveys, missing out on the potential richness of data from methods like focus groups and observational data. Lastly, this was our first time doing a survey, and we have

hope that our recommendations will be taken into consideration as we see them having a positive outcome in their business.

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