

# **POLICY COMPENDIUM**

## **OF ECONOMICS, EXTENSION AND AGRICULTURAL SYSTEMS RESEARCH 2023**



Department of Agricultural Systems  
Faculty of Agriculture  
Rajarata University of Sri Lanka  
Puliyankulama  
Sri Lanka

Edited by  
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# Policy Compendium of Economics, Extension and Agricultural Systems

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Department of Agricultural Systems

Faculty of Agriculture

Rajarata University of Sri Lanka,

Anuradhapura

# Policy Compendium of Economics, Extension and Agricultural Systems

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## Preface

Sri Lanka's agricultural sector is at a turning point, facing numerous challenges that threaten food security, economic stability, and sustainable growth. The ongoing economic crisis, unpredictable climate conditions, and shifting consumer demands for agricultural products have made it crucial to introduce well-informed policies that can strengthen and modernize the sector. Agriculture remains the backbone of Sri Lanka's rural economy, supporting millions of livelihoods, from smallholder farmers to large agribusinesses. However, ensuring the sector's resilience requires strategic reforms, innovative practices, and a strong link between research and policy decisions.

Globally, effective agricultural policies are built on research, data, and evidence-based decision-making. Countries that prioritize research-driven policymaking have successfully addressed critical challenges such as climate adaptation, sustainable resource management, and market competitiveness. However, in Sri Lanka, there remains a significant gap between academic research and actual policy implementation. While universities conduct valuable studies on agricultural issues, much of this knowledge remains confined to libraries, research papers, and academic discussions, rather than being actively utilized by policymakers. This gap leads to missed opportunities for applying practical, data-driven solutions to address pressing agricultural challenges. Bridging this divide is essential to unlocking the full potential of research for national development.

Recognizing this need, the Department of Agricultural Systems, Faculty of Agriculture, Rajarata University of Sri Lanka, launched its first policy brief publication in 2020, aiming to make research-based recommendations accessible to decision-makers. Since its inception, this initiative has provided a platform for young researchers to contribute practical solutions to national agricultural policies. This year marks the fourth annual edition of the publication, reaffirming the university's commitment to fostering evidence-based policymaking in Sri Lanka.

This edition features three policy briefs, carefully selected from the research projects conducted by final-year students specializing in Agricultural Economics, Agricultural Extension, and Agricultural Systems Management. Under the guidance of senior academics and industry experts, these students have explored critical topics that align with national priorities, including agricultural diversification and sustainability, youth empowerment and socioeconomic aspirations, environmental policy and business compliance. Their findings have undergone a rigorous peer-review process and were presented at the Faculty of Agriculture's Annual Research Symposium 2023, ensuring both academic integrity and practical relevance.

As Sri Lanka navigates its path toward economic recovery and long-term sustainability, this policy brief collection underscores the vital role of research in shaping the future of agriculture. By integrating academic insights into policymaking, Sri Lanka can develop strategies that are innovative, inclusive, and responsive to the evolving challenges in the agricultural sector. We encourage policymakers, development agencies, and private-sector stakeholders to leverage these research findings in designing solutions that

promote resilient, technology-driven, and equitable agricultural development. I extend my gratitude to the students, faculty members, and experts who contributed to this publication, and we look forward to continuing this initiative in the years to come

Dr. A. M. K. R. Bandara – Editor



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# Determinants of Cropping System Diversification in Paddy Farmers in Cascaded Village Tank System





## **Determinants of Cropping System Diversification in Paddy Farmers in Cascaded Village Tanks Systems.**



### **INTRODUCTION**

The livelihood of the Sri Lankan people has originated with a great agricultural history dating back more than 2500 years. Among Agricultural cultivations, Rice is the most important staple food crop which occupies the majority of total cultivable agricultural lands through which people's livelihood activities originated in Sri Lanka. Approximately 800,000 farmers and their families depend directly on paddy grown on 30% of the land area. Nearly 72% of Sri Lanka's paddy production, the country's staple food, is grown during the wet season, in dry regions where water resources are already stressed. Climate change exacerbates this issue, as agriculture is highly dependent on climatic factors. As a climate-sensitive country in Asia, Sri Lanka must mitigate the adverse effects of climate change on agricultural ecosystems and the social and economic well-being of its population, particularly smallholder farmers. In order to address this issue Sri Lankan government recognizes the importance of Climate Smart Agriculture (CSA) as a means to transform agricultural systems, support farmers' livelihoods, ensure food security, and reduce greenhouse gas emissions. One of the CSA practices is diversifying cropping systems. It helps upgrade soil health by improving soil structure, nutrient

cycling, organic matter content, and soil fertility. It makes the farming system more resilient to environmental stresses, such as drought, pests, or diseases while reducing the crop risk. Cropping system diversification allows for to reduction of the need for synthetic fertilizers and improves the overall sustainability of the farming system. It aids farmers to experiment with and adopt different crop varieties that are better suited to the changing climatic conditions in their region.

While crop diversification is practiced by farmers, it is not well-established in Sri Lanka. Current efforts, primarily encouraged by NGOs and government institutes through seed and fertilizer subsidies for paddy farmers, have had limited success due to a lack of consideration for the key factors influencing farmers' decisions on crop diversification patterns. The Climate Resilient Integrated Water Management Project (CRIWMP) has introduced different crop diversification models for paddy farmers who practiced mono-cropping for about 10 years in the Dry and Intermediate zones of Sri Lanka. Hence, the five different areas; *Anuradhapura*, *Vavuniya*, *Trincomalee*, *Kurunegala*, and *Puttalam* districts were selected for the research to understand the determinant factors of different cropping intensity models.



**Table 1. Introduced Cropping Intensity Models by UNDP**

Model	Yala	Maha
1	Paddy	Paddy
2	Paddy + Other field crops (OFC)	Paddy
3	OFC	Paddy

Source - CRIWM Project UNDP

When considering these CI models, paddy farmers may have various determinants for the cropping intensity (CI) or the Agricultural Land Use Efficiency (ALUI). Various factors at macro- and micro-levels are expected to influence ALUI. At the macro-level, the determinants include geographical location, local climate, population pressure, market demands and accessibility, changes in consumer diets, non-farm employment opportunities, technology development, and agricultural policies. Micro-level impact factors are households and socioeconomic conditions such as sex, age, education and training of household head, ethnicity, family size, labor availability, access to credit, and land holding size. Since sustainable intensification has been a policy target in recent years, understanding agricultural land use intensity and its determinants would provide important support to policy formation toward sustainable agricultural development.



**Figure 1. Black gram cultivation in Puttalam district (Yala season)**

## METHOD AND RESULTS

### Method

This study surveyed 150 paddy farmers practicing three selected CI models across five districts: Anuradhapura, Vavuniya, Trincomalee, Puttalam, and Kurunegala. The sample included five cascades and 10 village irrigation systems, chosen randomly to represent the upper, middle, and lower catchment areas within the cascade regions. The interviews conducted during the 2023/2024 Yala season (October and November 2023) information related to the cropping intensity and their probable determinants in the cropping intensity models. These determinants have been divided into two groups; Household factors and agriculture-related factors to identify the most significant group. This was followed by multiple regression analysis for the identification of the factors significantly accounting for the variations of cropping intensity of different cropping intensity models using SPSS software.

**Table 2. Determinant factors of cropping intensity models**

Household factors	Agriculture related factors
<b>Gender</b>	Cultivated land extent
<b>Marital status</b>	Experience in farming
<b>Ownership of the land</b>	Number of family labors
<b>Education level</b>	Input cost for agriculture
<b>Number of family members</b>	Net income from agriculture (Annual)
<b>Annual family income</b>	Other earning options

(Source-Survey,2023)

## Results

The paddy-OFC (PO) model has the lowest cropping intensity compared to the other two models. But all districts' Paddy-Paddy+OFC (PPO) models had greater than 90% cropping intensity. According to the PPO model, practically all farmers utilize their land to its fullest during the Maha season and only cultivate paddy. Paddy and other field crops (OFC) are grown throughout the Yala season. This indicates that even during the off-season, they make significant use of the land. Paddy was cultivated by the majority of farmers in both the Yala and Maha seasons.

The PPO model's Cropping Intensity (CI) was greater in the districts of Anuradhapura (94.90%) and Vavuniya (95%) compared to the other two models.

As per the results of the Multiple regression technique, agriculture-related factors (Input cost for agriculture, cultivating land extent, experience in farming, and other earning options) showed a significant effect ( $p < 0.05$ ) on cropping intensity (>50%) than the household factors. Input cost for agriculture was the key determinant for the majority of the selected cascades as Anuradhapura ( $p = 0.003$ ), Vavuniya ( $p = 0.06$ ), Trincomalee ( $p = 0.022$ ), and Puttalam ( $p = 0.015$ ) districts. The extent of the land for Anuradhapura, Puttalam, and Kurunegala also showed a statistically significant impact. The number of family laborers and Net income from agriculture (Annual) did not show a significant impact ( $p > 0.05$ ). Moreover, experience in farming for Trincomalee, and other earning options for Vavuniya were identified as location-specific determinant factors that determine the cropping intensity. In the Vavuniya district, most of the farmers were

practicing livestock farming to a large extent. Therefore, they were getting a considerable income from it in addition to cropping intensity models. None of the household factors (Gender, Marital status, Ownership of the land, Education level, Number of family members, and Annual family income) showed a significant effect ( $p > 0.05$ ) on cropping intensity.

## CONCLUSION

The study highlights the significant impact of agriculture-related factors, particularly input costs, on cropping intensity and cultivation extent, overshadowing household factors. Further, alternative income options and farming experience showed location-specific effects.

Hence, it is important to consider input costs for agriculture, their land extent, other income positions, and experience in farming as a holistic approach to developing policies regarding improving the economic status of smallholder farmers through agriculture practices.

## POLICY RECOMMENDATIONS

- Determinant factors of farmers for crop diversification patterns will play an important role in policy design. More importantly, it is necessary to develop policies that are flexible and adaptable to local conditions, considering the specific needs and challenges of different communities, agroecological zones, and farming systems. The policy design process should be inclusive and responsive to the needs of the end-users.
- By incorporating these contextual factors into the policy design process, policymakers can develop

more targeted and effective interventions that address the specific needs and challenges of different communities.

- Hence, farmers, agricultural extension workers, researchers, and policymakers have to be engaged in the policy intervention process which results in the best outcomes of the policy. Also, encouraging collaboration and knowledge-sharing among these stakeholders will enhance the effectiveness of the policies.
- Incorporating these determinants into policy design can lead to the implementation of targeted interventions, such as improving access to irrigation, fertilizers, or extension services, which can boost crop yields and overall agricultural productivity.
- Cropping intensity models can help identify the trade-offs and synergies between different determinants, allowing policymakers to design policies that strike a balance between productivity and sustainability.
- Introduce a package with necessary seed and fertilizer subsidies, technology, and machinery support along with practical solutions for price fluctuations for a long-lasting outcome of policy intervention.
- Cropping intensity models provide a robust analytical framework for understanding the complex interactions between various biophysical, socioeconomic, and institutional factors that influence agricultural production. This knowledge can inform the decision-making process, enabling policymakers to make more informed and evidence-based

decisions when designing agricultural policies and programs.

- Considering the determinants for the policy design process allows for continuous monitoring and evaluation of the policies' effectiveness. This feedback loop enables policymakers to refine and adapt the policies over time, ensuring that they remain responsive to changing conditions and emerging challenges in the agricultural sector.
- Therefore, by considering the determinants of cropping intensity models and incorporating them into the policy design process, governments and policymakers can develop more holistic, effective, and sustainable agricultural policies that address the multifaceted challenges facing the agricultural sector and contribute to food security, environmental sustainability, and economic development while contributing to the enhancement of smallholder farmers' income.

## REFERENCES

- Agency, U. S. (2017). *Climate Impacts on Agriculture and Food Supply*. Retrieved from City of Chicago: <https://climatechange.chicago.gov/climate-impacts/climate-impactsagriculture-and-food-supply>
- Barman, A., Saha, P., Patel, S., & Bera, A. (2022). Crop Diversification An Effective Strategy for Sustainable Agriculture Development. *Sustainable Crop Production - Recent Advances*. Retrieved from <https://www.intechopen.com/chapters/81179>
- De Silva, C., Weatherhead, E., Knox, J., &



- Rodriguez-Dias, J. (2007, June). *Predicting the impacts of climate change - A case study of paddy irrigation water requirements in Sri Lanka*. Retrieved from Agricultural Water Management: <https://linkinghub.elsevier.com/retrieve/pii/S037837740700162X>
- Jeetendra, P. A. (2011, June). *Caste, Investment, and Intensity of Production*. Retrieved from Researchgate: [https://www.researchgate.net/publication/263653558\\_Caste\\_Investment\\_and\\_Intensity\\_of\\_Production](https://www.researchgate.net/publication/263653558_Caste_Investment_and_Intensity_of_Production)
- Yohanees, H. (2015). A Review on Relationship between Climate Change and Agriculture. *Earth Science and Climatic Change*.
- Paudel, K. S., Zhang, J., Su, Y., Paudael, B., & Deng, W. (2017). Agricultural land use intensity and determinants in different agroecological regions in Central Nepal Himalaya. *Springer Geography*, 281-305.
- Ranathunga, L., Wijemanna, W., Sathsara, M., & Gamage, R. (2018). Agriculture in Sri Lanka: The Current Snapshot. *International Journal of Environment, Agriculture and Biotechnology*, 118-125.



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# Empowering Futures: Addressing Youth Aspirations in Sri Lanka's Tea Estates





## **Empowering Futures: Addressing Youth Aspirations in Sri Lanka's Tea Estates**



### **Introduction**

Youth is a critical demographic in the transition from childhood to adulthood (United Nations, 2014). Characterized by significant physical, emotional, and cognitive transformations, youth navigate their journey toward independence and self-discovery, with the potential for both personal and societal development (Weerasiri and Samaraweera, 2021; Valls *et al.*, 2022).

In Sri Lanka, youth make up approximately 23.2% of the population, amounting to around 4.64 million individuals. They play vital roles across various domains, including employment, education, and sports, significantly contributing to national development and the achievement of the Sustainable Development Goals (SDG) (United Nations, 2014; United Nations, 2020).

Youth aspirations, such as desires for high achievement and personal growth, serve as crucial drivers for both individual and societal progress (Gutman *et al.*, 2008; Shamah, 2010).

These aspirations are influenced by multiple factors, including gender dynamics, socioeconomic status, family dynamics, peer influence, and individual characteristics (Al-Bahrani *et al.*, 2020; Chen *et al.*, 2023; Keshavarzi *et al.*, 2023; Otto, 2000; Tang *et al.*, 2008). Understanding youth aspirations is essential for addressing contemporary challenges and creating an inclusive and prosperous future (United Nations, 2014; United Nations, 2020).

In Sri Lanka's diverse landscape, examining youth aspirations within different socio-cultural and economic contexts is crucial, particularly in marginalized communities like the estate sector, for developing tailored interventions, promoting social equity, and fostering economic development (Gunathilake and Senanayake, 2004). By recognizing and addressing the unique aspirations and challenges faced by youth in these communities, tailored interventions and policy initiatives can be developed to reduce disparities, promote social and economic development, and harness the full potential of the nation's youth (Gardiner and Goedhuys, 2020; Valentina, 2022).

The overall objective of the study was to investigate the dynamics of youth



aspirations in the tea plantation sector, in Sri Lanka.

Specific objectives of the study were:

- To identify the aspirations of the youths.
- To examine the perceived factors that affect youth aspirations.

To investigate the perceived challenges and opportunities in pursuing youth aspirations.

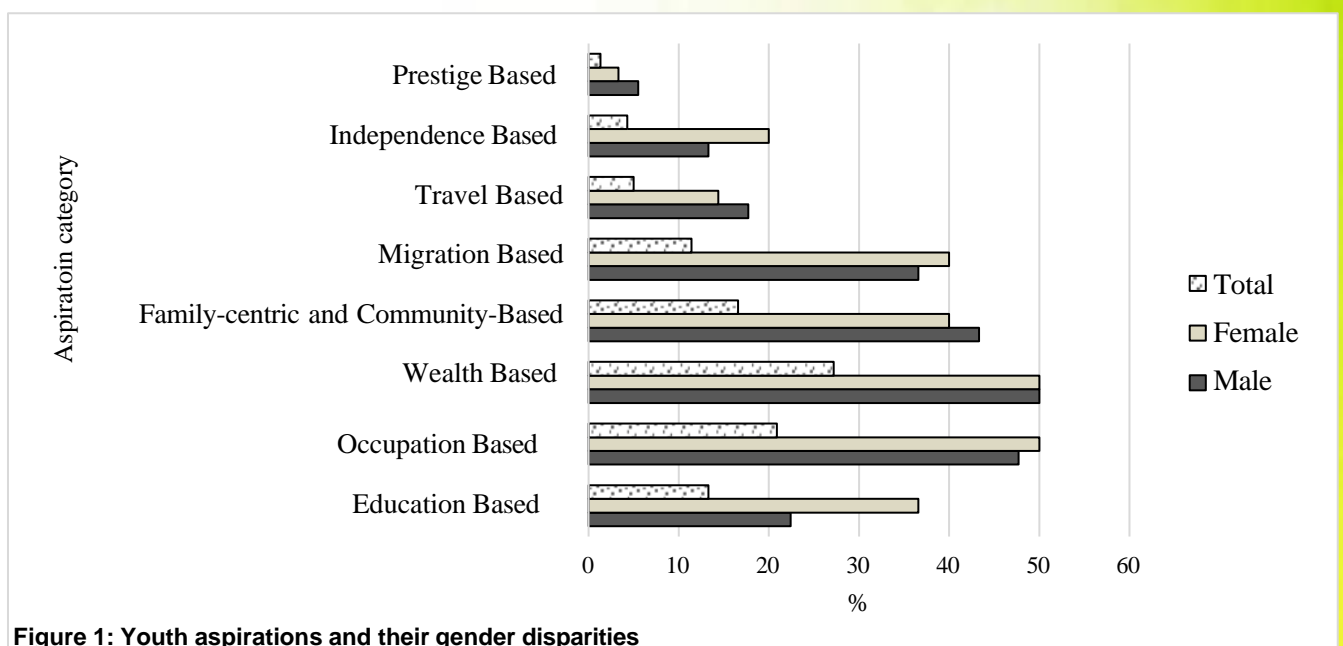
## METHODOLOGY

The research, conducted among, 90 randomly selected youth aged 15-24 within a prominent tea estate in Nuwara Eliya district, Sri Lanka. Data was collected using a pre-tested structured questionnaire on demographics and eight pre-validated aspiration categories, i.e., education-based, occupation-based, wealth-based, family-centric and community-based, migration-based, travel-based, independence-based, and prestige-based aspirations. The collected data was analyzed using descriptive statistic

## KEY FINDINGS

### Main youth aspirations

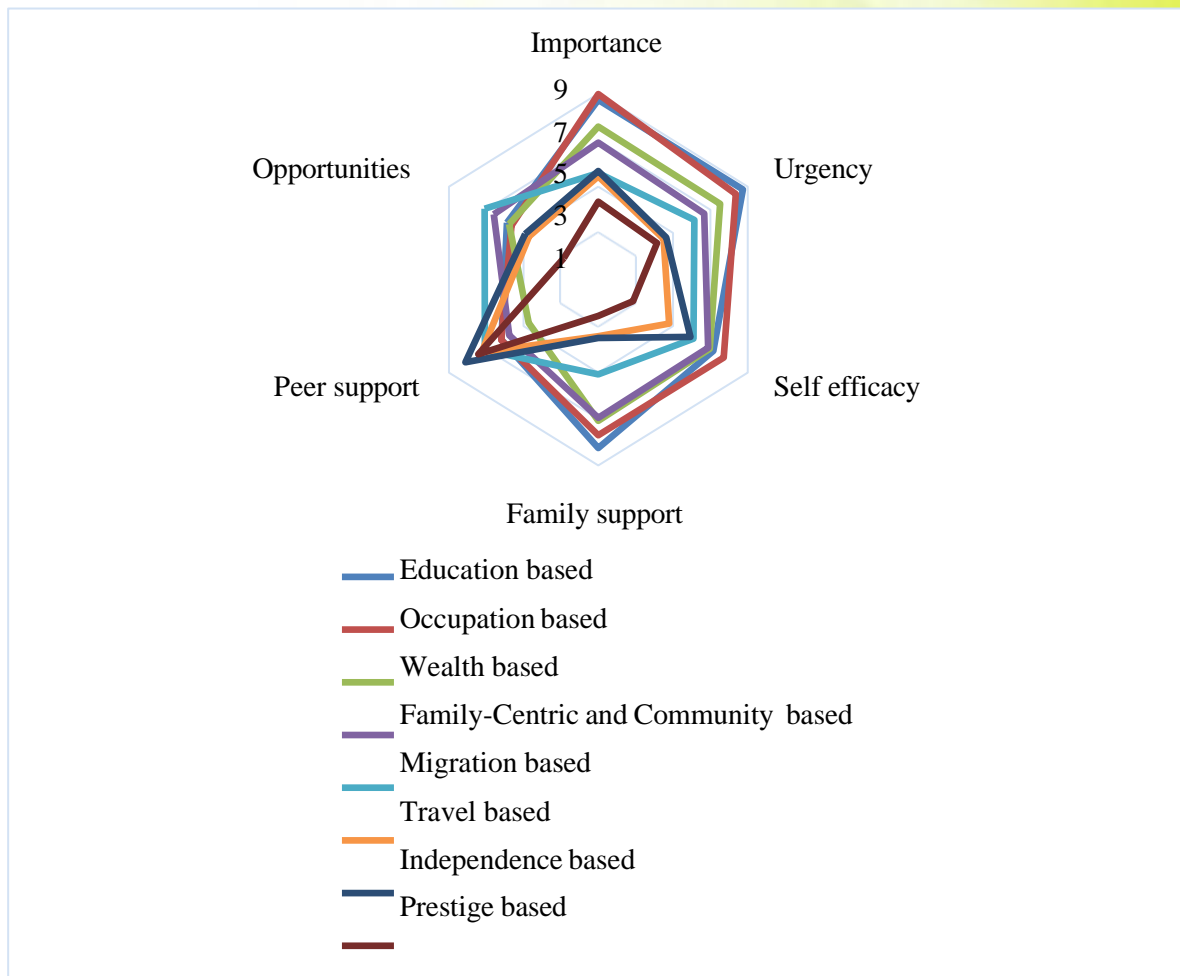
- Wealth-based aspirations are the highest prevalent (27.2%) among estate youth, highlighting a strong desire for financial stability and improvement in socioeconomic advancement.
- Occupation-based aspirations are also significant (20.9%), indicating a drive for career advancement and financial independence.
- Males tend to prioritize family-centric, community-based, and travel-related aspirations, which may be influenced by traditional leadership roles and social norms that emphasize men's responsibilities toward family and community.
- Females tend to focus more on education and career aspirations, which may be influenced by the limited opportunities for higher education and careers available to women.



Source: Survey data, 2024

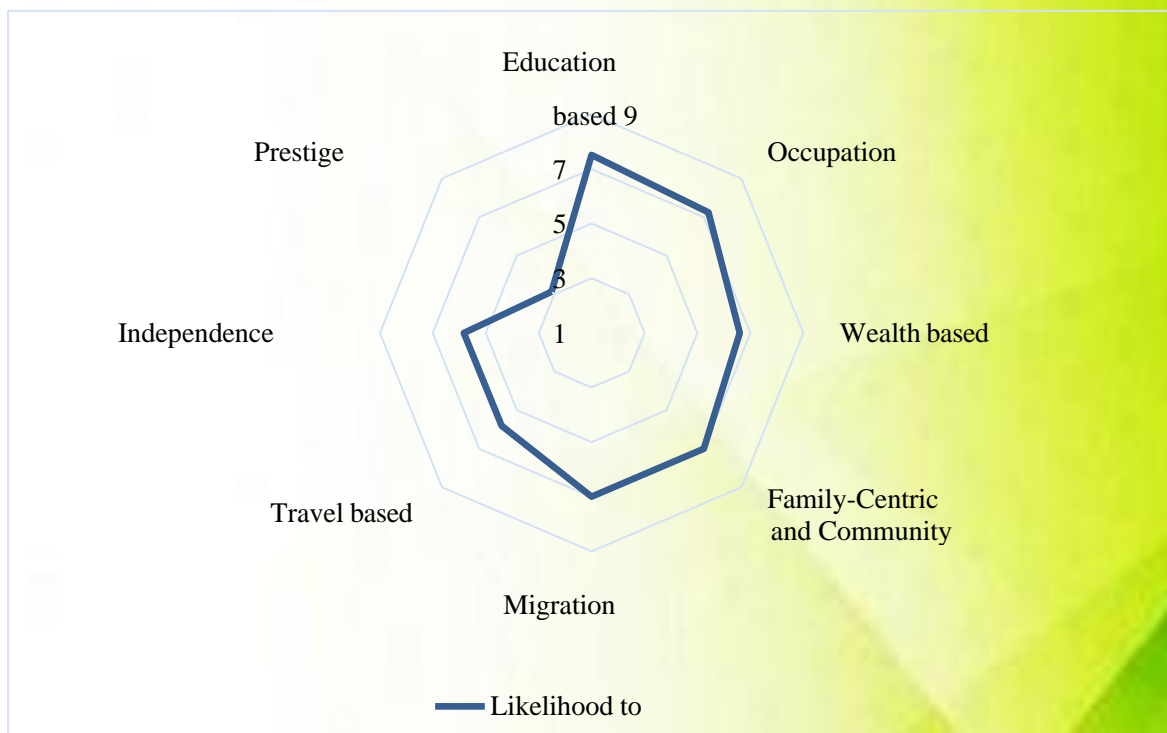
### Perceived influencing factors of youth aspirations

- Occupation-based aspirations are highly valued by youth, indicating strong importance and self-efficacy driven by a desire for financial independence.
- Education-based aspirations show high urgency and strong family support, emphasizing the societal focus on education.
- Migration aspirations are driven by the perception of opportunities that can enhance living standards.
- Achieving youth independence aspirations demonstrates the presence of strong peer support.



### Perceived likelihood of achieving youth aspirations

- Estate youth have a high perceived likelihood of achievement, particularly in education and occupation-based aspirations.
- This perception may be influenced by their perceived importance and strong family support, which enhances their motivation to pursue quality education and secure good jobs, as well as their belief in their talents and efforts.



**Figure 3: Perceived likelihood of achieving youth aspirations**

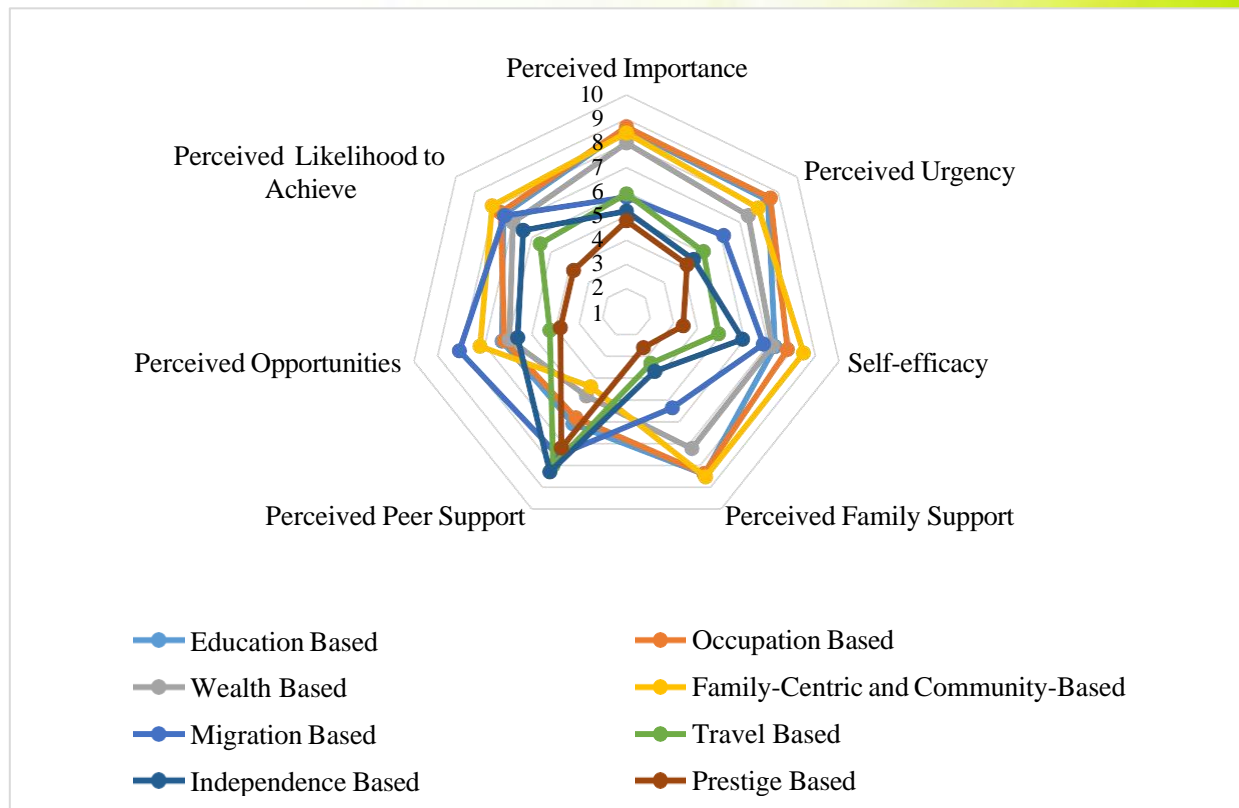
Source: Survey data, 2024

### Perceived factors influencing youth aspirations (gender disparities)

- Males perceive the highest family support for achieving family-centric and community-related aspirations, reflecting strong cultural values and a sense of responsibility toward family and community. At the same time, females report the highest family support for educational aspirations, highlighting societal emphasis on female empowerment through education.
- Males exhibit the highest self-efficacy in family-centric and community-related aspirations, suggesting confidence tied to traditional roles. At the same time, females show the highest self-efficacy in occupational aspirations, indicating a growing ambition for career advancement.
- Males feel most likely to achieve family-centric and community-related aspirations, while females feel the same about educational aspirations, underscoring gendered perspectives on success.

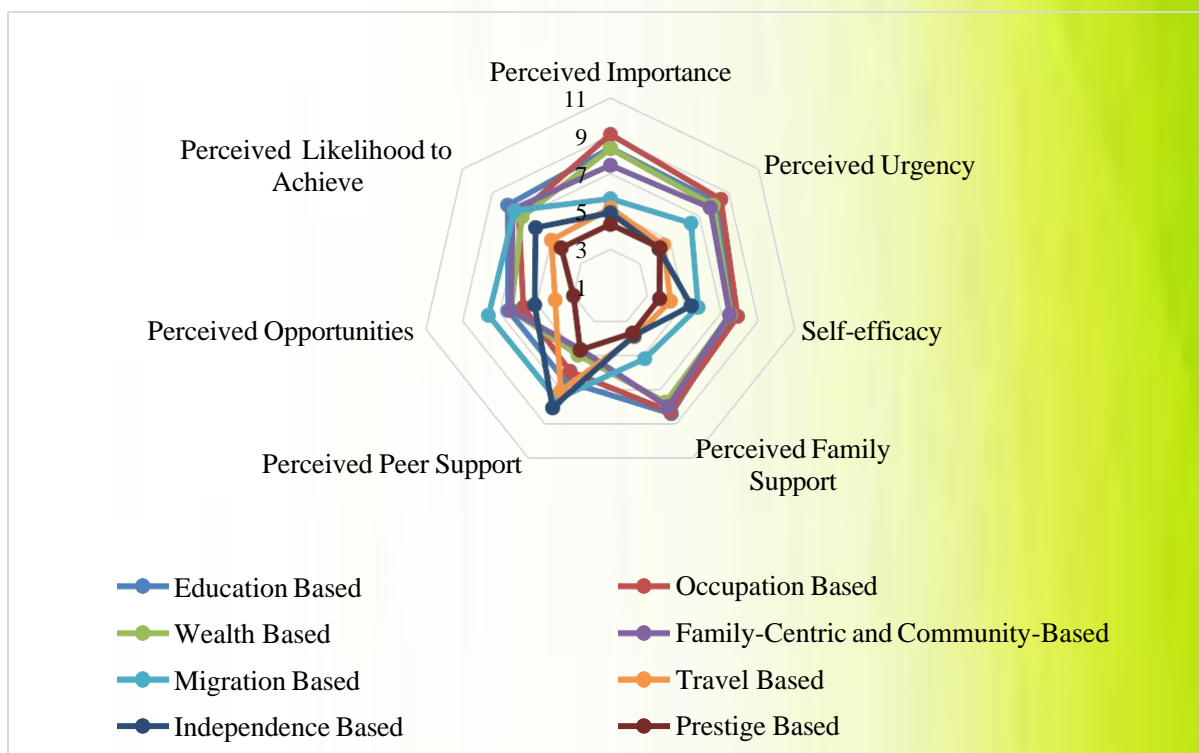


- Males and females report the highest peer support for travel-based aspirations, showing a shared youth-driven interest in exploration and new experiences.
- Both genders prioritize occupational aspirations as most important, emphasizing this particularly strong career ambition across genders.
- Both males and females feel the highest urgency for occupational aspirations, indicating a collective drive for economic independence and stability.
- Both genders perceive the greatest opportunities in migration aspirations, driven by the belief in improved living standards and broader prospects abroad.



**Figure 4: Perceived factors influencing male youth aspirations**

Source: Survey data, 2024

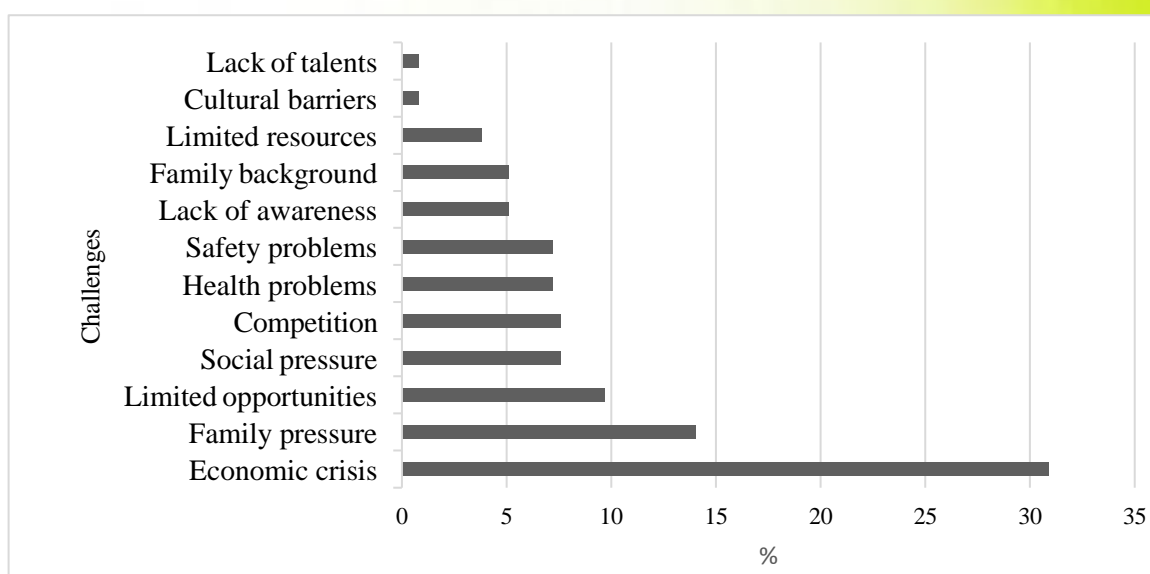


**Figure 5: Perceived factors influencing female youth aspirations**

Source: Survey data, 2024

### Challenges faced by estate youth in pursuing their aspirations

- The economic crisis is the most pervasive challenge (30.9%), impacting access to education and employment.
- Family pressure is substantial (14.0%), reflecting the complex familial dynamics and societal expectations.
- Limited opportunities (9.7%) and competition (7.6%) are recognized as significant barriers to achieving aspirations.



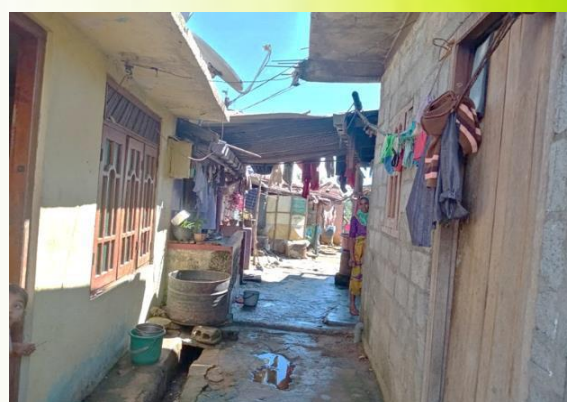
**Figure 6: Perceived challenges achieving youth aspirations**

Source: Survey data, 2024



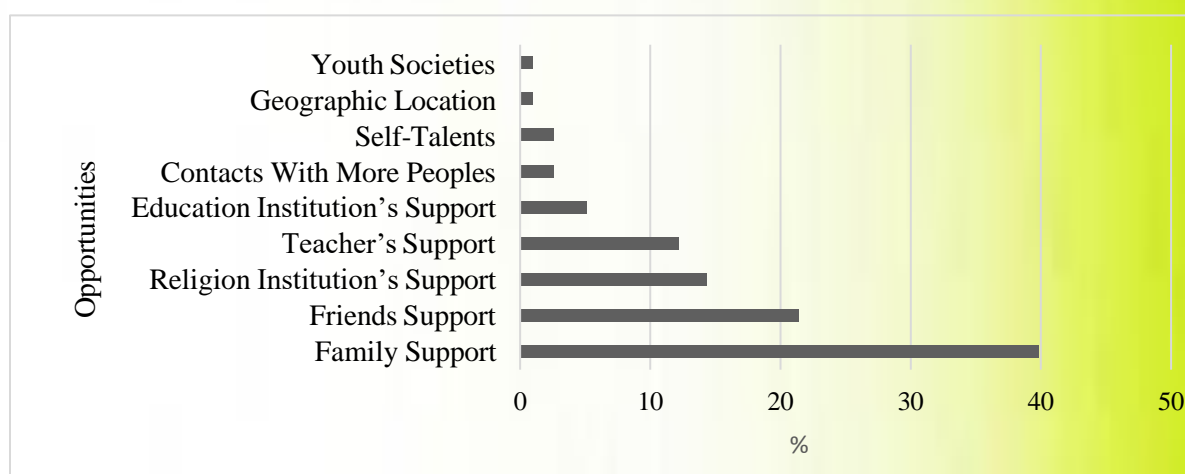
**Figure 7: Poor living conditions in the estate sector**

Source: Survey data, 2024



**Figure 8: Poor housing facilities in the estate sector**

Source: Survey data, 2024



**Figure 9: Perceived opportunities achieving youth aspirations**

Source: Survey data, 2024

### **Opportunities available to estate youth in pursuing their aspirations**

- Family support is most prevalent (39.8%), highlighting its crucial role in shaping and supporting youth aspirations.
- Friends' support (21.4%) and recognition from religious institutions (14.3%) also play significant roles in youth development.



## POLICY RECOMMENDATIONS

To effectively address the aspirations and challenges of estate youth in tea estates, a multifaceted approach is essential. The following policy recommendations aim to empower youth, promote equitable opportunities, and foster socio-economic development within the estate sector.

- **Entrepreneurship opportunities**

Offer guidance on identifying entrepreneurship opportunities for estate youth by implementing targeted education and training initiatives. Collaborate with NGOs, vocational schools, and local businesses to provide workshops on business planning and investment strategies.

- **Career development**

Offer targeted career guidance and mentorship programs for youth, focusing on vocational training, career counseling, and job placement services. Collaborate with local industries and educational institutions to provide internships and hands-on experiences.

- **Family and community support**

Create leadership and community service programs for young males to foster family-centered and community-based aspirations. Partner with local organizations to offer mentorship and civic engagement opportunities.

- **Female education and career support**

Provide scholarships and support to reduce gender disparities in education and retain female students. Create mentorship programs to empower young women in their careers.

- **Family support for education and occupation**

Develop family-centered workshops to enhance support for youth education and careers, focusing on communication, financial planning, and aligning generational

goals. Collaborate with schools, family welfare organizations, and community groups to implement these workshops.

- **Migration support**

Provide guidance and resources for youth seeking opportunities abroad offering training in skills assessments, financial planning, and navigating migration processes. Government migration agencies and career development centers can assist with these initiatives.

- **Peer support networks**

Create youth centers for peer support, enabling young people to share experiences and develop personally. Local organizations and government agencies can manage these centers, offering mentorship and resources.

- **Economic relief and job creation**

Offer targeted economic relief, including micro-loans and job creation programs, to support youth aspirations during the economic crisis. Collaborate with governments, businesses, and NGOs to create sustainable employment opportunities.

## REFERENCES

- Chen, X., Allen, J.L. and Hesketh, T. (2023) 'The influence of individual, peer, and family factors on the educational aspirations of adolescents in rural China', *Social Psychology of Education*, 26(3), pp. 735–759. Available at: <https://doi.org/10.1007/s11218-023-09765-3>.
- Gardiner, D. and Goedhuys, M. (2020) *Youth aspirations and the future of work: a review of the literature and evidence*, ILO Working Papers.

Gunathilake, N. and Senanayake, D. (2004) 'Monetary Poverty Estimates in Sri Lanka: Selected Issues NERANJANA GUNETILLEKE AND DINUSHKA SENANAYAKE'.

Gutman, L.M., Akerman, R. and Akerman, R. (2008) *Determinants of aspirations*.

Keshavarzi, S. *et al.* (2023) 'From dreams to possibilities: the role of gender and family income in aspirations among youth in the city of Yazd'. Available at: <https://doi.org/10.1080/13676261.2022.2053664>.

Oikelome, F. and Healy, G. (2013) 'Gender, Migration and Place of Qualification of Doctors in the UK: Perceptions of Inequality, Morale and Career Aspiration', *Journal of Ethnic and Migration Studies*, 39(4), pp. 557–577. Available at: <https://doi.org/10.1080/1369183X.2013.745233>.

UN (2014) 'Definition of youth', (2009), pp. 1–7.

United Nations (2020) *Youth: Social Entrepreneurship and the 2030 Agenda, The World Youth Report*. Available at: [https://www.un-ilibrary.org/children-and-youth/world-youth-report-2013\\_613c6857-en](https://www.un-ilibrary.org/children-and-youth/world-youth-report-2013_613c6857-en).

Valls, O. *et al.* (2022) 'Educational and Occupational Aspirations: A Longitudinal Study of Vienna Youth', *Social Inclusion*, 10(2), pp. 226–239. Available at:

<https://doi.org/10.17645/si.v10i2.5105>.

Weerasiri, A.R.P. and Samaraweera, G.R.S.R.C. (2021) 'Factors influencing Youth Unemployment in Sri Lanka', *Asian Journal of Management Studies*, 1(1), pp. 49–72. Available at: <https://doi.org/10.4038/ajms.v1i1.27>.

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# Understanding Retailers' Awareness, Perception, and Compliance with the Plastic Ban





## Understanding Retailers' Awareness, Perception, and Compliance with the Plastic Ban



### Introduction

Plastics are synthetic organic materials that are manufactured from petrochemicals. (Achayan *et al.*, 2020). Most plastics are classified as Single-Use Plastics (SUPs), which are intended for a single use before being discarded. This category encompasses items such as plastic bags, microbeads, cutlery, straws, and polystyrene products including cups and food containers, as well as sachet water wrappers (Xanthos & Walker, 2017).

In 2021, the world produced 390.7 million metric tons of plastics, highlighting a major increase in global manufacturing. Each year, around 500 billion plastic bags are used globally, about one million bags every minute. In Sri Lanka, more than 400 companies are involved in plastic processing. Plastic consumption in Sri Lanka is in a growing rate of 16% per year with current consumption of 265,000 megagrams (Mg) per annum. The country has been consistently increasing its plastic imports, bringing in over 500,000 metric tons (MT) of virgin plastic each year (Samarasinghe *et al.*, 2021). Daily wastage of plastic and polythene is around 938 metric tons, contributing to an annual total of 1.59

million tons of mismanaged plastic waste (Bharadwaj *et al.*, 2023, Ministry of Environment, 2021). These plastic wastes challenge the environment by reducing ecosystem stability, disrupting natural processes, affecting climate patterns, harming people's livelihoods, and compromising food production

Recently, Sri Lankan government implemented a ban on selected SUPs (i.e. drinking straws, stirrers, food containers, plates, cups, spoons, forks, knives, garlands, and string hopper mats) under the National Environmental Act (No. 47 of 1980). This legislation, enacted by the Minister of the Environment, mandates the prohibition of manufacturing, trade, importation for local use, sales, display, and industrial use of SUPs.

After the ban, retailers were not allowed to sell prohibited SUP items in their shops. Consequently, some retailers are still using banned SUP items. Countries such as Jakarta, San Francisco, India, Thailand, and Canada have implemented this plastic ban in a systematic manner and provided substitutes to the retailers under systematic supervision, but America has failed because there is no proper supervision in law implementation.

This research investigated retailers' awareness, perception and compliance of the SUPs ban in Anuradhapura Municipality of Sri Lanka as a case study.

Despite the limitations in delivering generalizable findings, understanding retailers' response on SUP ban is crucial for developing effective plastic controlling strategies, thereby reducing plastic pollution and promoting environmental sustainability in Sri Lanka.

### **Methodology**

The study involved 102 retailers from grocery, food, and vegetable shops within the Anuradhapura Municipal Council area. Data collection was conducted using a pre-structured questionnaire, which gathered demographic details of the shop retailers as well as their awareness, compliance, and perceptions regarding the ban on SUPs. The data collected was analyzed using descriptive statistical methods.

### Retail shops which use banned plastics

- Fruit/vegetable shops, food shops, and grocery stores commonly use banned plastics for their business activities such as drinking straws, and plastic cups and spoons
- Many retail shops are registered at the Municipal Council, and most of them are middle-income establishments (Monthly Income Rs. 10,000-50,000).

### Retailers' awareness on banned SUPs

- Retailers (>60%) are aware of banning of SUPs
- The majority (>50%) aware of banning through television media
- Retailers (>50%) accurately identified drinking straws, stirrers, food containers, plates, cups, and spoons as banned SUP items.



Figure 1: Fruit and grocery shop

Source: Survey data, 2024





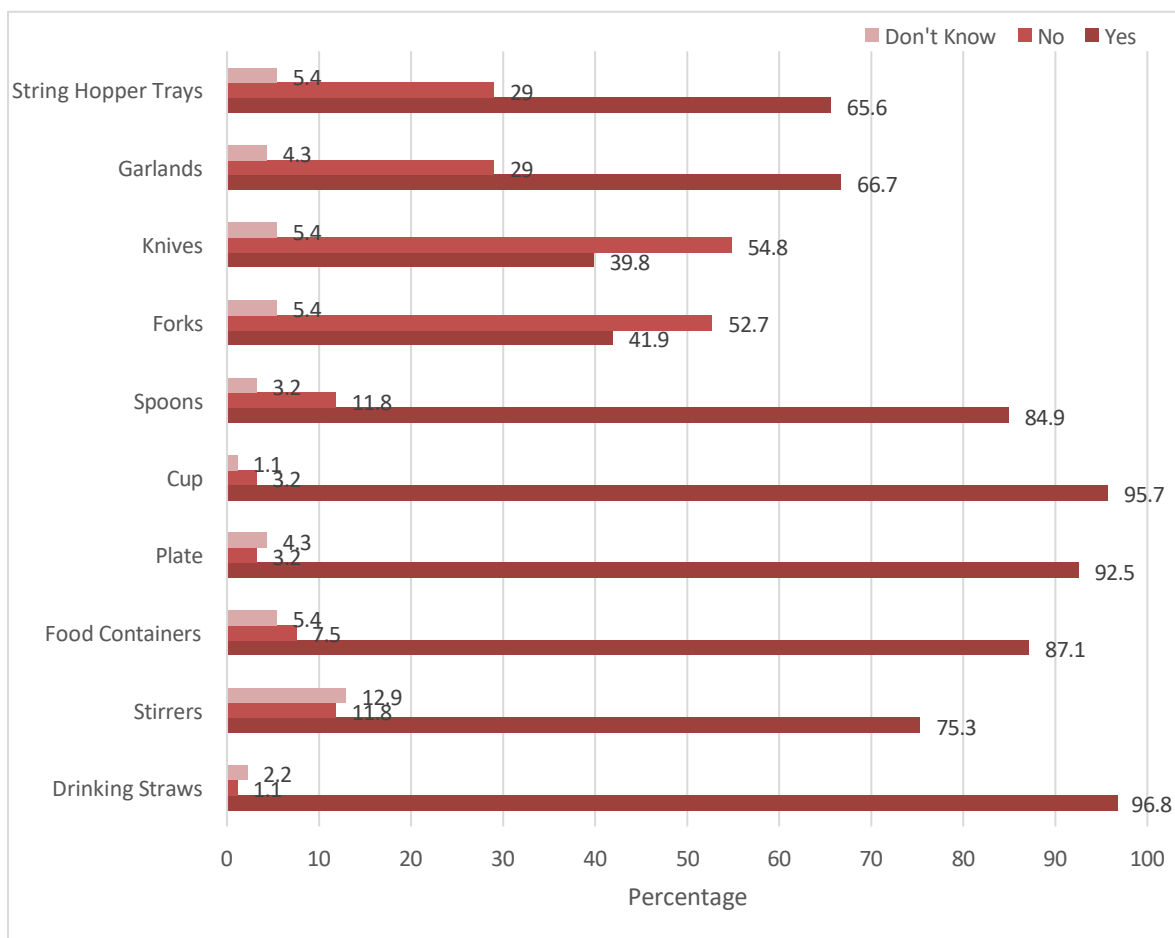
**Figure 2: Food shops**

Source: Survey data, 2024



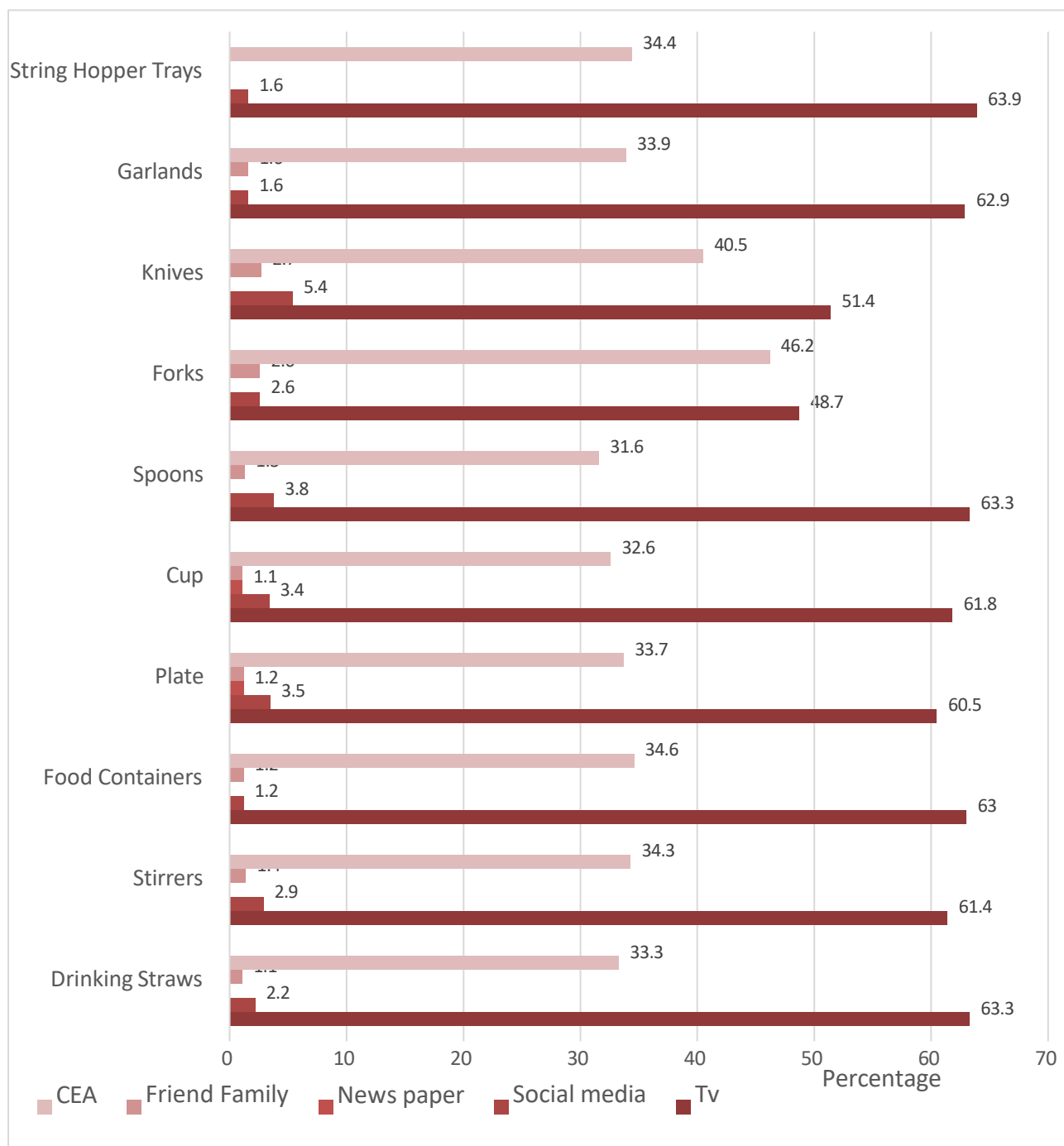
**Figure 3: Fruit and Vegetable shop**

Source: Survey data, 2024



**Figure 4: Awareness of single-use plastic ban**

Source: Survey Data, 2024

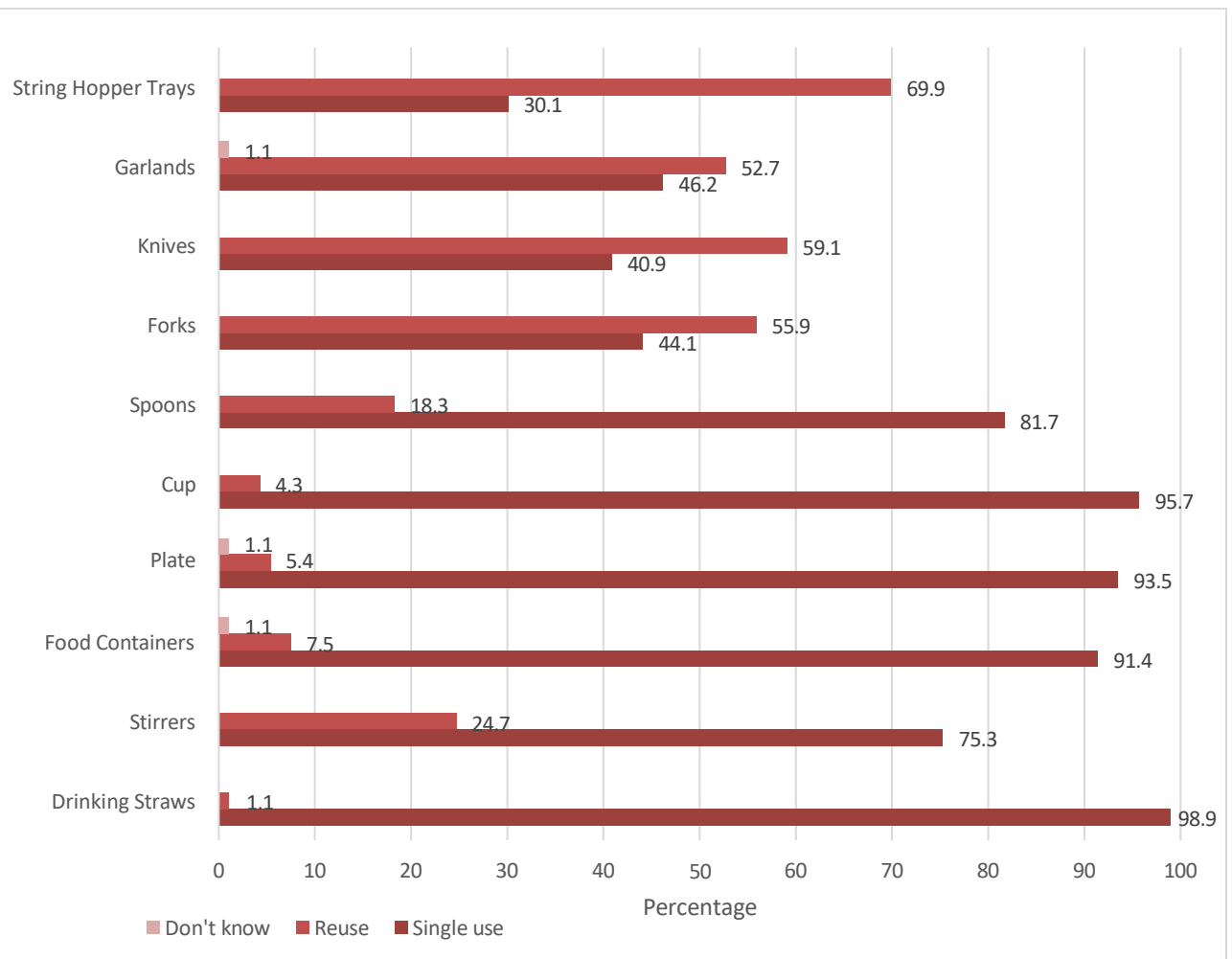


**Figure 5: Sources of information on single-use plastic ban**

Source: Survey Data, 2024

### Retailers' perception of SUPs banning

- Over 50% of retailers are dissatisfied with the SUP ban enforcement due to weak enforcement, unclear rules, and group resistance.
- Retailers have mixed views about whether the ban effectively reduces plastic pollution and improves public cleanliness.
- 86% of retailers are not willing to pay an extra fee for using plastic against banning SUPs.



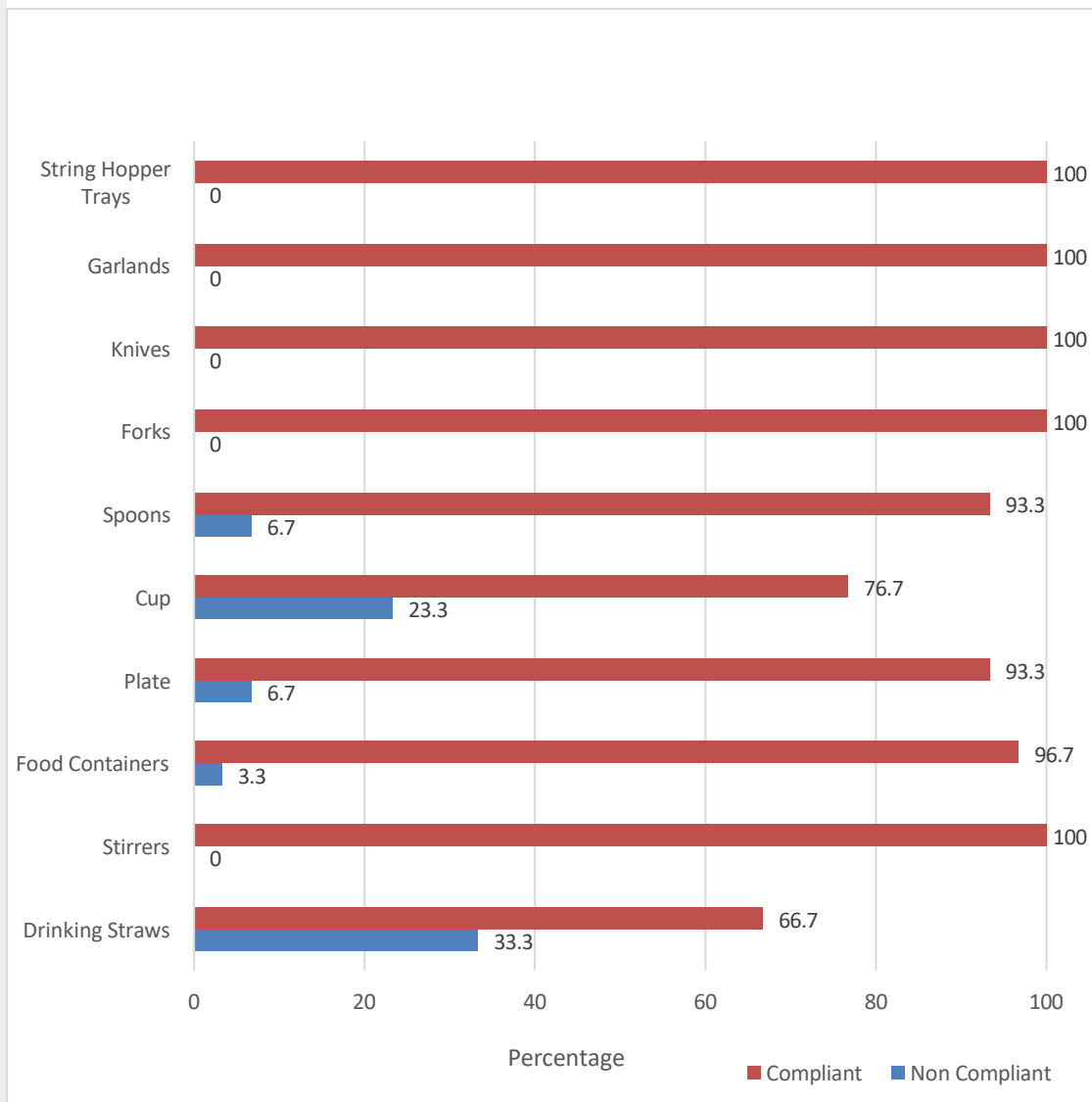
**Figure 6: Awareness of single-use or reuse**

Source: Survey Data, 2024

### Compliance towards SUP ban regulation

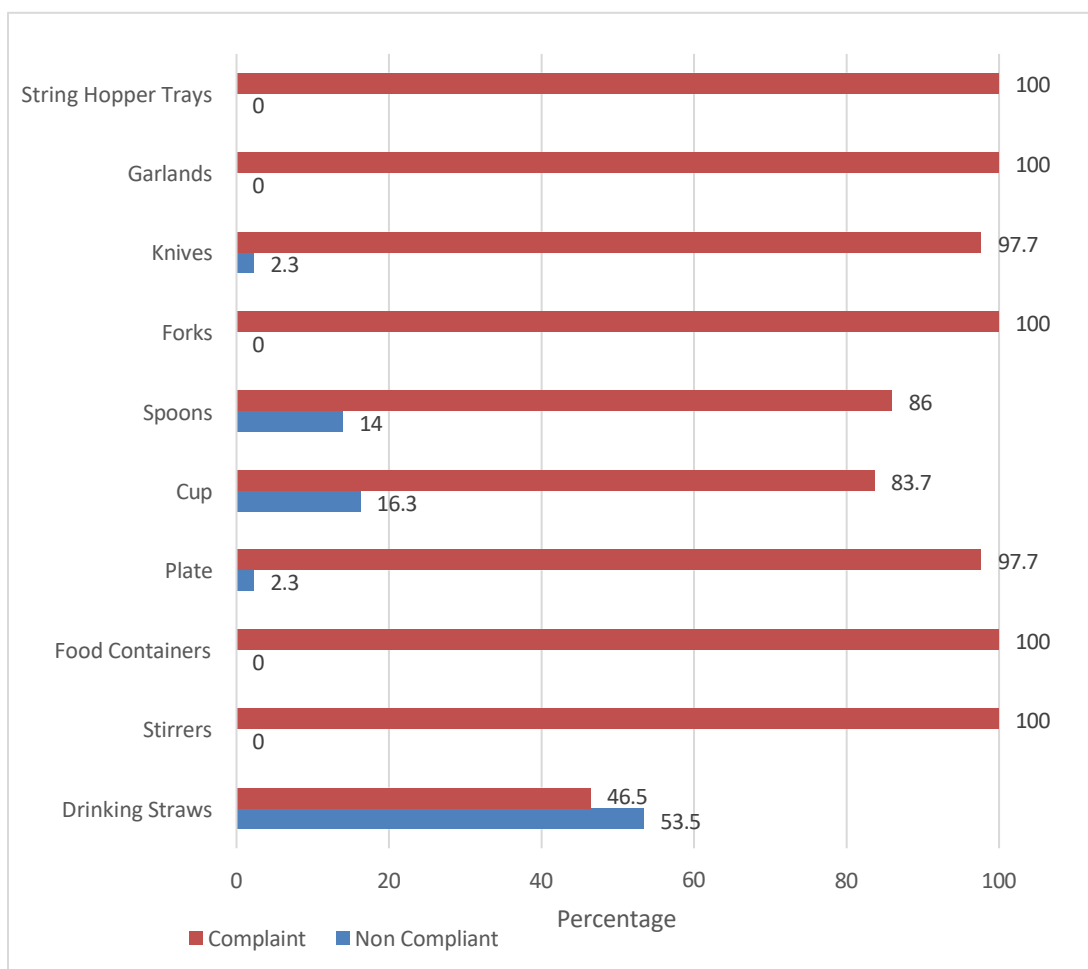
- Following the ban, most grocery, food, and fruit/vegetable shop owners have significantly reduced their use of banned SUPs.
- They are not going away from the use of plastic drinking straws because they are of sufficient quality and there are not many substitutes.
- Many retailers still have hidden stock of these banned items, which could cause compliance issues in the future.
- Consumers often reject available substitutes because of their poor quality.





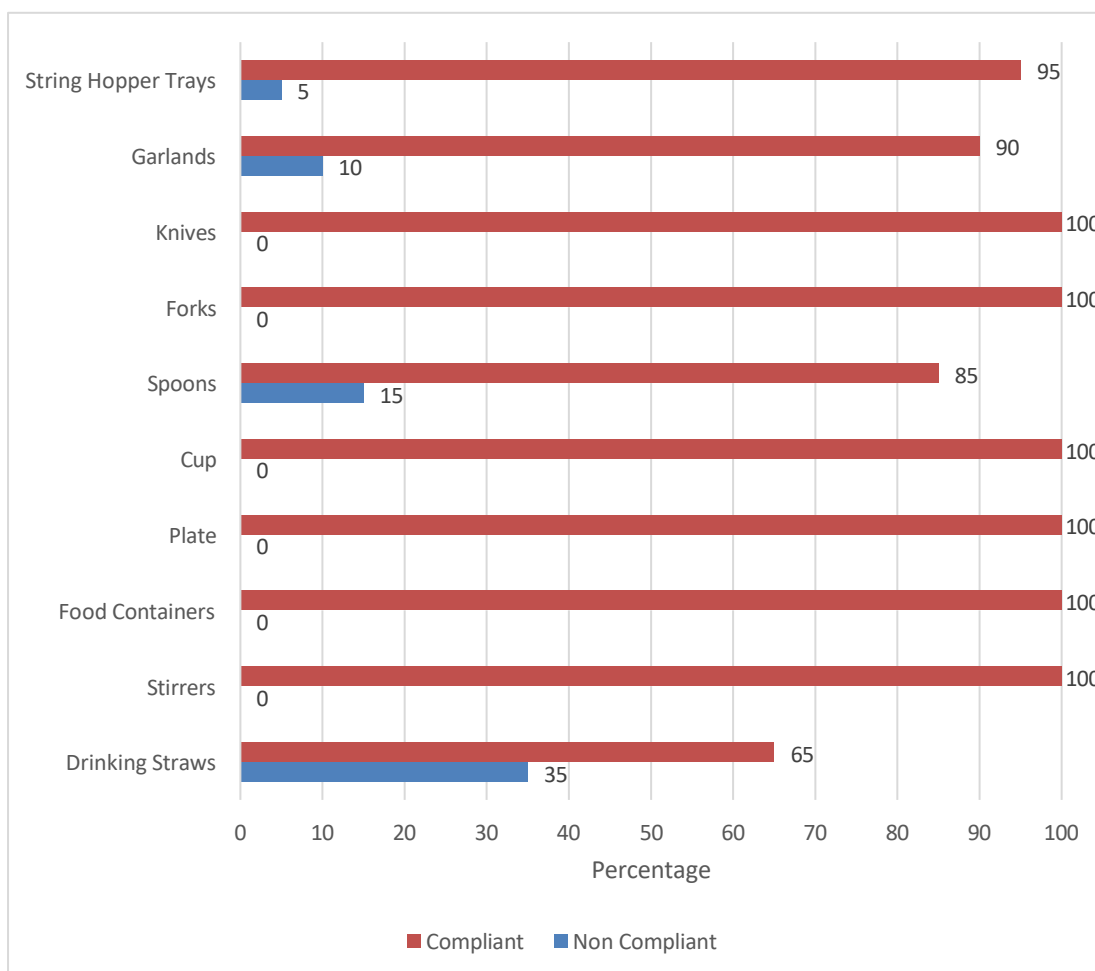
**Figure 7: Compliance with banned SUP types in grocery shops**

Source: Survey Data, 2024



**Figure 8: Compliance with banned SUP types in food shops**

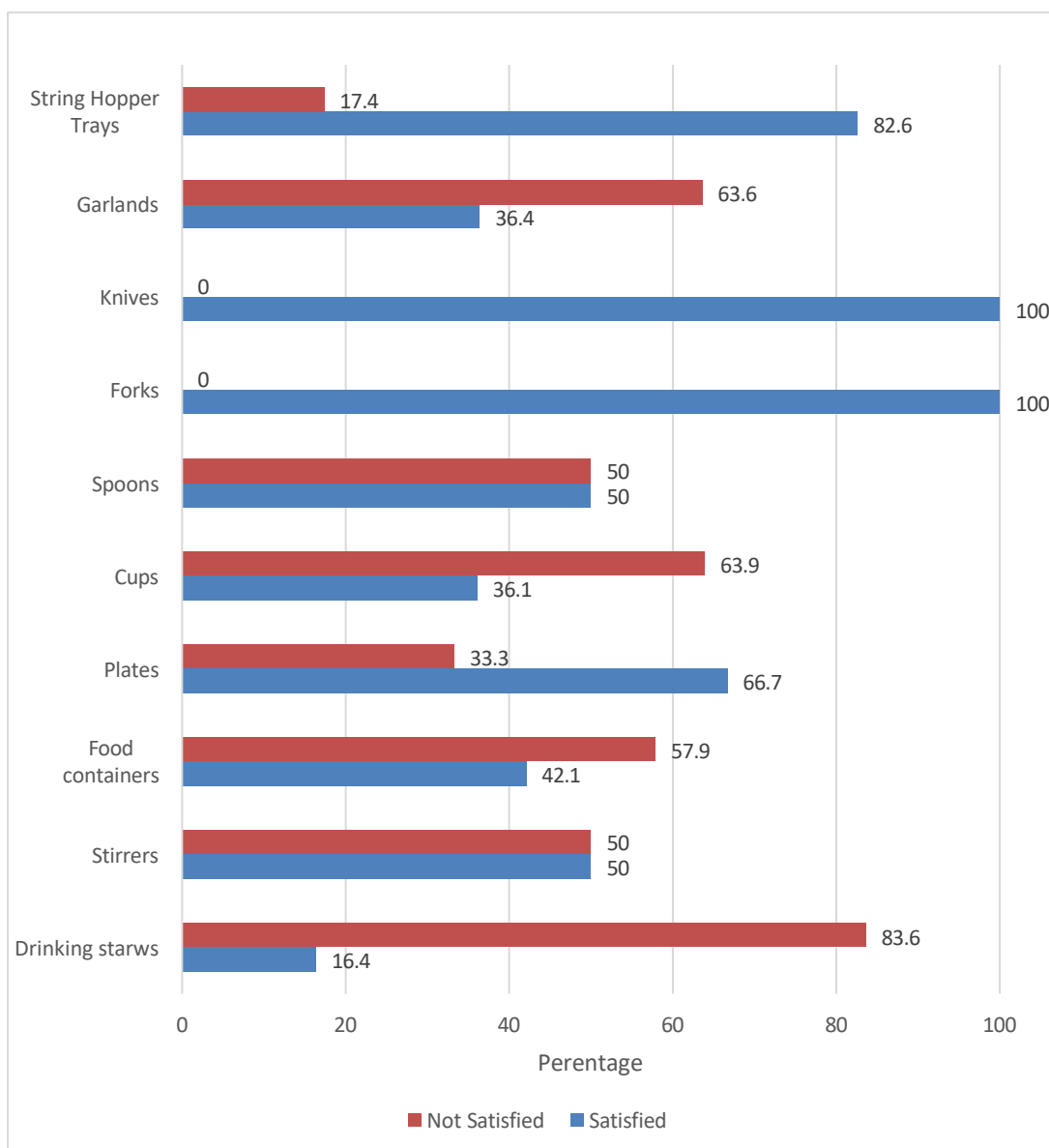
Source: Survey Data, 2024



**Figure 9: Compliance with banned SUP types in fruit/vegetable shops**

Source: Survey Data, 2024



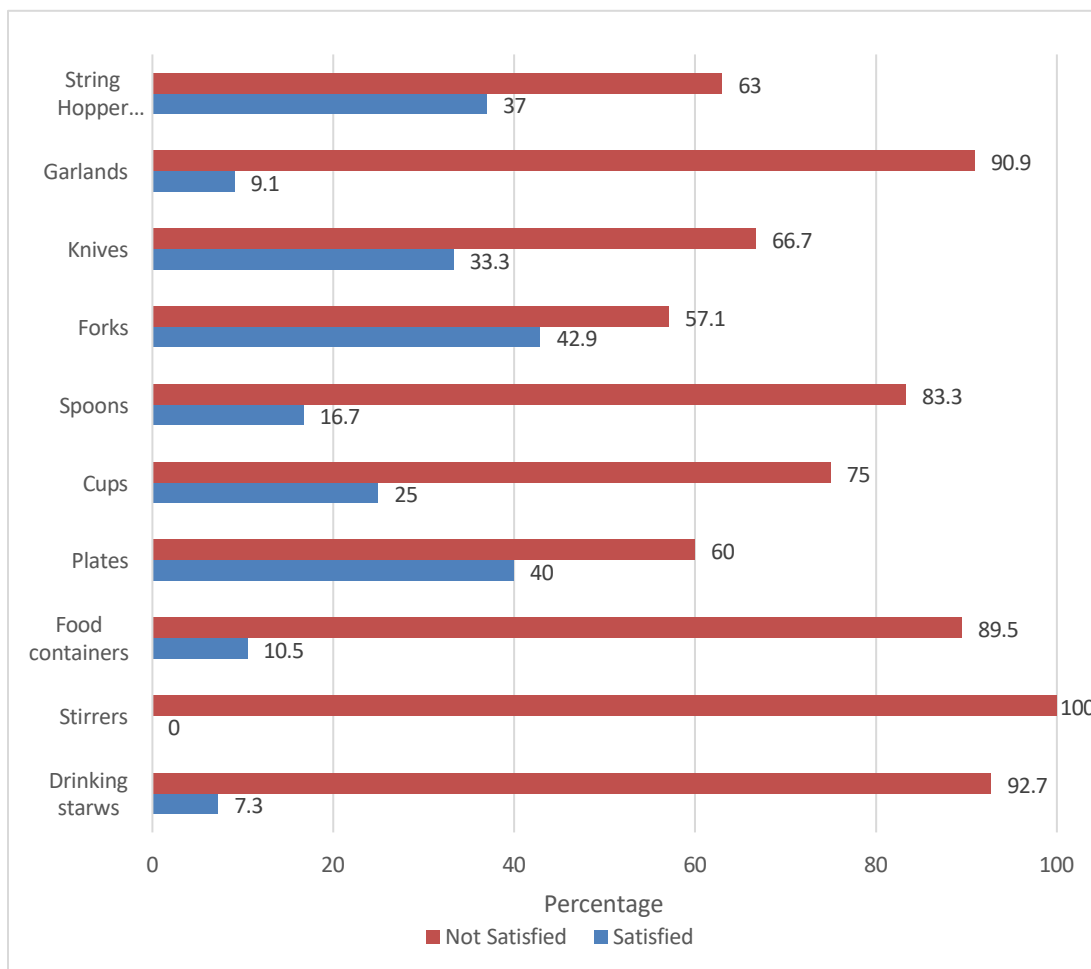


**Figure 10: Quality satisfaction of available alternatives**

Source: Survey Data, 2024

## Policy Recommendations

- Enhance awareness about the plastic ban and promote alternatives
- Establish a monitoring system to identify and ensure compliance with the plastic ban.
- Essential to support local manufacturers to offer cost-effective and high-quality plastic-free alternatives across various market segments.
- Raising public awareness of the harmful effects of plastics is crucial for increasing the demand for plastic-free alternatives.



**Figure 11: Market availability satisfaction of available alternatives**

Source: Survey Data, 2024

## References

Achayan, A. *et al.* (2020) 'Current Plastic Wastage and Introducing New Innovations to Minimize Plastic Wastage in Sri Lanka Related papers PROJECT REPORT CONDENT Current Plastic Wastage and Introducing New Innovations to Minimize Plastic Wastage in Sri Lanka', *Journal of Research Technology and Engineering*, 1(2), pp. 4–10.

Malkanthis, M.A.A., Herath, H.M.C.J. and Galdolage, B.S. (2023) 'Plastic Use Among Sri Lanka's Metropolitan Population: A Study of Environmental Consciousness and Behaviour', *Kelaniya Journal of Management*, 12(1), pp. 1–28. Available at: <https://doi.org/10.4038/kjm.v12i1.7740>.

Ministry of Environment, S.L. (2021) *National Action Plan on Plastic Waste Management 2021-2030*.

Samarasinghe, K., Pawan Kumar, S. and Visvanathan, C. (2021) 'Evaluation of circular economy potential of plastic waste in Sri Lanka', *Environmental Quality Management*, 31(1), pp. 99–107. Available at: <https://doi.org/10.1002/tqem.21732>.

Xanthos, D. and Walker, T.R. (2017) 'International policies to reduce plastic marine pollution from single-use plastics (plastic bags and microbeads): A review', *Marine Pollution Bulletin*, 118(1–2), pp. 17–26. Available at: <https://doi.org/10.1016/J.MARPOLBUL.2017.02.048>.

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