

PLASTIC ALTERNATIVE MANUFACTURERS

DATA REPOSITORY

KERALA



TABLE OF CONTENTS

1. INTRODUCTION.....	8
1.1 Project background	8
1.2 Plastic- boon to bane.....	9
2. PLASTIC WASTE MANAGEMENT RULES	11
3. STATE LEVEL MODELS OF ALTERNATIVES	14
3.1 Padiyur Kalliyad Panchayat,Kannur.....	14
3.2 Sustainable practices-Flex printing using cloth or PET	15
3.3 Zero waste stores	16
4. TYPE OF ALTERNATIVE PRODUCTS.....	17
4.1 Paper Carry Bags.....	17
4.2 Jute Carry Bags	18
4.3 Cloth Carry Bags.....	19
4.4 Biodegradable and Compostable Bags	20
4.5 Wooden, Paper and Eco-Friendly Cutlery.....	20
5. OPPORTUNITIES AND CHALLENGES FOR PROMOTING PLASTIC ALTERNATIVES	23
6. PLASTIC ALTERNATIVES SURVEY	27

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EXECUTIVE SUMMARY

Plastics have become a vital material in human activities since the invention of the first synthetic polymers in the twentieth century, owing to valuable properties such as their low cost of manufacturing and diverse potential applications. The massive accumulation of plastics in the natural environment is threatening the sustainability of our planet. It is predicted that by 2030, 90 Mt/year of plastics will enter the aquatic ecosystem under the scenario where the current plastic production trend continues without improvements in the waste management system (Borrelle et al., 2020).

Single-use plastics (SUP), often known as disposable plastics, are commonly used in plastic packaging and include objects that are intended to be used just once before being discarded or recycled. They are non-biodegradable and have a negative impact on our health, wildlife, and the environment. They take years to decompose and further degrade into smaller particles of plastic known as microplastics, which contaminate food and water, including oceans.

Demand for more environmentally friendly formulations and alternatives has grown in response to concerns about the viability of the current manufacturing model and the effects of traditional plastics on the environment. Kerala, is no exception to this growing concern, and there is a need to introduce plastic alternatives to address this issue. The need for plastic alternatives in Kerala arises from the environmental, health, and economic impacts of plastic waste. Plastic waste pollution is a significant environmental issue, affecting ecosystems, wildlife, and human health. Moreover, managing plastic waste is a significant economic burden, with the cost of collection, transportation, and disposal being borne by local governments and communities.

The objective of this study is to create a data repository of the plastic alternative manufacturers in Kerala and to understand the challenges faced by the manufacturers and startups currently working in the field of plastic alternatives. This paves a way for helping the plastic alternative manufacturers by creating easy accessibility to public and thereby promoting and creating awareness of plastic alternatives in whole state.

LIST OF ABBREVIATIONS

CED	Centre for Environment and Development
CES	Circular Economy Solution
CPCB	Central Pollution Control Board
EPR	Extended Producer Responsibility
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH
GO	Government order
KSPCB	Kerala Pollution Control Board
MOEFCC	Ministry of environment, forest and climate change
PET	Polyethylene
PETE	Polyethylene terephthalate
PLA	Poly lactic acid
PMU	Project Monitoring Unit
PVC	Poly Vinyl Chloride
PWM	Plastic waste management
SUP	Single Use Plastic
TC	Technical Corporation
ULB	Urban Local Body
UN	United Nations
WHO	World health organization

1. INTRODUCTION

1.1 Plastic- boon to bane

Plastic, an incredible revolutionary material with a variety of characteristics and capabilities, has come to symbolize human ingenuity as well as insanity slowly turning into a bane for our planet. It has become a ubiquitous part of modern life due to its durability, versatility, and low cost of production. Plastic is used in a wide range of products, including packaging, construction materials, medical devices, electronic components, and consumer goods. However, plastic also presents significant environmental challenges, as it can take hundreds of years to degrade, and when not disposed of properly, it can pollute land, waterways, and oceans, entangling and suffocating wildlife and marine creatures thus disrupting ecosystems. Only 60% of the plastic generated gets recycled; the remaining 40% pollutes the land, the air, and the water since it is left in the environment unchecked. Due to an inadequate collection and segregation system, the disposal of plastic trash is a severe challenge.

The total plastic generation in India accounts for 34,69,780 tonnes/annum (~ 3.47 million tonnes/annum) in the year 2019–2020 (CPCB (Central Pollution Control Board) 2021). Plastic processing in India was 8.3 Mt in the 2010 financial year and increased to 22 Mt in 2020 (Padgelwar et al. 2021). Despite having lower per capita usage than the majority of other developing and developed nations, India's plastic consumption has been increasing substantially, and plastic pollution has become one of the nation's major issues. As per Annual report on Implementation of Plastic Waste Management Rule, published by the Central Pollution Control Board (CPCB) in 2019-20, Kerala state accounts for nearly 4% of the total plastic waste generation in the country. The impact of the plastic waste on oceans is quite substantial in the context of Kerala which has a 560 kms long coastline and an extensive network of water bodies. A study by Suchitwa Mission, Kerala (2020) estimated that close to 1.70 billion plastic pieces weighing approximately 1057 tonnes are currently littering along the coast of Kerala.

The plastics business in India is one of the fastest developing since it is used almost universally in a variety of industries. Majority of the plastic trash seeps into the environment through numerous channels that cause pollution. India only collects 60% of its plastic garbage; the other 40% is left uncollected and ends up in the environment as waste. Plastic alternatives will play an important role in the future as only recycling can't solve this challenge.

2. PLASTIC WASTE MANAGEMENT RULES

The indiscriminate disposal of plastic waste has become a major threat to the environment. The plastic carry bags constitute the major part of the littered waste. The central and state governments published plastic waste management rules to control and reduce the use of plastics. In 1999, recycled plastic manufacture and usage rules were published and later amended in 2003. To effectively reduce the careless disposal of the plastic waste and to practice scientific disposal of plastic waste Plastic waste management Rules 2011 was issued by the union government under the Environment protection act of 1986.

The important plastic waste management rules are as follows:

- Plastic waste management rules (PWM) 2016
- Plastic waste management rules amended on 2018
- Plastic waste management rules amended on 2021 (banning SUP and carry bags)
- Guidelines on extended producer responsibility for plastic packaging
- Amendment of plastic waste management rules 2022

The PWM rules on 18th March 2018 had superseded the Plastic waste management and handling rules 2011. PWM rules shall apply to all the waste generators, local bodies, grama panchayats, manufacturer, importers, producer and brand owner throughout India.

As per PWM Rules amendment 2021, ban of plastic carry bag less than 75 microns and non-woven plastic carry bags less than 60 GSM, came into force, with effect from 30th Sep 2021, Ban of plastic carry bag less than 120 microns will come into force with effect from 31st Dec 2022. Manufacture, import, stocking, distribution, sale and use of SUP, commodities are prohibited with effect from 1st July 2022

Salient features of Plastic Waste Management(PWM Rules), 2016 and PWM amendments

- These rules shall apply to every Waste Generator, Local Body, Gram Panchayat, Manufacturer, Importer, Producer and Brand Owner.
- Carry bags made of virgin or recycled plastic, shall not be less than seventy five microns in thickness with effect from the 30th September, 2021 and one hundred and twenty (120) microns in thickness with effect from the 31st December, 2022.

- Waste Generators including institutional generators, event organizers shall not litter the plastic waste, shall segregate waste and handover to authorized agencies and shall pay user fee as prescribed by ULB and spot fine in case of violation.
- Local Bodies shall encourage use of plastic waste for road construction or energy recovery or waste to oil or co-processing in cement kilns etc. It shall be responsible for development and setting up of infrastructure for segregation, collection, storage, transportation, processing and disposal of the plastic waste either on its own or by engaging agencies or producers Gram Panchayat either on its own or by engaging an agency shall set up, operationalize and coordinate for waste management in the rural area under their control and for performing th
- Associated functions, namely, ensuring segregation, collection, storage, transportation, plastic waste and channelization of recyclable plastic waste fraction to recyclers having valid registration; ensuring that no damage is caused to the environment during this process; creating awareness among all stakeholders about their responsibilities; and ensuring that open burning of plastic waste does not take place.

Kerala State government orders on Plastic ban

The use of SUP is banned in Kerala from 1st January 2020. The important government orders on the plastic ban are tabulated below:

പ്ലാസ്റ്റിക് മലിനീകരണം കുറയ്ക്കുക, ഒഴിവാക്കുക അവബോധമുണ്ടാക്കുക



പൊതു അറിയിപ്പ്

(07.02.2023-ലെ കേരള മലിനീകരണ നിയന്ത്രണ ബോർഡിന്റെ CP-98/143/2021-UPC-11-HO-CPCB-HO/8459 നമ്പർ നിർദ്ദേശ പ്രകാരം പുറപ്പെടുവിക്കുന്നത്)

പ്ലാസ്റ്റിക് വെയ്സ്റ്റ് മാനേജ്മെന്റ് ചട്ടങ്ങൾ 2016- ഒറ്റത്തവണ ഉപയോഗ പ്ലാസ്റ്റിക്കിന്റെ നിരോധനത്തിന്റെ നടത്തിപ്പ് സംബന്ധിച്ച്

01.01.2020 മുതൽ സംസ്ഥാനത്തിനകത്ത് നിരോധിച്ച പ്ലാസ്റ്റിക് വസ്തുക്കൾ

1. ഗാർബേജ് ബാഗുകൾ (പ്ലാസ്റ്റിക്)
(ബയോഡെഡിക്വെൻസ് മാലിന്യശേഖരണത്തിന് ഉള്ളവ ഒഴികെ)
2. നോൺ റൂറബിൾ ബാഗുകൾ *
[WP(C) No.23089/ 2022 നമ്പർ കേസിലെ ബഹു. ഹൈക്കോടതിയുടെ 10.01.2023ലെ വിധിനിയമ പ്രകാരം 60 GSM ന് താഴെ *]
3. പ്ലാസ്റ്റിക് ഫ്ലാഗുകൾ
4. പ്ലാസ്റ്റിക് തോരണങ്ങൾ
5. PET/ PETE കുടിവെള്ള ബോട്ടിലുകൾ (500ml ന് താഴെയുള്ളവ)
6. എല്ലാകനത്തിലുമുള്ള പ്ലാസ്റ്റിക് ക്യാപിബാഗുകൾ
7. പ്ലാസ്റ്റിക് കോട്ടിംഗ് ഉള്ള പേപ്പർ കപ്പുകൾ, പേപ്പർ കപ്പുകൾ, പേപ്പർ ബാഗുകൾ, പേപ്പർ ബാഗുകൾ
8. പ്ലാസ്റ്റിക് പ്ലാസ്റ്റിക് കോട്ടിങ്ങുള്ള ഇലകൊണ്ടുള്ള കപ്പുകൾ
9. പ്ലാസ്റ്റിക് പാക്കറ്റുകൾ (കടകളിലും വഴിയോര കച്ചവടത്തിനും ഉപയോഗിക്കുന്ന പ്ലാസ്റ്റിക് പാക്കറ്റുകൾ)
10. പ്ലാസ്റ്റിക് തൈ ബാഗുകൾ
11. പ്ലാസ്റ്റിക് ഷീറ്റുകൾ (അശവിയി) ഒറ്റത്തവണ ഉപയോഗിക്കുന്നവ
12. പ്ലാസ്റ്റിക് വാട്ടർ പാച്ചുകൾ, ബ്രാൻഡഡ് അല്ലാത്ത പ്ലാസ്റ്റിക് ജ്യൂസ് പാക്കറ്റുകൾ
13. തെർമോക്കോൾ, സ്റ്റെനോഫോം എന്നിവ ഉപയോഗിച്ചുണ്ടാക്കുന്ന കപ്പുകൾ, കപ്പുകൾ, അലങ്കാര വസ്തുക്കൾ.
14. പി.വി.സി ഫ്ലക്സ് മെറ്റീരിയലുകൾ, പ്ലാസ്റ്റിക് കോട്ടിങ്ങുള്ള പോളിസ്റ്റർ, നൈലോൺ, കൊറിയൻ തൂണികൾ
15. ഒറ്റത്തവണ ഉപയോഗമുള്ള പ്ലാസ്റ്റിക് കപ്പുകൾ, കപ്പുകൾ, സ്പൂൺകൾ, ഫോർക്കുകൾ, സ്പോൺകൾ, ഡിഷുകൾ
16. നിരോധിക്കപ്പെട്ട ഒറ്റത്തവണ ഉപയോഗിക്കാവുന്ന ഉല്പന്നങ്ങൾ ബയോ ഡിഗ്രേഡബിൾ (കേന്ദ്ര മലിനീകരണ നിയന്ത്രണ ബോർഡിന്റെ സർട്ടിഫിക്കറ്റില്ലാത്തവ)
17. ഓക്സോബയോഡിഗ്രേഡബിൾ പ്ലാസ്റ്റിക്കുകൾ
മേല്പറഞ്ഞവ സംസ്ഥാനത്ത് പൂർണ്ണമായി നിരോധിച്ചിരിക്കുന്ന സാഹചര്യത്തിൽ അവയുടെ ഉല്പാദനവും വിതരണവും ഉപയോഗവും കർശനമായി നമ്മുടെ സംസ്ഥാനത്ത് തടയുന്നതും പിഴ ഈടാക്കുന്നതുമാണ്. മറ്റ് സംസ്ഥാനങ്ങളിൽ നിന്നും വരുന്ന മേല്പറഞ്ഞ പ്ലാസ്റ്റിക് ഉല്പന്നങ്ങൾക്കെതിരെ കർശന നടപടികൾ സ്വീകരിക്കുന്നതാണ്. ഒറ്റത്തവണ ഉപയോഗമുള്ള മേൽ പ്രസ്താവിച്ചിരിക്കുന്ന വസ്തുക്കൾ പൊതുജനങ്ങളുടെ ശ്രദ്ധയിൽപ്പെട്ടാൽ അവ അടുത്തുള്ള തദ്ദേശ സ്വയംഭരണ സ്ഥാപനങ്ങളിലോ മലിനീകരണ നിയന്ത്രണ ബോർഡിന്റെ ഷിഫ്റ്റ്/ മേഖലാ ഓഫീസിലോ പരാതിപ്പെടാവുന്നതാണ്.



കേന്ദ്രതലത്തിൽ 01.07.2022 മുതൽ അധികമായി നിരോധിച്ചവ
കോൽമിറായി, ഇയർബഡ്സ്, ഐസ്ക്രീം, ബഡ്ജെറ്റ് എന്നിവയുടെ പ്ലാസ്റ്റിക് പീടികൾ, മധുരപലഹാരങ്ങൾ, ക്ഷണക്കത്തുകൾ, സിഗരറ്റ് പാക്കറ്റുകൾ ഇവ പൊതിയുന്ന പ്ലാസ്റ്റിക് ഫിലിമുകൾ.

3. STATE LEVEL MODELS OF ALTERNATIVES

3.1 Padiyur Kalliyad Panchayat, Kannur

General

Padiyoor Kalliad Gram Panchayat is located in Kannur district, Kerala, India. It has a total population of 12114 (as of census 2011). There are more than 2700 families residing in the Panchayat. This panchayat is a model panchayat in terms of waste management. They have taken several steps to reduce waste management. The practices they follow are effectively implemented across the Panchayat. Panchayats implement their practices with the help of all the government offices in the Panchayat, Ward members, Police Station. Active participation of the residents made waste management a grand success in the Panchayat.

Special Initiatives

This is a plastic age where the use of plastic cannot be avoided, due to this world facing many problems. The problems were highlighted by the UN, WHO etc. several experiments are still going on to completely eliminate the use of plastic in the world. Plastic has a very diverse effect on humans. Over exposure can cause several diseases including cancer. The only solution to such a problem is removing plastic from day to day life. In Padiyoor Kalliad Grama Panchayat,

- Single Use Plastics (SUP) are completely banned. For this the Panchayat has taken the help of all the political representatives of the Panchayat.
- There are many offices linked to the Panchayat. Banning of SUP is strictly followed in these public offices. They set an example for the people to eliminate plastic from their day to day life. The public offices of the Panchayat strictly follow Green Protocol.
- They organize rallies and awareness programs for promoting the ban of SUPs.
- All the notices printed in the Panchayat contain slogans against plastic.
- They publish posters exclusively for plastic ban.
- They insist shop owners of the Panchayat not distribute plastic bags in the shop. Panchayat itself takes the initiative to put up posters against plastic in front of the shops.
- Kudumbashree members of the Panchayat produce cloth bags and paper bags to promote the alternative to plastic and distribute them across the Panchayat.

- **'Harithamangalyam'** is the practice they follow on marriage functions to reduce the use of plastic. According to this scheme, the Panchayat aims to completely eliminate the use of plastic plates, spoons, forks, paper cups, ice-cream cups, plastic leaves etc. instead the Panchayat itself gives steel and ceramic cutlery on a fixed rent. The residents of Panchayat can borrow the items by submitting a request to the Panchayat. Banana saplings were distributed among the Panchayat to promote the use of banana leaf for functions. Through this they effectively reduce the use of SUPs.

3.2 Sustainable practices-Flex printing using cloth or PET

In Kerala, there are initiatives aimed at promoting sustainable practices in flex printing. One such initiative is the use of eco-friendly substrates for flex printing, such as biodegradable PVC-free films made from cornstarch or potato starch. These films can be used as a substitute for traditional plastic-based films, reducing the environmental impact of flex printing. The government took actions to prohibit the use of PVC flexes by political parties during elections and replacing non biodegradable flex banners with cloth or ethylene banners. Labels certifying flexes as 'recyclable and PVC free' is made mandatory. The name of the print printing outlet and the registration number should also be displayed on each promotional material. Printing outlets should hand back used boards and flexes to the suppliers of raw materials in order to make sure that they are recycled. The permits of the establishments who fail to adhere to the rule would be canceled. It was practiced in Assembly election at Dharmadom, Kannur.

3.3 Zero waste stores

The government is promoting the concept of 'Green Protocol' in events and functions, which encourages the use of eco-friendly and biodegradable products, reduction of waste generation, and proper disposal of waste.

[Barefoot Zero Waste Store](#): Located in Kochi, Barefoot is a popular zero waste store that offers a range of sustainable products such as organic fruits and vegetables, household cleaning products, personal care items, and more. The store also has a cafe that serves organic food and drinks.

[Green Steps](#): Green Steps is a zero waste store located in Thiruvananthapuram that offers eco-friendly products such as cloth bags, bamboo toothbrushes, and more. The store also offers workshops and events on sustainability.

7 to 9 Green store: Located in Kolencherry, Kochi. The store sells spices, organic foods and vegetables and encourages customers to bring their own containers and bottles for shopping and avoid plastics. They can also get paper bags, organic cotton bags or glass bottles from the store.

The Eco Store: The Eco Store is a zero waste store located in Kozhikode that offers a range of eco-friendly products such as organic food, bamboo toothbrushes, reusable straws, and more. The store also has a cafe that serves organic food and drinks.

Refill Store: Refill Store is a zero waste store located in Kottayam that offers a range of eco-friendly products such as organic food, reusable containers, and more. The store also offers a refill service for household cleaning products.

4. TYPE OF ALTERNATIVE PRODUCTS

Alternate products (specifically introduced as a replacement to SUP products) have created a niche for themselves in the market as advocates of sustainable and green practices. However, there are also products in the market that look and sound like a “more sustainable” replacement to SUP but in fact, they only encourage ‘greenwashing’ among the consumer market, for example, green diesel. This could be due to the lack of awareness among the consumers who purchase them and due to false branding by the alternate material/product companies or organizations. Therefore, to comprehend the feasibility and sustainability of a given alternate material/product specially targeted to replace banned SUP products, it is important to explore the environmental, socio-economic dimensions, sustainability, stability in the market of the same to further analyze and provide inputs on emerging challenges (if any) and how best to address them.

Alternative materials are those products used or suggested for the substitution of plastic materials or products (especially SUP) as per state government orders under the imposition of a plastic ban (PWMR, 2016). The most common alternate materials used in Kerala are:

- Paper Bags/Paper Carry Bags
- Cloth Carry Bags
- Jute Bags/Jute Carry Bags
- Compostable Carry Bags
- Wooden, Paper and Eco-Friendly Cutlery (Spoons, plates, cups, straws, stirrers, etc.)

4.1 Paper Carry Bags

The consumption and production of paper carry bags has experienced a sharp rise after the prohibition of single-use plastic carry bags in Indian States and Union Territories. Paper bags are renewably sourced, durable, lightweight, and biodegradable. Due to the increasing awareness of the hazards of plastic bags to the environment among the public and the ban imposed on plastic bags throughout India and abroad by the governments, there is a great demand for eco-friendly paper bags. The process of manufacturing paper carry bags is complex and involves the use of chemicals and bleach which creates negative externalities. “As a result of the heavy use of toxic chemicals in the process, paper is responsible for 70 times more air pollution and 50 times more water pollution than plastic bag production according to a Washington Post analysis, resulting in

more toxicity to humans and the environment than HDPE bags” (Cho, 2020). Moreover, additional chemicals are required to remove ink while recycling these paper carry bags.

The paper carry bags vary according to the needs of different sectors, businesses, and organizations. Paper carry bags can be either bleached or unbleached. Unbleached paper bags create very minimal negative environmental impact as compared to bleached paper bags. “A bleached paper bag would need to be reused 43 times to equal the LDPE’s environmental impact” (Cho, 2020). Paper carry bags are 5-6 times heavier than the usual plastic carry bags so transporting and distributing them requires more fuel and costs more. Even if the paper bags end up in landfills, they do not create a negative impact, unlike plastics.

A strong and durable paper carry bag is not only an asset to the retailers but also to the consumers. Strong and branded paper carry bags are considered a status symbol for consumers. Such branded carry bags are used by consumers at least twice before the final disposal. Usually, paper carry bags come at an extra cost apart from the product price because of which people have started using carry bags consciously and responsibly. The disposable incomes of consumers are increasing in India. This implies that people would be able to pay the premium which comes with paper carry bags (The Paper Bag, 2021).

4.2 Jute Carry Bags

Often regarded as the ‘Golden Fibre’, India is one of the largest producers of jute. Jute plants mostly grow in the Ganges delta region comprising Bangladesh and India. The most common place where jute sacks are used is for storing grains. Jute is positioned as a superior and eco-friendly material. Jute bags are biodegradable and are made up of natural fibres. These bags have a lower water and carbon footprint when compared with plastic carry bags. Unlike plastic carry bags, jute bags decompose on their own and therefore, no particular way of disposal is required. It is the cheapest fibre after cotton, in terms of usage, global consumption, production, and availability. The lifecycle of jute carry bags involves converting the jute plant into raw jute by tying the cut down matured jute plants into bundles. There is a long process of converting those bundles into bales. The raw jute is then converted into jute hessian through machines and processes. The jute hessian is then shaped into the carry bags. However, due to the pandemic, raw jute has been witnessing scarcity because of which many mills across the country have been shut down.

Jute bags are a great substitute for single-use plastic carry bags, but they are 60–70 times costlier than the standard plastic carry bag. The reason for this includes a hefty 28% Goods and Services Tax (GST) on jute carry bags or jute shopping bags, procurement and raw material costs, and the unavoidable transportation cost. Jute bags are heavier than cloth or paper bags, implying that a lot of logistic costs are involved in transportation from the mills to the final consumer. The Indian market for jute bags is highly distorted because of the high costs associated with jute bags. Jute bags can be re-used and washed for years. But over the last year, there has been a drastic shift in the consumption patterns of consumers due to the onset of the pandemic. Consumers have shifted towards using and throwing carry bags to avoid the breeding of germs causing viruses. There is a potential for jute bags to act as a carrier for germs and viruses (The Mercury News, 2020).

4.3 Cloth Carry Bags

BYOB is an acronym for Bring Your Own Bag. Cloth carry bags and canvas carry bags are fashionable and most people in India usually prefer to carry such bags for shopping where BYOB is applicable. These bags are reusable, washable, and are less coarse than jute bags. There has been a decreasing trend over the years in the usage of plastic carry bags because it's inappropriate disposal creates negative externalities and because the government has been prohibiting the use of single-use across different states and Union Territories. Cloth bag manufacturers have been looking for opportunities to expand their businesses and operations. Not only this, the rising number of shopping complexes, malls, shops, vendors, etc. will create and fuel the demand for cloth and canvas bags in India. There are bags available in the market which are made of organic cotton and sustainable cotton and are one of the best alternatives to single use plastic carry bags. Cloth bags are a better alternative since they can be reused and they biodegrade easily too, but the resources need to be utilized judiciously too while manufacturing such bags.

4.4 Compostable Bags

In India, compostable carry bags are manufactured according to the standards confirmed to IS/ISO 17088 as per CPCB. “Compostable plastic” as defined in Rule 3(e) of PWM Rules, means “plastic that undergoes degradation by biological processes during composting to yield CO₂, water, inorganic compounds and biomass at a rate consistent with other known compostable

materials, excluding conventional Petroleum-based plastics, and does not leave visible, distinguishable or toxic residue.” (CPCB, 2020).

The compostable bags are manufactured using corn starch-based raw materials. The look and feel of these bags are quite similar to those of plastic carry bags. These bags are non-hazardous, non-recyclable, and decompose in supporting climatic conditions. Such compostable bags must have been labeled as ‘Compostable’ and confirmed to the prescribed standards. There has been a lot of confusion lately with respect to the compostable carry bags.

4.5 Wooden, Paper and Eco-Friendly Cutlery

Plastic and thermocol based cutlery have been banned in a couple of states in India. Most of the disposable cutlery is used in the food and beverage industry. With food deliveries becoming prominent in the key states and cities in India, the use and consumption of disposable cutleries have also seen a rise. After the ban on plastic cutleries, the only alternatives which are feasible include wooden and paper-based cutlery. The widely used single-use cutlery items include spoons, straws, forks, stirrers, knives, plates, food containers and cups. The demand for wooden cutlery has surged in the past few years, making it reach economies of scale. Wooden and paper-based cutlery might not be the best alternatives because a lot of natural resources like trees are required which implies large scale cutting down of trees, but there are new inventions coming up. In South India, there is the availability of edible cutlery items but those also come with a bunch of limitations. Those cannot be provided along with food deliveries, and they come at an extra cost because of the raw materials involved.

Many studies found out that plastic straws have been contributing to a major chunk of marine litter and therefore, now there are better alternatives for those too. Leading cafes like Starbucks, Barista, etc. used to provide plastic straws earlier but now these giants have shifted to paper straws, which is a biodegradable solution. For household consumption, many companies have come up with metal straws, which can be reused, washed repeatedly, and are travel friendly. There are a lot of start-ups that are into metal cutlery kits and those kits are made travel friendly. One such start-up is Kitlery, which sells sets of spoon, fork, and metal straw in cloth pouches. The pouches are made from the leftover cloth pieces from boutiques and tailors. The team which sews the pouches are all women. Such start-ups should be encouraged and duly acknowledged.

The biggest shift which consumers can make in their lifestyle is by making sustainable choices every day. Society requires a behavioral change. The entire issue with single-use plastic cutlery lies with its disposal methods. If the plastic items are sent to recycling facilities instead of them landing up in the landfills, then the recycled plastic can be used for manufacturing a lot of other plastic products. This would ensure that the single-use plastic items do not end up contributing to marine litter or solid waste.

Table 1: Alternative products available in market

SI.No	Type of alternative materials	Process	Applications
1	Cloth	Recycle and Reuse	Carry bags, banner
2	Paper	Recycle and Reuse	Paper bags, bunting, flags, table spread
3	Jute	Retting	Carry bags
4	Areca Leaves	Drying and pressing	Food plates, packaging of food
5	Plantain Leaves		Packaging food
6	Bamboo	Completely dried	Toothbrush, pen holder, straws, earbuds
7	Coconut shell		Spoons, decorative items
8	Compostable Plastic		Carry bags, food packaging
9	Porcelain/earthenware		Food plate, cups
10	Wood	Completely dried	Earbuds, ice-cream sticks

5. OPPORTUNITIES AND CHALLENGES FOR PROMOTING PLASTIC ALTERNATIVES

5.1 Challenges

1. Non availability of raw materials

One of the main challenges in Kerala is the lack of availability of locally sourced raw materials. Most of the raw materials used to produce plastic alternatives, such as plant-based fibers, Palm leaves, bamboo, PLA, and bioplastics are not grown or produced locally in sufficient quantities. This means that manufacturers often have to source raw materials from other regions, which can be expensive and logistically challenging. Disruptions in the supply of these materials may lead to the shortage and increased manufacturing cost.

2. Investment and financial challenges

There is a lack of cheaper availability of alternatives as the raw materials are not available to meet the demand. The increased non availability of raw materials leads to an increase in the cost. This can impact the cost of production for alternative manufacturers and their ability to maintain profitability. Fund issue after covid 19 lock down is a common issue.

3. Energy Costs

These energy-intensive manufacturing processes can result in higher energy costs for manufacturers. The higher energy costs can increase the production costs of alternative materials, making them less economically competitive compared to traditional plastic materials.

4. Challenges with respect to enforcement

The wide range of regulations related to environmental and health concerns are increasing nowadays and the changes of rules affect the manufacturer as the restrictions on the use of certain chemicals to be replaced and thus it can impact the production and availability of the products. The changes in the laws frequently affect the cost of production. Strict action is not taken against the presence of banned products in the market. Rapid changes in laws- causes the replacement of old machineries

5. Supply chain challenges

Sourcing of raw materials is a herculean task as the availability is less. The distribution is also a challenge as the readily available of banned plastic products in the market. The lack of distribution networks of the alternative products causes the difficulty in selling. Lack of advertising causes

reduction in the sale of the products. Already manufactured plastic and plastic products selling in the market cause less demand for the alternative products.

5.2 Opportunities

1. MSME SECTOR-

The Micro, Small, and Medium Enterprises (MSME) sector plays a crucial role in supporting and promoting plastic alternative manufacturers.

Manufacturing Support: MSMEs often specialize in manufacturing processes and have the flexibility to adapt to new technologies and materials. They can provide contract manufacturing services to plastic alternative manufacturers, helping them scale up production and meet market demand.

Access to Machinery and Equipment: MSMEs can offer access to machinery, equipment, and production facilities that may be expensive for smaller manufacturers to acquire individually. This allows plastic alternative manufacturers to leverage the infrastructure and capabilities of MSMEs to produce their products more efficiently and cost-effectively.

Financial Assistance and Funding: The MSME sector can help plastic alternative manufacturers by providing financial assistance and funding options. MSME-focused banks, financial institutions, and government schemes often offer loans, grants, or subsidies specifically designed for small-scale and medium-sized enterprises. These financial resources can support plastic alternative manufacturers in setting up production facilities, investing in research and development, or expanding their operations.

Supply Chain Collaboration: The MSME sector can collaborate with plastic alternative manufacturers to form a robust supply chain. MSMEs involved in raw material supply, component manufacturing, packaging, or distribution can partner with plastic alternative manufacturers to ensure a smooth flow of materials and products. This collaboration helps in optimizing the supply chain, reducing costs, and enhancing overall efficiency.

2. CIPET

CIPET, which stands for the Central Institute of Petroleum Engineering & Technology, is a premier institute in India dedicated to research, education, and training in the field of

plastics. CIPET has been actively engaged in research and development related to plastic alternatives and sustainable materials. They have been working on various projects and initiatives aimed at reducing plastic waste and finding eco-friendly alternatives. Here are some ways in which CIPET supports plastic alternative manufacturers:

Research and Development: CIPET conducts research and development activities focused on developing new plastic alternative materials and technologies. They work on improving the properties, processing techniques, and cost-effectiveness of alternative materials, making them more viable for manufacturers.

Technical Consultancy: CIPET provides technical consultancy services to plastic alternative manufacturers. They offer expertise in material selection, formulation, processing, and quality control. Manufacturers can seek guidance from CIPET to optimize their production processes and enhance the quality of their plastic alternative products.

Training and Skill Development: CIPET offers specialized training programs and workshops for manufacturers and industry professionals. These programs cover topics related to plastic alternatives, including material selection, processing techniques, product design, and sustainability. By enhancing the skills and knowledge of manufacturers, CIPET helps improve the overall quality and competitiveness of plastic alternative products.

Incubation and Start-up Support: CIPET provides incubation facilities and support to start-ups and entrepreneurs in the plastic alternative sector. They offer infrastructure, technical guidance, and business mentoring to help emerging companies develop and commercialize their innovative plastic alternative solutions.

Collaboration and Networking: CIPET facilitates collaboration and networking opportunities for plastic alternative manufacturers. They organize seminars, conferences, and industry interactions where manufacturers can connect with experts, researchers, and other stakeholders in the field. These interactions promote knowledge sharing, technological advancements, and business collaborations.

6. PLASTIC ALTERNATIVES SURVEY

Kerala has taken initiatives in recent years to reduce plastic usage and promote plastic alternatives. This is due to increased awareness of the negative impacts of plastic on the environment and ecosystem.

The use of cloth bags instead of plastic bags is one of the plastic alternatives suggested in Kerala. These bags are made of natural fibers like cotton or jute and are reusable, washable, and long-lasting. The state administration has also prohibited single-use plastic bags and encouraged the usage of environmentally friendly bags. Another alternative to plastic is the use of biodegradable plates, cups, and cutlery made from materials such as Palm, sugarcane, bamboo, and cornstarch. These products are compostable and do not harm the environment.

Furthermore, the state has launched a programme called "Haritha Keralam" (Green Kerala), which aims to promote sustainable and environmentally friendly practices in a variety of sectors. This includes promoting plastic alternatives in homes, schools, and workplaces. Due to the initiatives taken by Kerala government, there is an increased awareness of usage of environment friendly and biodegradable products like palm, paper, sugarcane and bamboo starch replacing plastic plates, bags, cutleries and thereby reducing environmental pollution.

As per the survey conducted on the plastic alternative manufacturers, it was found that a total of 208 industries along with 24 startups are currently working in Kerala. The detailed information of some alternative manufactures/ suppliers in the state and neighboring states are enclosed in the following section.

6.1 Palm Industry

There are 98 palm industries registered under the Kerala State pollution control board. Out of these 23 palm industries are currently working. These industries are playing a vital role as a plastic alternative.

Among the registered palm industries, it is noticed that there were other industries rather than palm based industries. In the list 75 industries are not palm based industries; they were bakeries, cool bars, interior works, jaggery production, cakes baking, organic products, coconut

fibers, fertilizers, medical equipment shops, nutrition centers, rice mills, oil mills, coconut climbing machines suppliers and cafes.

Around 18 palm industries are not working now. Most of them stopped production after covid 19 lock down and also due to the non- availability of raw materials, high cost of raw materials and the less demand of products in the market.



Pic Courtesy: Anna Palm Products



Pic Courtesy: Wayanad Eco Centre



Pic Courtesy: Smile Areca Product

6.2 PAPER INDUSTRY

There are 1700 paper industries registered under Kerala state pollution control board. As per the survey and study it is found that only 208 paper industries are currently working as plastic alternative manufacturers. Most of the industries have stopped working after the plastic ban, non availability of raw materials, less demand for the products, high rate for raw materials and financial loss. Due to these reasons 181 industries have stopped their production.

According to the findings of the study, the registered industries include a large number of industries that are not plastic alternatives.. It includes the industries which produce paper napkins, tissue paper, printing press, online newspapers, corrugated carton boxes, mills, machineries, pet shops, studio, photo films, food products, book shops, machinery making, paper and allied industries, hollow bricks, flex board, seat cushions, stickers, stone works, paper rolls, ign boards, special purpose papers, digital solution, book binding, cartons, chemical manufacturing, mobile repair, graphics, Aluminium paper, aluminum and glass work, stitching unit, computer paper articles, aquarium, packing boards, paper board articles, building roof construction, lottery tickets, photographic films, candles, wall and floor tiles, electric service, non metallic products, perfumes, paper card, paper envelopes, carbon paper, textile, paper cutting, brick, paper products for computer, Sticker cutting, Steel doors, windows and medicine covers. The details of plastic alternative manufacturers in paper and cloth industries are given below.



Pic Courtesy: Eze Creations



Pic courtesy: Green Wrap paper bags

Table 2: Details of alternative plastic products- Palm Industry

DETAILS OF ALTERNATIVE PLASTIC PRODUCTS

Sl. No.	Name of the enterprise	Location of operation	State of operation	Product used for alternative material	Any other information	Contact Information	Website
ALAPPUZHA							
1	Cherthala women welfare cooperative society	Cherthala, Alappuzha	Kerala	Palm fiber	.	9656115815 CMC 30, Cherthala	-
KOTTAYAM							
2	T cups	Vellikulam P.O, Theekoy	Kerala	Palm	Production is very low. Soap dishes and palm plates. Product has less demand after corona. Production is more than 5000/ month	9846746444 Thannikal House, Vellikulam	-

DETAILS OF ALTERNATIVE PLASTIC PRODUCTS

Sl. No.	Name of the enterprise	Location of operation	State of operation	Product used for alternative material	Any other information	Contact Information	Website
THRISSUR							
3	Anna Palm Products	Near Kannan Thrikkivil Temple,Pavaratty	Kerala	Palm	Palm plate,soap box,bowl. Availability of 12 machines for production and a supply of 1000 plates /day	9400164100, W/O.K.L. Benny, Kuttikkat House, P.O. Pavaratty, Thrissur-680507	-
4	Deepam Palm Dish	Near nandanam godown,olarikkara	Kerala	Palm	Manufacture of palm plates,ice cup and soap box	9349486814 Kalarikkal house,ponnikkara.P O	https://www.deepampalmdish.com/
5	M S Natural Palm Leaf Products Pananchery	Pananchery, P. O. Pattikad, Thrissur	Kerala	Palm	Soap box-2000/day, Plates-1000/day	9495132649 Karayatt (H) Pananchery Pattikkad P.O 680652	-

DETAILS OF ALTERNATIVE PLASTIC PRODUCTS

Sl. No.	Name of the enterprise	Location of operation	State of operation	Product used for alternative material	Any other information	Contact Information	Website
6	Nandana m Palm Products	9/380A, kolengattukara, P O Choolissery, Tsr 680541	Kerala	Palm		9744702649 Kolangattukara House Choolissery Post Thrissur	-
MALAPPURAM							
7	V and H Agencies	Gramam, Uppada PO	Kerala	Areca leaf	Areca Leaf Plate ,Cups	9495387164 Harinilayam, Gramam, Uppada PO	-
PALAKKAD							

DETAILS OF ALTERNATIVE PLASTIC PRODUCTS

Sl. No.	Name of the enterprise	Location of operation	State of operation	Product used for alternative material	Any other information	Contact Information	Website
8	Abhinaya Areca Plates	10/437, N G Colony, Vannamada PO., Chittur, Palakkad	Kerala	Palm	Production of Areca Plates. Capacity-400 plates/day	9745429262 S/O Krishna Swamy, Moongilmada, Vannamada PO., Palakkad	-
9	Green Revolution	10/825, Chettipady, Aryampau, Ariyoor P.O.	Kerala	Palm	Palm plates, cup production capacity is low due to non availability of raw material.	9539505243, Madakkan House, Chettipady, Ariyoor P.O., Pin 678583.	-
10	Jeswanth Enterprises	Kariyanchetti kalam, Attayampathy PO, Menonpara, Chittur	Kerala	Areca	Areca plates and cup production of different size and shape. 70000 plates and cups/month	9846579275, S/o Thankavelu, Koundankalam, Eruthenpathy PO., Chittur	-

DETAILS OF ALTERNATIVE PLASTIC PRODUCTS

Sl. No.	Name of the enterprise	Location of operation	State of operation	Product used for alternative material	Any other information	Contact Information	Website
11	Kavyasree Palm Plates	7/338, chavadiyoor Puthoor	Kerala	Areca	Less demand for plates. 400 plates/day	9562337017, Sidharthsree House, Chavadiyoor P.O	-
12	Kailas Areca Leaf Plates	03/106A, Kottathara, Attappady	Kerala	Palm	Occasional production-voltage issue in areas	7510319375 Kailas Nivas, Vattalakki, Mattathukad, Agali	-
13	Samridhi areca leaf products	Bobay colony, palappuram p.o, pin. 679103	Kerala	Palm	Exporting Areca Plates-300/Day	9447030157, Sreesumam, Mangalam p.o, Lakkidi. Pin.679301	-
14	Sri Vinayaka areca leaf plate	6/426, Pudur	Kerala	Palm	Reduced production of Areca plates	8086859979 gokulam Nivas Pudur po	-
WAYANAD							

DETAILS OF ALTERNATIVE PLASTIC PRODUCTS

Sl. No.	Name of the enterprise	Location of operation	State of operation	Product used for alternative material	Any other information	Contact Information	Website
15	Smile Areeca Product	Chulliode	Kerala	Palm	Palm plates and spoons	9747105529 Chakkunnam House Melangadi Kondotty	-
KASARAGOD							
16	Bhuvana Bio Plates	She that shullia ,neerchal p.o,kasaragod	Kerala	Palm	-	9495766151 W/O. Shyam Bhat, Shanthar House, P.O. Neerchal	-
17	Haritham Palm Plates	Manadukka PO,Manadukka	Kerala	Palm	-	9562519205 Durgapuram house,Manadukka PO,Manadukka	-
18	Mahima Palm Plate Unit	Iriyanni, muliyar po	Kerala	Palm	Production of palm plates-with production capacity of 600 plate/day	9605428999 Secretary Iriyanni Po Kasaragod 671542	-

DETAILS OF ALTERNATIVE PLASTIC PRODUCTS

Sl. No.	Name of the enterprise	Location of operation	State of operation	Product used for alternative material	Any other information	Contact Information	Website
19	Nalluraya Industries	Paivalike	Kerala	Palm	1000 plate/day	8547552421 Kuntukolanji House, Paivalike(Po), Uppala(Via), Kasargod	-
20	Rainbow	Gowriadka, PO Movvar) Kasaragod	Kerala	Palm	Palm plates, 10000/month	9809528942 Movvar H, Movvar Kasaragod	-
21	Sana Palm Plates	Pathur,manjararam,kasargod	Kerala	Palm	-	8722536547 Badimale,pathur, manjesharam	-
22	Sauhrudha Natural Leave Products	Kollampana Munnad PO	Kerala	Palm	Palm plates,ice cream cups,6 machines-1000 plates/day	8547540141 Kochupalavilayil,poozhikadu po ,panthalam	-

Table 3: Details of plastic alternatives- Banana fiber, Straw

DETAILS OF ALTERNATIVE PLASTIC PRODUCTS

Sl. No.	Name of the enterprise	Location of operation	State of operation	Product used for alternative material	Any other information	Contact Information	Website
KOLLAM							
1	Bharatham arts	Kadavur, Kollam	Kerala	Straw	Sceneries using straw	9446834174 Sivamangalathu Vadakkathil, Kadavur, Perinadu P O, Kollam	-
2	Kairali straw picture	Kadavur, Kollam	Kerala	Straw	Sceneries using straw	9605583430 Kaliyattayil Veedu, Kadavur Perinadu P O, Kollam	-
WAYANAD							
3	Wayanad eco centre	Sulthan Bathery	Kerala	Banana fibre	Mats, bags and straws	9946924917 Poovathingal house,kolagaparapo,ava yal	-

Table 4: Details of alternative plastic products- Paper industry

Details Of Alternative Plastic Products

THIRUVANANTHAPURAM

Sl. No	Name Of The Enterprise	Location Of Enterprise	State Of Operation	Product Used For Alternative Material	Any Other Information	Contact Information	Website
1	Akshaya Cups And Plates	Nedumangad(M)	Kerala	Paper	Paper cups and plates	9447206061 Akshaya,Elankathara,P arandode,Nedumangad	-
2	Allied Packing Products(Green Wrap paper bag)	Kadinamkulam	Kerala	Paper	Paper Bags- Production- 5-10 Tons/Month	8606312121 Knra 156 Vadayakadu Tvpm	-
3	Amrutha Paper Carry Bags	Karavaram	Kerala	Paper	Paper carry bags	9142329670 Pooram House, Njarakkattuvila, Nedumparambu.P.O, Pin 695102 (M)9142329670	-
4	Arithi Packs	Peringamala	Kerala	Paper	Paper boxes and bags	9446520358 Vijaya Mandiram, Aralummodu.P.O	-
5	Carryon Paper bag	Mudakkal	Kerala	Paper	Paper carry bag-textiles bags .production capacity-20 to 30k/month	9995196673 Vaisakham, Valakkad, Elampa	-

6	Eco serve natural leaf plates	Mudakkal	Kerala	Paper	Paper bags	9446793978 Edathamom, Avanavancheri	-
7	Green Papers	Kottukal	Kerala	Paper	Paper bags and table cover	9497774575 Payattuvila, Uchakkada	-
8	Krishna Bags	Maranalloor	Kerala	Paper	Paper carry bags	9645311300 Kailas, Kottamukal, Ooruttambalam Po	-
9	Nanma Paper Carry Bag	Pazhayakunnummal	Kerala	Paper	Paper And Cloth Carry Bags	9846711614 KunnilVeedu, Tholikkuzhi, AdayamonPin.695614 (M)9846711614	-
10	New Day Paper Products	Andoorkonam	Kerala	Paper	PLA-210,150 Paper cups	7561882139 Albarkah, Malamelparambu	-
11	Newgen Carry Bags	Attingal(M)	Kerala	Paper	Cotton bags,paper bags	9947772235 Thiruvonam, Near Awics, Alamcode.P.O., Attingal	-
12	Padua Social Centre	Trivandrum	Kerala	Paper	Paper Cups	9744160382 Kalluvila Puthenveedu Mangad Po Kollam tharapadmanabhan2016@gmail.com	-
13	Pioneer Paper Bag	Venganoor	Kerala	Paper	Paper bags	8281267805 J J Bhavan, Charivila, Cellar, Kovalam P O	-

14	Ponmudi Pack Arts P Lt	Vallakkadavu	Kerala	Paper	Paper carry bags	9947055888 H.No.40priyam ,Asan Nagar,Vallakkadavu	-
15	Salam Trading Company	Athiyanoor	Kerala	Paper	Paper bags	9447094455 Jawadh Cottage, Madanthapacha	-
16	S.N Paper Products	Venganoor	Kerala	Paper	Paper cup - 10000/day	8589052664 Sandwanam, Vra-136 Palachira Po Varkala Thiruvanathapuram	-
17	Sri Nithi Enterprises	Vilappil	Kerala	Paper	Paper bags,Comput er boards and packaging	9387811706 Tc 26/1839, Gpo Lane, Tvpm	-
18	S.R.Paperbag Industry	Avanavanchery	Kerala	Paper	Paper Bag Production 2000/ Month	9747821748 S.S.Manzil,Elamba.P.O, Avanavanchery	-
19	Take Me Paper Products	Peringamala	Kerala	Paper	Paper bags carry,producti on capacity- 5000 bag/month	8921593048 Kaniyapuram	-
20	Yuvasree No. 34	Peringamala	Kerala	Paper	Cloth bags,Paper bags	9745086459 Jisna Manzil, Chittoor, Peringammala	-
21	Zion Papers	Kottukal	Kerala	Paper	Paper bag	9387814623 Payattuvila, Uchakkada	-

Details Of Alternative Plastic Products

KOLLAM

Sl. No	Name Of The Enterprise	Location Of Enterprise	State Of Operation	Product Used For Alternative Material	Any Other Information	Contact Information	Website
1	Aapt Bags	Keralapuram, Vellimon P.O, Kollam	Kerala	Paper	Paper bags	9495703348 Punartham, Keralapuram , Vellimon P.O, Kollam	-
2	Ankur Non Woven Carry Bags And Paper Carry Bags	Pavumba South, Pavumba.P.O, Karunagapally, Kollam	Kerala	Paper	Paper 25 Ton/month	9633997217 Kaleekal Vadakathil, Pavumba.P.O, Thazhava, Karunagapally, Kollam	-
3	Araam Paper Carry Bag	Plappally	Kerala	Paper	Paper Carry Bag,Cloth Bag,Mobile Carry Bags.	9496658801 Kochazhikathu,Araam Bhavan, Kottarakkara	-
4	Aryaans Pnv Cloth And Paper Bag	Kamukamcherry	Kerala	Paper	Cloth And Paper Bag-Less Demand	9539013191 Kulathoor House, Kannanalloor P. O., Konnanalloor	-
5	Bismi Jute Bag	Eda Vettam, Vellimon P.O	Kerala	Paper	Paper Bags,Jute And Cloth Bags	9847455178 Bismi Manzil, Edavettam, Vellimon P.O	-

6	Chinnu Paper Bag	Panapetta, Thalavoor	Kerala	Paper	Paper Bags-5- 10kg	9744332688 Chitrapuri,Kariyara, Punalur	-
7	Chirayil Agencies	Taha Junction, Thattarkonam Po, 691005	Kerala	Paper	Paper Cups,Plates	7356951510 Chirayil Agencies 40/26,Chirayil Agencies,Thattarkonam,Ta ha Junction,Near Taha Junction,Thattarkonam B.O,Kollam -691005 sanomurali@gmail.com	-
8	Devi Paper Plates	Kanjaveli, Kanjaveli P.O	Kerala	Paper	Paper Bags,Cups	9539968548 Puthazhikatu Veedu, Kanjaveli P.O	-
9	G Pro	Paper Products Aysha Tower, Chathannoor.P.O., Kollam	Kerala	Paper	Paper Bags	9633090962 Nizar Manzil, Chathannoor.P.O., Kollam	-
10	Greenmark Paper Bag	Near Railway Station, Venga , Sasthamkotta	Kerala	Paper	Paper Bag	9633939222 Kavil, Venga P O , Sasthamkotta	-
11	Green Paper Products	Pathanapuram	Kerala	Paper	Paper Carry Bags	8111988882 Thannivila Veedu,Kundayam P.O, Pathanapuram	-
12	Grg Paper Bags	Padappakkara, Near Gov Lps Padappakkara	Kerala	Paper	Production Is Less	9539397789 Padappakkara, Padappakkara P.O	-

13	Grg Paper Carry Bag	Padappakkara,Kollam	Kerala	Paper	Paper Carry Bag	9387913370 Kanakamangalam ,Padappakkara(Po),Perayam, Kollam- 691503	-
14	Ln Paper Works	Krishnakripa,Ithottuva,West Kallada	Kerala	Paper	Paper Plates	9447402187 Krishnakripa,Ithottuva, West Kallada	-
15	Madeena Bags	Banglam Kunnu	Kerala	Paper	Paper Bags - 300kg/month	9447484607 Abusa Cottage, Nilamel	-
16	Mahima Paper Bag Industry	Elampalloor, Kundara P.O	Kerala	Paper	Paper Bags,Cloth Bags,Jute Bags	9633128768 Venus Perumbuzha P.O, Kudara	-
17	Sannidhanam Paper Products	Karikuzhy, Mayyanadu P. O., Kollam	Kerala	Paper	Partially Prepare Paper Cups, Only Tissue Papers Are Producing now	9447211098 Ethan, Vikas Nagar 67, Pattathanam P. O., Kollam	-
18	Sini Paper Industries	Mla Junction, Nedungolam, Paravur	Kerala	Paper	Paper Bags	9497589827 Sineesh Bhavan, Nedungolam.P.O., Paravur, Kollam	-

Details Of Alternative Plastic Products

PATHANAMTHITTA

Sl. No	Name Of The Enterprise	Location Of Enterprise	State Of Operation	Product Used For Alternative Material	Any Other Information	Contact Information	Website
1	B and B engineering company	Ezhamkulam	Kerala	Paper	Paper bags, cloth bags	8111851468 Sherin villa, arukalikkal padinjaru	-
2	ETHNIC CREATIONS	Ranni-Pazhavangadi	Kerala	Paper	Paper bags	9645954377 MOOZHICKAL HOUSE, MAKKAPUZHA PO RANNY	-
3	Gurusakthi Carrybag	Ranni-Perunad	Kerala	Paper	Paper bags, cloth bags	9947415088 Puthenparambil house. Mampara. P.O. Eruvattupuzha	-
4	Prakrithy Bags	Pathanamthitta(M)	Kerala	Paper	Paper bags	9846119147 Prakrithy Bags, Near ANERT, Opp. Sub Jail, Pathanamthitta	-
5	Sun industries	Kalanjoor	Kerala	Paper	Paper bags, production capacity-50000/month	9747144746 Thirumangalath, murinjakkal	-

6	The Moon industries	Kunnamthana m	Kerala	Paper	Paper bags,packaging paper	9895291407 Thekkanal Poikayil Manthanam.Malkappal ky	-
7	Valanchuzhy Vanitha SwayamSahaya Sangam	Pathanamthitt a	Kerala	Paper	Paper bags	9747144746 The President, Kamalavilasam N S S Building, Valamchuzhy, Pathanamthitta	-
8	Virad Carry Bag	Vadasserikkara	Kerala	Paper	Cloth bags	9744418018 Vazhayil house,Vadasserikkara. P .O,Vadasserikkara	-
9	Vysali Jute Carrybag	Ranni- Perunad	Kerala	Paper	Cloth cotton bag,Jute carry bag stopped	9745758729 Thattuparackal house,Mampara.P.O,Ki zhakemampara,	-

Details Of Alternative Plastic Products

ALAPPUZHA

Sl.No	Name Of The Enterprise	Location Of Enterprise	State Of Operation	Product Used For Alternative Material	Any Other Information	Contact Information	Website
1	Alba Green	Chunakkara	Kerala	Paper	Paper bags,cups,cloth bags,paper cover.	9495696699 Arryattil House,Chunakkarasouth ,Chunakkara.Po	-
2	Appus Paper Cups	Mararikulam North	Kerala	Paper	Paper cups	9846862470 Pannisseril House, Kanichukulangara-P.O,Cherthala	-
3	Ara Products	Thrikkunnappuzha	Kerala	Paper	Bio plates-plates,	8589875551 Maya Bhavanamperungala P .Okayamkulam	-
4	Eco Calls	Alapuzha (M)	Kerala	Paper	Paper carry bags,parcel cover	8606942747 Nambyathusseril,Thumpoli .P.O,Alappuzha	-
5	Kandathil Paper Products	Chettikulangara	Kerala	Paper	Paper cup,straw	8089891951 Kandathil, Panoor,Pallana	-

6	Krishnas Paper Products	Karthikappally	Kerala	Paper	Paper bags	9645177939 Komallil House, Vettuveni, Haripad	-
7	Prasad Paper Carry Bag	Kayamkulam (M)	Kerala	Paper	Paper carry bags	9048102558 Pitbull Padittathil, Mahadevikad	-
8	Priya Paper Products	Kumarapuram	Kerala	Paper	Paper cup production	9387772879 Iqbal Bhavan, Danappady, Haripad P.O., Alappuzha	-
9	Sreeprabha Industries	Alapuzha (M)	Kerala	Paper	Bio plates	9961097959 Kaduvinal House, Erezha North, Chettikulangara. P. O., Mavelikkara	-

Details Of Alternative Plastic Products

KOTTAYAM

Sl.No	Name Of The Enterprise	Location Of Enterprise	State Of Operation	Product Used For Alternative Material	Any Other Information	Contact Information	Website
1	Eco Tech Manufactures	Adackal	Kerala	Paper	Paper and cotton bags,production capacity-8000/month	9846897859 Kunnappallil,Nadackal P.O	
2	Cr Carry Bags	Manjoor	Kerala	Paper	Paper bags and cloth bags	9447291272 Puthettukunnel, Manjoor Po, Kottayam	-
3	Jyothis Paper Bag	Kadanad	Kerala	Paper	Paper bags	9446489667 Valliath, Kadanadu	-
4	Lakshmi Paper Products	Nedumkunnam	Kerala	Paper	Paper carry bags,	8086765048 Kalarickal Parambil House, Nedumkunnam P.O	-

5	M And M	Maravanthur uthu	Kerala	Paper	Paper carry bags,	9847470447 Meeralayam Edavattom Thlslyolspparambu	
6	Maple Packings	Kuravilangad	Kerala	Paper	Paper carry bags	9496479984 Chellangattucherry, Nazareth Hill. P.O., Kuravilangad	-
7	Marvel Paper Bag	Neelamperoo r	Kerala	Paper	Paper carry bag,cloth bag- season	7510799093 Kochuparampil, Neelamperoor P O Kurichy Kottayam	
8	Nehas Paper Industry	Akalakkunna m	Kerala	Paper	Paper cups and carry bags	7558853202 Mundanickal, Manarcad P.O., Kottayam 686019	-
9	Pachappu Carry Bag Unit	Thalappalam	Kerala	Paper	Paper carry bag,production- 15000/month	9562385272 Marottikkal House Melambara P.O	
10	R S Paper Products	Thrikkodithan am	Kerala	Paper	Paper carry bags	9447212143 Santhi Nivas,Puzhavathu,Changana cherry,Kottayam.	-
11	Sh Paper Bags	Changanasse rry (M)	Kerala	Paper	Paper bags.	9142834221 Essechil House,Perunna	-
12	Tom Dispo	Akalakkunna m	Kerala	Paper	Paper plate,will send	9847346357 Maniyangattu House, Manalunkal P O Kottayam	-

Details Of Alternative Plastic Products							
IDUKKI							
Sl.No	Name Of The Enterprise	Location Of Enterprise	State Of Operation	Product Used For Alternative Material	Any Other Information	Contact Information	Website
1	Anugraha SHG	Peruvanthanam	Kerala	Paper	Cloth bags,Paper bags	9497682170 Anugraha SHG,Palookavu.P.OThekkemala	-
2	Empire bags	Rajakumary	Kerala	Paper	Paper bag,cloth bags	9447769354 Thelluvavve house No RCity P O manjakuzhy	-
3	Marymatha	Karimkunnamm	Kerala	Paper	Paper carry bags,5000-10000/month	9539488427 Vadakkal, karimkunnamm	-
4	Moms eco production unit	Kanthalloor	Kerala	Paper	Paper bags,Cloth bags	9400948997 Manalodiyil, kovilkkadav	-
5	Popular Carry Bags	Thodupuzha	Kerala	Paper	paper bags,cloth bags.production capacity-15000/month	9496302178 Kunnumpurathu,Vengallur	-
6	Sindhooranjali Paper Products	Elappara	Kerala	Paper	Paper carry bags, take sessions of awareness class	9847474960 Nellikasseriyil house,Elappara.P.O,Chemmannu	-

Details Of Alternative Plastic Products							
Sl. No	Name Of The Enterprise	Location Of Enterprise	State Of Operation	Product Used For Alternative Material	Any Other Information	Contact Information	Website
ERNAKULAM							
1	Aen Enterprises	Cochin (Corporation)	Kerala	Paper	Paper straw and plat	9847031341 W/O.Babu Alackal,D6,Alackal House,Galaxy Clifford, Chilavannoor, Kadavanthara P.O.,Kochi 682020 aenenterprises1@gmail.com	-
2	Ambwallur Paper Bag	Amballur	Kerala	Paper	Cake box and paper carry bags	8111966797 Parayil, Amballur.P.O sujithappus@gmail.com	-
3	Carry 4 Enterprises	Nellikuzhi	Kerala	Paper	Cotton carry bag, paper carry bags. 10,000bags/ month	9446806420 Chembakasserill, Thrikkariyoor P O, Thankalam, Kothamangalam carry4enterprises@rediffmail.com	-
4	Chakkunni And Sons Chellanam	Chellanam	Kerala	Paper	Paper carry bags	9847033546 Kollannur House, Vadyar Lane, Azad Road, Kaloor, Kochi 682017 sangeethabag@gmail.com	-

5	Chennoth Paper Products	Chendamangalam	Kerala	Paper	Paper files and bags	9847659567 Devasamparambil House, Kunnathuthali Road, Chendamangalam- P.O, Pin 683512	
6	Dhanamithra Industries Neeleeswaram	Malattoor-Neeleeswaram	Kerala	Paper	Paper bags	9847193601 Malattoor-Neeleeswaram	-
7	Eze Creations	PACHALAM	Kerala	Paper	Paper bags -10000-15000 bags/month	9847915548 CHERUPUNATHIL T SQUARE ROAD PACHALAM betsysuraj@gmail.com	
8	Fresh N Pack Poly Sacks	Chengamannad	Kerala	Paper	Paper bags, cloth bag	9746365425 Manaf Manzil, Thottakkattukara	-
9	Greenland Industries	Elamkunnappuzha	Kerala	Paper	Paper bags, cloth bags,	8943728775 3/139a, Perumalpady, Elamkunnappuzha	-
10	Gurunidhi Industries	Eloor (M)	Kerala	Paper	Paper carry bags	8891188222 Gurusree 68/3235 Kannachanthodu Road Pachalam 682012 gurunidhiindustries@gmail.com	-

11	Ideal Marketing Non Wooven Carry Bags	Cochin (Corporation)	Kerala	Paper	cotton bags	8136842181 Kannamkeriyil House, Kadebhagam, Akg Road, Palluruthy P.O., Kochi 682006	-
12	Kichoos Paper And Cloth Bag	Kalamassery(M)	Kerala	Paper	Paper bags,cloth bags	9746712557 Kichoos Paper And Cloth Bag, Holy Angels Building, South Kalamassery	-
13	Krishna Industries	Chendamangalam	Kerala	Paper	Paper carry bags	9349845487 Chennothparambil House, Chendamangalam P.O, N.Paravurpin 683512	-
14	Kumbalam Aster Enterprises	MAMANGALAM	Kerala	Paper	Paper carry bags	9388838373 VALIYARA HOUSE,POTTAKUZHY,MA MANGALAM ROAD-682017 aster_enterprises@yahoo.com	-
15	L And V Products	Trippunithura(M)	Kerala	Paper	Paper straw,Paper bags	9747656321 Srinilayamhouse,Parappilly oad,Prra 238,Thiruvankulam	-
16	Lps Book Binding And Carry Bag	Cochin (Corporation)	Kerala	Paper	Paper carry bags	9349943788 PEREPPILLY HOUSE, VADUTHALA P.O. BOAT JETTY ROAD, MOTHER THERESA LANE.	-

17	Mr Carrier Bags	Chottanikkara	Kerala	Paper	Paper bags ,cloth bags	9562999898 Chettuparambil,Market Road, Tripunithura mrcarrierbags@gmail.com	-
18	Nasco Print Pack	Paipra	Kerala	Paper	Paper carry bags	9744676460 Mattathil House, Punnurickal Parambu, Mulavoor, East Vazhappilly P.O., Muvattupuzha Ernakulam District, Kerala - 686673	-
19	Oscar International	Ayavana	Kerala	Paper	Paper plates without plastic coating.	9947093109 Kottakkudiyil Enanalloor.P.O abduhrahim2288@gmail.com	
20	Papertrail	Cochin (Corporation)	Kerala	Paper	Cloth carry bags and paper bags, paper pens, seed bomb	9995311888 12a, Phase 1, White Waters Apts, Thevara Ferry Road,Cochin-682013 info@papertrailindia.com	- www.papertrailindia.com www.instagram.com/papertrailindia
21	Royal Castro	Amballur	Kerala	Paper	Paper bags,production-1000/day,	7907721217 Vattakkunel,Nellikunnu ,Pathanpara.P.O,Kannur salesroyalcastro@gmail.com	-
22	R R Paper Products	Kalamassery(M)	Kerala	Paper	Paper carry bags	9961470233 Anjiliveliyil,Kallumadayil Lane,Rajagiri P O,Kalamassery richardusha9@gmail.com	-

23	Samridhi Carry Bags	Kumbalam	Kerala	Paper	Paper carry bags-50000 bags/ month	9037418839 Vishnupadhi,Kattazath House, Lakshmi Narayana Temple Road, Kumbalam.P.O.,Ernakulam-682506 samridhicarrybags@gmail.com	-
24	Sea Paper Products	Nedumbasery	Kerala	Paper	Paper bags and cups	9447056593 Kavattuparavattil House, Mekkad P.O	-
25	Sobha Industries	Nellikuzhi	Kerala	Paper	Paper carry bags	9995330094 Kathalikkattil Housenellikuzhy.P.Okotha mangalam	
26	Southern Packings	Amballur	Kerala	Paper	Textile, bakery covers,and Paper carrybags. More than 5000 numbers of production in a month	9633171039 Korakkattil, Amballur-P.O. Kanjiramattom	-
27	Veltech Carry Bags	Muvattupuzha (M)	Kerala	Paper	Paper carry bags	9388612613 Vellikullam House, Randar P.O, Near Manniyamkulam Jn, Muvattupuzha	-

Details Of Alternative Plastic Products							
Sl. No	Name Of The Enterprise	Location Of Enterprise	State Of Operation	Product Used For Alternative Material	Any Other Information	Contact Information	Website
THRISSUR							
1	Anugraha Carry Bags And Screen Printing	Municipality Marketing Building, Gandhinagar, Guruvayoor	Kerala	Paper	-	8086123186 Asma Ashraf, Kombantharayil House, Chavakkad P.O,	-
2	Best Paper Bags	West Koratty	Kerala	Paper	Paper Bags	9745751258 Pattammadi House, P.O. Mambra, West Koratty, Thrissur. 680308	-
3	Bheem Jyothi	Maruthayur Junction	Kerala	Paper	Paper Plate	9526559360 Bheem Jyothi Shg, Maruthayur Junction, Pavaratty P.O, Thrissur	-
4	Century Threads	Plot No.42, Kinfra Small Industrial Park P.O, Koratty, Thrissur-680309	Kerala	Paper	2-2.5 tons/month	9846018161 Info@Centurythreads.in S/Oi.R Peter, Inikkadan House, Vazhichal, Koratty South P.O, Thrissur - 680308	Www.Centurythreads.in

5	Enviro Green Carry Bags India Pvt Ltd	Plot No 170 171, Dp Ayyankunnu, Mundoor, Tsr	Kerala	Paper	Paper Bags,Cotton Bags	9846424567 Plot No 170 171, D P Ayyankunnu, Mundoor, Tsr	-
6	Green Needles	Municipal Trunching Ground, Parapilthazham, Chavakkad P O, Thrissur	Kerala	Paper	Cloth Bag	9847601627 Secretary, Municipal Trunching Ground, Parapilthazham, Chavakkad P O, Thrissur	-
7	Horizon Paper Products	Nadathuruth	Kerala	Paper	Paper Covers	9846722272 Pullari, Nadathuruth	-
8	Jeevan Paper Products	3/11, P O Ponnore, Tsr 680552	Kerala	Paper	Production is very less	9400487723 S/O. Lawrance, Maliyamavu House, P.O. Ponnore, Thrissur-680552	-
9	Jyothi Tailoring And Material Bag	Thiruvenkidam, Guruvayoor	Kerala	Paper	Cotton Bags	9961264372 Manayath House, Thiruvenkidam, Guruvayoor	-
10	Kjk Paper Plates	Mambra P O, West Koratty	Kerala	Paper	Stopped for one month due to the non availability of raw material	9446144537 Kjkpaper@Yahoo.In	-
11	K K Paper Products	Kundur P O	Kerala	Paper	Paper Cups	8086950089 Baijusuncity@Gmail .Com	-

12	K K Paper Products	Kundoor	Kerala	Paper	-	8086950089 Kalathamparambil	-
13	Krishna Paper Products	Mie Mundathikode	Kerala	Paper	Paper Cups	9846440752 Cherussery Variam,Puthanveetti I House, P.O Puthuruthy Pin: 680623 Thrissur	-
14	Kv Paper Products	Mambra P O,West Koratty	Kerala	Paper		9446293070 Kjkpaper@Yahoo.In	-
15	Mariyan Paper Bags	Nadathuruth	Kerala	Paper	Paper Bags, Cloth Bag Paper Bags 10000/Month, Cloth Bag 10000/Month	9447351121 Mattath (H),Porkkalangad P.O,Thrissur	-
16	Nandanam Industries	Shameera Building,Elavally North Po	Kerala	Paper	Paper Plate. Facing difficulty of the non availability of raw material	9605041628 Pullanji Parambath House,Elavally P.O North	-
17	Opj Enterprises	West Bazar , Kunnamkulam	Kerala	Paper	Paper Bags,Reduced production due to the non availability of raw materials	9495281533 Pulikkottil House, West Bazaar, Kunnamkulam	-
18	Packme International	Opposite Jawahar Library, Kathikode, Mathilakam	Kerala	Paper	Paper Bags	8590326452 Panikkaveetti House, Nedumparambu, Koolimuttam P O, Mathilakam	-

19	Paper Glass Unit	Ashtimichira,Thr issur-680731	Kerala	Paper	No Production for 5 months due to non availability of raw materials	9645247348 Umarva@Gmail.Co m Ummar V.A,Valiyaveettil House,Ashtamichira P.O,Thrissur- 680731	-
20	Phoenix Paper Bag Unit	Kozhikada, Pullut	Kerala	Paper	Paper Bag,Cloth Bag	9446352158 Phoenix Paper Bag Unit, Kozhikada, Pullut P O, Kodungallur	-
21	P R Cloth And Paper Bags	Cheruvai, Pazhai.P.O	Kerala	Paper	Cloth Bag,Paper Bag. Production-20000/Month	9539393391 Puthenveedu House, Cheruvak, P.O.Pazhai	-
22	Providence Product Of Cotton	Vendore, Alagappanagar. P.O, Thrissur 680302	Kerala	Paper	Cotton Bags	9744705304 Kallokkaran House, Vendore, Alagappanagar.P.O	-
23	Q Cert Eco Products	Room No. 3, Ground Floor, Idp, Ayyankunnu, Mundur,	Kerala	Paper	-	9446465493 M/S. Q Cert Eco Bags, Room No. 3, Ground Floor, Idp, Ayyankunnu, Mundur, Thrissur- 680541	-

24	Revathi Paper Carry Bag	Pettikada Stop, Karadivalavu, Kaipmangalam Beach	Kerala	Paper	Paper Bag	9746919926 Kaithavalappil House, Pettikada Stop, Kaipmangalam Beach, Thrissur	-
25	Rosma Products	Parppukara	Kerala	Paper	-	9249224642 Maniparambil House, Parappukara P.O, Thrissur-680630	-
26	St Marys Paper Products	Parlikkad.P.O, Thrissur	Kerala	Paper	Paper Cups	9447521647 Vadakkan House, Parlikkad P.O, Thrissur.680623	-
27	Sukas Paper Products	High School Road, Mulloorkkara.P.O	Kerala	Paper	Carry Bags 100-200 Daily, Bakery Covers 3000-4000 Daily. Paper Cups Production Is Stopped Due To The High Rate Of Raw Materials	8907466338 S/O Abdulrahiman, Ellikkottil House, Mullurkkara Post, Thrissur-680583	-
28	Thanal Enterprises	5/36a, Parakkad, Elavally P.O, 680511	Kerala	Paper	Paper Plate, Production is less now	9947515144 Poottalakkal House, Elavally North P.O, 680511	-

29	V And V Paper Products	Muriyad	Kerala	Paper	250 Kg/day	9605376286 Vinojmuriyad@Gmail.Com Madathiparambil House Muriyad P O Trissur 680683	-
30	Virgin Paper Products	Thiruthalloor	Kerala	Paper	Production of paper cups are very less now	9495114971 Kareepadath House,P.O.Thrithalloor West,Vatanappally, Thrissur.680619.	-
31	Winners Cloth Bag Unit	Po Ponjanam, Kattoor	Kerala	Paper	Cloth Bag,Jute Bag	9526165164 Palayamkottu, Po Ponjanam, Kattoor	-

Details Of Alternative Plastic Products							
Sl. No	Name Of The Enterprise	Location Of Enterprise	State Of Operation	Product Used For Alternative Material	Any Other Information	Contact Information	Website
PALAKKAD							
1	Amba Paper Products	East street Koduvayur	Kerala	Paper	Paper cup	9037112259 NA Manzil,East Street Koduvayur	-
2	A M Paper Products	VATTAMBALAM, Kumaramputhur P.o., Mannarkkad	Kerala	Paper		9847225457 Kappungal House, MES College P.O., Mannarkkad	-
3	A R K PAPER BAGS	Vattakkunnu, Kanjirathani	Kerala	Paper	Paper bag	6238794169 Kanjirathani, Kappur	-
4	Beeyar products	Alinchod Kanayam Road Kulappully Shoranur Palakkad	Kerala	Paper		9846291145 Chakkayil house, Kanayam Kulappully Shoranur 2 Palakkad	-
5	Blaze Poly Packs	Kinfra lit Park Kanjikode Palakkad	Kerala	Paper	Woven bags	8606347677 blazepolypacks@gmail.com Kinfra lit Park Kanjikode Palakkad	-
6	Crystal Group of paper bags	Near Nalukandam Village,Edathanatt ukara,Mannarkkad , Palakkkad Dist	Kerala	Paper	Paper,cloth bag.production- 100000/month	9447747432 crystalgroup147@gmail.com Palakkazhy House, Edathanattukara (PO), Mannarkkad, Palakkad	-

7	EMKE POLY SACK	Olassery, Kodumb, Palakkad	Kerala	Paper	Paper and cloth sacks	9447346207 OLASSERY Kodumb Palakkad	-
8	Fine Packs	Pottimada, Vanoor, Alathur, Palakkad	Kerala	Paper	WOVEN bags conversion unit	9961019022 S/ o. Muhammedkutty, Faisal Manzil, Pottimada, Vanoor, Alathur, Palakkad	-
9	G S A Paper Products	Abi complex, Court Road, Alathur, Palakkad.	Kerala	Paper	Paper bag, plates	8129416400 gsaexporters16@gmail.com Noorjahan Manzil, Swabab Nagar, Alathur, Palakkad.	-
10	Hiba Paper Tubes	Pezhumparambu, Pudiyanam, Alathur, Palakkad	Kerala	Paper	-	9446236949 hibapapertube@gmail.com W/o.Fazil, Mulakkal House, Mariyamparambu, Kattussery, Althur-678 541	-
11	SAFA PAPER CUPS	VII/639, Nasta Building, Kanjikuaim, Marutharoad PO, Palakkad	Kerala	Paper	Ice cream cups	8281556406 sadikalp@yahoo.com Sri.V B Navas, resing at 19/1850, Anjellate parambil, SDPY Raod, Palluruthy, Cchin, Ernakulam	-
12	Skill Tech Enterprise	2/310, Parakkulam, Polpully PO., Palakkad	Kerala	Paper	Paper bags, cloth bags	9496553808 Parakkulam, Polpully	-
13	S.P.Selvi Pandiyan Toys Work	Perumal Kovil Street, Kollengode	Kerala	Paper	-	9495072164 S/O.Pandyan, P.K.Village, Kollengode.P.O.,678506	-

14	Sree Krishna Arts	Chettikalam, Erattakulam Po., Elappully, Palakkad - 678 622	Kerala	Paper	Producing paper pulp and clay	9946554682 S/O Janardhanan, Chettikalam, Erattakulam Po., Elappully, Palakkad - 678622	-
15	Sri Venkata Industries	Manjilas Complex, Market Road	Kerala	Paper	Biodegradable paper cups	9037613631 kavi7sara@gmail.com Kavitha Saravanan, 39/697, Mithila Sree, Tailor Street, Palakkad-678001	-
16	Thavakkal Paper Products	Kulukiliyad, Kottappuram, Sreekrishnapuram	Kerala	Paper	Paper plate- stopped manufacturing since 1 month	9744432101 Poovalappil H, Ariyoor, Aryambavu, Mannarkad, Palakkad	-
17	V.B.R.Paper Plate Products	Palayam, Vadakkenchery, Palakkad	Kerala	Paper	Going to close soon	8289907476 Kootapura House, Kammanthara, Vadakkenchery, Palakkad- 678683	-
18	V M Polytechs	Ida Kanjikode Palakkad	Kerala	Paper	Polythene bags	9746470677 Ida Kanjikode Palakkad	-
19	Wel Pack Poly Products	Virinjipadam,Pudh unagaram	Kerala	Paper	Not manufacturing,on ly trading	8089625005 E P M House,Opp Police Station, Pudhunagaram	-

Details Of Alternative Plastic Products							
Sl. No	Name Of The Enterprise	Location Of Enterprise	State Of Operation	Product Used For Alternative Material	Any Other Information	Contact Information	Website
MALAPPURAM							
1	Agfa Marketing	Thuvakkaf	Kerala	Paper	Paper bags,ecofriendly products-(bettak)	9447042271 Pooniyeri House, Po Paramalangadi, KalpakancheRI 676551	-
2	Ameen Plates	Palakkaparamba Chirayil Post Kondotty Malappuram dist	Kerala	Paper	Not PLA coating	9746485193 ameenplates@gmail.com Palakkaparambu (H),Chirayil (Po),Nediyiruppu-673638	-
3	BYEND	PP1/495 , IJK,Pulparamba, Pallikkal P.O,Kakkateeri, Malappuram dt	Kerala	Paper	Paper carry bag,cloth bag	9747082016 buyendcalicut@gmail.com Aula Nivas, Pullipparamba P O, Chelembra	-

4	Crona Industries	Shed No 4 (Dic Mlpm Allotted), Mini Industrial Estate, Oorakam Keezhumuri Post	Kerala	Paper	100% paper plates	9947969907 Kunnathuvalappil Housr Makkaraparamba(Po) 676507(Pin)	-
5	Dildiya Paper Products	Aravankara,po okootoor	Kerala	Paper	Paper plates	9447395348 Ninan Valapil (H),Kaliyaparamba,Aravankara,Pookkottur-676517	-
6	Down to Earth Eco bag	Tipusultan Road,Thiruvalli	Kerala	Paper		9746012819 Kavalapara house,Thiruvalli,Parhiru yal po	-
7	Follow me paper products	Tirurangadi Road,Kolappuram South,A.R Nagar Po Malappuram.D t	Kerala	Paper	Curently stopped-raw material availability less	7025000068 evonfootwear@gmail.com Poothamkurinhi House,Kolappuram South,A R Nagar Po-676305	-
8	Glister Sachet India Private limited	Plot No 6061 Kinfra Industrial Park Kakkanchery Post Chelemra	Kerala	Paper	-	9947503589 glister.india@yahoo.in Plot No 61 62 Kinfra Industrial Park Kakkanchery	-

9	Golden Packs	Pilathara,kadampuzha	Kerala	Paper	-	9846861619 Malaparambil House, Kallarmangalam,(Po), Kadampuzha, Malappuram Dt. Pin.676553	-
10	Golden Paper Cups	Chelakuth, kallarmangalam	Kerala	Paper	-	9846861619 S/O Balan.M,Malaparambil (H),Kallarmangalam (Po),Kadampuzha (Via),Malappuram- 676553	-
11	Green Industries	Thazhe V K Padi, Mampuram Link Road	Kerala	Paper	Stopped due to non availability of PLA. Will restart	9947530053 S/O Mohammed Kutty, Kavungal House, Thazhe V K Padi, Mampuram Link Road, Mampuram Post- 676306	-
12	Hridya Paper Products	Narippatta, valanchery	Kerala	Paper	Studio covers	9745675056 Kottattu Kuzhiyil(H) Naripotta Valanchery (Po) Malappuram- 676552	-
13	Janatha Paper Products	Athanikkal ,Vailathoor	Kerala	Paper	Tissue paper only now	9895667040 VAKKAYIL House Kalpakant Henry P O	-

14	Kalathingal Paper Mart	Near Nareekkav Temple, Dr. Damanlal Hospital Road, Edarikkode Post	Kerala	Paper	Paper covers	9633979600 basithk19@gmail.com S/O Koya, Kalathingal House, Edarikkode Po-676501	-
15	Lucky Paper Products	Codackal-Tirur	Kerala	Paper	Cake cups	9746343665 Kodapeediakal, K-Puram, Vattathani, Tirur- 676307	-
16	Master Plastics	Chirackal Road , Tanur	Kerala	Paper	Stopped production due the non availability of PLA. Less marketing. Will restart after the avialbility of PLA	9895131592 Master Housenear Block Office Chirakkal Road Tanur(Po)676302(Pin)	-
17	Paper Bag World	Amminikkad, Perinthalmanna	Kerala	Paper	Paper bag	6238605161 Kannammannil house, Pathaikkara, Perinthalmanna	-
18	Prasadam Enterprises	Kozhakottur Areakode P.O Malappuram	Kerala	Paper	Stopped manufacturig- paper plates-(because plastic plate)	9497348062 Lakshmi Nivaskozhakottur Areakode P.OmalappuraMPIN-6733639	-

19	Prestige Paper Products	Shed No 13 , Sidco Mini Industrial Estate, Oorakam Keezhumuri Post	Kerala	Paper	Paper plate and roll, tissue paper	9847202426 prestigepaperproducts w@gmail.com Kundupuzhakkal House,Cherur Post, Vengara Via-676304	-
20	Rahath Paper Cups	Mukkola Pariyapuram Post	Kerala	Paper	-	9946067638 Manningapattu house Vailathur Athanikkal	-
21	Royal paper products	Vailathur,Atha nikkal	Kerala	Paper	Paper plate-stopped currently	9895160481 Manningapattil (H),Vailathur,Chilavil,Po nmundam (Po)-676106	-
22	T.N.Paper Products	Vettom (PO)	Kerala	Paper	Bio coating papers,paper plate in less production	9846881874 Thanikkattu,Kuttayi,Tiru r-676562	-
23	United Plate Industries	Shed No 3,Sidco Mini Industrial Estate, Oorakam Keezhumuri Post, MalappURAM	Kerala	Paper	Paper plates	9847781212 Manakkadavan House,T C Road, Vengara Post-676304	-
24	Smart Associates	Thanniparam mal,Cheruputh ur, Mongam P.O.	Kerala	Paper	Paper carry bags, paper bags, bakery bags	9961392286 S/O Muhammed Unni,Thoufeeq Manzil,Cheruputhoor,M ongam (Po)-673642	-

25	Sneha Bags Perumpadappu	Kakkarat House, Perumpadapp u	Kerala	Paper	Paper bags and cloth bags	8301071596 Kakkarat House, Perumpadappu, malapuram-679580	-
26	S.S Paper Products	Poovathikandi, Vaalillapuzha. P.O	Kerala	Paper	Paper plate-manufacturing stopped,interested in paper	9495624910 W/O Shamsudeen.K.C,Kaith amanna(H),Keezhupara mba.P.O,Areacode	-
27	Unity Occupational Hub	Thangals Road, Payyanangadi, Tirur	Kerala	Paper	Paper bags	9497490453 kunjimoideenpulikkal45 3@gmail.com Pulikkal (House), Payyanangadi, Tirur.	-
28	Western Paper Products	Kolalambu	Kerala	Paper	Stopped working now. Will restart after the availability of PLA	9846450928 Karumathil (H),Nannammukku South (Po),Changaramkulam- 679575	-

Details Of Alternative Plastic Products							
Sl. No	Name Of The Enterprise	Location Of Enterprise	State Of Operation	Product Used For Alternative Material	Any Other Information	Contact Information	Website
KOZHIKODE							
1	Apollo Carry Bag	Eramala	Kerala	Paper	Paper carry bags	8086955507 TEEKAY COTTAGE, PO.KURIKKILAD, VATAKARA	-
2	B And S Associates	Kakkodi	Kerala	Paper	Paper bags,cloth bags	8078330549 PathanaMadathil house,kizhakkummuri	-
3	Blossom Paper Bag And Cloth Bag	Unnikulam	Kerala	Paper	Paper bag,cloth,jute bag	9447848255 UTHRADAM, IYYAD PO, UNNIKULAM,673574	-
4	Enfold Making Home	Unnikulam	Kerala	Paper	Paper bags,cloth bags	9539214304 ARIPPANKUZHIIYIL, IYYAD PO, UNNIKULAM, 673574	-
5	Global Paper Products	Olavanna	Kerala	Paper	Paper bags	8590658440 Kulangara Veetil, Edathilparambu, North Beypore	-

6	Packwell Paper Bags	Kozhikode (M Corp	Kerala	Paper	Paper bags	9447928858 Hamlaz, Meleripadam, Panniyankara, Kallai PO, Kozhikode packwellclt@gmail.com	-
7	Professional Packaging	Karassery	Kerala	Paper	Paper carry bags,crafts,	9947824664 Kayal Thodika House, Kumaranallur, Mukkom	-
8	Sreedev Enterprisess	Balussery	Kerala	Paper	Paper cups and plates-stopped at the time of corona .About to restart	9562612101 KUNNATHKANDY HOUSE,THURUTHIYADU, BALUSSERY P.O, KOZHIKODE 673612	-
9	Velox Products	Feroke (M)	Kerala	Paper	Paper bags	9633297994 West Nallur, Feroke PO	-

Details Of Alternative Plastic Products							
Sl. No	Name Of The Enterprise	Location Of Enterprise	State Of Operation	Product Used For Alternative Material	Any Other Information	Contact Information	Website
WAYANAD							
1	Star Paper product	Kolagappara	Kerala	Paper	Paper cover, medical cover, textile covers	7907546123 sherinalphu@gmail.com Nallimattan House Kolagappara P O	-

Details Of Alternative Plastic Products							
Sl. No	Name Of The Enterprise	Location Of Enterprise	State Of Operation	Product Used For Alternative Material	Any Other Information	Contact Information	Website
KANNUR							
1	Anna Paper Bag	Edavaramba, Meenthulli, Edavaramba P O	Kerala	Paper	Paper bag	9048809153 Parankimamvila Nellicode Vadaserikonam P O Tvm	-
2	Rainbow Products	Uruvachal, Uruvachal.P. O	Kerala	Paper	Paper bags, cloth bags	9744190884 Punnente Veedu, Uruvachal, Uruvachal.P.O, Pin - 670702	-

Details Of Alternative Plastic Products							
Sl. No	Name Of The Enterprise	Location Of Enterprise	State Of Operation	Product Used For Alternative Material	Any Other Information	Contact Information	Website
KASARAGOD							
1	Crystal Paper Products	DP Chattanchal	Kerala	Paper	Paper plates	9995447239 mandiyanf@yahoo.com Mandyan House, Athinhal, P.O.Manikkoth, Kanhangad Pin 671329	-
2	Gabbana paper products	Gabbana building, Bhaskar Nagar	Kerala	Paper	Paper bags	9037814786 Jyothi Nivas, PAS Nagar, Soorambail, Kumbala, Kasaragod -671321	-
3	Shyam Paper Products	Vijaya Nivas,Mogral Puthur	Kerala	Paper	Paper carry bag	9448591626 Vijaya Nivas, Mogralputtur	-
4	Unique Paper Carry Bag	Bela, Kasaragod	Kerala	Paper	Paper carry bag	9746591437 D/O Krishna Naik, Majirpallakatte, Bela p o	-

Table 5: Details of alternative plastic products- Cloth industry

DETAILS OF ALTERNATIVE PLASTIC PRODUCTS

Sl. No.	Name of the enterprise	Location of operation	State of operation	Product used for alternative material	Any other information	Contact Information	Website
THIRUVANANTHAPURAM							
1	Akshaya Carry Bag	Karakulam	Kerala	Cloth	Cloth bags	9995873147 Nalpara Veedu, Maruthoor, Vattapara	-
2	Nanma Paper Carry Bag	Pazhayakunnummal	Kerala	Cloth	Paper And Cloth Carry Bags	9846711614 Kunnilveedu, Tholikkuzhi, AdayamonPin.695614 (M)9846711614	-
3	Yuvasree No. 34	Peringamala	Kerala	Cloth	Cloth bags, Paper bags	9745086459 Jisna Manzil, Chittoor, Peringammala	-
KOLLAM							
1	Araam Paper Carry Bag	Plappally	Kerala	Cloth	Paper Carry Bag, Cloth Bag, Mobile Carry Bags.	9496658801 Kochazhikathu, Araam Bhavan, Kottarakkara	-

2	Aryaans Pnv Cloth And Paper Bag	Kamukamcherry	Kerala	Cloth	Cloth And Paper Bag-Less Demand	9539013191 Kulathoor House, Kannanalloor P. O., Konnanalloor	-
3	Bismi Jute Bag	Eda Vettam, Vellimon P.O	Kerala	Cloth	Paper Bags,Jute And Cloth Bags	9847455178 Bismi Manzil, Edavettam, Vellimon P.O	-
4	Mahima Paper Bag Industry	Elampalloor, Kundara P.O	Kerala	Cloth	Paper Bags,Cloth Bags,Jute Bags	9633128768 Venus Perumbuzha P.O, Kudara	-
PATHANAMTHITTA							
1	B and B engineering company	Ezhamkulam	Kerala	Cloth	cloth bags	8111851468 Sherin villa,arukalikkal padinjaru	-

2	Gurusakthi Carrybag	Ranni-Perunad	Kerala	Cloth	Paper bags,cloth bags	9947415088 Puthenparambil house.Mampara.P.O. Eruvattupuzha	-
3	Virad Carry Bag	Vadasserikkara	Kerala	Cloth	cloth bags	9744418018 Vazhayil house,Vadasserikkara.P.O,Vadasserikkara	-
ALAPPUZHA							
1	Alba Green	Chunakkara	Kerala	Cloth	Paper bags,cups,cloth bags,paper cover.	9495696699 Arryattil House,Chunakkarasouth ,Chunakkara.Po	-
KOTTAYAM							
1	Cr Carry Bags	Manjoor	Kerala	Cloth	Paper bags and cloth bags	9447291272 Puthettukunnel, Manjoor Po, Kottayam	-

2	K K Paper Products	Karoor	Kerala	Cloth	Cloth bags	9846657342 Sreevilasam, Valavoor Po, Pala, Kottayam- 6866358281556406	-
3	Marvel Paper Bag	Neelamperoor	Kerala	Cloth	Paper carry bag, cloth bag-season	7510799093 Kochuparampil, Neelamperoor P O Kurichy Kottayam	
4	Ultra Bag	Perumpanachy	Kerala	Cloth	Cloth bags	8606417410 Karakkadu House, Perumpanachy P. O.	
IDUKKI							
1	Anugraha SHG	Peruvanthanam	Kerala	Cloth	Cloth bags, Paper bags	9497682170 Anugrha SHG, Palooravu. P. O. The kkemala	-
2	Dream land bag unit	Ayyappancovil	Kerala	Cloth	Cloth carry bags	9846299543 Secretary Dreamland J L G Upputhara	-
3	Empire bags	Rajakumary	Kerala	Cloth	Paper bag, cloth bags	9447769354 Thelluvavve house No RCity P O manjakuzhy	-
4	Moms eco production unit	Kanthalloor	Kerala	Cloth	Paper bags, Cloth bag	9400948997 Manalodiyil, kovilkkadav	-

5	Popular Carry Bags	Thodupuzha(M)	Kerala	Cloth	paper bags,cloth bags.production capacity-15000/month	9496302178 Kunnumpurathu,Vengallur	
ERNAKULAM							
1	Fresh N Pack Poly Sacks	Chengamanad	Kerala	Cloth	Paper bags,cloth bag	9746365425 Manaf Manzil, Thottakkattukara	-
2	Greenland Industries	Elamkunnappuzha	Kerala	Cloth	Paper bags,cloth bags,	8943728775 3/139a, Perumalpady, Elamkunnappuzha	-
3	Honey Industries Chellanam Unit	Chellanam	Kerala	Cloth	Cloth and Jute bags	9847033546 Kollannur House, Vadyar Lane, Azad Road, Kaloor, Kochi - 682017 sangeethabag@sify.com	-
4	Kichoos Paper And Cloth Bag	Kalamassery(M)	Kerala	Cloth	Paper bags,cloth bags	9746712557 Kichoos Paper And Cloth Bag,Holy Angels Building, South Kalamassery	-
5	Mr Carrier Bags	Chottanikkara	Kerala	Cloth	Paper bags, cloth bags	9562999898 Chettuparambil,Market Road, Tripunithura mrcarrierbags@gmail.com	-

6	Papertrail	Cochin (Corporation)	Kerala	Cloth	Cloth carry bags and paper bags, paper pens, seed bomb	9995311888 12a, Phase 1, White Waters Apts, Thevara Ferry Road,Cochin- 682013 info@papertrailindia.com	- www.papertrailindia.com www.instagram.com/papertrailindia
THRISSUR							
1	Green Needles	Municipal Trunching Ground, Parapilthazham , Chavakkad P O, Thrissur	Kerala	Cloth	Cloth Bag	9847601627 Secretary, Municipal Trunching Ground, Parapilthazham, Chavakkad P O, Thrissur	-
2	Phoenix Paper Bag Unit	Kozhikada, Pullut	Kerala	Cloth	Paper Bag,Cloth Bag	9446352158 Phoenix Paper Bag Unit, Kozhikada, Pullut P O, Kodungallur	-
3	P R Cloth And Paper Bags	Cheruval, Pazhai.P.O	Kerala	Cloth	Cloth Bag,Paper Bag. Production- 20000/Month	9539393391 Puthenveedu House, Cheruvak, P.O.Pazhai	-
4	Winners Cloth Bag Unit	Po Ponjanam, Kattoor	Kerala	Cloth	Cloth Bag,Jute Bag	9526165164 Palayamkottu, Po Ponjanam, Kattoor	-
PALAKKAD							

1	Blaze Poly Packs	Kinfra lit Park Kanjikode Palakkad	Kerala	Cloth	Woven bags	8606347677 blazepolypacks@gmail.com Kinfra lit Park Kanjikode Palakkad	-
2	Crystal Group of paper bags	Nalukandam	Kerala	Cloth	Paper, cloth bag production-100000/month	9447747432 crystalgroup147@gmail.com Palakkazhy House, Edathanattukara (PO), Mannarkkad, Palakkad	-
3	Fine Packs	Pottimada, Vanoor,	Kerala	Cloth	WOVEN bags conversion unit	9961019022 S/ o. Muhammedkutty, Faisal Manzil, Pottimada, Vanoor, Alathur, Palakkad	-
4	Skill Tech Enterprise	Parakkulam, Polpully	Kerala	Cloth	Paper bags, cloth bags	9496553808 Parakkulam, Polpully	-
MALAPPURAM							
1	BYEND	Pulparamba	Kerala	Cloth	Paper carry bag, cloth bag	9747082016 buyendcalicut@gmail.com Aula Nivas, Pullipparamba P O, Chelembra	-

2	Sneha Bags Perumpadappu	Kakkarat	Kerala	Cloth	Paper bags and cloth bags	8301071596 Kakkarat House, Perumpadappu, malapuram-679580	-
KOZHIKODE							
1	Apollo Carry Bag	Eramala	Kerala	Cloth	Paper carry bags	8086955507 TEEKAY COTTAGE, PO.KURIKKILAD, VATAKARA	-
2	B And S Associates	Kakkodi	Kerala	Cloth	Paper bags,cloth bags	8078330549 PathanaMadathil house,kizhakkummuri	-
3	Blossom Paper Bag And Cloth Bag	Unnikulam	Kerala	Cloth	Paper bag,cloth,jute bag	9447848255 UTHRADAM, IYYAD PO, UNNIKULAM,673574	-
4	Enfold Making Home	Unnikulam	Kerala	Cloth	Paper bags, cloth bags	9539214304 ARIPPANKUZHIYIL, IYYAD PO, UNNIKULAM, 673574	-
WAYANAD							

1	Devivilasam carry bag mfg	Manalvayal PO	Kerala	Cloth	Cloth carry bags	9633987362 Devivilasam house, Manalvayal PO	-
KANNUR							
1	Rainbow Products	Uruvachal, Uruvachal.P.O	Kerala	Cloth	Paper bags,cloth bags	9744190884 Punnente Veedu, Uruvachal, Uruvachal.P.O,Pin - 670702	-
KASARGOD- 0							

Table 6: Details of alternative plastic products- Jute, Cotton

Details Of Alternative Plastic Products							
Sl. No	Name Of The Enterprise	Location Of Enterprise	State Of Operation	Product Used For Alternative Material	Any Other Information	Contact Information	Website
THIRUVANANTHAPURAM							
1	A R Garments	Thiruvananthapuram (Corp)	Kerala	Jute	Carry Bags-Woven Carry Bags Cover,Jute Carry Bags	9605792777 Tc 20/1796, Ambedkar Nagar, Tamalam	-
2	Deshapushpam Bags	Attingal(M)	Kerala	Cotton	Cotton bags	9400928986 Kmra 46, Kodumon, Attingal.P.O. 695101	-
3	Newgen Carry Bags	Attingal(M)	Kerala	Cotton	Cotton bags,paper bags stopped,production capacity-reduced	9947772235 Thiruvonam, Near Awics, Alamcode.P.O., Attingal	-
4	Sree Cotton Bags	Attingal	Kerala	Cotton	Cotton Bags	9746942858 See Pulluvarambil, Vilayilmoola, Attingal. 695101	-
KOLLAM							

5	Bismi Jute Bag	Eda Vettam, Vellimon P.O	Kerala	Jute	Paper Bags,Jute And Cloth Bags	9847455178 Bismi Edavettam, P.O	Manzil, Vellimon	-
ALAPPUZHA								
6	Cherthala women welfare co operative society	Cherthala, Alappuzha	Kerala	Jute	-	9656115815 CMC 30, Cherthala		-
PATHANAMTHITTA								
7	Vysali Jute Carrybag	Ranni-Perunad	Kerala	Cotton,Jute	Cloth cotton bag,Jute carry bag stopped	9745758729 Thattuparackal house,Mampara.P.O,Ki zhakemampara,		-
KOTTAYAM								
8	Eco Tech Manufactures	Adackal	Kerala	Cotton	Paper and cotton bags,production capacity-8000/month	9846897859 Kunnappallil,Nadackal P.O		
ERNAKULAM								

9	Honey Industries Chellanam Unit	Chellanam	Kerala	Jute	Jute bags	9847033546 Kollannur House, Vadyar Lane, Azad Road, Kaloor, Kochi - 682017 sangeethabag@sify.co m	-
10	Ideal Marketing Non Wooven Carry Bags	Cochin (Corporation)	Kerala	Cotton	cotton bags	8136842181 Kannamkeriyil House, Kadebhagam, Akg Road, Palluruthy P.O., Kochi 682006	-
THRISSUR							
11	Enviro Green Carry Bags India Pvt Ltd	Mundoor, Tsr	Kerala	Cotton	Paper Bags,Cotton Bags	9846424567 Plot No 170 171, D P Ayyankunnu, Mundoor, Tsr	-
12	Jyothi Tailoring And Material Bag	Thiruvenkilam, Guruvayoor	Kerala	Cotton	Cotton Bags	9961264372 Manayath House, Thiruvenkilam, Guruvayoor	-
13	Providence Product Of Cotton	Vendore, Alagappanagar .P.O, Thrissur 680302	Kerala	Cotton	Cotton Bags	9744705304 Kallookkaran House, Vendore, Alagappanagar.P.O	-

Table 7: Details of alternative plastic startups

Sl. No.	Name of the manufacturer	Location of Operation	State of Operations	Product used for alternate material	Any other information	Contact information	Website
1	Fibrent	TC 16/1051, CS Road, Jagathy, Trivandrum – 14	Kerala	Bamboo	Bamboo items (Kitchen Utensils and Stationary)	thefibrent@gmail.com	https://fibrent.in/
2	Iraaloom	Iraah Loom International PvtLtd, Kerala Startup Mission 2nd Floor, UL CyberPark Rd, Nellikkode, Kozhikode, Kerala 673008 Iraaloom, oppo: Metro station, Periyar nagar, Aluva, Ernakulam 683101 Trivandrum, Malappuram	Kerala	Cotton, Jute, Bamboo, Coconut shell, Paper, Red, Wax, Clay, Coir	Eco Friendly fabric and sustainable products namely in Jute, Cotton, Juco, Paper	91 7306104070 91 6282555367 iraaloom@gmail.com	https://www.iraaloom.com/
3	Papla	Oravil Vadakillom, Chalakkadavu, Madikai, Kasaragod, Kerala – 671314	Kerala		Areca leaves tablewares, Areca leaves badges	6235826264 6235726264 papla.india31@gmail.com	https://www.papla.in/home
4	Qudrat	Kazhakoottam	Kerala	Rice husk	-	sayhello@qudrat.co.in	https://qudrat.co.in/

Sl. No.	Name of the manufacturer	Location of Operation	State of Operations	Product used for alternate material	Any other information	Contact information	Website
						Marikar Green Earth Private Limited Plot No 19& 20 KINFRA Film and IT park , Chanthavila, Kazhakoottam	
5	Saintjo Innovations	Kerala	Pan India	Sugarcane Bamboo, Wheat straw	Saintjo Innovations is an eco friendly business. The company provides alternative against aluminum and plastic packaging by coming up with products made up of sugarcane waste, products like paper bags, coir coco pots, food tray.	Contact: 0484-2707065 9074822320 9744467865 E-Mail :saintjoinnovations@gmail.com	https://saintjoinnovations.com
6	Sanchi Bags	TC 26/1340 LathaBhavan Secretariat ward, Opp. SP Grand Days Trivandrum – 14	Kerala		Green alternatives office and household, eco-friendly bags and pouches, green solutions events and functions, recycled products, bamboo products, cotton products	9995463481 sanchibags@gmail.com	https://sanchibags.com/

Sl. No.	Name of the manufacturer	Location of Operation	State of Operations	Product used for alternate material	Any other information	Contact information	Website
		Ghazibad, Mumbai, Bangalore, Trivandrum					
7	S M Ventures	11/557, Melekonam, Mullaravila, Perumpazhuthoor, Neyyattinkara, Thiruvananthapuram – 695126	Kerala		Paper bags	9633133744 mailsmventures@gmail.com	
8	The Better Tomorrow Store		Kerala		Bamboo products (ear buds, toothbrush etc). Plantable Seed Pencils	6353908701	www.thebettertomorrowstore.com
9	Thenga	2nd Floor, Manjali Building, CBE Road, Sultanpet, Palakkad - 678001	Kerala	Coconut Shell	Women led start-up from Kerala, working on products made with discarded coconut shells. - 100% Natural, not exposed to any chemicals	9619964286 maria.thengacoco@gmail.com	https://www.thengacoco.com/

Sl. No.	Name of the manufacturer	Location of Operation	State of Operations	Product used for alternate material	Any other information	Contact information	Website
					<ul style="list-style-type: none"> - Handmade by artisans - Durable and practical alternative to plastic, steel or glass - Saves environment from waste shells, which are re-utilized in kitchens as bowls, cups and cutleries - Products last several decades and can be mixed with soil when you have to discard 		
10	Thooshan	Aura Exim C9, Tower 2 Inkel Business Park Angamaly, Kochi, Kerala 683573				Contact: 9911887727 E-Mail: mail@thooshan.com vinay@thooshan.com	http://www.thooshan.com

Sl. No.	Name of the manufacturer	Location of Operation	State of Operations	Product used for alternate material	Any other information	Contact information	Website
11	Triton Green Energy Solutions	Cliff View, Teachers Colony, Sreenivasapuram 695 145, Varkala, Kerala, India	Varkala, Kerala	Water based coated sheets, sugarcane bagasse, cornstarch, areca leaf, birchwood, coconut palm leaves, bamboo, wheat hay, coir fibre, banana fibre, cloth, vegetable starch, recycled paper, jute, etc.		9048080196 nahas.tritonges@gmail.com	

Sl. No.	Name of the manufacturer	Location of Operation	State of Operations	Product used for alternate material	Any other information	Contact information	Website
12	Uravu	Uravu Indigenous Science & Technology Study Centre Thrikkaipetta P.O. Wayanad, Kerala, India, PIN: 673577	Kerala		Manufacturers of Bamboo Crafts	Phone: 079027 48292, 079027 48293, 04936 231 400 uravu.india@gmail.com	https://www.uravu.in/
13	Varsya Eco Solutions Pvt Ltd.	Opp. Dot Space Business Centre, Laham commercial Complex, Kazhakkootam, Trivandrum – 695685	UP, Maharashtra, Karnataka, Kerala		Bio carry bags, clay dinner set, eco kraft containers, bio bagasse plates, plantable paper bags, bio bagasse containers, Areca plates, areca bowl, paper cups, clay glasses, eco notebooks, eco paper pens.	Sri.NitheeshSundaresan 8139899988 9633315391 nitheesh@varsya.com hello@varsya.com	https://www.varsyaeco.co.in/