

The Tale of the Edible Cutlery

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Abstract

This case throws light on the extensive revolutionary efforts undertaken by Narayana Peesapaty, a former scientist from International Water Management Institute, who left his comfortable job in pursuit for an alternative to plastic cutlery. He was deeply troubled by the extensive use of plastic cutlery knowing the fact that it has toxic effects on human beings as well as on the environment. As a result of his quest for replacing plastic cutlery he came up with edible cutlery. Peesapaty proved that through meticulous exploration, productive entrepreneurship, far-sightedness and creative imagination, it was possible to deal with social, economical, and environmental challenges. The case highlights the hurdles faced and the sacrifices done by Narayana Peesapaty for this *nova satus*.

Keywords : Edible cutlery, revolution, plastic, people, entrepreneurship, environment, Peesapaty

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The case of edible cutlery gyrates around main entrepreneurial qualities like passion, determination, and taking a tactical attitude to problem solving. It was designed to accomplish the subsequent objectives :

↳ Present the entrepreneurial nature of recognizing the problem.

↳ Explain the central character's capability of out of the box thinking in the quest for a solution.

Entrepreneurs are change agents; they innovate new panaceas for old problems. It proved true in the case of Narayana Peesapaty, a ground water research scientist at ICMRI. Being a social entrepreneur, he was constantly worried about the plastic cutlery that is not only detrimental to the environment but also being a petroleum product, contains toxic chemical complexes and is also carcinogenic (Flynn, 2016).

Thus, in 2006 he quit his well-paid job and set on his journey to explore the unexplored entrepreneurial grounds.

Peesapaty's Credentials

A former researcher at ICRISAT (The International Crops Research Institute for the Semi-Arid Tropic), Peesapaty completed his Bachelors in Chemistry from Osmania University and MBA from the Indian Institute of Foreign Management, Bhopal. As an Associate Research Director at AC Nielsen ORG-Marg, most of his assignments were around issues related to agriculture, forestry, cottage industries, rural development etc. Then he worked with International Water Management Institute (IWMI), Hyderabad as Senior Scientific Officer where his work mostly comprised research on energy and groundwater. He published many papers on ground water management and other issues. He accumulated all his understandings about groundwater at the institute which later on became the cornerstone for his entrepreneurial mission (Kumar & Perepu, 2017).

The Tale of Edible Cutlery

Peesapaty was profoundly worried about the rapidly burgeoning usage of plastic in general and throwaway plastic

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cutlery in particular. As he was a scientist, he foresaw the hazards that disposed plastic could cause to the environment, the people, and the Earth (ThinkChange India, 2016).

Narayana Peesapaty from Hyderabad realized the danger plastic poses. His research showed that India alone contributed to 120 billion pieces of plastic cutlery and plastic needed a thousand years to break down. Plastic waste covers our oceans and landfill (Kelmachter, 2016).

Plastic is sturdy, cheap, trivial and in plenty, but its sturdiness and bulkiness are why the environment is in distress. Most of the plastic utensils and cutlery discharge a chemical known as styrene which is the root cause of various diseases. So, it is domineering for us to take action and deal with this problem before it gets too late (Patil & Sinhal, 2018).

His studies mainly focused on USA, India and Japan as these three countries were the main users of plastic cutlery. During his research he found that most of the disposable plastic cutlery is manufactured in highly unorganized small units, where there is no provision for hygiene maintenance. No plastic cutlery user ever washes them before using it for food thus exposing them to grease, lubricants etc. Thus, the users of disposable cutlery are being exposed to chemical contamination, and industrial contamination.

Another awful experience that Peesapaty faced while eating at a restaurant was that when he ordered lunch, the plastic spoon which was given to him was slimy, which proved that the plastic cutlery which was to be thrown away after one use was being repeatedly given to customers and thus exposing them to bacterial infections. Thus he started to ponder for an alternative to plastic cutlery (Gupta, n.d.).

Dual Challenge

While plastic was one of the major concerns for Peesapaty, another area of concern for Peesapaty was the depleting ground water level. As immense amount of groundwater is drawn out each year for irrigation purpose, many parts of the country are experiencing rapid depletion of groundwater.

It was mainly due to the monoculture of rice and its early sowing. Further, with the perception that millets were poor man's food, it got substituted by rice and aggravated the problem. Farmers started excessive rice cultivation and eventually it rotted in the warehouse. This situation forced many farmers to leave agriculture and migrate towards urban areas thus creating a rift in the system (Spiegel, 2016).

Thus, Narayana was caught in a predicament, whether he would be able to come out with a common solution for substituting rice production with other crops requiring less water as well as overcoming the challenges of usage of plastic cutlery (TedExAmsterdam, 2016).

As Peesapaty found a common connection between the two issues, he aimed at combatting two very grim environmental issues, that is, extensive plastic use globally and incessantly diminishing ground water level in India (Reddy, 2016).

The Big Idea

The big idea dawned upon Peesapaty while he was travelling from Ahmedabad to Hyderabad. In the flight he saw a co-passenger using “jowar” chips to eat his food. Thus “jowar” gave him the spark to make organic spoons in order to replace plastic cutlery (Kurmanath, 2018). The result of this quest was the development of an incredible product - world's first edible cutlery. As his idea was unique, he got a competitive advantage and an awesome response from international markets.

The Initial Hurdles

Peesapaty had to face many hurdles from the time of conceptualizing the product to developing the prototype and marketing it. Though he had a clear idea of the product he wanted to produce, but he had to check the practicability of the idea.

During his research he came to know that similar attempts have been made earlier also, but the people did not succeed or the ideas could not take off successfully (Bhattacharjee, 2016). The cutlery which Peesapaty wished to develop had to meet certain parameters like sturdiness, longevity, and holding shape. It was very difficult to meet all the specifications but with his farsightedness and hard work, Peesapaty was able to come with the correct combination of components that would give the preferred output of vegan palatable cutlery (Munir, 2017).

As it was the very first of its kind, everything had to be produced from scratch. Even the machines and moulds had to be designed after much thought and hard work. Narayana had to sell his houses at Baroda and Hyderabad and mortgage his house at Murshidabad to gather the seed capital for his startup venture (Tulsyan, 2017).

The Product

Sorghum (Jowar) was chosen as the base ingredient as it met all the specifications required by Peesapaty. The first cutlery made by the company was a spoon made with rice, sorghum and wheat flour. They are vegan, without preservatives, trans-fat and dairy free, and bio-degradable in nature. As they come in various sizes they can be used for both eating and serving food. As these cutleries come in various flavors like cinnamon, ginger, cumin, sugary, spicy, they are a treat in itself (Dibya & Sarangi, 2016). Special alternatives are there for people with more specific tastes, like they can be gluten free or can include additional tastes from carrot, beetroot, spinach, and spices (Luleva, 2016).

The products are dehydrated and toughened by sweltering at high temperature. They are sturdy enough to endure hot beverages to chilled ice-creams for about 15–20 minutes without decomposing. If the cutlery is not consumed and thrown away, it can be consumed by animals. In case it is not consumed by anybody, it will disintegrate in 2–3 days. The edible cutlery has a shelf life up to three years in case it is stored in a cool dry place. This is all because the main ingredient is sorghum which can grow in arid land and drains very less water than other crops. As it is environment friendly, it can be grown on a huge scale. Thus, Peesapaty was able to fulfill his dream of replacing plastic cutlery as well as give a solution to the depleting ground water level (Swanson, 2016).

Currently, Bakeys sells three types of products: Spicy Spoons, Sweet Spoons and Plain Spoons, priced at ₹ 300 for a

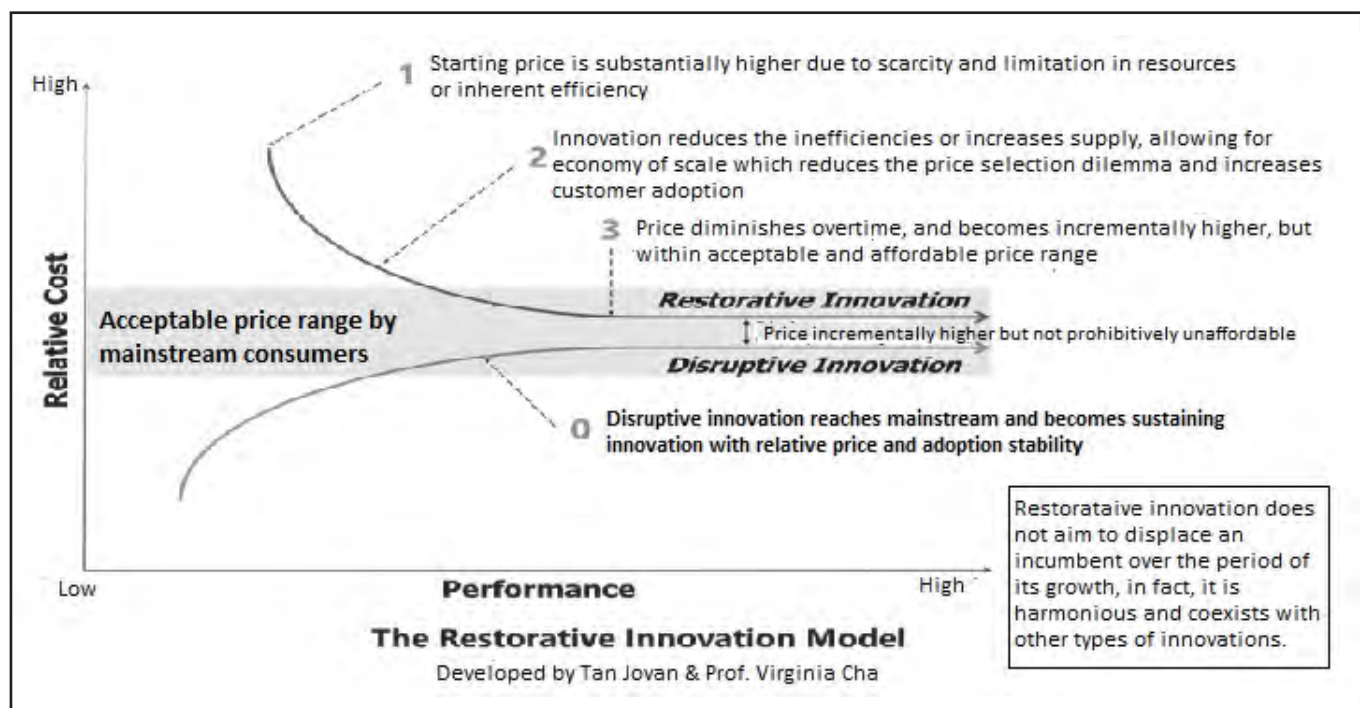


Figure 1. Bakeys Edible Cutlery : A Restorative Innovation Model

set of 100 spoons (Beckman, 2016). **Restorative innovation** is demarcated as a model integrating new strategies, projects, products, and concepts designed to reinstate health, humanity, and the environment along with creating and capturing a promise of value for the consumer (Tan & Cha, 2018). It has the following characteristics:

- ↳ High charge
- ↳ Greater quality
- ↳ Philanthropic outlook

Bakeys has adopted the above restorative innovation model. It has been priced costlier as compared to plastic cutlery, it is edible and so it has to be of better quality than plastic. Peesapaty wishes to save the environment as well as the human race from the perils of plastic pollution which shows his altruistic mindset (P.S., 2018).

Branding

A research scientist who had no idea about baking had to visit many bakeries to learn the art of baking his cutlery and after many experiments he finally established his cutlery baking manufacturing unit named Bakeys Private Limited in 2010.

Operations

In the initial days when he launched the product, he used to demonstrate his products in a park in Hyderabad and explain about the ill-effects of plastic cutlery and the advantages of edible cutlery to the people visiting the park.

Initially, he did not have any buyers even though he had done a very reasonable pricing of his products. There was no demand for his new product and a huge debt burdened him, so much that he started thinking of quitting (Varma, 2016).

One day some people from the bank came and ordered Peesapaty to vacate his flat as he was not able to pay off the loan he had taken for his new venture. As Peesapaty had nothing to give, he started explaining about his cutlery to the bank people. They got impressed and purchased some packets of cutlery from him.

Peesapaty got his breakthrough when his story was shown in media, he started getting business, and his sales increased. He started getting lot of mails and orders. He also received a fund of USD 3, 85,000 from various funding partners (Markham, 2016). Just when Peesapaty had started thinking of quitting, his business took off and got the first taste of victory. He started receiving huge number of orders which became difficult for him to manage (Thomas, 2016).

Market Opportunities

Competition

As there is no edible cutlery in the market, it can be said that there is no competition, but as it is a substitute to plastic cutlery and plastic cutlery comes in various colors, then there are those which are coated like stainless steel, so plastic cutlery is itself a competition to edible cutlery (Dibya & Sarangi, 2016).

Secondly, plastic cutlery is very price sensitive; it comes at very economical prices. However, the strength of edible cutlery is that it is not carcinogenic, it is biodegradable, compostable, and nutritious. Thus, cutlery that can be eaten up provides vast opportunities. These can come in various tastes and flavors and therefore, can be matched with the specific type of food. For example, ice cream spoon can be matched with the flavor of the ice cream. Plastic cutlery has the disadvantage of leaking of chemicals while such shortcoming does not apply to edible cutlery; on the contrary they are nutritional.

Sales Plan : Target Customers

After a thorough study of the market it was decided to cater to the below three segments to start sales:

(1) Event managers and high profile caterers supplying to niche segment (in Hyderabad, Mysore, Bengaluru, and Chennai).

(2) Distributors of competing products.

Apart from these, they are also serving it in hospitals along with diet food to patients and also doctors and nurses to eat it in their canteen. They are also looking for corporate schools where lunch is served to students. They also had talks with corporate offices, specially the IT sector to introduce the cutlery as a corporate social responsibility towards using less water for washing utensils and also to make them aware towards the environment. In this way they wished to create awareness among the masses so that in future they can directly reach the end customers.

Bakeys have collaborated with Café Coffee Day chain (P.S., 2018). They had discussions with Paradise Biryani in Hyderabad, Aasife Biryani in Chennai and some other corporate houses. They also sell directly from their websites and also set up stalls at fairs and exhibitions.

Foreign Markets

Bakeys also wishes to capture the foreign market but there also the disposable cutlery is very price sensitive. There are many soup outlets also where these can be used. They have got inquiries from USA, Canada, EU countries, Australia where people wish to work in partnership in their respective countries (Chakroborty, 2015).

Challenges Abroad

The main ingredient, that is, sorghum that is used for making edible cutlery comes in the negative list. Second, export policies regarding cereals keep on changing, so to get a hold in foreign markets, overseas manufacturing units need to be established.

Setting up production facilities in various locations in foreign land will also have additional advantage. Many countries have very strict rules and regulations regarding importing food. Therefore,

(1) Processes have been developed for making cutlery with oats, corn, barley, and soya flours so that locally accessible flours can be used for manufacturing.

(2) Due to local production, within the provisions, less time gap will be there.

(3) There will be less transportation time and lower logistic costs (Nayar, 2016).

The Vision

Though Peesapaty had come up with a positive product, he was still not able to make it a substitute for plastic cutlery. He hopes that in future, the disposable cutlery market being very price sensitive, they will be able to manufacture the spoons at a price that is as less as plastic, then it will be accepted by the people very easily and they will stop using the unhygienic plastic cutlery.

He also wishes to set up an international distribution system which will help to reduce the production cost (Anzilotti, 2016). Peesapaty also has plans to start healthy food chain which will give competition to global giants like KFC and Mc Donald's.

References

- Anzilotti, E. (2016, April 4). Delicious Alternative to Plastic Cutlery. Retrieved from www.citylab.com
- Beckman, B. L. (2016, March 27). Edible Spoons Promise to be tasty while saving the planet. Retrieved from www.mashable.com
- Bhattacharjee, N. (2016, April 4). How groundwater depletion led to the world's first edible spoons. Retrieved from www.techinasia.com
- Chakroborty, R. (2015, September 29). Eat what you ate with: How Bakey's is combatting plastic's war on the environment with edible cutlery. Retrieved from www.yourstory.com
- Dibya & Sarangi, S. (2016, September 05). A piquant wit: Narayana Peesapaty. Retrieved from <https://mondaymorning.nitrkl.ac.in/article/2016/09/05/782-a-piquant-wit-narayana-peesapaty/>
- Flynn, V. (2016, April 13). Edible cutlery company wants us to eat our way out of plastic pollution. Retrieved from <https://www.theguardian.com>
- Gupta, A. (n.d.). Can Bakey's Edible Cutlery Change Our Eating Habits? Retrieved from <http://www.ecoideas.com>
- K. S., A. (2016, April 13). Edible cutlery . Retrieved from <http://www.dogonews.com>
- Kelmachter, M. (2016, March 30). India's Edible Cutlery Points the Way for a Zero-Waste Future. Retrieved from www.forbes.com
- Kumar, K., & Perepu, I. (2017). Narayan Peesapaty-The Anti-Plastic Crusader. Retrieved from www.icmrindia.com
- Kurmanath, K. V. (2018, August 14). A meal with a nutritious spoon? The Hindu Business Line. Retrieved from <https://www.thehindubusinessline.com/specials/india-file/a-meal-with-a-nutritious-spoon/article24692767.ece>
- Luleva, M. (2016, March 27). Bakey's edible cutlery could reduce plastic waste. Retrieved from <https://www.greenoptimistic.com/bakey-edible-cutlery-plastic-waste/>
- Markham, D. (2016, March 28). Move over, disposable utensils. Retrieved from www.treehugger.com
- Munir, S. (2017, August 9). Edible Cutlery: The Future of Eco Friendly Utensils. Retrieved from https://edible-cutlery-the-future-of-eco-friendly-utensils.backerkit.com/hosted_preorders/project_updates
- Nayar, A. (2016, April 25). This Hyderabad researcher is eliminating plastic cutlery one edible spoon at a time. Huffpost. Retrieved from https://www.huffingtonpost.in/2016/04/25/bakeys-edible-cutlery_n_9769600.html
- P. S., R. (2018, June 21). Bakeys edible cutlery — A threat to plastic? Retrieved from www.medium.com
- Patil, H. N., & Sinhal, P. (2018). A study on edible cutlery: An alternative for conventional ones. *Atithya: A Journal of Hospitality*, 4(1), 45-51.
- Reddy, D. (2016, June 22). Bakeys: You can use and eat this innovative cutlery. Retrieved from https://www.business-standard.com/article/companies/bakeys-you-can-use-and-eat-this-innovative-cutlery-116062200024_1.html
- Restorative innovation. (n.d.). Retrieved from www.restorativeinnovative.com
- Spiegel, A. (2016, March 17). A spoonful of spoon. Retrieved from www.tastingtable.com

- Swanson, D. (2016, March 28). *Dishwashers cut waste with edible cutlery*. Retrieved from www.reviewed.com
- Tan, J., & Cha, V. (2018, September 17). *Restorative Innovation*. Retrieved from <https://www.restorativeinnovation.com/>
- TedExAmsterdam. (2016, November 18). Edible cutlery | Narayana Peesapaty. Retrieved from <https://www.youtube.com/watch?v=73jPh0eRP-Y>
- ThinkChange India. (2016, February 15). *Eat the cutlery? Yes, says Narayana Peesapaty*. Retrieved from <https://yourstory.com/2016/02/narayana-peesapati>
- Thomas, A. (2016, April 21). *Edible spoons*. Retrieved from www.economicstimes.indiatimes.com
- Tulsyan, A. (2017, June 3). *With this edible spoon , you can really wipe your plate clean*. Retrieved from www.theweakendleader.com
- Varma, A. (2016, March 16). *Edible cutlery to eat after your meal*. Retrieved from www.scoopwhoop.com

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