

**FWT F**  
OOD ASTE O INISH

FROM **F**OOD **W**ASTE  
TO **G**OOD **T**ASTE AT  
**Marriott**  
INTERNATIONAL

JAKARTA, BANDUNG | SUMMER 2023 CASE





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FOOD WASTE TO FINISH

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A close-up, slightly blurred photograph of industrial machinery, likely a food processing line. A large, rectangular metal block is suspended by a chain. To the left, a long, thin, light-colored object, possibly a piece of food or a conveyor belt component, is visible. The background shows more complex machinery and structural elements of the facility.

**FOOD WASTE, JUST A FAILURE  
OF THE IMAGINATION**



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# Waste

/weɪst/

use or expend carelessly, extravagantly, or to no purpose. Unwanted or unusable material, substances, or by-products

# Food

/fuːd/

any nutritious substance that people or animals eat or drink or that plants absorb in order to maintain life and growth.

**Do these words match together?**



**What is Food Waste like for you?   What do you see?   What do you feel?   What do you hear?**



# **\_OOD \_ASTE: How can we waste something carelessly that sustains our very livelihood?**

**Indeed, reading the meaning of the two words 'waste' and 'food' next to each other, it seems like an oxymoron. Like two incompatible concepts. Yet, reality is very different and food waste is in fact one of society's greatest challenges. We all find it pretty dumb, unnecessary and we actually feel pretty guilty about it (Van Herpen et al., 2021). Still it happens on an enormous scale.....and it can mean different things to different people. What does food waste mean to you? How would you explain an 8-year-old that 1 out of 6 bags of groceries are thrown out? Or that on average 1 out of 7 plates are wasted in restaurants? Thinking about food waste and particularly food that is wasted in restaurants, what emotions does it trigger? What images come to mind? Everybody wastes food in some shape or form but how ethical do you feel that it is to still waste food? Importantly, can we afford to waste food? Consider our changing realities of food scarcity due to climate change (e.g., crop failure), energy crises, inflation and gigantic price increases of food. More fundamentally, what is the reason it is so difficult to change the behavior when the case is obvious???**



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**\_OOD \_ASTE:**  
**(F\_W\_ or G\_T\_)**  
**Food Waste**  
**Good Taste**






# \_OOD \_ASTE: (F\_W\_ or G\_T\_) From Food Waste to Good Taste at the Marriott International Indonesian Cluster



**Congratulations first of all!**

**YOU** have been chosen for this tremendous opportunity to tap into what it means to move from **Food Waste to Good Taste** at Marriott International as one of the largest hospitality business in the world? We don't know yet what it means but what we do know is that it is a huge challenge and unique experience for you to be part of! You and your team of 4-5 students from other schools are set on a mission to compete against other teams to develop and **design a solution that can reduce food waste at the Marriott International hotels in Indonesia with at least 15%.**





We expect that there are quite some 'low hanging fruits' i.e., relatively easy solutions to get to this number. On the other hand, there are also more strategic, systematic and long(er) term solutions needed. They encompass more stakeholders in the food chain (e.g., plastic packaging may extend shelf life of food but may not be the preferred choice because of no single plastic policies) to have an reduce food waste at Marriott's food service outlets.

Along this \_OOD \_ASTE journey, you are working side by side with Marriott International to fully understand and map out their food waste problem. Even better, with your team you are assigned a Marriott case hotel[1] where you get the test and get feedback on your food waste solution(s). Thus, feel free, shake loose, be creative and limitless to take IN2FOOD \_OOD \_ASTE: (F\_W\_ or G\_T\_) Student Competition to a level where YOUR solution(s) can substantially and significantly reduce food waste at Marriott Indonesia and beyond.

[1] Your Marriott case hotel will be announced when we communicated who your team mates are.



# Food Waste and Marriott International

In the light of climate change and resource scarcity, transitioning to more circular and sustainable hotel operations is not a philanthropic activity anymore but an essential business strategy.

Marriott International is thereby taking many important steps and set an ambitious target in 2016 to reduce its environmental footprint with up to 50% by 2025. Guided by their “sustainability and social impact platform, Serve 360: Doing Good in Every Direction, Marriott International commits to creating positive and sustainable impact wherever we do business” (Marriott, 2022). Operating over 30 brands, more than 8,000 properties in 139 countries, Marriott not only give people a way to experience the world but also offers the world an opportunity to have positive impact on its people and planet.

**Marriott**  
INTERNATIONAL

As for Marriott Indonesia, they have identified waste reduction as a top priority in their corporate social responsibility (CSR) program. The company runs extensive training programs to help Marriott associates[1] as to how and why to sort waste. It is extended beyond the work floor and also provides ‘tips and tricks’ for associates to sort household waste such as paper, plastic and glass. Depending on the location and operations of the hotel (e.g., limited service MOXY versus full service JW Marriott), different programs are in place. The W hotel[2] on Bali is for example Earthcheck certified and has implemented numerous sustainability initiatives such as “Goby, the only fish that should eat plastic”. Goby is a plastic eating fish which ‘allow guests and locals to dispose of plastic waste’ and is in fact a giant garbage bin in the form of a huge fish nudging people to recycle the plastic rather than letting it litter in nature. While lots of plastic waste is food and drink related waste (e.g., water bottles, food packaging), tackling food waste is also important for Marriott. In fact, the company has the ambitious goal to half its food waste from 2016 to 2025.

These ambitious targets also apply to the food services outlets at Marriott hotels in Indonesia. To that effect, several Marriott Indonesia hotels have started using food waste tracking systems and working with food recovery programs (e.g., Scholars of Sustenance (SOS) Bali). However, there is still room for improvement and for interventions and innovations that can bring down food waste levels even further. To be able to design such solutions, it is important first to map out (1) where does the food waste happen (e.g., in the kitchen versus the restaurant)? (2) Why does it happen? (3) when does it happen? And (4) who is involved? 5) And what behavioral change is needed to tackle this effectively? More specifically, does food waste occur at the Marriott properties in Indonesia because of inadequate food handling, or inaccurate forecasting (too much is prepared) or perceived guest expectations (e.g., that the buffet always need to be fully replenished until it closes)? Or something else? **Thus, there is a need for investigation** and to understand the magnitude of the food waste problem on a property or even restaurant level.

[1] Your Marriott case hotel will be announced when we communicated who your teammates are. [2] Marriott employees are referred to as ‘associates’. [3] W is one of Marriott’s hotel brands



**One dimension of this case study is to understand how the Marriott associates relate to food waste and how they are supported by line management.**



Questions like: what do they know about food waste? How do they feel about it? How do they perceive food waste (e.g., do they experience that a lot or not much is thrown away)? What is holding them back from wasting less? etc. **Another dimension of the case** is related to data and the food waste magnitude at the Marriott Indonesia. How much food is wasted? Where i.e., which restaurants are more prone to higher food waste levels? When i.e., do certain meal concepts waste more food than others? Be aware that the perception of food waste quantity is often different than reality. People regularly think they waste less than what they do. Technology may enable (but not be) the change. 'Low-brow' solutions are welcome while highly technological and expensive solutions are difficult to earn back the ROI. Thus, a 'harder sell' to the Marriott team. Importantly, any technological change will only work if there is a behavioral change i.e., willingness and ability to tackle the problem. What are possible technological enablers which can help Marriott Indonesia to reduce its food waste? Importantly, what is the ROI of such an investment? E.g., in the kitchen, why does so much food end up in the bin rather than being consumed by guests as was originally intended?



A close-up, top-down view of a large pile of food waste. The waste includes various vegetable scraps like green bell peppers, red onions, and leafy greens, as well as fruit peels like watermelon and banana. There are also pieces of bread and other organic matter. A semi-transparent dark rectangle is overlaid in the center, containing white text.

**Ok, now it is time to really  
get started!**



**Considering the dimensions of ‘soft’ (behavior and staff) skills and ‘hard’ (measuring and technology) facts, three pillars came forward as important drivers to reduce food waste at Marriott Indonesia:**



- 1. Education** i.e., training staff on not only waste handling but also so create a better supply and demand match to avoid excessive preparation of food. Also consider cooking skills as to cook with food that would otherwise be wasted to make new types of foods.
- 2. Creativity** “food waste is a failure of the imagination”, learning how to be creative to create new types of food and/or other products. This side of the case should also look at the cost trade off of experimenting to make the food waste into a new product vs throwing it away. It also needs to consider what it takes to be creative (it is easy to say but hard to do!). There is a lot of trust and safety needed to dare to be creative.
- 3. Accessibility** to manage waste in a more effective way i.e., making it convenient and not cumbersome to reduce food waste. This side of the case considers the feasibility and viability of the solution. Thus, consider costs aspects both financially but also time and effort of implementation.

In sum, challenging factors to create change are the lack of awareness of the food waste problem and at the same time the budgetary constraints to do something about it. In addition, there are many ‘moving pieces’ to consider such as waste handlers, guest expectations, performance indicators (e.g., guests may be less satisfied if the breakfast buffet offers less variety due to food waste reduction measures), etc. which adds to the complexity of battling food waste.

**But that is why we need YOU and your GREAT brains, creativity, motivation, and dedication to make a dent in this enormous problem, starting with the Marriott International! Area Director of Operations for Marriott Indonesia, Ms. Ricarda Schneider hopes therefore that this student competition can ‘harvest creative thinking and doing’.**



# DELIVERABLES

So what is expected at the end? You will **pitch your food waste reduction** solution to senior Marriott executives, professors of the IN2FOOD consortia and peers participating in the student challenge. You will get about +/- 20 minutes to do so including questions.

## Expectations

To increase the chance of being selected as the winner of the IN2FOOD Student Competition: \_OOD \_ASTE: (F\_W\_ or G\_T\_) From Food Waste to Good Taste at the Marriott International Indonesian Cluster, **we expect that you to come up with a professional and great-looking pitch deck** (max 18 slides) that includes:





# DELIVERABLES

## 1. A description of your product or solution (max 9 slides)

- a. give a description of your product or solution, as visual as possible by e.g.,:
- b. building a prototype of your solution. If it is intangible (e.g., a service), record a video of how it works!
- c. describe what specific problem you solve with your solution or product and to who this applies.
- d. tailor the level of concreteness and detail of your solution to the affected stakeholders and key users. E.g., a hotel general manager may need a different type of information than a kitchen commis.



# DELIVERABLES

## 2. A description of how to implement your food waste reduction solution at your Marriott Indonesia case hotel (max 3 slides):

- a. how and who is involved?
- b. what is needed from other staff members? Other departments? Other stakeholders?
- c. how many people? What is the timeline of implementation?
- d. bring examples of communication materials e.g., infographics, leaflets, social media campaign, Intranet announcements, training materials, apps that you recommend during the implementation phase.



# DELIVERABLES

## **3. A description of your ambitions to take your solution to other Marriott hotels (other brands?) and your needs (max 6 slides):**

- a. give a short description of your growth ambitions.
- b. where do you want to be in 3 years with this solution?
- c. what do you need to get there i.e., what are your finance needs now and in the future? Tell us what kind of support and expertise (market, distribution, partners, funding) you are looking for.

**In short, we invite you to have the following with you during for the pitch presentations (1) pitch deck presentation, (2) prototype or video if your solution is a service, (3) communication materials for information and implementation (see point 2d for examples). On behalf of the IN2FOOD and Marriott Indonesia teams, we wish you a joyful journey of learning and all the best of luck for great results.**





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**I N F O**



# Food Waste Problem and Definition

**Food waste is one of society's greatest economic, environmental and social challenges** (CITE). Considering that 1/3 of all global greenhouse gases caused by anthropogenic activity are related to food production, makes it almost incomprehensible that we still, in 2022, waste more than 30% of our food. It comes at great costs to both our nature and climate (Crippa et al., 2021). It also poses a major social problem with more than 700 million people who are food insecure. In Indonesia, it is estimated that more than 19 million people are malnourished (FAO, 2022). Not unimportantly, food waste also costs around USD 1 trillion (!) per year making the urge to find business solutions even greater (FAO, n/a). There is an urgency from an environmental perspective as well. The reduction of food waste recognized as the number one solution against climate change (Project Drawdown, 2021). It contributes to a better environment both directly and indirectly by saving land, biodiversity and water. Eliminating food waste further entails that another 1/5th of the world can be fed and that hunger or food insecurity finally would be an issue of the past (STV, 2022). Thus, reducing food waste is recognized as a key element to create a more sustainable world and specifically to achieve the UN SDG #12.3, to reduce food waste with 50% on a retail, hospitality and consumer level by 2030. It is a collective effort from all of us, stakeholder by stakeholder.

**The question is then, what do we mean by Food Waste?** Food waste is hard to define because like we established right at the start, it may mean different things to different people. The complexity, unstructured (i.e., it is difficult to exactly pinpoint causes and effects) and the cross-cutting (i.e., it involves many stakeholders who have different interests) nature of food waste further makes it a 'wicked problem' (Närvänen et al., 2020). Wicked problems require a range of different solutions and some may even cause new or other problems (Närvänen et al., 2020). For the sake of this case study, we define food waste as edible food which is lost throughout the food production and supply chain. Thus, it includes both food loss (food that is lost during production, transportation, warehousing) and food waste (food that is wasted at a retail, food service and consumer level). We do this as we would like you to approach food waste from a systems perspective i.e., that a range of stakeholders are involved in both the problem and the solution. The same applies for food waste occurring in the hospitality industry.





# Hospitality Food Waste

While we cannot solve all food waste related problems here, **we are aiming to make a significant dent in Hospitality Food Waste.** Food service outlets (e.g., restaurants) are responsible for 12% - 14% of food waste and as stated earlier, it means that about 1 in 7 meals are thrown out. Hospitality food waste is food that is wasted in professional kitchens and in food service outlets (e.g., restaurants and cafes). Thus, it includes food waste caused by both 'back of house' (i.e., kitchen staff) and 'front of house' (i.e., restaurant guests) operations. More specifically, research shows that the kitchen is responsible for about 66% of the food waste and the remaining 33% is related to 'plate waste' i.e., food left on guests' plates (Filimonau and De Coteau, 2019). De Visser-Amundson and Kleijnen (2020) further explain that even though chefs are generally aware of the problems and costs of food waste, "as a result of accepting food waste as an integral part of delivering excellent food service experiences, there is a significant gap between chefs' attitudes towards food waste and the actual behavior" (p. 57).

## **So why does hospitality food waste occur on such a scale?**

There are many reasons but the three key explanations are because of inadequate (1) food handling (e.g., transportation and storage), (2) forecasting (i.e., failure to match supply and demand levels), (3) preparation techniques and quantities and (4) plate waste (Filimonau and De Coteau, 2019, Heikkilä et al., 2016). As gloomy as it might seem that most hospitality food waste is avoidable (75%), it also represents great opportunities as it means that it can be managed with the right training, skills, trust, delegation of responsibility and of course creativity.

In fact, past Michelin star chef and HTH executive chef, Joost de Vos states brilliantly "food waste is a lack of the imagination". Better than anyone, he also knows organizationally and personally (skills, knowledge and mindset) what it takes to be creative and what it means to get a team behind you to follow your footsteps.





# Hospitality Food Waste

The literature on hospitality food waste suggests that there are several types of management strategies and solutions to reduce hospitality food waste related to (1) management, (2) supply chain management, (3) preparation, (4) serving, (5) consumer behavior, (6) information exchange and (7) alternative destinations (see e.g., Vizzoto et al. 2021). The latter includes 'last minute markets' like for example applications like Too Good To Go (EU) and Surplus (Indonesia).

It is up to you to research and delve in more depth into this to create your own strategies and solutions. We are looking for underlying causes of food waste and how it can be solved. For now, it can be stated that structural and long(er) term management strategies (e.g., staff engagement and inventory management) and interventions (e.g., nudging, see e.g., De Visser-Amundson, 2020 for examples) are important to tackle the root cause of hospitality food waste. But also that short(er) term solutions (e.g., food waste reduction applications like Surplus) and charity donations (e.g., Garda Pangan) can be valuable to start food rescuing actions, to create engagement, awareness and experience with the food waste problem. Yet, these short term solutions are more temporary interventions rather than a solution to the food waste problem.

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**1/3** of global greenhouse gases caused by anthropogenic activity relate to food production



**19mil** people in Indonesia are malnourished

to reduce food waste with **50%** on a retail, hospitality and consumer level by **2030**



Food service outlets are responsible for

**12% - 14%** of food waste

**75%** of hospitality food waste is avoidable

**USD 1 tril** food waste cost

**1 in 7** meals are thrown out





**#FOODWASTETOFINISH**





## LAST YEARS FWTF CHALLENGE

Here are some snapshots of the 2022 Food Waste To Finish Challenge last summer in Bali  
Much more to see on our Instagram and websites so check it out!



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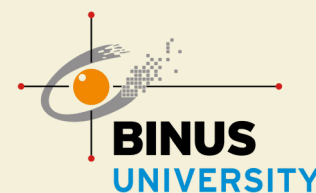


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