

The most popular goods in the world

[Food & Diet](#), [Coffee](#)



Coffee is the most popular beverage in the world, with more than 400 billion cups consumed each year (Kelly, 2008). Drinking coffee is a part of the daily routine of many people, it helps them to start the day or at least fuels them to work effectively. But people's love of coffee has environmental consequences, once coffee beans are brewed, spent coffee grounds usually goes to trash bins, sinks and much even worse surface water that results to environmental damages that other people are not aware of (Dockrill, 2016). An increase in consumption of coffee creates an increase in pollution and waste. Filipinos are one of the many coffee lovers in the world which result to the fast increasing coffee shops in the country. Unfortunately, spent coffee grounds of these shops are not always segregated well and converted to pollution and waste. One of the well-known coffee shops in the Philippines is the Starbucks that has a total of 293 licensed store nationwide (Knoema, 2016). Spent coffee grounds of this shop can be generated in massive quantities.

On the other hand, spread and growth of water hyacinth is another cause of environmental awareness since they are aggressive invader and can form thick mats in the surface of water. According to Comedis et al. (2017), these mats cover the entire surface of the river (up to 2m thick) which can reduce light and oxygen, change water chemistry, affect flora and fauna and cause significant increase in water loss due to evapotranspiration. It also causes practical problems for marine transportation, fishing and at intakes for hydro power and irrigation schemes. Water hyacinth is introduced into many parts of the world as an ornamental garden pond plant due to its beauty. But today, it is considered a pest as 10 plants could produce well over 650, 000

offspring within eight months (Comedis, et al., 2017). Its rate of proliferation under certain circumstances is extremely rapid and it can spread to cause infestations over large areas of water causing a variety of problems. It is now considered a serious threat to biodiversity. So, to make use of this natural waste, it utilized into green fibers and turn it into marketable goods for beneficial uses (Keawmanee, 2015).

Another thing that continues to increase is the demand of wood in the forest industry. Unfortunately, this demand of wood is completely the opposite of the production of industrial wood in the forest industry as it continues to decline. This is due to the depletion of the resources and withdrawal of forest areas from industrial production for other uses such as recreational areas. Also, there is a significant pressure on standing forest resources as a result of higher demand for wood in forest industry due to the increasing population and new application areas. Consequently, there is a need for alternative resources to substitute wood raw material (Suleiman, et al., 2013). Various studies suggest several alternatives for replacement of wood from partial substitution up to the total replacement of wood in the production of panels. Agricultural residues like sugarcane bagasse, castor beans, rice husks, wheat straw and coffee residues are the most studied and can be used to produce fiberboards and composites (De Barros Filho, et al., 2010). Wherein composites from agricultural fibers with partial wood fibers were founded to be efficient since plant-based sources of fibers have economical and environmental advantages over other raw materials (Batiancela, et al., 2013). This practice ensures value adding to those

agricultural wastes and prevents their improper polluting disposal (Da Silva César, et al., 2017).

The agro-based fiber composites, which have rapidly expanded in recent years, have a tremendous potential for future growth (Oh and Lee, 2011) and the fact that the husk, a biomaterial itself, had been used for making particleboard increases the possibility of using another waste from coffee, spent coffee grounds. In line with this, the coffee waste of Starbucks particularly spent coffee grounds and water hyacinth fiber were utilized as biocomposite board to reduce its impact on the environment