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Biodiversity means food

By [Jonathan L. Mayuga](#)
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In Photo: Market vendor Aling Gloria sells a variety of sea and freshwater shellfish. “*Suki* [customer], please buy. This is delicious, fresh from Bicol,” a sturdy woman vendor in her 60s said in Filipino. “These clams are delicious, too. You like them?” she offered as she briskly opened one clam to show to curious customers gathered in front of her stall at the Pamilihang Sentral ng Dasmariñas in Dasmariñas City, Cavite, last Tuesday.

A native of Iriga, Albay, in Bicol region, Gloria Manaligod, or *Aling* Gloria, has been selling seafood and other freshwater shellfish at the market’s fish and seafood section for more than two decades already.

Her stall is the only place where a wide variety of sea or freshwater shellfish can be bought.

Sometimes, even *Aling* Gloria is confused about the name and origin of the shells, except for the *tabong* (mussels), which is the most sought-after among the shellfish she sells.

“Mussels are expensive. Those from the sea are expensive because they are difficult to harvest underwater compared to those from the river, which is shallower,” she said.

Shellfish harvested through risky diving to reach the ocean floor cost around P100 to P150 a kilo, while those from freshwater, including *kubol* (snails), which is abundant in rice farms, range from P50 a kilo to P80 a kilo, depending on the supply, she told the BusinessMirror.

Unlike her fellow market vendors, who get their products from fish dealers, *Aling* Gloria said she gets her supply from different sources. Some come from as far as Bicol and Laguna.

“There are plenty of food, but the people are not familiar with them. They are delicious. Sometimes there are plenty, sometimes they are insufficient,” she said.

Another fish stall beside her occasionally sells frogs caught from a rice farm. It is sold at P200 a kilo.

“I sell frogs only when it rains. My supplier rarely brings me stocks,” the vendor said.

Unsustainable production

Basically an agricultural country, the Philippines, with a population of over 100 million, continues to struggle for food security and self-sufficiency. From a net exporter of rice before the 1970s, the Philippines now imports rice.

It is also importing other agricultural products, including fruits and vegetables, undermining the country’s food-production capacity. An archipelagic country with over 7,500 islands, the Philippines is one of the world’s top producers of fish.

According to the Philippine Statistics Authority, total fisheries volume of production was estimated at 1.1 million metric tons during the second quarter of 2017, slightly lower than the previous year’s mark.

Of the subsectors, only aquaculture managed to pull up its output, while commercial and municipal fisheries displayed downtrends.

Marine species like round scad (minus 19.44 percent), yellowfin tuna (minus 17.55 percent), frigate tuna (minus 17.55 percent) and Indian sardines (minus 12.74 percent) all contributed to the decline in production a report, entitled “Fisheries Situation Report, April-June 2017” said.

The high contribution of aquaculture to the country’s fish output, however, is proof of the dwindling potential for natural resource-based fish production.

Agriculture requires, more often than not, the excessive use of chemical fertilizers and pesticides, which make the soil barren and addicted to chemicals to continue to be productive.

Similarly, commercial fishing, which makes use of unsustainable fishing methods, damages coastal and marine ecosystems, resulting in diminishing fish catch. It also includes unsustainable activities in municipal fishing grounds.

Besides mining and logging, agriculture—which requires massive cultivation of food crops and establishments of fish cages and fish pens—have been identified as a major driver of biodiversity loss.

The massive land conversion of forest, wetlands and other ecosystems for food production equates to the destruction of natural resource-based food or food provided by nature. Likewise, construction of fish cages and fish pens means clearing of mangrove forests and inland water ecosystems.

Natural food sources

Forest, coastal, marine and freshwater ecosystems are natural food sources.

Their destruction undermines the country's capacity to produce sustainable sources of food that do not require chemical fertilizers, pesticides or feeds if they remain healthy, an official of the Department of Environment and Natural Resources (DENR) said.

Director Theresa Mundita S. Lim of the DENR's Biodiversity Management Bureau (BMB) said there is a poor appreciation of the interconnectivity of these ecosystems, which provide a life-support system that eventually benefits the community.

A healthy forest provides food, fiber, medicines and fuel wood, and even construction materials that are essential for the day-to-day needs of upland communities.

She said that, in earlier years, people hunt for food in the wild, which is thriving with wild boar, deer and other potential sources of protein, and harvest naturally growing vegetables and fruits that are safe from poisonous chemical fertilizers or pesticides.

“For decades, forests have been providing not only water but food to upland communities,” Lim told the BusinessMirror last Monday. Streams, rivers and lakes thrive with shellfish that are unique to a particular ecosystem, providing communities with a wide variety of food on the table, she said.

These organic food from nature are becoming extinct.

‘Organic’

The DENR-BMB chief said that, because the country is experiencing a rapid rate of biodiversity loss, the law prohibits the harvesting of endangered plant and animal species on pain of facing criminal prosecution and penalized.

Some of these laws include the National Integrated Protected Areas System (Nipas) Act, Wildlife Resources Protection and Conservation Act, or Wildlife Act, and the National Caves and Cave Resource Management and Protect Act, or the Caves Act.

These laws are meant to protect and conserve the country’s rich biodiversity and prevent the extinction of animal and plant species. Natural resource-based food like shells and shellfish harvested in small volumes are not necessarily reflected in the country’s annual farm or fishery output. But they, nevertheless, contribute to food security and sufficiency, Lim said.

“That is why we need to protect our coastal, marine and freshwater resources, because they provide food for the sustenance of millions of Filipinos,” Lim said. “Freshwater ecosystems support a variety of wildlife. They are unique in many ways. We have lakes, because of our geological history, that have unique species because they are separated from other water bodies,” Lim added, citing the Taal Lake where the famous freshwater *tawilis* can be found.

The environment official said that, because of the massive destruction of forest, coastal, marine and freshwater ecosystems, the country’s food sources are diminished as well.

“Some fish, like the Philippine goby, is now vanishing. Scientists have expressed fear that they are going extinct,” Lim said.

Vanishing food source

“By not protecting the fish and freshwater fish, we are reducing our choices for protein,” Lim said.

She is discouraging the dispersal of potentially invasive fish in lakes and rivers in order to preserve the native fish species.

She noted that aquaculture or fish-cage operation to raise tilapia and *bangus* (milkfish), if unchecked, will cause the freshwater ecosystem to deteriorate, citing the cases of the Laguna de Bay and Taal Lake, which are under siege by invasive alien fish species.

According to Lim, freshwater bodies will naturally cure themselves if all destructive activities are stopped. “If there’s still a wide variety of fish, like *ayungin*, it is a good indicator that our rivers and lakes have a chance to recover,” she said.

She added the threat of invasive species continues to hound the Philippines because of the mindset that rivers and lakes are like fishponds, which are meant for aquaculture.

“The fact is that these water bodies were used to be thriving with fish and shellfish. Aquaculture, if not done properly, can kill our rivers and lakes,” she said.

Some fish-cage operators, she noted, have the habit of overfeeding their fish, which degrades the water as biological oxygen and chemical oxygen demand increase.

Lim said that, compared to tilapia or bangus, native fish varieties are better-tasting.

“We should put premium to our unique fish and shellfish because they are found only in some areas in the Philippines. We fail to promote the novelty of these unique food fish and shellfish,” she said.

Lim added over-harvesting of fish should be avoided.

“Local communities know when to harvest and when to stop harvesting [fish]. They should avoid overharvesting, otherwise, we might lose them [fishes] forever,” she said. If the fish or shellfish are lost, *Aling* Gloria’s stall at the market might also be gone.

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