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The Making of Philippine Artisanal Salt
Harnessing Nature and its Present Challenges

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Abstract

Salt is an essential substance necessary for life and for the Philippines. There are many ways of producing this substance. Salt in the Philippines is mainly obtained from sea water and the methods of extracting salt has become part of the culture of the Filipinos. Filipinos in various regions of the country developed unique ways of producing salt. To many Filipinos, salt is a basic ingredient in their cuisine and to those afflicted with extreme poverty; it was the viand of the very poor. It is also associated with spiritual cleansing and driving away evil spirits. Not all regions of the Philippines can produce salt with efficiency due to unfavorable natural conditions, but for regions which are conducive to salt production, it has become part of the local heritage. Some areas of the Philippines are known for salt production such as the province of Pangasinan which literally means "where salt is made", and there are places in the Philippines which are associated with salt such as Barrio Irasan in Las Piñas City. The method of producing salt is usually artisanal in character and is very labor-

intensive. In recent times, the Philippine salt industry faced serious challenges; some of which were caused by changes in the environment and other natural factors, others were man-made. This paper discusses the Philippine salt industry in general and the artisanal or traditional salt making industry in particular. It explains why the country's salt industry is in decline despite the Philippines being surrounded by bodies of salt water and what is being done to save the country's salt-making industry.

Key words: salt, artisanal salt, traditions, challenges, conservation, preservation

The Lowly Table Salt, An Essential Component For Sustaining Life

Considered indispensable in all kitchens, the common table salt essential in sustaining life itself. It is the main component of electrolytes that maintain fluid balance, nerve function and the transmission of ions and impulses in the nervous system. Salt is necessary to ensure the proper function of the body and even pastoral communities knew this that they added salt to the diet of cattle and sheep to keep the animals healthy. Only a very small amount of salt is needed to maintain one's health as too much of it may lead to diseases such as hypertension and kidney ailments. (University of Hawaii, 2024)

Salt is the oldest substance used in seasoning and preserving food. Salting fish and meat or pickling vegetables in a salt and vinegar solution is a way making food last when it becomes scarce or to keep it edible during long voyages. Along with food preservation salt is used to flavor food, bringing that *umami* taste as it combines with the essence of fish and meat. In some societies salt is considered as a sign of purity. In the Shinto religion of Japan, salt is placed in *kamidanas* or small houses for household spirits along with sake and rice. Salt is also placed near doorways to keep away evil spirits. Before a sumo match, salt is sprinkled into the stage by wrestlers as a purification ritual. (Kobe Jones, 2025)

Among Filipinos, salt is considered as a deterrent *enkantos* or super-natural environmental spirits and folkoric beings such as ghosts. (Jordan Clark, 2025)

Among the Ilocano people of Northern Luzon, salt is added to a solution of water and vinegar and the people there sprinkle themselves with this concoction after coming from a funeral to remove any "bad vibes." In desperate times such as extreme poverty, salt is used as a viand and is eaten with rice sprinkled with vegetable oil. There is an expression in the Tagalog language *"nagdildil ng asin"* which means pressing the salt. It means a person who is already very poor became even poorer. (Leksyon.com, 2024)

Beyond the health, culinary and religious importance, salt is vital in industries. It is used in the plastics and fertilizer industry and it is used to de-ice roads in temperate countries. (Maxisalt, 2025)

The bays, gulfs and seas of the Philippines are the sources of salt and it is relatively easy to obtain this substance. But for communities in the interior and mountainous areas, salt can only be obtained by trading with the lowlanders. There are a few in the interior and mountainous regions of the Philippines where salt springs exist. One such place is the Salinas Salt Springs in the town of Bambang, Nueva Vizcaya where a mountain of salt was formed by the continuous flow of brine. This brine is a mixture of sodium chloride mixed with other chemicals like calcium and sulfur resulting in a compound known as sodium carbonate. The accumulation of sodium carbonate formed a mountain which was white in color. It was said that the natives mined the mineral, dissolved it in water, and boiled it. Salt was obtained after the water had boiled over. However, the massive earthquake which struck Luzon on September 16, 1990 diverted the flow of underground water and the salt spring stopped accumulating sodium carbonate. What was before a whitish mountain of sodium carbonate turned to gray. The monsoon rains washed away the remaining carbonate deposits. In 2018 a new salt spring emerged several kilometers away in Barrio Manamtam and the local authorities are taking steps to preserve this new resource. (Dito sa Philipinas, 2024).

The Salinas Salt Spring
before the 1990 earthquake
https://isinay-bird.blogspot.
com/2011/11/why-salinas-salt-
spring-means-lot-to-me.html

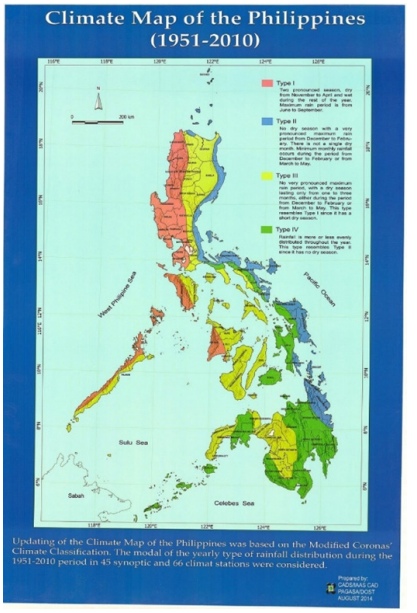
The Salinas Salt Spring today
http://s613.photobucket.com/albums/tt220/mscheca/
?action=view&current=6.jpg&newest=1

Salt-Making in the Philippines

Production of salt in the Philippines is done through two methods which is by solar evaporation and by boiling brine. In using the solar evaporation method, certain natural conditions should be present. There must be adequate sunshine, high solar heat, low humidity, and wind. These factors will be conducive to producing high salinity brine and rapid evaporation of water when this brine is placed in the salt beds. Areas that are considered ideal for salt production are those with a long and pronounced dry season. Though the Philippines is a

tropical country, its climate is not uniform throughout the islands. Climatologists of the Philippine Atmospheric Geophysical and Astronomical Administration (PAGASA) of the Department of Science and Technology (DOST), divided the climate of the Philippines into four types. Areas having a climate called Type 1 has a pronounced dry season which lasts from November to April. Beyond those months it would be rainy for the rest of the year. These areas are the western parts of the Philippines such as the Ilocos Region and the provinces of Bulacan, Cavite, Negros Occidental and Western Panay. (Climate of the Philippines, 2015)

Areas with a Type 2 climate have no dry season without a single dry month. These areas which are always rainy are the eastern part of the Philippines facing the Pacific Ocean. Type 3 climate exists in areas with a not very pronounced dry season which lasts only for one or two months. These are the Cordillera region of Northern Luzon the Cagayan Valley Region, the Western Bicol Peninsula, the rest of the Visayas region and Central Mindanao. Type 4 areas are those areas which experience a climate evenly distributed rainfall. These areas are rest of Mindanao and the Sulu Archipelago. (Climate of the Philippines, 2015).



Climate map of the Philippines showing variations https://www.researchgate.net/figure/Climate-map-of-the-Philippines-kidlatpagasadostgovph-cab-climatehtm_fig2_344583853

The best area to produce salt using the solar evaporation method therefore are the ones having the Type 1 climate. Areas near Manila used to produce solar salt. Salt was produced in the towns of Las Piñas in the old Rizal province and Zapote in the adjoining Cavite province. (Salt-Making Industry, 2014)

Making salt using the solar evaporation method starts with the preparation of the salt beds which resemble a rice field but instead of producing rice, the farm produces salt. In some areas, the bottom of the salt beds is lined with stones or clay tiles. This is to prevent impurities like soil from mixing with the salt. Salt production begins with the preparation of brine which is obtained from sea water. In the town of Kawit, in the province of Cavite, water from Manila Bay is collected in a shallow pool in a primary depository. This depository is a salt bed designated for this purpose. The seawater is exposed to the wind and the sun. The resulting saltier seawater is called a *primario*. The salt makers can tell the saltiness of the brine by taste. The process is repeated in a secondary depository and the resulting output is called a *segunda*. The saltiest brine is called a *tercera* or *ultima*, which is the last stage of the brine-making process. Here the brine is moved to a salt bed that is lined by sones. Before allowing the brine into the salt bed, its bottom must be swept clean to remove any dirt that was present. (FEATR, 2024)

Depending on the intensity of the sun, salt granules begin to form at the bottom of the pool. These are then raked intro piles until most of the water have evaporated. The salt is then harvested and placed in wicker baskets in a hut to allow the salt to fully dry.

The first harvest of this salt is grayish in color because of the presence of impurities. This type of salt is sold to makers of *patis* or fish sauce, krill paste or bagoong, *tinapa* or smoked fish and *itlog na maalat* or salted duck egg. In other countries, gray salt is highly priced because it tastes differently. The French call this salt *sel gris* – gray salt. Salt produced by the solar evaporation method is characterized by rough granules. (FEATR, 2024)

The nearby city of Las Piñas[2] was known for its snow-white salt. The salt produced there is called asin iras, after the barrio where most of the salt was made. The salt-making area in Las Piñas is called irasan. Before Mindoro Occidental and Pangasinan became known as major salt-producing areas, Las Piñas was known as the salt bed capital of the Philippines because of the presence of many salt farms. (Salt-Making Industry, 2014)

Presently, the biggest producer of salt using solar evaporation is Region 4B, also known as MIMAROPA which stands for the islands of Mindoro, Marinduque, Romblon and Palawan. In this region, the province of Mindoro Occidental has the greatest number of salt farms with at least 38 salt producers covering 1,400 hectares. Most of these farms are found in the municipalities of San Jose and Magsaysay where salt is produced at 62.5 tons per hectare. Of the 1,400 hectares used as salt farms around 920 hectares are public lands leased from the government under a Fishpond Lease Agreement (FLA). The rest consisting of 480 hectares are privately owned. (Montojo, Ulysees, M. et al., 2024)

As an island province, Mindoro Occidental has untapped potential of expanding salt production with around 3,000 hectares of land that can be leased under the Fishpond Lease Agreement system. Of these only 920 hectares are currently in use. A multisectoral salt council was established to formulate a strategic roadmap for the salt industry. According to Muyot, Mindoro Occidental province aspires to become the salt capital of the Philippines and it aims to achieve both national and international standards through socially responsible and environmentally friendly salt production practices. (Muyot, 2022).

A fishpond lease agreement is a contract between the Secretary of Agriculture and a qualified applicant. This agreement allows the applicant to lease public land for fishpond development for 25 years. The Bureau of Fisheries and Aquatic Resources (BFAR) which is an agency of the Department of Agriculture is responsible for issuing the FLAs.

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[2] Now part of the present Metro Manila. Las Piñas was formerly a municipality belonging to the province of Rizal before it became part of Metropolitan Manila on November 7, 1975 through Presidential Decree No. 824 by President Ferdinand E. Marcos. It became a city on February 12, 1997

Aside from the MIMAROPA region, other areas that produce salt using this solar evaporation method are the Ilocos Region comprising of the provinces of Ilocos Norte, Ilocos Sur, La Union and Pangasinan. Pangasinan province whose name comes from *pang asinan* or where salt is made, accounts for 95% of all the salt produced in this region producing approximately 60,000 tons annually. Salt production is centered in the town of Dasol which produced 39.35% of the output; followed by Alaminos at 18.61%; Bani at 17.52%; Infanta at 14.90% and the rest of the coastal towns. Minimal contributions come from the towns of Anda, Bolinao, Mangaldan and San Fabian. The largest salt farm in Dasol, Pangasinan used to produce around 20,000 metric tons of salt a year. However, its recent closure resulted in the decrease of the province's output to only 36,000 metric tons. The two Ilocos provinces, Ilocos Norte and Ilocos Sur produce lesser amounts of salt. (Montojo, Ulysees, M. et al., 2024)

Other salt-producing areas of the Philippines are in Western Visayas of which there were around 436 producers located in Negros Occidental, Guimaras, Iloilo and Antique. This region produces only 4.75% of the total salt production. Negros Occidental is the lead salt producer in the region, followed by Iloilo, Guimaras and Antique. Another salt-producing area is Bulacan which produced 162,000 metric tons in 2003 according to Castańeda. The current production is just 4,600 tons with only three municipalities, Paombong, Malolos and Bulacan, still actively involved in salt production. (Castañeda, 2003)

A solar evaporation salt farm in Dasol, Pangasinan province
https://seepangasinan.com/places/dasol-salt-farm/

One salt-making technique which uses less land compared to having extensive salt beds is done in Western Visayas. In the provinces of Iloilo and Antique, budbud or bamboo salt is made. The technique was said to have originated in the 17th century. To start the salt-making process, a small area approximately one hectare in the beach is prepared by plowing the sand with a wooden rake and removing rocks and other debris from the sand. The area is then fenced off to prevent stray animals and debris from getting into the plowed area. Then the sand is doused with seawater several times for about two months. The sand is then left to dry. (https://www.fondazioneslowfood.com/2024).

Preparing the land for salt making
https://sulugarden.com/articles/blog/asinderos-de-miag-ao-part-1/

The sand is then collected and placed in a basket whose sides and bottoms are lined with a gauze-like net. The basket, the sea-water treated sand the net would serve as a filter. Then more seawater is poured into the basket. The leached brine called *kam-aw* is collected in containers. This brine is placed in bamboo tubes that have been longitudinally split in half. The bamboo tubes are placed in rows in an open area on wide wooden tables. The brine evaporates leaving a grayish white salt. The salt is then scooped up and placed in fine meshed bags. The bags are hung inside a hut and moisture was allowed to drip off. The drying period lasts for about a day. Then the salt is removed from the bags and placed in a basket. The salt is then roasted in a pan to ensure its cleanliness. Once the salt is cooled is packaged for sale. A kilo of *budbud* salt sells for about 100 pesos (about US$ 1.79) a kilo.

Watering the sand with seawater
https://sulugarden.com/articles/blog/asinderos-de-miag-ao-part-1/

Drying the brine in halved bamboo tubes.
https://sulugarden.com/articles/blog/asinderos-de-miag-ao-part-1/

Roasting the salt to ensure cleanliness
https://sulugarden.com/articles/blog/asinderos-de-miag-ao-part-1/

The making of *budbud* or bamboo salt is a dying art because it is a tedious process. The preparation of the sandy area alone takes two to three months. Also, it is best to make the salt only during dry seasons and not when the southwest monsoon or *habagat* is prevailing. As of this writing (2025) only one family in Iloilo is producing *budbud* salt. (https://sulugarden.com/articles/blog/asinderos-de-miag-ao-part-1/2024)

The Boiling Brine Method
Asin Pasuquin and Asin Tedted

Aside from the solar evaporation, the other method of producing salt in the Philippines was concentrated seawater or leached brine. In the town of Pasuquin in Ilocos Norte, two types of salt are made. These are the *asin pasuquin* and the *asin tedted*. *Asin pasuquin* is named after the town where it is made. Like the *asin budbud* of the Visayas, *asin pasuquin* and *asin tedted* are considered to be sand salts because both use sand that has been repeatedly doused with seawater. The process of making *asin pasuquin* and *asin tedted* begins by preparing small patch of a sandy beach by plowing up the sand. All rocks and other debris were removed then the sand is doused with seawater several times. This process may take up to a month or two. When the sand has dried, it is dug up and placed in a basket lined with a fine net. Then seawater is poured into the basket and the resulting brine is collected in a pail. (FEATR, 2023)

To determine if the brine is salty enough, a special stone which is likely a piece of amber is placed inside the pail. If the stone floats, the brine has a strong salt content. The brine is then poured into a large iron vat over a large wood-fired stove. As the brine boils, foam forms at the surface of the water and is removed. This foam contains unwanted impurities and it is collected with a large ladle and is disposed of. After several hours of boiling, salt granules have formed and the salt is scooped up from the vat and placed in net bags to remove the excess moisture. Once most of the moisture is removed, the salt now called *asin pasuquin* is packed for sale.

The furnace and vats for boiling brine in Pasuquin, Ilocos Norte
(Photo the author's)

The fuel consisting of rice husks used in firing the salt vats
(Photo the author's)

The finished product of the boiling brine method.

The making of *asin tudtud* is another stage of making *asin pasuquin.* While drying the salt which would become a*sin pasuquin*, the dripping moisture from the net bags is collected in a tubular cloth sack made of plain weave cloth bag or *katsa*. This moisture is also very salty and can be used to making another kind of salt. The cloth bag is about 24 inches in length with a small opening.

Salt begins to form inside the bag as it catches the dripping moisture from the *asin pasuquin*. The contents of the bag grow as more batches of newly-cooked *asin pasuquin* are hung out in nets to dry. In time the bag would be full of solidified salt which could be as long as a man's leg. The salt is then flavored with vinegar by sprinkling a small amount as to prevent the salt from dissolving. The salt now called *asin tedted* can be sold for more than a thousand pesos (about US$ 17.94) a bag. Through the combined method of making *asin pasuquin* and *asin tedted*, practically nothing of the brine solution goes to waste. It reflects the Ilocano character of thriftiness, avoidance of waste, and making use of available resources in the harsh environment of the *Ilocos* region. It is said in difficult economic times *asin tedted* was used as a viand and it is served with rice with some coconut or edible oil. (FEATR, 2023).

Salt maker Rachel Fariñas with a piece of asin tedted (https://www.threads.com/@haroldsingzon/post/CudgomZrSv5)

Like *asin budbud* of the Visayas, the production of *asin pasuquin* and *asin tedted* does not need extensive land to be used in salt production. Salt in Pasuquin is made by boiling brine that is fueled by firewood or by farm wastes such as dried rice stalks and hulls. The resulting product is very fine salt compared to the rough rock salt produced using the solar drying method. (A.B. Francisco, N.L. Llamar, and E.H. Chavez, 2022)

To make more salt, brine is boiled in elongated huts. These huts are also where brine for salt making, firewood and finished salt products are stored. Unlike in the solar evaporation method, salt can be made throughout the year as the boiling of brine is done indoors. It is important, however that the salt makers have a ready amount of concentrated brine to shorten the production time.

Huts in Pasuquin, Ilocos Norte used to make and store salt
(Photo the author's)

The Asin Tibook of Bohol

In the central Visayan province of Bohol, there is a unique way of producing table salt. Called *asin tibuok* or *asin tibook*. The name asin tibook in the local Boholano language means "unbroken" or "whole" salt. producing this type of salt involves a long and tedious process which starts with soaking coconut husks in seawater inside special ponds (Amanda Lago, 2012)

Local marker for the towns of Alburquerque, Loay and Loboc, where Asin Tibook is made.
(Photo the author's)

Soaking the coconut husks in the pond takes three months after which these were cut into lengthwise pieces and spread on the ground to dry for two days. The husks are then burned in a controlled fire for three days until these had completely turned into ashes. The fire is put out with seawater. The ashes, called *gasang* are placed a funnel made of bamboo and lined with coconut leaves. Seawater is then poured into the funnel and it passes through the ashes. The leached liquid called *tasik* is collected in a hollowed-out coconut trunk. (Amanda Lago, 2012).

The pond where coconut husks are soaked in salt water for several months
(Photo the author's)

The coconut husks and tree branches are burned
until they completely turned into ashes
(Photo the author's)

The *tasik* is poured into small clay pots which are placed over a stove that is fired by firewood, coconut shells and dried coconut fronds. Salt forms inside the pots as the *tasik* boils. The one tending to the fire refills the pots with more *tasik* until salt had formed at the top of the pots. The process of boiling and filling the pots takes around eight hours. During the boiling some of the pots might crack and break due to high heat. Such pots are discarded. (Asin Tibuok Kabilin sa Albur, 2024)

The filter which used the coconut husk ashes (Photo the author's)

Another view of the filter
(Photo the author's)

The tasik or brine that has passed through the filter
(Photo the author's)

Creating the salt by boiling the *tasik* for several hours
(Photo the author's)

The salt is also made in the burning pile of coconut husks
(Photo the author's)

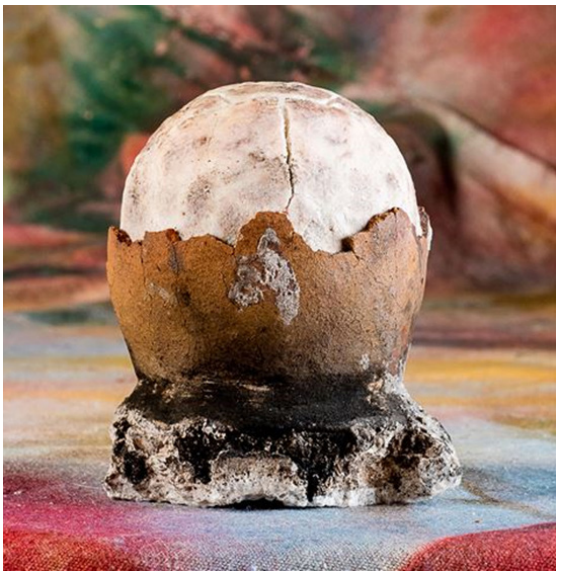
The salt making process ends when the salt has overflowed the brim of the pots. he pots are then left to cool off. Once cooled, the bottom part of the pots is removed by chipping off. The salt has a domed shape resembling a very large egg giving its familiar nickname "dinosaur egg." (*The Fermentary*, 19 December 2018). Each orb of salt weighs roughly one kilogram. (Asin Tibuok Kabilin sa Albur, 2024)

Removing the bottom part of the pot to reveal the dome of salt
(Photo the author's)

Cleaning a finished asin tibuok dome prior to packaging
(photo the author's)

To obtain salt from this "dinosaur egg," one may use a grater or chipping it off using a knife. The salt can ground up and used like regular table salt or as dips for stews. Like in asin tedted, asin tibuok is eaten with rice with a few drops of coconut oil. In comparison to solar-dried salt, asin tibuok has a smoky flavor because the brine from which the salt was made had passed through the ashes of the coconut husks. The taste has somewhat sweet and fruity undertones. (Asin Tibuok Kabilin sa Albur, 2024)

Wrapping a finished orb of asin tibuok before selling
(Photo the author's)



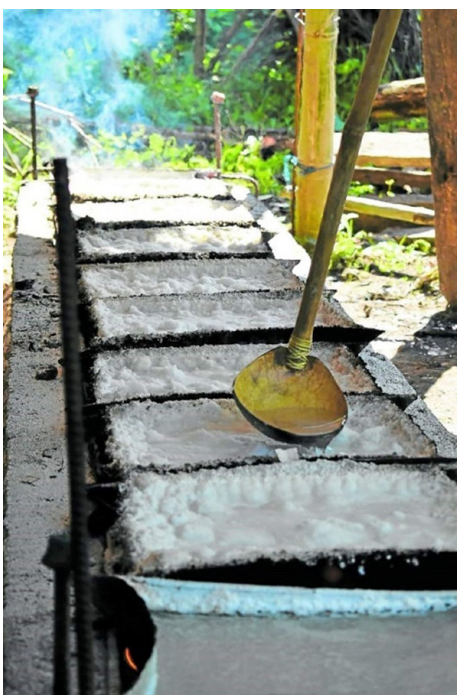
A finished orb of asin tibuok.
https://www.tasteatlas.com/asin-tibuok

Asin Tultul of Iloilo

Another type of salt that is made in the Visayan region of the Philippines is the *asin tultul*, *asin duldul* or *asin dukdok* depending on the island.In the island of Guimaras it is called *asin tultul*. In earlier times this type of salt was used to exchange for other goods like bananas, fruits and other crops. The making of this type of salt is rooted in the quest for survival and it became a tradition for countless of generations. (Demaisip, Ruchelle Ruchelle Demice, 2024)

Making *asin tultul* begins with the gathering of *dagsa* or driftwood and other plant matter that has been washed up the beaches. This material consists of coconut husks, bamboo and bamboo stems and these are soaked in sea water in special ponds for several months. Afterwards, these were dried in the sun and burned until these had completely turned into ashes. (Asin Tultul Guimaras, 2024)

A block of asin tultul as shown by Shirley Padojenog. According to her grandfather developed this unique technique of salt-making in their hometown of Jordan in Guimaras a century ago. https://newsinfo.inquirer.net/1969126/tultul-traditional-salt-making-lives-on-in-guimaras



Filling the shallow vats with brine after some salts have formed. https://newsinfo.inquirer.net/1969126/tultul-traditional-salt-making-lives-on-in-guimaras

Tending to the vats by continuously filling them
with more brine until they are filled to the brim.
https://newsinfo.inquirer.net/1969126/tultul-traditional-salt-making-lives-on-in-guimaras

The ashes are then collected in a bamboo cylindrical basket. The basket is placed on a bamboo platform. Sea water is poured into the basket and the resulting brine is collected in a pot. The process is repeated in order achieve a very concentrated brine. The brine is then strained to remove large impurities. Coconut milk or *gata* is added to the brine. The brine and *gata* solution is poured into square molds and is boiled over a wood-burning oven.

As the solution boils, a grayish-white salt is formed. More of the solution is poured until the mold is full. The cooking process ends when salt has reached the brim of the mold. The mold is then allowed to cool off. The result is a brick-like piece of salt called a bareta which is then packaged and sold. The entire cooking process takes up to sixteen hours. (Asin Tultul Guimaras, 2024)

Cutting the salt into bars before selling.
https://newsinfo.inquirer.net/1969126/tultul-traditional-salt-making-lives-on-in-guimaras

A packaged asin tultul with a miniature tampipi container for intended for sale to tourists and collectors
https://echostore.ph/products/tultul-artisan-salt-block-tampipi-box?srsltid=AfmBOopDwU_J9kXROvlg47wmDQGNuY8c8nG957zYuNvp1jNkAKFb3Yyr

The Challenges and Threats to the Philippine Salt Industry

At present, the Philippine salt industry faces severe challenges from natural and man-made factors. By its very nature, salt making is tedious and labor-intensive work. Workers endure difficult conditions. In the case of the method using solar evaporation, the workers are exposed to intense sunshine and heat when they tend to the salt beds, in the boiling brine method, the salt makers work long hours tending to the furnaces and filling up the vats until the brine turns into salt. Inhaling smoke from the furnace is a constant hazard. Work in the salt beds is a seasonal activity as people contracted as salt farm workers do not have job security. They do not have a contractual commitment from the owners of the salt farm and themselves. They also have no security of tenure and they can be terminated without notice. Traditional salt making is treated as a family affair where all family members including the children do their part in the salt-making process. Many considered salt-making only as a stepping stone for the children to enable them to finish schooling and find better paying jobs. Many of the salt makers in the Philippines are aging as a recent survey showed that only 4.61% of the salt makers belong to the 18- to 30-year-old bracket while around 40% were aged between 46 to 59. (Francisco, et al., 2022).

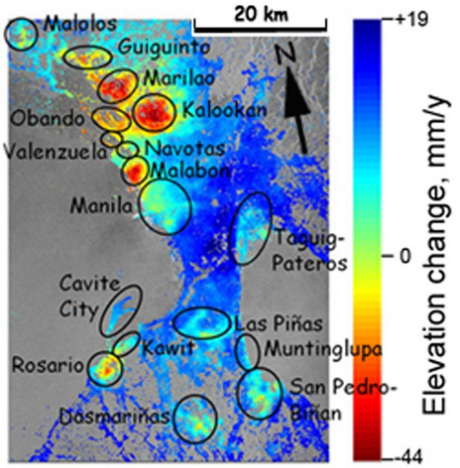
On large salt farms, workers are paid daily and if there is no work because of various factors, would not get paid. Social security benefits are unheard of among the workers. The method of production has not changed for the last hundred years, save for the use of plastic sheets to line some of the salt beds instead of using tiles. This is because tiles or bricks are more expensive than plastic sheets. Another modern concession would be the use of pumps and hoses to convey seawater and brine to the salt beds or to the beach area to make sand salt. Modern loaders are also used to pile up the finished salt in the warehouses. But in many salt farms, the work is done manually, using spade and rake or even bare hands to move the salt.

Though the Philippines is surrounded by seas which are the source of salt and despite having 36,289 kilometers or 22,549 miles of coastline, the fifth largest in the world, local salt production is not enough to meet the demand.

According to Montojo, et al, (2024) the Philippines produces 114,623 metric tons of salt every year. But the demand for salt is 683,000 metric tons. The local production can only satisfy 16.38% of the total demand of 683,000 metric tons. The shortall is filled up by imports mostly from China and India.

Salt today can be made in factories using a vacuum heat process. A dilemma happens should this modern practice would be adopted as it would mean the death of a unique salt-making culture. As for the traditional salt-making industry a serious developing threat comes from climate change. Traditional salt making is dependent on having abundant sunshine, solar heat, and low humidity. Climate change came with unpredictable weather patterns leaving salt producers in a very vulnerable state. The occurrence of *La Niña* phenomenon during 2020 to 2022 caused a 22% decrease in slat production in Negros Oriental, Zamboanga City and Catanduanes. The excess rainfall in those areas caused a number of salt producers to cease production. Many salt beds have converted to fishponds. (Helmia and Sasaoka, 2018).

Aside from climate change, global warming has an effect on the industry. The melting of the polar ice caps increased the sea level devouring many salt beds. In addition, there is the subsidence of land due to the extraction of ground water for irrigation and domestic use. This subsidence caused the deformation of land which became lower in elevation. The combined effect of rising sea levels and land subsidence made the salt producing areas especially during the rainy season. (Eco et al., 2024).



Map showing areas along Manila Bay showing areas experiencing subsidence. The areas in red have shown critical subsidence according to geologist Kelvin Rodolfo.
https://www.researchgate.net/figure/Manila-Bay-subsidence-in-mm-y-from-2003-to2006-as-determined-from-satellite-borne_fig4_268742960

Urbanization is also a threat to the country's salt-making industry. Perhaps the best example is the city of Las Pińas which was known for its extensive salt beds and its snow-white salt. According to local historians, the salt-making technology was introduced by Chinese merchants during the 18th century. But as the population of Las Piñas grew, there was a pressure to convert many salt beds into residential and commercial areas. By the time Las Pińas became a part of Metropolitan Manila, the last of the salt beds were confined at its southern and southeastern portion. These were now surrounded by houses and commercial establishments. Northeast of the salt beds was the town's dumpsite. As a result, sewage and domestic waste from houses and commercial establishments ruined the pristine waters of Manila Bay which was the source of the brine in making salt. Furthermore, reclamation activities in las Piñas disrupted whatever salt production that remained. Dredging and construction activities around the salt beds caused the deterioration of the quality of salt which was classified only as second class or even third-class salt. (The Official Website of the City of Las Piñas, 2014).

The salt farms of Las Piñas in the 1920s
https://www.facebook.com/groups/364502587226480/
posts/2039337026409686/

Local officials and politicians led by Senator Manuel Villar and his wife Congresswoman Cynthia Villar tried to save the salt-making heritage of the city and sought the assistance of the Pangasinan State University. At least there would be a small area that would preserve the locality's salt-making tradition as a heritage project. The effort resulted in the establishment of a small salt farm in Barangay Pulang Lupa. Located inside the Bernabe Compound, the salt farm which measured three hectares produced 45 to 50 kilos of rock salt daily. (Crisanto and dela Torre, 2006)

The farm's output was sold to a nearby fish port and to ice cream makers who used the salt to slow down the melting of ice which was used to cool their merchandise. The death knell of this valiant effort came with the influx of imported salt from India and China which was offered at lower prices. The farm finally closed in the early 2000s and the salt making industry became memories of the past. (The Official Website of the City of Las Piñas, 2014)

The threat of pollution endangers the country's salt production. Already the country's waters are endangered by sewage from homes and industries and fertilizer and pesticide runoff from the farms. The pollutants such a mercury and other heavy metals may find its way to the human body can cause problems Areas like Manila Bay have been identified as having significant amounts of cadmium, lead mercury, and arsenic in its waters. These metals were already detected in fish from fish farms. The salt obtained from the waters Manila Bay still need to be analyzed. (Montojo et al., 2024).

The Philippines is one of the world's leading contributors of plastic pollution in the world's oceans with an average of 3.30 kilos of plastics per person every year. Twenty per cent of the world's plastic waste in the ocean comes from the Philippines. Not just large plastic trash is a danger what is more dangerous are microplastics in the seawater. The world's waters are saturated with plastics. Recently a new technology allowed the plastics to break up into tiny particles or biodegrade. There is no telling how much microplastics or its degraded components have reached us through our ordinary table salt. (National Research Council of the Philippines, 2023)

The final nail to the coffin to the Philippine salt industry is the passage of a law popularly known as the Asin law of 1995, otherwise known as Republic Act No. 8172. The law requires all salt producers to iodize their food-grade products as a way of curbing iodine deficiency among Filipinos. According to the salt producers, the additive chemical potassium iodate, is too expensive and beyond the reach of the lowly salt maker. The chemical is also imported and the only salt that could be cheaply obtained by consumers would be the ones coming from outside the Philippines. The Asin law also imposed stringent standards and salt makers whose products were below par risk penalties and the confiscation of their outputs. The only salt that is exempted from the Asin law would be the one that is used for treatment, processing, and manufacturing of non-food products. Another source of concern is that the implementation of the laws varies according to the region. In the Visayas for example, non-iodized salt continued to be traded for food use because of the higher demand especially from the dried fish industry. (Francisco et al, 2022)

The salt bed project of Las Piñas https://www.villarfoundation.com.ph/salt-bed-irasan/

Then Senator Manuel Villar and other officials at the remaining salt farm in Las Piñas
https://www.villarfoundation.com.ph/salt-bed-irasan/

Due to rising costs many small producers decided to shift to other industries such as fishponds or to convert their salt beds into residential and commercial areas. Some salt makers have moved from salt production to salt trading. The Philippines now imports 93% of its edible salt. It is estimated that the country will import 96% of its salt by 2030. The irony of the Philippines is that it is surrounded by seas which are the sources of its domestically-produced salt. (de Leon, 2022)

For those who remained in the salt-making industry, they have become vulnerable to the salt traders who dictate the prices. There is also a lack of training, resources, and funds. As said earlier, the country's salt makers are tied to centuries-old tradition. There is no centralized storage for salt products and what stand as storage structures are made of light materials such as bamboo, lumber, *sawali* or wooden bamboo, and nipa (palm) roofs. For salt makers trying to comply with the Asin law, iodization is done by hand or improvised methods such as the use of garden sprayers. The result is a lumpy and poor-quality salt.

The Uphill Battle to Preserve the Making of Philippine Artisanal Salts

The pressures on the salt making industry are particularly felt in those making salt in the traditional manner. Pasuquin, Ilocos Norte as in Miag-ao, Iloilo, Guimaras and in Alburquerque, Bohol only a few families are still making artisanal salts such as Pasuquin salt, *asin budbud*, *asin tultul* and *asin tibuok* respectively. They continue making these salts as a way of preserving tradition. But their number become fewer every year. In Pasuquin, only a few aging people such as Rachel Fariñas continue to make the town's sand sea salt and *asin tedted*. (FEATR, 2023)

In Guimaras it is Shirley "Nenen" Padojenog who is probably one of the last master makers of asin tultul. (FEATR,2024)

In Miag-ao one person, Mrs. Lorlei Noblezada is making a valiant effort to preserve the tradition. (FEATR, 2023). In the making of *asin tibuok* only five families are still making this kind of salt in Alburquerque. (One of the Rarest Salt in the World is from the Philippines *Asin Tibuok* from Bohol, 2021)

The traditional salt making crafts survive because the product has become a sort of a curiosity. Some chefs around the world recognized the special qualities of some Philippine salts and included them as part of their ingredients in the foods they prepare. This however is not enough to save the artisanal salt makers. The government must step in firstly by amending the Asin law, extending incentives such as loans and grants and access to new technology without compromising tradition. It can also assist by helping in the publicity of distinct traditional salt as well as marketing. It should also recognize the master salt makers by giving them awards and recognition such as the Gawad Manlilikha ng Bayan which is awarded to Filipinos who kept alive certain Filipino crafts such as weavers and traditional carvers. (National Commission for Culture and the Arts, 2014) The master craftsmen were recognized as national living treasures for their contribution to the country's tangible cultural heritage. They are also given a pension and a stipend to allow them to teach the craft to the younger generation.

One of which is the families of the salt makers had some success in keeping the traditional salt making alive. Veronica Manongas-Salupan who belongs to one of the families of *tibuok salt* makers is trying to revive the tradition. The family received a boost when a Filipino-American businesswoman Lennie di Carlo brought the flavors of *asin tibuok* to the United States. In 2017, she brought 3,000 orbs of the salt to the US and the salt garnered acclaim and accolades from the Culinary Institute of America (Momaar Visaya, 2024). Also the Philippine Food and Drug Administration recognized *asin tibuok* as a cultural food seasoning and a food enhancer rather than a table salt. (Asin Tibook , 2025).

Summary and Concluding Remarks

Salt is one of those vital substances that humans, animals and other living things could not live without. It has achieved cultural significance with social and even religious aspects. For Filipinos salt is important as a universal seasoning and in extreme times the only viand left for physical sustenance. Salt is largely obtained in the Philippines through solar evaporation or by boiling brine. In doing so, Filipinos found ways of harnessing nature, getting in synch with the seasons and using local materials in obtaining this essential mineral. With the Philippines practically surrounded by bodies of salt water, obtaining salt is relatively easy compared to countries which had to mine salt from deep underground deposits. Many places in the Philippines are known for salt making and this is dictated by geography and climate as not all areas in the islands are suited to this type of activity.

With many regions and ethnic groups in the Philippines, various ways of extracting salt were developed. This is because of natural factors such as geography, availability of raw materials and the peculiar tastes of the inhabitants. This was how unique artisanal salts such as *asin irasan, asin budbud, asin tedted, asin tultul* and *asin tibuok* came about. The various ways of extracting salt became part of the tangible tradition of the Philippines. In some cases the salt-making processes reflected the character of the local inhabitants. The Ilocanos who make *asin tedted*, are a very thrifty people. They would not let a drop of salty brine go to waste. The salty moisture dripping from the drying *asin pasuquin*

was gathered to make another kind of salt which is the *asin tedted*. In the making of salt using the boiling brine method, fuel to create the salt came from materials that would be otherwise be considered as waste products such as rice hulls, coconut husks and driftwood. Traditional salt making also demonstrated the mastery of timing the arrival of the seasons and the Filipinos knew when would be the favorable season for making salt would happen.

Salt-making in the Philippines is labor intensive and, in many cases, it is regarded as a "poor man's work." As a result, many people involved in salt-making opted to consider it as a stepping stone until they can find some other lucrative ways of earning a living. Also, recent developments such as climate change and global warming which are natural factors and man-made factors such as urbanization, pollution, and adverse legislation such as the Asin law caused the decline of the Philippine salt industry. As the Philippines embraced free trade, the entry of cheap imported salt threatened the local industry to the extent that the Philippines is now importing most of its salt. This is quite shameful considering the geographic location of the Philippines being surrounded by seas. In a related aspect, the Philippines has become a big importer of fish despite being surrounded by seas and very rich fishing grounds. In 2023 it imported 547.720 tons of fish (Statista, 2022). Though the Philippines is an agricultural country, it has gained the unenviable reputation of being the world's biggest rice importer (Lagare, 2014). There must be something very wrong about the country, its government and policies.

There is no question that the country's salt industry should be revitalized. Firstly, there is an economic reason. Many areas of the Philippines are still undeveloped and converting them into sustainable salt farms as well as fish farms can be a good idea. It would provide income for the people in the countryside. It is also possible that the Philippines may not use the old traditional ways of making salt because there are modern methods have been developed to extract salt from sea water efficiently. This can be done by pumping filtered seawater into a factory which separates salt from water through a reverse osmosis method creating fresh water and brine. The fresh water can be piped into homes for household use, to the farms for irrigation and to industries for industrial use. Salt can be produced through boiling the brine in a vacuum chamber. Steam and water vapor from the boiling process can be condensed and used as a high-end drinking water or as distilled water for medical and pharmaceutical purposes.

(Salt Works, Reverse Osmosis Brine Treatment: Tech Advancements to Minimize Volume and Cost, 2024).

The energy used in processing the brine i.e. through boiling may not anymore use firewood or fossil fuel but by electricity coming from renewable energy through solar panels, wind or tidal turbines. Using this approach, we can have a "green" method in producing not only salt but safe potable and low sodium water. Using this process is an answer to the salt shortage in the Philippines. It will also save foreign exchange for the country.

While there is a way to modernize the country's salt industry, the traditional methods of making salt must not be neglected because it is part of the country's cultural heritage. Cultural preservation without an economic output however, would be unsustainable. This is demonstrated in the case of the Las Piñas Heritage Project. Though the community managed to revive the salt-making tradition to a certain extent, heavy competition from cheap imports spelled its demise. There was also the curse of economics of scale where products of bigger quantity always sell with a lower price compared to products made with less quantity. Spelled its demise. Naturally buyers will buy products being sold at a lower price.

Local salts must have a selling point to make it sustainable. This can be seen in the special salts like *asin tibuok*, *asin tultul* and *asin tedted* which have a peculiar taste that is desired by consumers. Asin pasuquin of Ilocos and asin iras of Las Piñas can have certain quality that may be desired by potential customers. It was said that among the salt makers of Kawit, the first salt harvested, which is the grayish kind, tastes differently from the pure white salt because of some minerals present. This could be done for the two other salts.

The government has a big role preservation of the artisanal and traditional salt making traditions. Instead of putting obstacles like the Asin law, it should give incentives. There is no doubt that iodine deficiency among Filipinos should be solved. This can be done by adding the iodine in the other foods eaten by Filipinos. Also, the additive should be made in the Philippines instead of being imported.

Artisanal salt should be exempted from the Asin Law if the salt can now be made in factories. The government should assist the salt makers and provide facilities and services to improve the product. As of 2025, there is no government

agency which adopted the salt industry. (Muyot and Asuncion, 2022). There are no facilities to ascertain the product quality. In this case, the government through its Department of Science and Technology (DOST) can help by establishing facilities to analyze salt outputs. Through this way the concern about the presence of pollutants and heavy metals in the salt can be studied. The government may extend training on how to package the product. When salt products are improved and increased in quantity, the government may protect the salt producers by imposing barriers on imported salt.

Perhaps the government should set up an office that focuses on salt production. Currently salt though, technically a mineral, its production is handled through the Bureau of Fisheries and Aquatic Resources (BFAR). The management of salt farms is done in a similar fashion as fish farms though the product outputs are different. Recently President Ferdinand R. Marcos, Jr. signed into law Republic Act No. 11985 on March 11, 2024. (Arellano Law Foundation, Republic Act 11985, 2025). The law though it did not create a single agency dealing with salt, created a Salt Industry Development Council which included a number of government officials.[3] The council which would be chaired by the Secretary of the Department of Agriculture, was tasked to create a five year development road map that will ensure modernization of the industry, identify sources of funding and strengthen the market linkage and promotion of Philippine salt among others.

Hopefully with the implementation of this law, the Philippine salt making industry including the producers using the traditional and artisanal methods would be pulled from the brink of extinction and neglect. Finally, the government should institute barriers to protect local salt from cheap imports.

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[3] The officials of the Salt Industry Development Council consisted of the Secretary of the Department of Agriculture as chairman and the Secretary of Department of Trade and Industry (DTI) as Vice Chairperson and its members are the Secretary of Health (DOH), Secretary of Environment and Natural Resources (DENR), Secretary of the Department of Science and Technology (DOST), the Secretary of Tourism (DOT), Secretary of Public Works and Highways (DPWH), Secretary of Labor and Employment (DOLE), the Director of the Bureau of Fisheries and Aquatic Resources (BFAR), the Chairperson of the Cooperative Development Authority (CDA), Executive Director of the National Fisheries Research and Institute (NFRDI), one representative from the private sector engaged in salt production and three representatives from the salt farmer cooperatives, two representing Luzon and one representing Mindanao.

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