

# THE HAND NET FISHERY SYSTEM FOR GATHERING MARSH CLAM IN SEOM JINGANG RIVER: A CASE OF KOREA IMPORTANT FISHERIES HERITAGE SYSTEMS

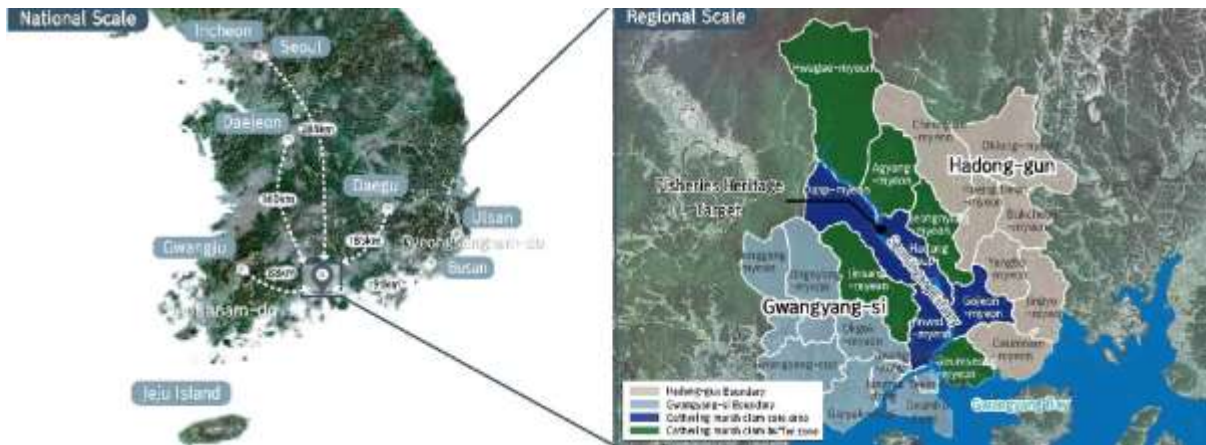
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## OUTLINE OF THE KOREA IMPORTANT FISHERIES HERITAGE SYSTEMS (KIFHS)

<b>Object</b>	Fishery systems, landscapes, seascapes, and any related products in Korea
<b>Criteria</b>	1) food and livelihood security, 2) agro-biodiversity, 3) local and traditional knowledge systems , 4) cultures, value systems, and social organizations
<b>Organizer</b>	Ministry of Oceans and Fisheries
<b>Enlisted KIFHS</b>	8 (refer to the attached)
<b>Process</b>	Local governments apply to the KIFHS. The Ministry of Oceans and Fisheries then evaluates the applications in accordance to the established criteria and satisfactory applications accordingly.

## THE HAND NET FISHERY SYSTEM FOR GATHERING MARCH CLAM IN SEOM JINGANG RIVER

- The Handnet Fishery system is the 7<sup>th</sup> listed KIFHS of eight heritage systems
- Location



Located in the midwestern part of the Korean Peninsula's southern region, the Seomjingang River is the fourth largest river in the Republic of Korea. The basin area totals 4,896.5 km<sup>2</sup>, and

the river is 212.3km long. Geographically, the river basin features the Sobaek and Jiri mountain ranges that stretch towards the southeast. As such, the region is replete with tall mountains and peaks. Historically, the Seomjingang River has served as a border between the Gyeongsang and Jeolla regions. Ecologically, the river has been home to diverse fauna and flora, including endangered species and state-designated.

The site is the Seomjingang River's estuary region, which acts as the border between Hadong County and Gwangyang City. Surrounded by the ridges of Jirisan Mountain, the first national park in Korea, and Baegunsan Mountain, the region boasts outstanding natural environments. Furthermore, a brackish water zone, formed where the river meets Korea's South Sea, is replete with brackish water fish and migratory fish species. Traditionally, the estuary region has been an active center of livelihood activities, based on its river, mountain, and marine environments. In particular, wildlife habitats in the brackish water zone of the river's estuary are particularly significant in terms of the livelihoods of local residents. Traditionally, these residents have utilized diverse fishery resources (e.g. marsh clam, Chinese mitten crab, sweetfish, gizzard shad, and sea bass) and developed them into main sources of livelihood. At the same time, as a secondary source of livelihood, they cultivated pediment slopes to grow rice, green tea, green plum, persimmon, chestnut, and other agricultural products. In this respect, the rich aquatic ecosystem in the Seomjingang River basin has served as the foundation of their livelihood despite the region's geographical conditions, which remain averse to food security.

- *How local community live with the Handnet fishery system*

The prudent use and management of the river by local residents over a prolonged period has enabled the maintenance of its economic, sociocultural, and environmental value until the present day. The Seomjingang River's estuary region is home to diverse inland fishery species (e.g. sweetfish, river oyster, and Chinese mitten crab), among which the marsh clam is considered the region's representative resource. It is a freshwater clam that mainly lives in a sandy brackish water zone that features first- and second-grade water with a salinity range of 3–20 psu. Originally, marsh clams could be seen in rivers and streams all across Korea; however, water pollution caused by the development of estuaries rapidly destroyed their habitats. As a result, marsh clams are now extinct or have dramatically been reduced in number in most Korean rivers. Yet, thanks to local community efforts and an unspoiled natural environment, the Seomjingang River's estuary region is now the only remaining place that offers a hospitable habitat for marsh clams. Today, the estuary is Korea's largest marsh clam habitat, and the marsh clams caught here are commonly known as "Hadong Jaecheop" (Hadong marsh clams).

- *History*

Historically, marsh clams have been the main source of food and income for residents of the Seomjingang River. Marsh clam shells found at the Mokdo Shell Mound in the river basin suggest that the species has been used as a major food resource since prehistoric times. Historical documents from pre-modern times, e.g. Illustrated Account of Goryeo (Goryeo dogyeong) (1124), Record of Fish Species in the Nanho Region (Nanho eomukji) (1820), Principles and

Practice of Eastern Medicine (Dongui bogam) (1610), and The Chronicle of Korean Fisheries (Hanguk susanji) (1908), also mention marsh clams, revealing that they had been used as a fairly popular food ingredient from prehistoric times to the Goryeo (918–1392) and Joseon (1392–1897) periods. Even today, marsh clams still serve as an important fishery resource that sustains the livelihoods of residents of the Seomjingang River basin.

- *How the system works (eco-friendly traditional inland fishery)*

The sonteul (hand net) marsh clam fishery, which takes place in the brackish water zone of the river's estuary, is Korea's representative traditional inland fishery that continues even today. The sonteul fishery involves the use of georaengye (a tool consisting of a steel net and a bamboo shaft), with which fishers wading in the river dredge the riverbed to gather marsh clams. This traditional fishery is of significant historical and rarity value in that it is a unique fishery knowledge system created through a prolonged collective experience of the river's residents. Furthermore, repeated marsh clam gathering through the use of georaengye is beneficial to the circulation of the aquatic ecosystem and the maintenance of biodiversity in the river. As such, the fishery can be considered an eco-friendly one that helps maintain the health of the river's estuary. Even from a technical perspective, the marsh clam fishery in the Seomjingang River is distinguished from those in China and Japan, in that the former is conducted by wading into water directly, while the latter is conducted aboard boats. Globally, there are only a few regions around the globe, where this unique fishery method is used, a fact that gives the sonteul (hand net) fishery outstanding conservation value.

- *How local community cooperates for the sustainable fishery*

The prolonged continuation of marsh clam fishery in the river's estuary has greatly influenced the culture of local residents. The fishery requires no special qualifications (e.g. age and gender requirements). Such characteristics have positively influenced the reinforcement of a sense of community among the river's residents, especially by allowing the formation of a cooperative organization known as dure. Among diverse fisheries in the Seomjingang River, marsh clam fishery, in particular, has actively operated dure, through which marsh clam gatherers, regardless of their region of origin (whether they are from the Gyeongsang or Jeolla region), collaborated and built mutual solidarity.

Today, the dure tradition still continues in the form of village-level fishery guilds. Furthermore, local residents channeled their arduous labor into joy by singing a traditional work song and prayed for plentiful catches by holding a rite known as baetgosa. These activities were also centered around each village's dure.

The succession of the traditional marsh clam fishery and the continued fishing activities in the river have also influenced the formation and spread of local food culture. The Seomjingang River's estuary has maintained diverse regional specialties, such as marsh clam soup, marsh clam salad, and marsh clam bibimbap. As the health benefits of marsh clams (e.g. liver protection, hangover relief, detoxification, anemia reduction, and jaundice treatment) became

more widely known, such marsh clam dishes became popularized by local restaurants and food specialists. The popularization of marsh clam dishes has led to an increase in demand for marsh clams, thereby driving the continuation of marsh clam fishery in the river.

From April to November, the sonteul (hand dredge) marsh clam fishery activities create distinct “cultural landscapes” that blend in with the seasonal changes in the surrounding natural environments.

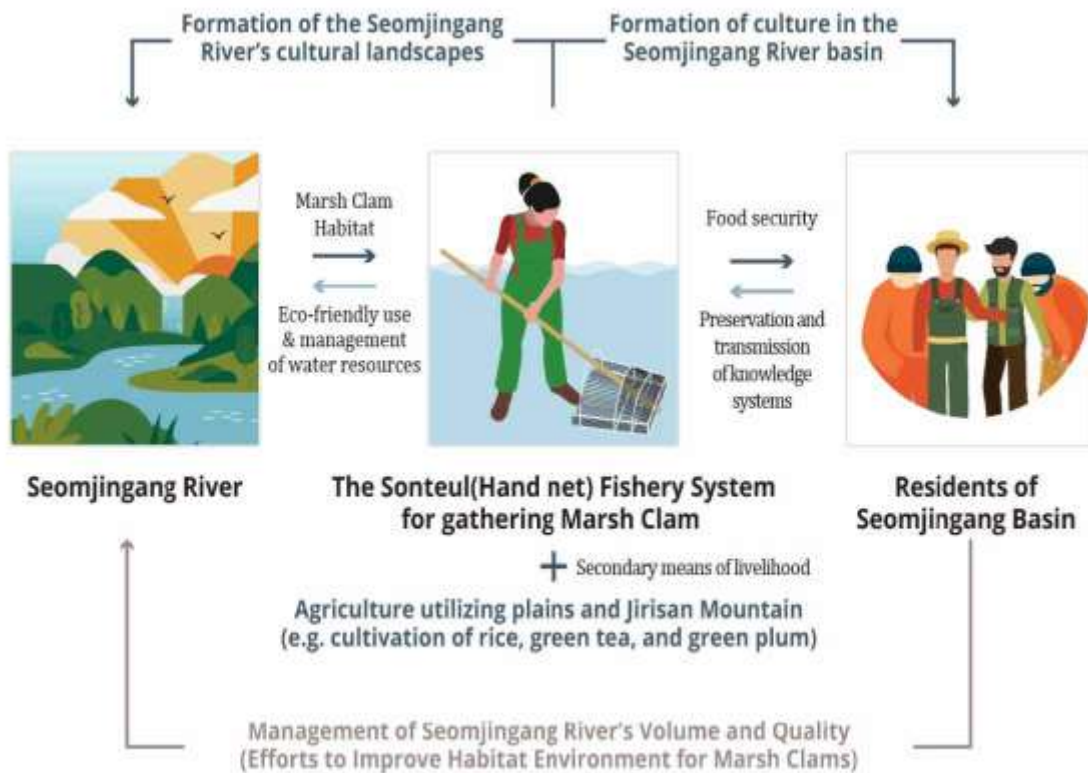
Capitalizing on such landscapes of the Seomjingang River and the unique knowledge system of this traditional fishery, a marsh clam festival is held annually. A significant number of tourists visit the river during the fishery season every year, to photograph and experience in person the gorgeous natural landscapes of the Seomjingang River and the unique cultural scenes of marsh clam fishery.

Fortunately, the healthy natural state of the Seomjingang River’s estuary has been maintained; however, it still remains vulnerable to development pressure. Moreover, a decrease in the instream flow caused by the Seomjingang River Dam has brought about diverse environmental crises, e.g. increased salinity levels, changes in water quality, and the influx of alien species. Against this backdrop, to maintain the succession of the region’s traditional fishery and to preserve its ecosystem, residents of the river have been voluntarily engaging in preservation activities related to, for example, the enhancement of water quality; the prevention of salinity damage and the mass mortality of marsh clams; the expansion of marsh clam habitats; and the prevention of overfishing through the calculation of a maximum sustainable yield.


## CONCLUSION





In this regard, the sonteul (hand net) marsh clam fishery in the Seomjingang River has played an important role in, for instance, the food security and livelihoods of the river’s residents, the maintenance of the aquatic ecosystem, the formation of diverse regional cultures, and the creation of outstanding cultural landscapes. In recognition of such value as agricultural heritage, the fishery was designated a part of the Korea Important Fisheries Heritage Systems (KIFHS). Moreover, the Seomjingang River basin is significant as a foundation for the preservation of marsh clam habitats.



Globally, marsh clams live in brackish water zones, as well as rivers and streams, in China (the Yangtze River basin), Japan (the Southern Hokkaido region), and Korea. All three countries have been faced with the problem of diminishing marsh clam habitats and catches, a phenomenon caused by water pollution and environmental changes induced by rapid urbanization, industrialization, and the development of estuary regions since the 1980s. In the context of this inland fishery crisis replete with risk factors, the Seomjingang River is a place with significant geographical value. The river’s sonteul (hand dredge) marsh clam fishery has both domestic and global importance, in that it serves as the foundation for the protection of marsh clams and other diverse brackish water fishes as well as for the succession of a traditional inland fishery.



Reference : Korea Important Fishery Heritage Systems

Name	Region	Characteristics
Jeju haenyeo fishery system (No. 1) (Dec 21, 2015)	Entire Jeju region (14,346ha)	
		<ul style="list-style-type: none"> <li>Traditional fishing method of professionally collecting marine produce such as abalone, conch, seaweed etc. by diving into the sea without any equipment, accompanied by a wide variety of related customs such as <i>bulteok</i> (communal fire pit) and <i>haeshindang</i> (sea deity shrine) with rare and unique cultural value.</li> </ul>

<p><b>Boseong bbaelbae (plank boat) fishery system (No. 2) (Dec 21, 2015)</b></p>	<p><b>Jangam-ri, Beolgyo-eup, Boseong-gun, Jeollanam-do (35 km<sup>2</sup>)</b></p>		<ul style="list-style-type: none"> <li>• The bbaelbae plank boat is the only method of gathering cockles in the mud flats with very fine mud into which feet sink very deeply with every step.</li> </ul>
<p><b>Namhae jukbangnyeom (bamboo screen) (No. 3) (Dec 21, 2015)</b></p>	<p><b>Jijok straits, Samdong/Changseon-myeon, Namhae-gun, Gyeongsangnam-do (537.2ha, 23 jukbangnyeom sites)</b></p>		<p>The only trap-type fishing system in Korea which has been independently operated as a livelihood since the Three Kingdoms era. A quintessential traditional fishery system which works in harmony with the rules of nature.</p>
<p><b>Shinan mud flat sun-dried salt field (No. 4) (Oct 31, 2016)</b></p>	<p><b>Sun-dried salt fields, Shinan-gun, Jeollanam-do (29.7 km<sup>2</sup>)</b></p>		<ul style="list-style-type: none"> <li>• A traditional method of making salt by drawing seawater into the salt field and drying it under natural wind and sunshine using traditional techniques and knowhow.</li> </ul>
<p><b>Wando pole-type seaweed farming (No. 5) (Dec 1, 2017)</b></p>	<p><b>Pole-type seaweed farms in Cheongyong-ri, Gagyo-ri, and Bongmyeong-ri, Gogyeum-myeon, Wandogun, Jeollanam-do (358ha)</b></p>		<ul style="list-style-type: none"> <li>• An eco-friendly traditional seaweed farming method using the shallow water and large difference between the tides to produce seaweed under controlled exposure to natural sunlight.</li> </ul>

<p><b>Muan/Shinan bare-handed mud flat octopus fishing</b> (No. 6) (Nov 30, 2018)</p>	<p><b>Mud flats in Muan Tando and Shinan Seondo</b> (118.35 km<sup>2</sup>)</p>	 <ul style="list-style-type: none"> <li>• Traditional octopus fishing method which requires a good understanding of the octopus' ecosystem to catch it swiftly with bare hands.</li> </ul>
<p><b>Hadong/Gwangyang marsh clam handheld tray fishing</b> (No. 7) (Nov 30, 2018)</p>	<p><b>Seomjingang river downstream, Hadong-gun, Gwangyang-si</b> (140ha)</p>	 <ul style="list-style-type: none"> <li>• Method of gathering marsh clams using tools such as a <i>georaengi</i> (filtering tray) in brackish water zones with well-preserved marsh clam habitats.</li> </ul>
<p><b>Tongyeong/Geoje Gyeonnaeryang rock seaweed harvesting</b> (No. 8) (Jul 3, 2020)</p>	<p><b>Gyeonnaeryang straits, Geoje-si and Tongyeong-si</b> (63.6ha)</p>	 <p>Method of collecting seaweed using a <i>teuritdae</i> (pole-like tool) in the Gyeonnaeryang straits with well preserved habitats, rapid currents and clean water.</p>