For reference:

ALI Octopus Feedback

Could squid aquaculture fill the gap from declining cephalopod stocks in Japan?

CEPHALOPOD FARMS COULD BE VERY HARMFUL, BUT WE CAN STILL STOP THEM

Can cephalopods - octopus, cuttlefish, squid - be farmed sustainably? This seems to be the number one question asked after news surfaced regarding the establishment of Nueva Pescanova's first commercialized <u>octopus farm</u> in Spain and a potential new <u>Squid farming operation in Japan</u>.

"Sustainable" cephalopod farming does not exist. Sustainable development by definition is to satisfy the demands of current generations without threatening the needs of future generations, while taking economic growth, environmental care, and social well-being into account. Under this principle, cephalopod farming is not sustainable for several reasons.

First, commercial aquaculture is unsustainable by nature. Aquaculture has been touted as a solution to overfishing and food security. However, farming carnivorous species, such as octopus and squid, requires an increase in the extractivism of marine species sourced from strained fisheries using inhumane fishing practices, contributing to a further decrease in already declining populations to acquire the carnivorous diet necessary for these farmed animals.

One study found that the optimal feeding frequency for oval squid is four to five times per day¹. Such practices exacerbate food insecurity issues in communities that could otherwise use those lower-level protein sources, that are rich in nutrients and energy, which are instead fed to farmed species. Furthermore, oval squid (*Sepioteuthis lessoniana*) and common octopus (*Octopus vulgaris*) consume live food consisting of crustaceans, which are known to transmit a variety of viral, bacterial, and fungal diseases.

Second, commercial aquaculture farms carry a number of biosecurity and biophysical threats to surrounding environments. In May 2022, the Aquatic Life Institute (ALI) drafted a response to the <u>Environmental Impact of Nueva Pescanova regarding the execution of an octopus farm</u> for the Government of the Canary Islands. Many of the biosecurity and biophysical risks that were discussed in this statement also apply to

¹Satjarak, Jirapan, et al. "Optimal Feeding Frequency for Bigfin Reef Squid (Sepioteuthis Lessoniana)." Aquaculture Research, vol. 52, no. 6, 29 Jan. 2021, pp. 2740–2750, 10.1111/are.15126.

any potential squid farms. A large area of concern that exists at this time is the potential development and rapid spread of unknown pathogens and disease, which could create a substantial public health crisis. Major threats to cephalopod health are water quality issues, physical injury, and infection (due to parasites or other pathogens), all of which may be interrelated. Host-pathogen interactions can be strongly influenced by the environment. Further injuries may be easily inflicted by constrained captive conditions, handling, and transport.

Finally, cephalopod aquaculture farms could have detrimental effects on local aquatic animals either indirectly through unknown contaminants and pollutants transferred through discharge, or directly through farmed and wild aquatic animal interactions made possible by instances of escape. If any escapes were to occur due to human error or natural disasters that harm the integrity of enclosures, then diseases, pathogens, chemicals, etc. could be passed from farmed to wild populations leading to negative interactions with local fauna and a decrease in the genetic integrity of native aquatic animals.

The proposed development of cephalopod farming only casts a spotlight on the collection of concerns connected to these intensive practices. Rather than incentivizing the research and development of aquaculture that could be "efficient and cheap enough" to be commercialized, we should direct investment efforts towards innovative, <u>alternative forms of seafood</u>. From both sustainable and environmental perspectives, cephalopod farming simply should not play a role in global seafood development.

Government policy must focus on shifting to a global, plant-based food system in an attempt to tackle the dire climate change emergency we are currently facing worldwide. Establishing new, animal factory farms is contrary to United Nations' 2030 Sustainable Development Goals. Banning these types of farms now, will allow countries to develop in complete alignment with the 2030 SDG commitments moving forward.

Signed by:

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