

Seahorse Illegal Wildlife Trade (IWT) From Africa To Asia

Posted on October 12, 2022

Executive Summary

The research under investigation provides insight into the Illegal Wildlife Trade (IWT) at the global level between countries in dried seahorses. The literature review and data (secondary) analysis suggests that the demand for seahorses is in the East Asian countries of mainland China, Hong Kong, and Indonesia. Furthermore, illegal markets from Africa are directing their exports towards East Asia through the transit country of Belgium. The major purpose of the demand for dried seahorses, that is, almost ninety per cent of the total global demand, is to serve the purpose of traditional Chinese medicine. CITES Trade Database provides reporting of the member states to the agreed 2012 convention, suggesting discrepancies in the export and import figures, with the latter exceeding the prior. Data analysis suggests that the African countries of Guinea, Senegal and Togo are primary exporters of dried seahorses to the East Asian market despite legal barriers prohibiting the export of the wildlife species. Policy recommendations include a focus on East Africa, capacity building, awareness of law enforcement agencies, and effective trade and international collaboration as a way forward for research, policy, and practice in curtailing global trade for dried seahorses.

Background

Illegal Wildlife Trade (IWT) in 'Seahorses accounts for a significant portion of the trade of wildlife animals in the illegal trade categorization and ranks top. The primary reason for the demand for dried seahorses is to provide traditional Chinese medication that is believed to cure erectile dysfunction, infertility, and arthritis, which accounts for ninety-five per cent of the total demand for seahorses. Analysis of the paper takes into consideration the causes, demand, and sources of supply for seahorse trade at the international level, which follows the assessment of the trade from Africa to Asia. The major purpose of seahorse import in East Asia is to utilize the powder of species for traditional Chinese medicine. Trade from Africa is growing, and the official reporting of statistics on exports either does not exist or is heavily understated. It is evident that African countries are expanding their operations to export dried seahorses through the main transit hub of Belgium, which directs exports towards their destinations in East Asian markets. The paper attempts to understand the trade dynamics of dried seahorses from Africa to Asia between the signatory countries to the CITES Trade Database.

Decline In Seahorse Population

As per the classification of seahorses, it can be one of forty-six species in the genus 'Hippocampus,' which are small marine fishes. They reside in temperate salt water and tropical regions around the world, that is, between 45 degrees south and 45 degrees north. Most commonly, coral reefs, seagrass beds, mangroves, and estuaries are the areas for seahorses to find shelter. Seahorses form part of the family, 'Syngnathidae,' which includes sea dragons, pipe horses, and pipefish. The family as a whole is vulnerable to exploitation and habitat loss, with the global seahorse population sharply declining over the last few decades. A few of the causes for rapid decline are in the form of biology, life history, and ecology (Foster and Vincent, 2004). The estimates for seahorses in the IWT data from the Pacific and Southeast region also suggest that the grouped species (seahorses) stands at 15.95 million individuals for the year 1998-2007, which are exported toward the countries of China, Hong Kong, SAR, Taiwan, and Poland with the purpose of traditional (Chinese) medicine usage.

Data Methodology

The adopted method of data analysis is a qualitative and quantitative assessment of illegal trade dynamics in seahorses. Most of the quantitative and qualitative data is available in published literature, which is cited to provide an assessment of the illegal seahorse trade dynamics. The secondary data on quantitative aspects of the import and export of the illegal seahorse trade in the present study is the "CITES Trade Database" for the trade of seahorses from Africa to Asia during ten years (2008-18). In 2002, all the seahorse species were listed as 'Hippocampus spp.' within the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). All the signatory members are bound to submit their respective seahorse trade figures of import and export; however, the official records are often under-represented and fail to accurately explain the actual trade volumes.

However, the centralized nature of the CITES database provides empirical evidence related to the trade dynamics between the signatory countries to the convention and consequently assists in understanding global trade patterns. The data set of CITES is the best available through the formal reporting process of parties to the convention, and it assists researchers in evaluating the trade dynamics from Africa to Asia in dried seahorses. The value of dried seahorse is weighed in kilograms is adopted, and labelled as 'bodies' and 'skeletons,' for distinction of desired sub-demand from the consumers. Thirty per cent of the record, from a total of 314 records on "importer reported quantities" and "exporter reported quantities," is assumed as individuals due to a lack of provided units in records; furthermore, the figures are then translated into kilograms for proper assessment of the volume and flow of quantities. To avoid recounting, the paper involves an assessment of dried seahorse trade originating from the country of export as part of direct trade assessment.

Analysis Of Illegal Wildlife Trade (IWT) Of “Seahorse”

The existing literature on the illegal wildlife trade for seahorse suggests that there exist three main anthropogenic factors, which include “targeted exploitation, accidental capture in non-selective fishing gear (retained by-catch) and habitat degradation” (Louw, S. and Bűrgener, 2020; Otero-Ferrer et al., 2017). In the process of direct exploitation, seahorses are targeted to supply dried seahorses for trade purposes, that is, import and export. Direct exploitation takes place when local fishermen utilize methods of large industrial-scale fishing like trawl gears, which has damaging consequences for the seahorses’ coastal habitats around the world and results in the global decline of the seahorse population (Pollom, 2017a). The global decline of the seahorse population owes to the extraction through bycatch in large numbers, which is also unsustainable at the cost of tens of millions of seahorses on an annual basis. The removal of a vast portion of the seahorse population on a yearly basis significantly hampers the ability of seahorses to recover from decline; moreover, the situation worsens with each passing year.

Demand: Trends, Patterns, And Characteristics

Louw and Bűrgener (2020; p. 1) analyze the dynamics of seahorse trade and rank Indonesia, mainland China, Senegal, Malaysia, and Hong Kong as the top five countries that account for ninety-nine per cent of global reported exports of dried seahorses. The estimated number of individual Seahorse exports over the last ten years stands at 11,250,098, with estimated total global imports of Seahorses at 15,772,838 (Louw and Bűrgener, 2020). Furthermore, the findings state that seventy-one per cent of the reported global exports for seahorses come from Indonesia, followed by Senegal, Hong Kong, mainland China, and Malaysia with 10, 1, 15, and 2 per cent, respectively. In a similar way, the illegally exported seahorses in the Southeast Asian region had ‘Indonesia’ as their origin between 1999 and 2009. Indonesia, along with Malaysia, is the major coral source in the South East Asia. For example, approximately one and two million individuals of dried seahorses were confiscated in Poland (Mallari, 2014).

Overall, Nijman (2010) argued that harvesting and trading wildlife has reached a staggering level, and during the years 1998 and 2007, an estimated 34 million animals were traded globally. Uhm (2012) also argues that the wildlife trade continues to grow after the publication of Nijman (2010), and World Bank (2014) estimates suggest that the crimes related to natural resources and the environment are approximately 213 billion U.S. dollars industry with booming prospects. In a similar way, IWT figures for countries such as Colombia, the United Kingdom, Brazil and Norway are around six to twenty billion U.S. dollars on an annual basis. The trade for seahorses in all the wildlife categories is the highest, while the number of individuals reported is approximately 15.95 million, which subsequently follows the trade of reptiles at around 17.43 million U.S. Dollars (Nijman, 2010). In terms of consumers, China and Hong Kong rank high in Southeast Asia, and the United States of America (USA)

and the European Union (EU) follow afterwards. Mallari (2014) argues that the illegal products of wildlife from the common wildlife products (source) countries, such as Malaysia, Philippines, Thailand, Indonesia, and Viet Nam, towards the exporting countries, such as Japan and China, are also establishing the link that the South East Asian countries are predominated with IWT.

Destinations, Consumptions, And Methods Of Sales

The international trade of seahorses involves dried seahorses for the consumption purpose of “Traditional Chinese Medication” (TCM); although, live seahorses for curiosities and ornamental display are among the remaining five percent demand of dried seahorse (illegal) trade globally. The target for the seahorse involves smooth, pale, and large seahorses that are believed to have a higher value for medication purposes (Louw and Búrgener, 2020). The processing of dried seahorse specimens to power through grinding allows for medication as a sole ingredient and sometimes in combination with other products with the intent of treatment. The immediate discrepancies identified in the data are the overstatement of imports and the understatement of exports. Estimated global figures for dried seahorses in exports are slightly more than 11.25 million individuals, while the total imported dried seahorses figures listed in Figure A are approximately 15.77 million individuals. Table A also explains the total globally exported dried seahorses, which accounts for ninety-nine per cent of the total exports to five countries, that is, Thailand (71%), mainland China (15%), Hong Kong (1%), Malaysia (2%), and Senegal (10%).

On the other hand, global imports of dried sea horses are split between the top three countries in a way that a large chunk of eighty-eight per cent is imported to Hong Kong, followed by mainland China, which accounts for eleven per cent, while Singapore accounts for only one per cent, eighty-eight per cent. This phenomenon explains the exporting nature of dried seashore from Africa to Asia, which accounts for ninety-seven per cent of the total exported dried seahorses. However, there is a lack of available records for data on live seahorses that assist in the analysis of the use of dry seahorses from African countries in exports for commercial purposes.

The reporting data of the CITES Trade Database suggest that Togo, Guinea, and Senegal are highly dried seahorse exporting countries in Africa within the time frame of 2008-10. Apart from major discrepancies that assist in reporting the data, Senegal ranks highest in exporting the number of dried seahorse individuals with a staggering percentage of ninety-eight per cent. The growth pattern for Senegal exports suggests that the approximate figures for the year-end 2016 are three tones. Surprisingly, the import figures for countries in the database suggest no exports during the years 2017 and 2018. Approximately eleven years between the years 2008 and 2018 report only one export figure for the first year; however, the figures for import in the records of several East Asian countries mention higher quantities of dried seahorses from Guinea. In the case of Togo, reported figures suggest a smaller quantity of exports only in the year 2011 to Hong Kong, although the statistics of Hong Kong reporting import of dried seahorses from Togo do not exist.

The vulnerable population of West African Seahorses is subject to source for the wild exclusive seahorses export in dried form. Moreover, the only country from Southeast Asia that reports the import of dried seahorses from Africa is Hong Kong, but the African countries only report exports to Taiwan, mainland China, and Hong Kong. A total of five countries and territories account for a total of ninety-nine per cent of global exports in dried seashores for the period between 2008 and 2018, as cited in the CITES Trade Database; that is, Malaysia with two per cent, Senegal with ten per cent, Hong Kong with two per cent, mainland China with fifteen per cent, Thailand with seventy-one per cent.

The peak of Hong Kong's import of dried seahorses took place in 2009 with an estimated 10t, which was reduced over the next three years to an estimated 2t. The imposition of Thailand's policy and law enforcement for allowing a quota of 1.5k kg per annum for export as the maximum limit might be reflected in the declining figures for the imports of Hong Kong. The resulting impact of the difference in quantity demanded and quantity supplied defines the rise in prices of import value for dried seahorses in kg, that is, USD 600/kg in the year 2013 from USD 250/kg in the year 2008.

Illegal Seahorse Trade From Africa To Asia

Media reports in online sources between the years 2010-2019 show that some African countries have seized seahorse shipments (TRAFFIC, 2018) (300). The illegal exports from African countries are destined to meet the demands of Southeast Asian countries. Madagascar accounts for the highest exporter of dried seahorses from Africa to Asia, with Belgium as its major transit location. Western African countries like Senegal, Liberia, Guinea, Sierra, and Congo rely on Belgium as a transit location for shipments to East Asian countries, which includes Indonesia as its top consumer. The seahorse seizure taking place in the region of South Africa did not show any evidence of a possible trade route because the seizure took place on the land, even before taking place of the shipment to another country for transit purposes. An interesting finding in the literature is that ninety-five per cent of the total global dried seahorse exports come from countries with laws and customs prohibiting seahorse exports (Foster et al., 2019). For example, the Biodiversity Act of 2004 in South Africa protects certain species that have been listed as endangered species in the notification of the IUCN Red List of Threatened Species (Pollom, 2017b). Despite the legislation in place, Hong Kong is reported to have imported seahorses from South Africa, and Senegal remained the key exporter of dried seahorses to Asia in spite of legislation in 2016 that makes it prohibited to import *H. algericus* from the country. The unstable levels of seahorse exports from the African countries of Senegal and Guinea are a result of the lack of regulations, which is reflected in the major data discrepancies reported within member filings in the CITES database.

The countries involved in the import of dried seahorses are primarily East Asian countries that rely heavily on seafood, and the legal trade accounts for a significant portion of the global trade. However, the hidden economy in which trade is sourced for dried seahorses from the region of Africa, especially the west and East of Africa, is increasingly exporting the products to the destination markets of East

Asia in a growing number. However, there are two barriers to the process of exporting dried seahorses from Africa to East Asia. First, the legal barriers to the export of seahorses to the world instigate illegal trade that benefits the source country in terms of financial inflow; however, states cannot openly commit to the export reporting due to social and legal commitment to the prohibition of the seahorse trade at local, regional, and international level.

Moreover, the resulting impact of the global trade in dried and live seahorses is affecting the wildlife species within the ocean, and a threatening number of declines is probably going to disturb the marine ecosystem in a relatively shorter time frame. In recent years, consensus on platforms like the 2012 Convention for Safeguarding the Wildlife Species encouraged the process of accountability; however, underestimation of reporting is an obstacle that adds obstacles to the research and policy processes. Since 2012, there has been a constant decline in reporting due to the understatement of figures for exports from African regions, which calls for collective action in an incentivised manner. The functioning of international regulatory bodies, coupled with national law enforcement and government regulation, can be an effective model for reducing the threatening figures for the decline of seahorse populations. Last but not least, the growth in consumption and production of dried and live seahorse trade owes a great deal to traditional Chinese medicine, which can be effectively adopted by civil society groups to avoid serious threats to endangered species.

Conclusion And Recommendations

The impact of seahorse illegal trade on the wild population of *Hippocampus algiricus* in an adverse manner, which subsequently makes it to the list of IUCN Red List of Threatened Species. The reported statistics on the trade of dried seashores not only explain the understatement of export figures because import figures exceed the net fashion. Additionally, the reported data explains a major decline since the year 2012, which may not be the authentic reflection of the state of international trade pertaining to dried seahorses. The policy recommendations for the member countries to the CITES in the year 2012 was to consider suspension of dried seahorse trading export with Viet Nam, Guinea, Thailand, and Senegal, which is most part (98%) of the total global trade in dried seahorses. However, the actual effect of the suspension of dried seahorse trading resulted merely in the understatement of the export figures in records.

The analysis of Hong Kong's imports in the research study illustrates the high quantities of imports from the countries with which the suspension of dried seahorses trade is taking place. The localized decline in trade volumes also owes retained bycatch for incidental capture through trawling vessels, which adversely impacts the habitats. The exploitation of seahorse individuals from source countries is due to the high demand for dried seahorse in the countries of South East Asia. The under-investigated nature of literature on seahorse trade in Africa over the last few decades should not overshadow the fact that countries in Africa continue to export dried seahorses to the consumer markets in Asia despite the legal barriers to export. Additionally, countries like Guinea and Senegal from West Africa emerged as key players in exporting dried seahorses to countries in East and South

East Asia (Louw and Búrgener, 2020).

Focus On East Africa

The future focus of research and policy reform needs to be East Africa, which investigates the trade of seahorses in East Africa. The legal trade list does not include any figures for dried seahorse trade in the region; however, known harvesting and confiscations of quantities for trade signify the presence of a dried seahorse hidden economy. The region of Africa is underdeveloped, and the struggle to improve the standard of living navigates the masses towards actions that might endanger the survival of species like seahorses, which is why the increased attention to understanding the pattern underlying seahorse trade is instrumental for reducing the steady decline of seahorse population in the world.

Trade Regulations

Trade regulations and standards require upgrades, and customs and government agencies are attempting to limit the opportunities for illegal seahorse trading operations in South Africa, Senegal, and Guinea. Higher barriers to entry of African countries to export dried seahorses in the international trade market means limiting the opportunities available to source illegal operations in African regions from expanding their respective trade volumes. Trade regulations are at the core of saving the steady decline of the seahorse population in marine life. Policymakers need to improve the process of policymaking through the utilization of empirically sound policy-oriented research.

Training And Capacity Building

Knowledge through research is one thing, and practically implementing the laws through law enforcement agencies is another. Training and capacity building of law enforcement officials, such as border police, fisheries, port officials, and compliance officers, is necessary to support the CITES implementation of the agenda in African countries of South Africa, Senegal, and Guinea. UNODC report suggests that the strengthening of law enforcement with respect to crimes in the fishery industry of West Africa is officially an indicator for measuring the effectiveness of legislation, coupled with reducing the level of illegal trade, especially from African countries that have legal barriers to trade in seahorses.

Rising Awareness Among Law Enforcement

ECOWAS member states agreed in the year 2018 to develop a coordinated response for tackling trafficking of wildlife species in West Africa, which requires awareness of the custom and law enforcement agencies within the region of Guinea and Senegal. The potential for trading in illegal

seahorse products within the region of Guinea and Senegal suggest that the products may be smuggled through land borders within the countries, either as part of legal or illegal, and whether concealed and otherwise. In this regard, increased awareness of law enforcement officials, such as border police, fisheries compliance officers, and port officials, can be extremely useful in ascertaining the desired results.

International Collaboration

The international collaboration avenue for mutual coexistence is at the core of the debates at international organizations with representation from states that are either producing or consuming in the illegal trade of dried seahorses. The process of incentivizing efforts to curtail the production and distribution of illegal trade in seahorses for countries of Africa can be extremely useful in mitigating the future threat to aqua life. An international collaboration between the major suppliers and consumers of East Asia and West Africa can be extremely useful in balancing off the reported figures for trade in seahorse individuals.

References

- Foster, S.A. and Vincent, A.C., 2004. Life history and ecology of seahorses: implications for conservation and management. *Journal of fish biology*, 65(1), pp.1-61.
- Foster, S.J., Kuo, T.C., Wan, A.K.Y. and Vincent, A.C., (2019). Global seahorse trade defies export bans under CITES action and national legislation. *Marine Policy*, 103, pp.33-41.
- Louw, S. and Bürgener, M. (2020). *SEAHORSE TRADE DYNAMICS FROM AFRICA TO ASIA*. [Online] TRAFFIC: The Wildlife Trade Monitoring Network. Available at: <https://www.traffic.org/site/assets/files/13501/seahorses-africa-asia-final-1.pdf> [Accessed 11 May 2021].
- Mallari, N.A. (2014). *WILDLIFE TRAFFIC RESEARCH*. [online] PHILIPPINE CLEARING HOUSE MECHANISM. Available at: https://www.philchm.ph/wp-content/uploads/5a-Final-Report_IWT_Wildlife-Traffic-Research-1.pdf.
- Otero-Ferrer, F., González, J.A., Freitas, M., Araújo, R., Azevedo, J.M., Holt, W.V., Tuya, F. and Haroun, R., (2017). When natural history collections reveal secrets on data deficient threatened species: Atlantic seahorses as a case study. *Biodiversity and Conservation*, 26(12), pp.2791-2802.
- Pollom, R. (2017a). *Hippocampus Agaricus*. The IUCN Red List of Threatened Species, 8235.
- Pollom, R. (2017b). *Hippocampus capensis*. The IUCN Red List of Threatened Species, 8235.