

**Title: Utilizing the capacities of international organizations to accelerate catch modifications,
UNIDO project in Iran as a case study**

Present to 14h Session of the Working party on Methods

San Sebastian, 26-28 Oct. 2023

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Abstract

In recent years, there has been a steady policy to shift the method of hook fishing to modern fishing techniques, such as long-line fishing. As a result, a project was implemented through the United Nations Industrial Development Organization (UNIDO) office in Iran and under the supervision of the UNIDO office in Vienna, which aimed to upgrade the entire value chain of tuna species in Chabahar. The project was initiated in 2017, with the objective of effectively achieving the set goals and objectives with proper planning.

In order to achieve the set objectives, the Iranian Fisheries Organization, the UNIDO office, and a Japanese fishing company entered into agreements and plans that pursued specific objectives. This included conducting specialized training via long-line fishing workshops and periodic visits to Japan and Iran's fishing capabilities. Furthermore, they aimed to modify long-line fishing equipment, and ultimately, conduct yellowfin tuna long-line fishing trials in Iran under the supervision of Japanese experts, representatives from the UNIDO office in Iran, Vienna, and Japan, and the fishing community. This process involved catching, killing, and cooling fish in compliance with using fish for sushi and sashimi in the optimal manner, as part of the multiple objectives pursued in this relationship.

Among other things, the practical training of active Iranian fishermen in the long line fishing method was carried out in this regard, in line with the establishment of a special boat for tuna fishing with the long line method. In the end, the goal is that with the arrival of a dedicated longline fishing vessel, the fishing process for tuna and the post-fishing process will be carried out to improve the quality of the catch and train Iranian fishermen, and finally, a part of the harvested catch with High quality in the form of fresh fish for sushi and sashimi to be exported to Japan, and this process is currently being followed.

At the same time, the relevant permits have been acquired, allowing the vessel to enter the designated area. Soon, we anticipate the arrival of a Japanese vessel with the support of the UNIDO organization, which will enable practical training and the implementation of promotional initiatives for local fishermen by the Japanese vessel. This will enable us to successfully carry out the process. The gradual shift from gillnet fishing to longline fishing aligns with sustainable exploitation and conservation of yellowfin tuna fish stocks, while also regulating the fishing effort of active vessels, reflecting one of the objectives of the Indian Ocean Tuna Commission (IOTC). Ultimately, this will help in accelerating the change of the fishing method from gillnet to various hook methods

Introduction

According to the latest data, the overall catch of Iran in 2022, including the Caspian Sea in the north and the Persian Gulf and the Oman Sea in the south, amounts to approximately 752 thousand tons. The catch share of the Oman Sea, Indian Ocean, and Persian Gulf is worth approximately 718 thousand tons. This amount includes the share of tuna and tuna-like fish in the total amount of catch which is approximately 334 thousand tons, accounting for about 47% of the total catch and illustrates the significance of tuna fish caught in Iran. It is known that, in terms of the volume of tuna fish caught in the western Indian Ocean, Iran ranks first among the member countries and second in the entire ocean compared to other countries, demonstrating the importance of these fish in providing white protein to the country and contributing to the revenue of the fishing community.

Despite the use of boats, dhows, and various fishing methods, such as gillnet fishing, other fishing methods like longline and trolling are also available. Nonetheless, gillnet fishing is the prevalent fishing method in the country. Therefore, with the support of international organizations, a new plan is being crafted to convert the fishing method to longline, which will enhance the quality of the product and provide it with a higher added value.

In Iran, the majority of fishing vessels operating in the Indian Ocean aim to capture tuna fish using gillnet methods. However, some ocean purse seiners and coastal fishing vessels also participate in the fishing process. Moreover, while coastal fishing boats employ the longline method to catch yellowfin tuna, which commands a higher price compared to other fishing methods such as gillnet fishing.

Apart from this, a portion of the fishing vessels, including boats and dhow class vessels, also engage in trolling to reel in tuna and tuna-like fish in the coastal region.

In light of the concerns presented previously, the gradual transition from customary fishing methods, including gillnet fishing, to various types of hook methods has been continuously pursued as one of the significant objectives. Through the training of experienced fishermen and promoters, as well as organizing training workshops, we can successfully advance towards achieving certain goals.

Cooperation with the UNIDO office:

In accordance with the predetermined objectives, the aim is to collaborate and leverage the experience of well-regarded countries in the field of hook fishing. In this context, with the endorsement of the UNIDO office in Vienna and the UNIDO office in Iran, the plan for promoting the sustainable development of the yellowfin tuna fish value chain in Chabahar, which was ratified in 2017, has received special attention. As previously stated, various programs have been executed since the start of the project with the assistance of Japan to enable resource-conserving and optimized fishing through the longline method with a view to enhancing the worth of sushi and sashimi.

In accordance with the agreed-upon plans, we have acquired a permit to import a Japanese longliner ship, in a bid to accomplish the aforementioned objectives. Additionally, in the near future, there is an anticipated possibility of having a vessel with a Japanese and Iranian crew. Evidently, the ultimate target of the Iranian Fisheries Organization is to leverage this variable as a catalyst to expedite the transition of gillnet fishing to longline fishing with the collaborative efforts of UNIDO and Japan.

Factors and issues surrounding the inadequate application of the longline fishing method:

Considering the fact that the majority of vessels in Iran's fleet are fishing vessels, the Iranian Fisheries Organization has set long-term objectives for fostering the utilization of hook fishing methods. Nevertheless, various challenges pertaining to this exist, and we shall expound upon a few of these issues.

1.The interest of the fishing community to employ the gillnet method

Considering the long-standing legacy of the fishing industry in the country, the usage of gillnet fishery and net fishing has been inherited from our ancestors, and due to the fishing communities' cultural background, altering this system would necessitate an extensive duration and in-depth investigations by experts. The proclivity and interest in employing gillnet fishing methods and the expertise in utilizing such methods have always been present. Transiting fishing communities to alternative, more innovative methods would be rather troublesome, and the necessary assistance and endorsement of other international organizations, such as the IOTC, will be crucial in this endeavor. Therefore, altering the cognitive approach of fishermen with the aid of international organizations would prove highly impactful in both Iran and different countries globally.

2. Superiority of gillnet Fishing methods over other hook fishing techniques in catching multiple species in greater volumes

In light of the IOTC recommendations and the required standards, the use of surface gillnet fishery that exceed 2.5 kilometers is not permitted by dhows operating in distant waters. This regulation illustrates the significance of the gillnet method on the volume of tuna fish, highlighting the necessity for countries to exercise restraint in employing this strategy. To conserve tuna stocks and mitigate overexploitation, it is imperative to regulate the use of the gillnet throughout the international waters by every country. While the costs of this approach are lower than alternative methods.

3.Simplification of fishing net preparation for local fishermen

It is noteworthy that fishing nets have been readily available for fishermen within and outside the country since ancient times, thanks to net weaving factories' widespread establishment. Fishermen can easily acquire numerous types of gillnet with diverse materials. With respect to gillnets, excluding the issue of thread quality, the necessary resources are readily available in the native industry. Additionally, the production of fishing nets has been consistently prepared at home, which is one of the principal drivers for the use and adoption of gillnets.

Nevertheless, due to the country's peculiarities and circumstances, such as sanctions, the full costs of these materials have significantly elevated in recent years, possibly inspiring fisherman to avail themselves of less costly alternatives like longlines.

4. Comprehensive Infrastructure to Sustain Fishing Nets for Fishermen

Fewer facilities required for fishing net repair, and most fishing vessels perform on-board maintenance or local net weaving workshop Repair.

5. The negligible price variance between fishery product captured via nets and hooks

Currently, the most essential concern in collaborating with UNIDO and other international organizations, is raising the economic gap between the price of tuna caught with longline fishery compared to gillnetting. This article primarily serves to emphasize the significance of this matter and lay out the appropriate measures designed to improve the quality of the product, thereby boosting its added value and ultimately exporting high-quality goods to the markets of Japan.

The relevant project in question has successfully attained the targeted outcomes, thereby enabling the beneficiaries to realize profit after selling the product and thereby reducing their fishing efforts. As a result, they will be closer to achieving sustainable fishing objectives while still generating satisfactory income. Furthermore, they will be able to accomplish the transformation process by gradually changing their fishing methods, all with the assistance and supervision of collaborating organizations.

It should be mentioned that in recent years, several coastal fishing vessels have commenced utilizing hook fishing for capturing yellowfin tuna. The final product of hook fishing is distinct from gillnet fishing in terms of price. Longline harvesting is typically lower than gillnet fishing, which necessitates formulating and revitalizing domestic markets as well as the establishment of a maritime or aerial export corridor for yellowfin tuna. Accomplishing this would prompt a substantial price discrepancy among the diverse methods, thereby enabling hook fishing to get nearer to the ultimate goal.

6. Fishermen's lack of knowledge regarding the hook fishing technique and other technical obstacles

Within any educational framework, proficiency in employing its respective components is essential.

This matter is similarly present within the traditional fishing communities of several nations around the world, therefore, it is critical to apply the knowledge of other countries and conduct journeys and site visits of proponent fishermen in order to fill in the knowledge and ultimately disseminate it to other end users and fishing cooperatives. The presence of local fishermen with insufficient technical know-how and poor education exacerbates the difficulties of fulfilling the aforementioned objectives. Consequently, it is highly beneficial to deploy incentive mechanisms for these communities in cooperation with fishing cooperatives to conduct education-oriented and promotional trainings.

7. lack of Storage facilities for high-quality products targeted for export

To enhance the value added to the catch of tuna fish caught by hook, adequate facilities and updated refrigeration systems must be implemented, which would incur significant spending. Simultaneously, in view of the arrangements with UNIDO in Chabahar related to the construction of cold storage facilities for preserving high-quality tuna caught by hooks, strategic planning and action are in the pipeline, which appears to open up lucrative opportunities for the fishing community in that region based on the premise of exporting goods of premium quality.

Progressing multilateral cooperation with UNIDO: Actions for the fishing sector in Iran

In recent years, Iran's Fisheries Organization (IFO) has taken notable actions in this area. The following initiatives are worth mentioning:

- The Iranian Fisheries Organization has taken initiatives to arrange both in-person and online training courses for fishermen in Iran and Japan to improve their abilities in utilizing the longline fishing method.
- Periodic visits of the tuna fish product industries in Iran and Japan
- A 20-day maritime trip of an Iranian fisherman utilizing a special ship for the longline tuna fishing method has been undertaken in order to acquire practical expertise and technical skills required for this fishing method.

- Conducting an experimental sea trial for hook fishery in Iran in the presence of Japanese and Iranian fishermen and UNIDO officials in Tokyo, Vienna, Iran, and representatives of the Iranian Fisheries Organization.
- The engagement of the Japanese company's partners to expedite tasks and monitor the process of catching tuna fish, Inclusive of yellowfin tuna, starting from fishing up until Its fresh export toward Japan.
- The dissemination of brochures, magazines, and scholarly articles concerning the approach of the effort.

Results:

In accordance with the extensive clarifications, it would be imperative to maintain the required communication with international organizations, including UNIDO, in the most optimal manner, with the aim of expediting the gradual process of changing fishing methods from net fishing to newer techniques of hook fishing, with the assistance and support of these organizations, while making certain to address the fishing communities both inside and outside the country, enabling us to pursue the objective of sustaining existing resources and executing the requisite measures to realize high-quality tuna fishing, with subsequent measures taken for tuna exportation.

If the intended objectives are met, there would be a shift in the attitude of both the fishing community and international organizations on pursuing the process of utilizing a wide range of hook fishing methods, featuring the longline fishing technique, which would ultimately contribute to the consistency of cooperation between us and overseas organizations and finally, executing an effective pilot project for the fishing community as well as other countries.

With due regard to the significance of the targets set forth by the Indian Ocean Tuna Commission (IOTC), the Iranian Fisheries Organization has striven to implement the most effective process in order to satisfy the relevant conditions, notwithstanding many issues and difficulties persist. Attracting foreign investors active in the longline tuna fishing sector as part of promoting this particular technique of fishing has been and remains a plan of action, and we hope that through our continuing cooperation with UNIDO and Japanese companies, we can turn the Chabahar region into a prototype region for direct exports of a portion of the tuna caught with the hook method, covering yellowfin tuna in particular, to Japan and eventually to other nations. Thus, we trust in pursuing IOTC's efforts en route to backing the provision of the wanted support, specifically with regard to the less developed nations, while attempting to transform fishermen's attitude.