



Marine Fisheries Insurance

Issues and Strategies for Sri Lanka



Bay of Bengal Programme
Inter-Governmental Organisation

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The marine fisheries sector of Sri Lanka has developed rapidly since 1948, its independence year. From a subsistence activity, it is in the process of transformation to a key blue economy sector, revitalizing the coastal economy and contributing to national development. However, what lies in the future of the sector is uncertain. The uncertainty stems from rapid changes in the climate that in turn is changing the conventional socio-ecological system in which the fisheries operate.

There is no single solution to the emerging problems but a range of actions are needed. One of the much-needed actions is to mitigate the financial risk faced in the fishing operations and the fishers. Insurance is a tested measure employed by people and businesses to deal with risk and uncertainties and cut down expected losses from adverse events.

While insurance remains an enigma to the fisheries sector, there is a renewed thrust on its integration into fisheries policies to deal with the escalation of risks in the sector, globally. However, it's easier said than done.

The big question is what can be done to popularise the adoption of insurance in the sector. This policy brief presents the views of a wide range of stakeholders on insurance and offers an insurance toolbox for the government to consider and act upon as a social welfare measure.



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Key Messages

- The marine fisheries in Sri Lanka is playing an important role in the national economy both as a source of food and livelihood. Therefore, ensuring that risks are mitigated to the best possible extent is of paramount importance.
- The sector employs about 225 thousand fishers and about 10 times more people are likely to be engaged in pre- and post-production activities. The nature of fisheries is largely artisanal and small-scale. Addressing the income risks of the fishers will contribute to the SDG 14 Sub goal: “securing sustainable small-scale fisheries”.
- Fishers face conventional business disruption risks and elevated weather risks. The risk implications vary in terms of scale, timing, location, and impacts. Therefore, to address different types of risk, an insurance-mix is required.
- For wide-ranging, macro-level weather risks, parametric insurance is emerging as an ideal solution. Parametric insurance is also ideal when verification of a claim is difficult since this insurance is based on third-party information.
- On the other hand micro insurance and mutual insurance may be promoted to provide tailor made solution (e.g. gear insurance, engine insurance) for the different sub-sectors.
- However, the insurance market is yet to be fully developed to address either conventional or parametric risks. Due to lack of exposure, fishers also lack understanding about insurance and how it can be used strategically. Combined, there is an inadequate trust of the fishers in the utility of insurance schemes and loyalty of insurance companies.
- Therefore, a strong public policy is needed to define the role of various players in the insurance market. To address the trust issue, the Government may act as a mediator or aggregator of risks and facilitate reinsurance. The strong NGOs of the country could be incentivized to promote micro and mutual insurance in the country.



1. Introduction

This policy brief presents the key findings from a study carried out by the BOBP-IGO with funding from the World Bank. The overall objective of the study was to evaluate the existing mechanisms of risk transfer and risk mitigation concerning climate change in the fisheries sector.

The marine fisheries sector is an important primary sector in Sri Lanka. It contributes 0.8% to the Gross Domestic Product (GDP) at constant prices of 2010. The value of fish was Rs. 196, 989 million (approximately USD 1,102 million) in 2019. The marine fisheries sector of Sri Lanka includes a territorial sea of 21,500 sq. km and an Exclusive Economic Zone (EEZ) of 517,000 sq. km. Major components of the marine fisheries are offshore and coastal fisheries. These sub-sectors have contributed 34.2% and 48.0% respectively to the total fish production in 2019. The fishing fleet operated in marine waters of Sri Lanka numbered 49,496 in 2021 of which 5,155 (10%) fishing vessels are operating offshore and the rest in inshore fisheries. Presently, 21 major fishery harbors, 42 anchorages, and 883 landing sites provide landing and berthing facilities for the marine fishing fleet. The sector employs about 225

thousand fishers and sustains about 800 thousand households.

There is growing evidence that climate change is intensifying extreme weather events and fostering changes in productivity, biodiversity, species distribution, and habitat health in the oceans. Marine capture fisheries is an inherently risky activity. The risk profile is worsening further with climate change. Therefore, the traditional risk finance instruments of the fishers, such as personal loans, conditional loans, sale of assets, and investment in fishing capacity are unlikely to pay in the long-term. There is strong evidence now that the spread and magnitude of the climate problem are likely to be such that non-institutional financiers in the fisheries sector, such as relatives, and moneylenders would also be facing substantial risks.

Pragmatic risk management solutions are required to adapt to the changing situation. It is in this context there is a growing recognition of insurance as a risk management measure. Sri Lanka has mixed experience in insurance adoption. The multi-day boats and crew are mostly insured. However, the larger coastal

Table 1. Sri Lanka Key Statistics

Coastline (Km)	1,585
EEZ (sq. km)	517,000
Number of fishers (Estimated)	225,020
Number of fishing vessels	49,496
- Multy-day Boats (Offshore Vessels) -IMUL	5,155
- Inboard Single Day Boats – IDAY	895
- Outboard Motor FRP Boats - OFRP	24074
- Motorized Traditional Boats - MTRB	2310
- Non-motorized Traditional Boats – NTRB	16,006
- Non-motorized Traditional Beach-seine Boats – NBSB	1,056
Marine fish production (2020) in tonnes	326,930

Compiled from Fisheries Statistics Sri Lanka 2021 Ministry of Fisheries.

fisheries sector is not adequately insured. There are also no insurance business disruptions.

There is a growing number of innovations in the insurance sector to improve the coverage of so far uninsured risks. One such innovation is the introduction of parametric insurance. Conventional insurance deals with loss and damage (L&D) from named perils. For example, in the case of a householder policy, theft is a named peril. On the other hand, parametric (or index-based) solutions are a type of insurance that covers the probability of a predefined event happening instead of indemnifying the actual loss incurred.

One such case could be flood insurance for householders. In the case of conventional flood insurance, the householder is required to raise a claim. Then, the insurance company

will evaluate the claim and if the claim is justified, the insurer will pay for the loss claimed. In the case of index-based flood insurance, if there is a report of a flood in the coverage area (e.g., Government declared flooded area), the insurance company will pay all enrolled householders compensation as per the policy terms. The householder does not need to raise a separate claim. However, the amount of compensation may be less than the L&D (the penalty for bad practices) or more than the actual L&D (incentive for good practices) as it is not concerned with personal damages.

The Sri Lankan Government has already identified itself as the key player in this agenda. The technological progress in the country can further help to boost this endeavor.



2. Methodology

This Policy Brief is a result of an exploratory and participatory study conducted by the BOBP-IGO in the South Asia region in 2022. The baseline information was collected through a detailed review and analysis of international policies, government policies, and scientific literature on insurance and climate change. A draft strategy was developed based on the baseline information and critical areas were identified.

In the next step, a participatory approach was adopted and discussions were held with fishers, fisher associations, and insurance companies to understand their perspective and evaluate the draft strategy.



3. Typology of Risks and Risk Finance Mechanism in Fisheries

Dimension	Internal/operational risks	Climate risks
Production	<p>The catch is stochastic. Acquired knowledge of the fishers supported by technology is used to meet the risk.</p> <p>Loss of fishing days due to conservation and management measures (CMM). CMM, however, improves stock health and contributes to production. Income support (saving-cum-relief) is provided to cover the lean period.</p>	<p>Climate change is likely to obsolete traditional knowledge increasing the production risk.</p> <p>Loss of fishing days due to bad weather days. Since bad weather days are localized in nature, they do not generate benefits like CMM.</p>
Life/ Health	Collision, man slipping overboard, injury from outboard motors, etc.	Cyclones, lightning, flood
Asset risk	Engine failure, gear loss, hull damage	Damage due to cyclone
Other business risks	Non-functional/ poor infrastructure, etc.	Damages to infrastructure facilities.

The results from stakeholder consultations show that non-institutional finance, such as loans from moneylenders, friends, and relatives is the major source of finance in the fisheries sector. The SSAF vessel owners do not qualify for bank credit as they are not insured. Therefore, they have to look for a personal loan at a higher interest rate to finance fishing operations. Crew, boat owners, money lenders, and other similar categories are the major sources of credit. Unlike the agriculture sector, micro-credit and SHGs are not much developed in the marine fisheries sector.



4. Emerging Climate Risks

Sri Lanka is a tropical country that is extremely vulnerable to the effects of climate change like sea level changes. Low-lying plains in the coastal zone will be vulnerable to any future rise in sea level, as happened during the tsunami of 2004. The effects of sea level rise may influence crucial economic sectors like tourism and fishing. The majority of people in the nation rely on jobs related to agriculture for their livelihood. Studies demonstrate that the nation's food security may suffer as a result of climate change's effects.

The Climate Change Action Plan of Sri Lanka has reported the following risks:

- Gradual increase in ambient air temperature
- Changes in the distribution pattern of rainfall
- Increase in frequency and severity of extreme weather events



5. Quantifying Risks

5.1 Production risks

Sri Lanka has two major marine fisheries production sectors: coastal and offshore. Coastal fisheries is the mainstay of the country which produces about 56% of total marine fisheries production wherein the most fishing vessels and people are employed. This sub-sector largely targets smaller pelagic fishes. Small pelagics are highly susceptible to global warming as can be seen from the Indian Oil sardine experience in India where fisheries production shows wide fluctuations due to climate change.

However, due to a lack of species-level production data, it is difficult to investigate the impact of climate change on the coastal fishery of Sri Lanka. Micro-level studies are required in this respect. Therefore, to see the changes in the production trend, the current level of production (2000-20) is compared with the long-term trend (1950-1999) (Figure 1). The comparison is done between the forecasted values for 2000-20 based on the production data from 1950-99 with the reported production figure for 2000-20 (orange lines and blue line). The analysis shows that while the production trend (black dotted line) showing steady increase, the current production level is much higher than the forecasted level. However, the deviation from the trend-line also increased and there are more sharper peaks and trough in the production during 2000-20. This increased volatility could be due to climate effect as reported from India. However, it is difficult to pinpoint any reason for this deviation without further investigation.

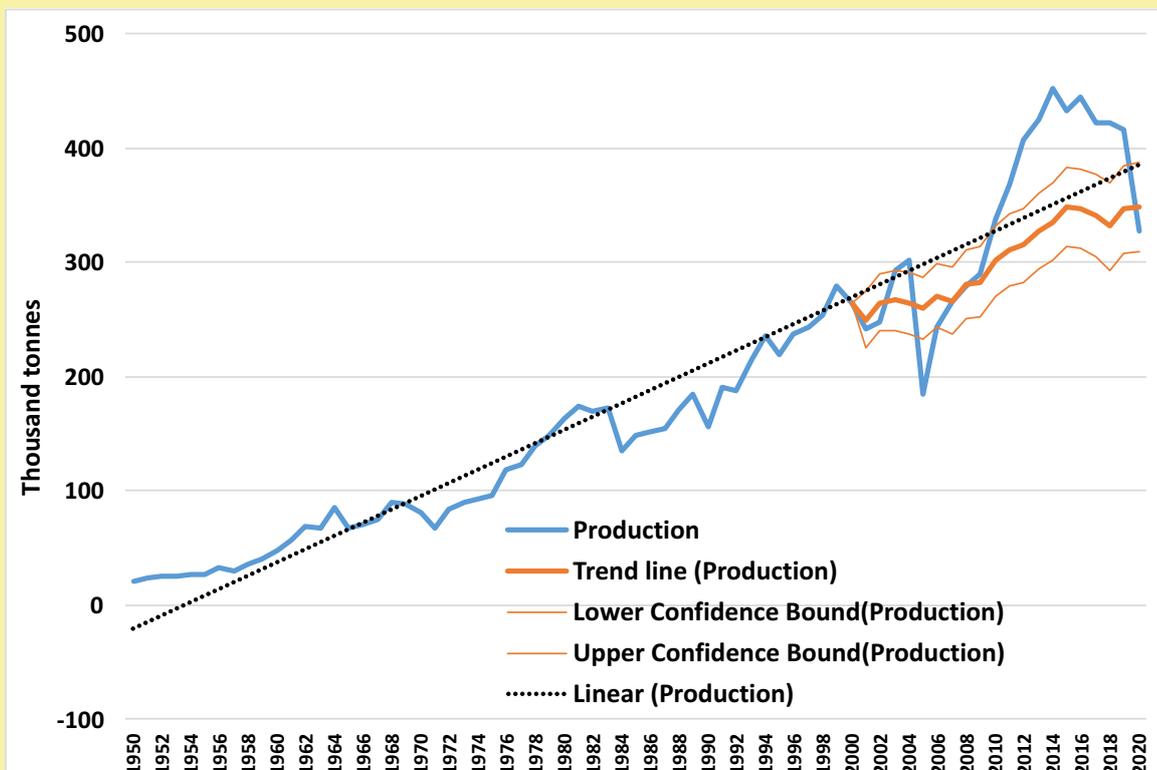


Figure 1. Marine fisheries production in Sri Lanka from 1950-2020. Forecast (orange lines are based on the production trend from 1950-2000.)

5.2 Life and income risks

According to the Government of Sri Lanka, every year 20-25 fishers die at sea. The government pays a compensation of Rs. 1 million when any fisher dies due to a natural disaster. The life risk of fishers is likely to increase further due to various reasons that include the following:

- Increasing intensity of extreme weather events and rough sea conditions while fishing.
- Fishing while there is a depression.
- Sea level rise and stronger sea waves.
- Inclusion of migrant workers in the crew who have little experience of the local sea.
- The increasing number of lightning strikes.
- The operational issue, poor boat design, etc.
- Migration of fish to deeper water is causing fishers to spend more time and cover distance at sea to locate fish. The risk exposure is also increasing accordingly.

5.3 Asset risks

Apart from normal operational risks, fishing assets face elevated risks during bad weather. Such risks include damage/ loss of gear; damage/ loss of boat; damage to the hull; damage to the engine, etc. Usual marine insurance policies are based on hull insurance and cover total damage only. Hence, the boat owner does not receive any compensation in case of damage to the gear. However, from the boat owner's perspective damage to a fishing gear is highly likely while complete damage to the vessels is least likely. Therefore, the fishers usually complain that insurance does not meet their need and hence there is not much advantage buying them.

Illustrative Example: Life Insurance Coverage Gap in disaster death in Sri Lanka

(This example takes into consideration a typical fisher who is 40 years old, has dependent children, spouse, and parents, and normally retires at 60 years of age)

Heads	Value	Notes
Estimated annual household income of a fisher	USD 1 958	Single source of income (Assuming fishers received 40% of the revenue at the point of the first salegillnet)
Current life insurance coverage	Nil	While there are many insurance providers, fishers are not interested.
Insurance required (HPV method)	USD 25 975	https://lifeinsurance.adityabirlacapital.com/tools-and-planners/human-life-value-calculator
Compensation for death due to a natural disaster (Rs. 1 million)	USD 27 000	Current compensation is quite substantial and likely to meet long term loss of income for most families.

6. Taking Insurance to People: Findings from Stakeholder Consultations and Surveys

The BOBP-IGO jointly with the Ministry of Fisheries & Aquatic Resources, Government of Sri Lanka (MFAR) organized an online stakeholder consultation on "Insurance as a Tool for Managing Marine Fisheries & Building Resilience in Sri Lanka" on 18th August 2022. Boat owners from different parts of Sri Lanka operating multi-day and single-day boats, Sri Lanka Insurance Company, the national insurance provider, and fisheries officials from different fishing districts took part

Challenges for the sector: Decline in fish stock, poor living conditions of fishers, reduction in income, and high instances of unauthorized fishing are hampering the prospects of the marine fisheries sector in the country. Many fishers have personal insurance; however, due to unstable income, fishers often failed to pay the premium on time which affects the quantum of coverage and admittance of future claims.

- 1. Coverage:** Insurance is not compulsory either for the crew or for vessels. However, the majority of the crew of multi-day fishing vessels have insurance with a minimum value of Rs 1 million. Insurance coverage is poor for other sub-sectors.
- 2. Existing insurance:** Insurance in Sri Lanka is arranged by State-owned company called Sri Lanka Insurance Company (SLIC). The fisheries insurance scheme in Sri Lanka has six components, viz., personal accident cover (covering full and partial disability), death due to natural causes, minimum fishing compensation, hospitalization allowance, repatriation travel, and education allowance for the children.

The feedback from the fishers revealed that the innovative components of the insurance by the state-owned insurance company have not reached all the stakeholders, which highlighted the need for wider sensitization and implementation of a better grievance redressal mechanism.

- 3. Social security of crew members:** There are functional fisher societies, which provide timely compensation for damage or loss of assets and/or life. When fishing is not carried out due to bad weather, the vessel owner, usually provides a soft loan/ advance to the crew to meet his cost. The advance is adjusted from future income.
- 4. Partial damage not covered:** While marine hull insurance is available, which covers full damage or loss of the vessel, there is no coverage for partial damages, which are very common. The existing insurance policy does not cover damage due to natural calamities and any damage due to inclement weather conditions when the vessel is berthed.
- 5. Disability Insurance:** Fishing is a risky vocation. The life insurance scheme does not provide for covering disabilities like loss of limbs, fingers, etc. which make the person completely out of fishing.
- 6. Livelihood cover:** There is a need for insurance coverage to compensate for the loss in fishing days due to poor health, inclement weather, etc.
- 7. Issues in Accident Insurance:** Insurance covers only the loss of life during fishing (Accidental death) and not natural death during fishing. Further, it is often difficult and inhumane to prove that the death of a fisherman is due to an accident and not due to natural cause.
- 8. Claim processing time:** Fishers were also concerned about the time taken (3-5 months) to process the claim, and the lack of No-claim bonus. In the case of life and accident insurance, fishers pointed out procedural issues in establishing the cause of death (natural or accidental) and legal compulsion of presuming as dead in the event of the dead body of the missing person could not be found within a reasonable/stipulated time.



9. Perception of Insurance: Fishers perceive that the insuring companies make a huge profit as the claims are very less. Hence, the company should reduce the premium after deducting the legitimate processing charges when there is no claim or otherwise reduce the premium rate. They wish for a share in benefits accrued by the insurance company (may be in the form of dividends).

10. Perception on parametric/livelihood insurance: The fishers welcomed the idea of parametric insurance. They said that fisheries cooperative societies usually assist in dealing with damage and loss; however, they are not familiar with the concept. Hence, further discussion would be necessary in this regard.

View of the insurance company

Providing insurance coverage is possible, subject to the following conditions:

- I. For boat aged less than 10 years: Subject to submission of Seaworthy Cum Valuation Report (MEA report) obtained within a month and the descriptive photographs on the boat.
- II. For boat aged above 10 years: In addition to the requirements aforesaid under "I", approval of an authorized officer at SLIC is needed before accepting the risk/business loss.
- III. The premium may be collected through the Fisheries Corporation. However, a common web/mobile application may be developed for sale and servicing the insurance product.

7. Recommendations

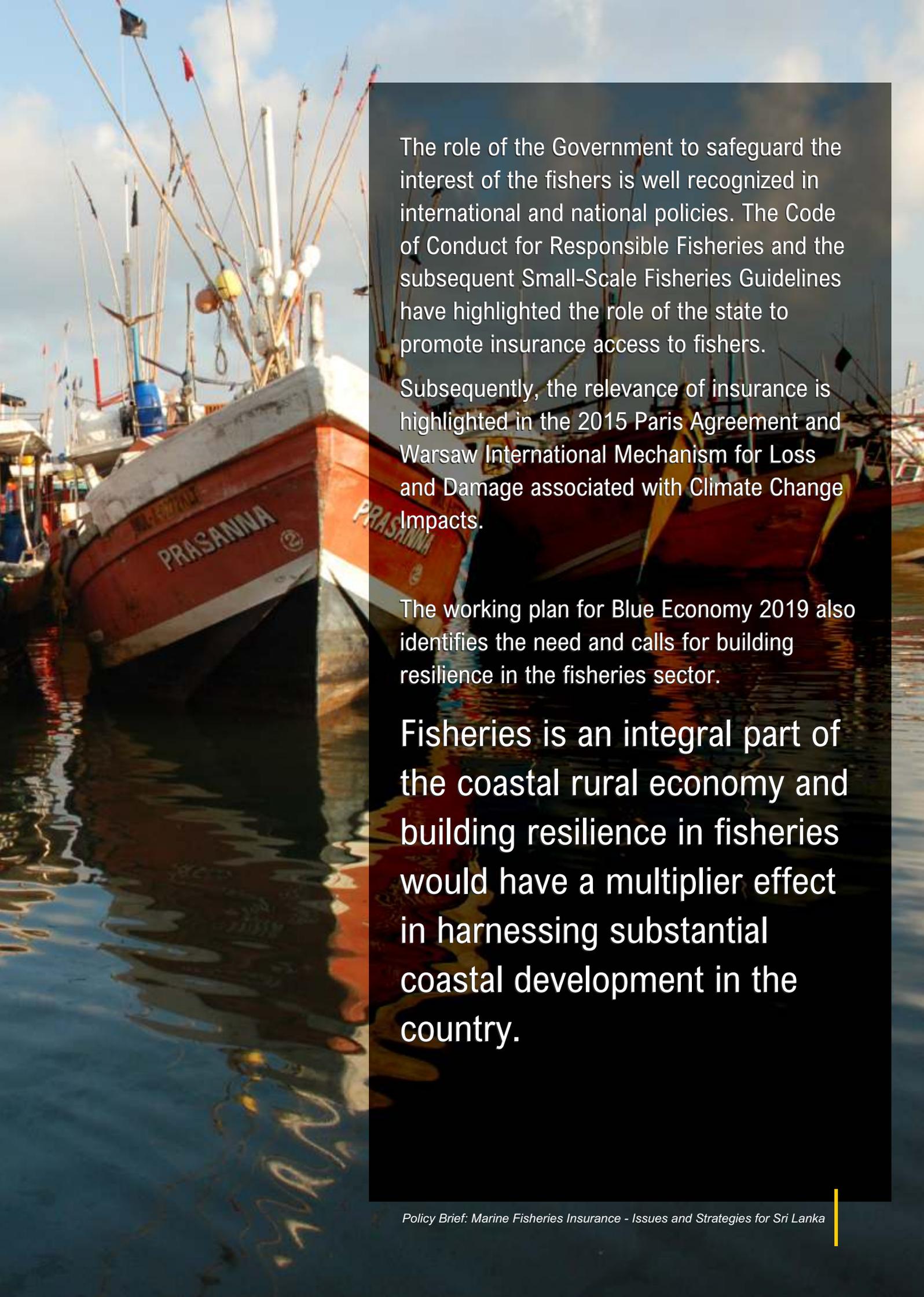
- **Issuance of policy statement:** At this point of time, there is lack of mutual trust between the fishers and the insurance companies and both parties want the Government to play the role of mediator. Therefore, a policy statement of the Government's view on insurance is of foremost importance.
- **Creating awareness among stakeholders on Insurance:** Many fishers do not understand how insurance works. Therefore, there is a need to educate them so that they can take informed decisions. To do this, a two-pronged approach may be taken. On one side, the fisher associations and unions can be roped in and a tri-party dialogue amongst the fishers, insurance companies and the government may be arranged. Sri Lanka has active fisher's associations and educating their leaders is likely to trickle down to the other members. On the other side, the local government institutes may be roped in to educate the artisanal fishers who do not belong to any association. The insurance agencies should also be educated about the need of the fisheries sector and measures to build confidence should be worked out.
- **Designing insurance mix for improved access at low cost:** The Government should consider various forms of insurance including micro-insurance, community-based insurance, and market-based insurance apart from public insurance schemes. The insurance companies should design insurance products that adhere to the principles of SUAVE (Simple, Understood, Accessible, Valuable, and Efficient)(Micro-insurance Centre)
- **Extending insurance cover to the migrant crew:** All-peril insurance for "unnamed crew" for all fishing vessels may be made mandatory, by linking it to licensing. This is to support the migrant crew.
- **Developing need-based vessel insurance:** All-peril fishing vessel insurance may be made mandatory for all fishing vessels by linking it to licensing, using the data collected by the Government about details of fishing vessels (including price during registration) to buy an all-peril insurance cover for the fishing vessels.
- **Developing a parametric insurance program:** Model Parametric Insurance Scheme may be developed to guide the insurance sector and implementation at a pilot scale. Parametric or Index-based insurance can meet the business loss due to climate change. One example of parametric insurance could be Cyclone Insurance, where the fishing units (e.g., a boat owner) would be compensated at a fixed rate, once the event is triggered (i.e., on the actual event of a cyclone happening). The fixed rate will depend on the fund size. A specially designed parametric insurance (based on cyclonic disturbance) will be helpful for the fishers.
- **Supporting reinsurance:** The Government may consider using tax revenue to buy reinsurance products from the market for risk coverage. For this purpose, there can be an imposition of National/ Central Cess on the Licensing Fee to generate funds, which can be used for the purchase of "an all-peril" insurance policy.

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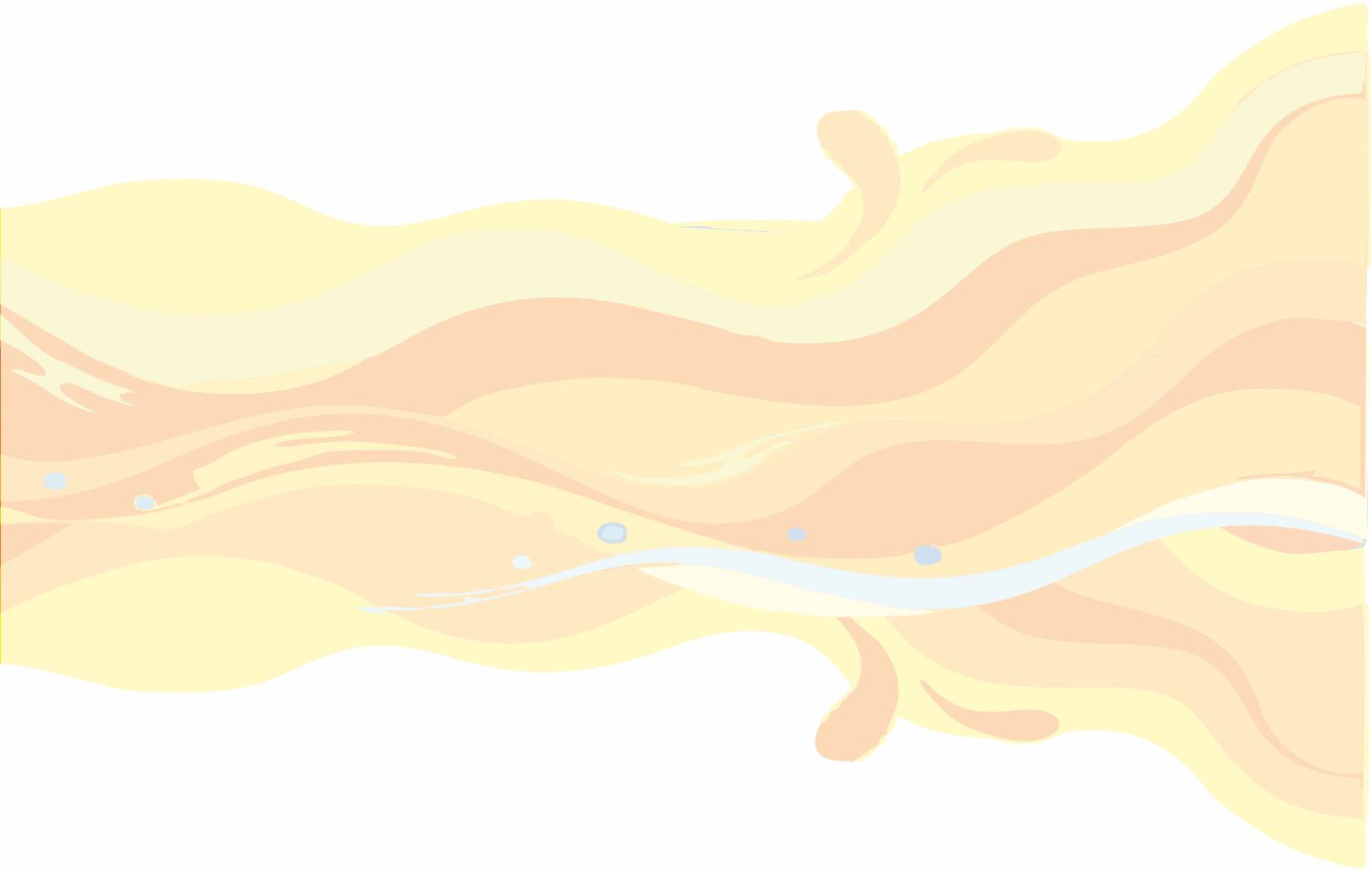


The role of the Government to safeguard the interest of the fishers is well recognized in international and national policies. The Code of Conduct for Responsible Fisheries and the subsequent Small-Scale Fisheries Guidelines have highlighted the role of the state to promote insurance access to fishers.

Subsequently, the relevance of insurance is highlighted in the 2015 Paris Agreement and Warsaw International Mechanism for Loss and Damage associated with Climate Change Impacts.

The working plan for Blue Economy 2019 also identifies the need and calls for building resilience in the fisheries sector.

Fisheries is an integral part of the coastal rural economy and building resilience in fisheries would have a multiplier effect in harnessing substantial coastal development in the country.



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