

## Brief results of the national stakeholder survey leading to National Policy on Marine Fisheries - 2017

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### Introduction

India's marine fisheries development has been guided in the past by the five-year plans and by the policy documents of 1994 and 2004 brought out by the Department of Animal Husbandry, Dairying and Fisheries (DADF), Ministry of Agriculture and Farmers' Welfare, Government of India. As a renewable natural resource, fish harvests need to be ecologically and economically sustainable to ensure equity and livelihood security to fishers. Numbering nearly 40 lakhs, fishers and allied workers are one of the economically weaker sections of the society and their well-being and economic development is of paramount importance to the country. In order to uplift this section of the society, meet the food security and also to ensure sustainable harvests of fishery resources, comprehensive policies are necessary. It is in this context that the DADF, embarked on the exercise to develop a new National Policy on Marine Fisheries (NPMF) to act as a guidance for future development and sustenance of marine fisheries in the country. The DADF formed a seven member committee in July 2015 to draft the policy as per a broad Terms of Reference (TOR). The Committee submitted its report in July 2016 after a series of multi-locational stakeholder consultations, and the Government of India (GOI) published this as a gazette notification in May 2017.

The approach that the committee took to develop the draft policy was remarkably different from that of the earlier one. The Committee in its first sitting emphasized the need for wide stakeholder consultations before drafting of the policy. Considering the more than 40 lakh strong

diverse stakeholders in all maritime states of the country, the committee took a pragmatic approach of getting all opinions of stakeholders before drafting the national policy. The committee tasked the scientists of ICAR-CMFRI to conduct a national survey. The detailed results of the survey are not available in the published NPMF-2017, and therefore, a summary of the results of the survey are presented in this article.

### Approach to the National Survey

A set of 84 questions with 51 sub-questions were drafted by scientists of ICAR-CMFRI. The questionnaire addressed issues under 9 broad categories including fishermen welfare, management and regulations, decline in catch, deterioration of marine environment, deep sea fishing, harvest and post-harvest and mariculture. The questionnaire was wide ranging, but because of the complex issues involved, was not expected to be all-inclusive. Furthermore, a Yes/No format was preferred for answers because of the practical difficulty in consolidating large number of discursive textual answers that could be expected. However, respondents who felt strongly on certain issues had the opportunity to respond with written representations. These national survey answers and the representations ultimately led to policy directions contained in NPMF-2017.

The national survey questions were made available to stakeholders in print (offline) and online (websites of DADF and ICAR-CMFRI). The printed questionnaire forms were posted to over 1000 fisheries organizations in the country. Adequate publicity to the exercise was given in regional and national print media as news and advertisement.

Initially 45 days time (October 26 to December 10, 2015) was given for submission of forms, and based on popular demand from some quarters, the last date was extended by another 6 days. However postal submissions continued even after this date, and all forms received until December 31<sup>st</sup> were used in the analysis. Responses numbering 401 received after December 31<sup>st</sup> 2015 were not used in the analysis. The online form had adequate cyber security (one time password received on mobile phone or email) to ensure protection against spam generation and hackers.

The responses were made into a database in MS-ACCESS and was used to make query based outputs. Category-wise outputs were taken and then pooled to generate question-based outputs. These outputs were used to draw up the NPMF-2017.

### Brief Results of the National Survey

A total of 3895 responses were received before December 31, 2015 of which 402 (10.3%) were online responses. Among the 11 categories of respondents, maximum response was from fishers and fish workers (86.6%, see Table 1). More than 65% of the response was from Maharashtra, followed by Tamil Nadu, Kerala and Karnataka (Fig. 1). Responses from other states were meagre.

Table 1. List of category-wise responses.

Respondent Category	Number of Responses
Fishers/ fish workers	3374
Fish auctioneers/ transporters	26
Fishermen Association/ leaders/ unions	39
Fishing boat owners	65
NGOs/ Civil Society groups	21
Seafood processor/ exporters	14
Academicians/ Researchers	167
General public	47
Government officials	89
Fisheries Cooperatives	36
Others	17
<b>Total</b>	<b>3895</b>

Results of the survey are presented as a stacked bar (% Yes/No) in Table 2. The results are self-explanatory. Some of the highlights of the survey

are:

Stakeholders have strongly (>95%) opined that the marine fisheries policy of India needs periodic revisions to give direction to the developments in the sector, and the GOI should evolve a permanent mechanism for periodic (decennial) revision of the NPMF. An overwhelming majority (92.6%) of stakeholders agree that marine fish resources are not inexhaustible, and uncontrolled harvests will lead to depletion of resources which they are already experiencing for a number of marine fish resources. More than 98% of stakeholders call for more regulations to manage the marine fishery resources in a sustainable manner. Close to cent percent (98.7%) of the respondents agree that there is overcapacity (too many boats) across the sector affecting the livelihood security of existing stakeholders. Respondents strongly (>95%) feel that the decline in catches that they are experiencing are due to pollution harming fish breeding grounds, over exploitation of juveniles and spawners and impacts of climate change affecting fish stocks.

Very strong (97.5%) concern has also been raised about the lack of income to stakeholders during the fishing ban period. It is well established that the ban has a general salutary effect on fish stocks and fishing grounds. However, the cost of this conservation of national fish stocks is borne by the stakeholders, and it is only fair to expect that they are adequately compensated for this effort. The increasing amount of low-value by-catch was flagged by a majority (84-93%) of stakeholders. Use of implements and modifications to gears to reduce by-catch was favoured by 89% of stakeholders. More than 95% of stakeholders were also in favour of declaring as closed, fishing areas of the sea where more juveniles are occurring. Majority (>95%) stakeholders agree that inter-sectorial conflicts are rampant in the fisheries sector. Again a conspicuous majority (93.3%) of stakeholders agree that all fishing gears must follow specifications in Marine Fisheries Regulation Act (MFRAs) and should be individually licensed.

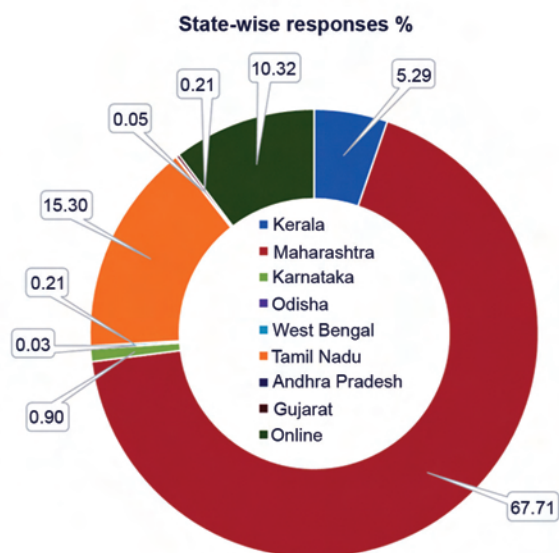


Fig. 1. Maritime state-wise responses. (Online responses not allocated to different states)

More than 85% of stakeholders have held that a separate Fishing Vessel Act by the GOI is necessary for ensuring sea safety and to ensure best labour mandated basic amenities to fishing crews. A majority (69%) of the stakeholders were not aware of the advantages of having Vessel Monitoring System (VMS) on board fishing vessels. Consequently, an equal percentage of stakeholders were not agreeable to fitting VMS transponders on board vessels with government subsidy. The stakeholders seem fairly (61.7%) satisfied with the welfare measures provided by the governments in general, and with compensation provided during the fishing ban, although there appears to be room for improvements. The insurance coverage in vogue for loss of life and property of fishers is assessed as strongly (90.8%) inadequate. Forming cooperatives for marketing, storage, processing and value addition of fish and investments in vessel and gear got a resounding Yes (>98%).

The existing rules and regulations for governing fisheries in the MFRAs have been considered as altogether inadequate to ensure sustainability by a majority (88.4%) of stakeholders. Also more number of stakeholders (94.3%) felt that there is need to

amend the existing MFRAs to cover all aspects of fisheries management. Scientific management and control of harvests at Maximum Sustainable Yield (MSY) level for all fish stocks is agreeable to 98% of stakeholders. They are also agreeable (>95%) to all conventional input control methods (control on fleet size, number of fishing days, area of operation, season, engine horsepower, gear size and destructive gears) excepting limiting duration of fishing per day, mesh size and limiting number of gears per boat. In the matter of deep sea fishing and the developmental schemes to promote it, the majority (>85%) stakeholder opinion is for revoking the current Letter of Permit (LOP) scheme being practiced by the DADF. As an alternate to the LOP scheme, maximum (>97%) stakeholder agreement was for providing skill enhancement support, and then for providing state-owned mother vessels and modernization of existing indigenous deep sea going vessels and fleets.

There is more than 90% agreement among stakeholders that the fishing ban being put in practice in the country has helped in sustaining the marine fish wealth of the country. They also agree (>80%) that periodic revisions of the fishing ban period and season be done based on new and emerging scientific information. More than 90% of the stakeholders have opined that India also move toward this mode of management in marine fisheries. More than 95% of the stakeholders want Ecosystem Approach to Fisheries Management (EAFM) to be implemented with due consideration to the well-being of all living and non-living components in the marine ecosystem and the social status of stakeholders. More than 85% of the stakeholders feel that ecolabelling of key Indian fisheries would benefit the fish stocks, seafood industry and fishers.

The general condition and hygiene of fishing harbours and fish markets in the country is a cause for worry among a majority (>96%) of stakeholders. Paradoxically nearly 80% of the stakeholders believe



Table 2 - National Survey Questionnaire Outputs

QID	Question	Count	Yes (Green)/No (Red)
Q1	Do you think that the 2004 marine fisheries policy (MFP) to guide and control fisheries and allied activities needs revision	1465	96%
Q2	If yes do you think that there should be a permanent mechanism for periodic review of MFP	3744	99%
Q3	Do you think that marine fisheries resources are inexhaustible?	3764	93%
Q4	Do you feel that uncontrolled harvest will result in depletion of resources	3842	99%
Q5	Do you agree that regulations and management are necessary for sustainable harvests	3844	100%
Q6	Do you agree that additional regulations to the existing are required to manage and conserve fishery resources	3844	99%
Q7	Are you experiencing reduction in catches of major resources over the year	3751	98%
Q8	What in your opinion are the reasons for decline in catches (multiple choices are possible)		
Q8a	There are too many number of boats targeting same resources	3209	99%
Q8b	There is marine pollution harming the resources and their breeding grounds	3181	99%
Q8c	There is too much exploitation of young ones of fishes	3188	99%
Q8d	There is too much exploitation of spawners during spawning season	3092	99%
Q8e	Climate change is affecting the abundance of fish stocks in the sea	3034	98%
Q8f	All of the above	1226	96%
Q8g	None of the above	290	72%
Q9	What in your opinion are the risks associated with marine fishing		
Q9a	Uncertainty about catch	3048	96%
Q9b	No knowledge of where abundant resources are available	3042	79%
Q9c	Rough seas and associated loss in catch property and life	3042	97%
Q9d	Lack of insurance compensation	717	75%
Q9e	No income during off season and fishing ban period	3064	98%
Q9f	All of the above	3411	96%
Q9g	None of the above	297	72%
Q10	Are you getting sufficient catch of high value fish such as:		
Q10a	Shrimps	3577	89%
Q10b	Hilsa	3477	90%
Q10c	Seerfishes	3497	89%
Q10d	Pomfrets	3480	90%
Q10e	Cephalopods	3597	85%

QID	Question	Count	Yes (Green)/No (Red)
Q10f	Perches	3441	91%
Q10g	Others	3289	90%
Q11	Is the proportion of low value bycatch increasing over time	3799	85%
Q12	Are you agreeable for implementing devices which can reduce low value bycatch	1504	89%
Q13	Do you agree that discarding low value bycatch in the sea is detrimental to sustenance of the fisheries	3818	93%
Q14	Do you agree to closing of fishing in areas where more juveniles are occurring	3819	96%
Q15	Are you experiencing reduction in catch of some resources over the years	3810	98%
Q16	Are you experiencing reduction in catch of all resources over the years	3803	93%
Q17	Do you think that fish breeding grounds are deleteriously affected by fishing/ pollution	3806	98%
Q18	Do you agree to protecting known fish breeding grounds by declaring them as no-fishing zones permanently	3818	92%
Q19	Do you agree that there are conflicts between groups practicing different fishing methods	3811	96%
Q20	Do you think that conflicts are due to differing economic returns	3775	67%
Q21	Do you think that conflicts are due to competition for same resources	3764	70%
Q22	Do you think that forming local and regional fisheries councils is an effective way for resolving conflicts	3785	96%
Q23	Do you think that Government of India should take a proactive stance in curbing fishing in other countries waters?	3779	96%
Q24	Do you consider it necessary to have RFMOs for the Arabian Sea and Bay of Bengal to address shared stocks and manage conflicts?	3711	98%
Q25	Do you agree to registration of all fishing crafts (traditional motorized mechanized) irrespective of size and sector	3789	98%
Q26	Do you agree to inspection of registration by enforcement agencies at sea and at port	3766	98%
Q27	Do you think that all gears used must follow MFRA and should be licensed individually	3776	93%
Q28	Do you agree to prescribing vessel size limits for each type of fishing method	3763	64%
Q29	Do you agree to restricting vessel engine capacity for each type of fishing method	3800	64%
Q30	Do you think that a separate fishing vessel act should be made to address the above and also to address sea safety	1445	86%
Q31	Do you think that multiday vessels in the fleet should have basic human living amenities on board	3761	99%
Q32	Are you aware of the advantages of having vessel monitoring system (VMS) on board fishing vessels	3763	69%
Q33	Do you agree to fitting of VMS transponders on board fishing vessels with government subsidy	3772	63%
Q34	Are you satisfied with the existing welfare measures provided by the government to fishers	3772	62%
Q35	Do you think that the present government scheme to monetarily compensate fishers during the fishing ban period is adequate?	3804	61%
Q36	Do you think that the insurance coverage provided by the government for life/property of fishers is sufficient	1491	91%
Q37	Do you think that there is need for development of cooperatives for marketing/ storage facilities		
Q37a	Marketing	3428	99%
Q37b	Preservation/ Storage of fish	3445	99%



QID	Question	Count	Yes (Green)/No (Red)
Q37c	Processing and value addition	3488	99%
Q37d	Investments in vessel and gear	3504	98%
Q38	Do you agree to a minimum cess on fish catch to support welfare/research activities in the sector	1402	72%
Q39	Do you agree to link monetary support as above with compliance to fishing laws and good fishing practices	3633	93%
Q40	Do you think that existing rules and regulations governing fisheries are adequate to ensure sustainability	3789	88%
Q41	Is there need to amend the existing MFRAs in order to cover all aspects of fish and fisheries management	3737	94%
Q42	Do you think that there should be separate rules and regulations for 12 to 200 nmi fishing area	3620	96%
Q43	In your opinion who should enforce regulations in 12 to 200 nmi		
Q43a	State government marine enforcement/ police	3296	94%
Q43b	Central government/ coast guard	3226	73%
Q44	Do you agree that coastal security related issues are to be dealt by central government and fishing issues by state	3606	96%
Q45	Are you satisfied with the LOP scheme of the central government	1229	86%
Q46	Do you consider the following as an alternate option for LOP		
Q46a	Modernization of existing indigenous deep-sea going vessels and fleets	3459	68%
Q46b	Introducing state owned processing mother vessels	3403	73%
Q46c	Introducing financial schemes to support modernization	3474	67%
Q46d	Providing skill enhancement support	3470	98%
Q47	Has the fishing ban helped in sustaining the fish wealth of the country	3662	91%
Q48	Do you agree to periodic revisions of the fishing ban period and season based on new scientific information	1462	82%
Q49	Do you think that FAOs CCRF should be implemented fully in the country to sustain fish production	1441	92%
Q50	Do you feel that a participatory or co-management system would be helpful to manage and sustain the fisheries	1391	93%
Q51	Should India implement the ecosystem approach to fisheries management (EAFM)	1350	95%
Q52	Do you agree that the following components of EAFM should be addressed		
Q52a	Consider all the living and non-living components in the ecosystem	3476	99%
Q52b	Consider the well-being of fishers	3579	100%
Q52c	Consider the wellbeing of the environment	3573	100%
Q52d	Consider the social setup	3511	99%
Q52e	Consider co-management in governance	3528	99%
Q53	Do you think that ecolabelling of fisheries in India would benefit fish stocks, fishing industry and fishers	1318	88%
Q54	Do you consider the territorial user rights to traditional fishers are		
Q54a	Sufficient in its present form	1005	68%
Q54b	Not enforced properly	3403	98%

QID	Question	Count	Yes (Green)/No (Red)
Q54c	Should be greatly improved	1328	97%
Q55	Do you feel it is necessary to collect detailed information on fish catch and effort	3727	100%
Q56	Do you agree that there should only be a single national agency to collect and publish fish catch and effort data	3776	70%
Q57	Do you agree that harvest control of all fish stocks at MSY level is necessary for sustainable fisheries management	3605	98%
Q58	Which among the following input control measures are necessary for sustainable exploitation		
Q58a	Fleet size regulation	3532	98%
Q58b	Control on number of fishing days	3537	97%
Q58c	Control on area of operation	3559	97%
Q58d	Control on season	3573	98%
Q58e	Limiting engine horse power	3670	97%
Q58f	Limiting duration of fishing per day	3568	68%
Q58g	Limiting number of gears per boat	3532	68%
Q58h	Restriction on gear size	3557	98%
Q58i	Restriction on mesh size and number of hooks	3540	66%
Q58j	Ban on fishing practices declared as destructive in MFRA	1238	96%
Q59	Which among the following output control measures are necessary for sustainable exploitation		
Q59a	Harvest at MSY level	3442	95%
Q59b	Enforcement of minimum legal size (MLS) for major stocks	3504	93%
Q59c	Introduction of fleet quota system on selected resources	3315	94%
Q60	Are you satisfied with the present hygienic condition of fishing harbours	3757	96%
Q61	Are you satisfied with the present hygienic condition of fish markets	3790	96%
Q62	Do you consider the infrastructure for fish processing and marketing as sufficient	3758	96%
Q63	Do you consider that there is excess capacity in the seafood processing industry	3690	80%
Q64	Is the seafood processing industry getting sufficient raw material throughout the year	3658	94%
Q65	Do the exported Indian fishery products get maximum value abroad	3640	76%
Q66	Is there scope to diversify fishery products on par with international standards	3648	95%
Q67	Should the Indian fish and fish products be integrated with FSSAI benchmarks	1330	84%
Q68	Is there a need to improve the fish marketing value chain	1357	97%
Q69	Will it be beneficial to develop traceability and chain of custody standards for Indian marine fish and fish products	3651	95%
Q70	Do you think that adequate care is taken to reduce post-harvest losses	3702	74%
Q71	Are the wastes generated from fish processing properly utilized	3681	91%



QID	Question	Count	Yes (Green)/No (Red)
Q72	Do you think that there is excessive use of low value fish such as sardine in fish feed/ poultry feed/ manure industry	3710	71%
Q73	If so do you think that this should be regulated	3607	91%
Q74	Is the state of the marine environment in India healthy	3674	91%
Q75	Do you consider pollution as a reason for depletion of certain marine fish stocks	3733	95%
Q76	Do you think that there is no adequate waste processing on land leading waste dumping in the estuaries and seas	3766	72%
Q77	Is the level of plastics in the sea at a very high level	3720	66%
Q78	Do you think that discarding old nets in the sea will harm marine life	3773	66%
Q79	Do you consider climate change impacts as a reason for change in fish stock abundance	3729	95%
Q80	Is the unscientific port development along the coast of India a cause for erosion and accretion along the beaches	3727	98%
Q81	Do you consider mariculture as a method by which fish production in the country can be increased	3747	90%
Q82	Should the government formulate policies to help setting up of mariculture farms in the country	3777	98%
Q83	Is there sufficient seed production centers to cater to the mariculture activity	3776	69%
Q84	Should the government consider setting up hatcheries and mariculture parks for development of the sector	3752	99%

that there is excess capacity in the seafood processing sector and they are unable get sufficient raw materials for processing. Nearly 75% of stakeholders believe that post-harvest losses are adequately addressed, although a significant 25% do not think so.

According to stakeholders (>90%) the state of the marine environment in India is unhealthy and they perceive pollution as major reason for decline in fish stocks. Nearly 95% of stakeholders believe climate change is a reason for change in fish stock abundance. About 90% of stakeholders agree that mariculture is a method by which marine fish production in the country can be increased. They also overwhelmingly (>98%) support formulation of policies to set up mariculture farms/ parks and setting up government run hatcheries for seed supply for development of the sector.

In conclusion, this first of the kind national stakeholder survey paved the way for a wide-ranging and inclusive national policy on marine fisheries. Earlier, most stakeholders were unhappy with their non-inclusion in the expert committee and the lack of consultative process in the policy making process. Most of the comments made by stakeholders were incorporated in the final policy. It is hoped that this method will be adopted more often in future. A bottom-up rather than a top-down approach in fisheries policy making will ensure more compliance.

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