

## **Subsidies: a way towards sustainable development of fisheries? An assessment for Tangalle fisheries sector**

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### **Abstract**

Subsidies have gained global attention because of their compound relation to trade, ecological sustainability and socio economic development. This study looks at whether supports given to Tangalle fisheries sector might help to make fisheries more sustainable in all the three pillars of sustainable development. A survey was conducted in September, 2014 to collect data from a purposive sample of 65 fishers. Data were analyzed using Friedman test and Wilcoxon signed rank test in SPSS 13.0. Friedman rank test results indicated that there was a statistically significant difference in preferable way of getting subsidies depending on which type of subsidy was offered ( $\chi^2 = 260.418$ ,  $df = 6$ ,  $p < 0.05$ ). Most and least preferable way of getting subsidies were fuel subsidy (63.1%) and vocational training on new technology (1.5%) respectively. According to empirical findings of this study, fuel cost accounts for 77 % and 78 % out of total operational cost per tour for a multiday boat and a single day boat respectively. However, the fuel cost for a tour has been reduced by 3% and 15% respectively due to recently given fuel subsidy. As a result, fishing effort has been increased in terms of number of days and distance travelled. In conclusion, given subsidies to Tangalle fisheries community have a positive impact only on economic dimension (increase fishing effort) while having negative impacts on environment (overexploitation) and no improvement in social well-being. Therefore, to achieve a sustainable fisheries development, following suggestions are proposed; implementing a proper documentation procedure about fishing gear, supply of fuel subsidy through harbors to avoid corruptions and elimination of harmful subsidies.

**Keywords:** Fuel subsidy, fisheries sector, overexploitation, sustainability

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### **Introduction**

“Fisheries subsidies are direct or indirect financial ascription from public entities to the fisheries sector, which make the sector more profitable than it would be otherwise” (Sumaila *et al.*, 2010). Subsidies have gained global attention because of their complex relation to trade, ecological sustainability and socio economic development (Khan *et al.*, 2006). The main advantage of taking a sustainable development approach to fisheries subsidies is that it allows the full range of economic, environmental and social effects of financial policies to be addressed (OECD, 2005).



Fuel cost is a significant expenditure component of fishing operations and it can be reached up to 60% (Sumalia *et al.*, 2010). According to statistics, Sri Lankan government has spent nearly three billion rupees in 2012 for fuel subsidy with the intension of fisheries sector development. However, it is questionable are subsidies really helping to achieve a sustainable fisheries sector or is it encouraging too many vessels and people to stay in a fishing industry that may not be able to support them in the medium to long term? Therefore, this study looks at whether supports given to Tangalle fisheries sector in terms of fisheries subsidies might help to make fisheries more sustainable in all three pillars of sustainable development: economic, social and environmental.

### **Materials and Methods**

Tangalle area was selected as the study area. A total of 65 fishers were purposively selected for the study. A questionnaire survey was conducted in September, 2014 to collect primary data. Measurement items/ variables used in this study were either adopted or taken from previous researches in the literature. Five point Likert-scale ranging from 'Strongly agree' (5) to 'Strongly disagree' (1) was used to measure the variables. Secondary data were collected from a literature survey. Data were analyzed by employing SPSS 13.0 software using descriptive analysis and some non-parametric statistical tools such as Wilcoxon signed rank test, Friedman test and Chi test.

### **Results and discussion**

According to the results of Friedman rank test, there was a statistically significant difference in preferable way of getting subsidies depending on which type of subsidy was offered ( $\chi^2 = 260.418$ ,  $df = 6$ ,  $p < 0.05$ ). The most preferable way of getting subsidy was in shape of fuel subsidy (63.1%) and the least preferable way (1.5%) was receiving vocational trainings about new technology on fishing techniques and safety at sea. When receiving fuel subsidy, about 53.8% of fishers have experienced fraud/corruption. This occurred due to the charge of 15% commission from each voucher when exchanging cash vouchers into fuel. Also, 41.5% of respondents have experienced that no share of the increased profit from the boat owners due to fuel subsidy.

The government had provided fuel subsidy in 2012 (from 15.03.2012 to September, 2013) under 3 categories such as Kerosene for outboard engines (MTRB OSP free at cost of Rs. 9375), Diesel for single day boats (free at cost Rs. 19200) and Diesel for multiday vessels (free at cost of Rs. 31200) to improve the livelihood of

fishermen. Recently fishermen were benefited by Rs. 20 price reductions of kerosene and Rs. 3 from diesel. According to empirical findings of this study, fuel cost accounts for 77 % and 78 % out of total operational cost per tour for a multiday boat and a single day boat respectively. However, the fuel cost for a tour has been reduced by 3% and 15% respectively due to recently given fuel subsidy. As a result, fishing effort has been increased in terms of number of days and distance travelled (Table 1).

*Table 1: Perceptions of fishers regarding consequences of fisheries subsidies with special reference to fuel subsidy*

Variables	Mean	Z value	Remarks
Economical dimensions			
Reduce poverty	3.60	-1.720	Not significant
Willing to retain in fishing sector due to subsidies	4.71	-7.337*	Strongly Agree
Fishing effort			
Crew member has increased	2.00	-8.062*	Disagree
No. of days at sea has increased	3.69	-5.582*	Agree
Travelling distance has increased	3.78	-6.326*	Agree
Engine capacity has increased	2.00	-8.062*	Disagree
No. of boats has increased	2.00	-8.062*	Disagree
No of fishing gears has increased	2.00	-8.062*	Disagree
Types of fishing gears has increased	2.00	-8.062*	Disagree
Vessel size has increased	2.00	-8.062*	Disagree
Number of fishing grounds has increased	2.00	-8.062*	Disagree
Fish catch has increased	3.15	-1.104	Not significant
Market value of fish has increased	2.38	-4.891*	Disagree
Market facilities has increased	2.32	-4.773*	Disagree
Use of new technology for fish harvesting has increased	1.69	-6.838*	Strongly Disagree
Ecological dimensions			



Fish by catch has increased	2.65	-2.685*	Disagree
Number of closed areas has increased	1.78	-5.989*	Strongly Disagree
Cause for illegal, unregistered unreported fishing activities	3.42	-3.709*	No idea
Destroy ocean habitats	2.55	-3.639*	No idea
Marine pollution has increased	2.40	-5.126*	Disagree
Reduce fish harvest due to over exploitation as a result of given subsidies	3.63	-5.077*	Agree
<b>Social dimensions</b>			
Enhance competition among fisherman for fishing	2.77	-1.651	No significant
Harbour and landing facilities have increased	2.75	-1.410	Not significant
Conflicts have occurred while sharing resource	1.68	-6.765*	Strongly Disagree
Education and skills of fishers have increased	2.06	-6.213*	Disagree
Reduce unemployment of fishery community	3.29	-2.158*	No idea

\*Significant at 0.05

Apart from the fuel subsidy, a new fishing developing project of Ministry of Fisheries and Aquatic Resources has decided to distribute fishing gears among fishery community under alternatives for fuel subsidy. Also life jackets have been distributed among fishing vessels since 2012. Further, licensing of fishing vessels is free of charge from last five years.

### **Conclusion**

Given subsidies to Tangalle fisheries community have a positive impact only on economic dimension (increase fishing effort) while having negative impacts on environment (overexploitation) and no improvement in social well-being. Therefore, to achieve a sustainable fisheries development, following suggestions are proposed; implementing a proper documentation procedure about fishing gear, supply of fuel subsidy through harbors to avoid corruptions and elimination of harmful subsidies.

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