

Bioeconomic analysis of fishery management policy in China

Kang LIU

Institute of Marine Economics, Social Academy of Social Science

Three aspects will be introduced in the presentation: the first one is a brief history of bioeconomic model development and its application in fishery management policy, and some implications and trends of economic and social factors analysis in the biological model of fisheries resources exploitation will be argued, too. The second part is the development and application of bioeconomic tools, and its contribution to fishery management policies in China, including the theoretical studies and policy analysis development in Chinese fishery policy formulation. At last, some comments and suggestions will be discussed and proposed for future bioeconomic application in China or worldwide.

The economic factors are very important incentives for fishery management policy formulation and the direct and/or indirect driving force of overfishing and depletion for world fishery resources. The consideration of economic factors in biological model maybe more actually response to the policy needs in the fishery management field. Unfortunately, the mainstream economist has paid little attention on this field, most of bioeconomic study conducted by fishery scientist and/or eco-economist. It is similar in China, even more pessimistic. There is little fisheries policy analysis and application related to the bioeconomic model except some simple analysis based on Schaefer-Gordon Model, most of which have explored the theoretical explanation and policy implication related to the fish price fluctuation, the discount rate, fishing subsidy and taxes. Only a few studies focus on systematic bioeconomic model, as Ecopath with Ecosim, FAO BEAM and CLIMPROD package, but there little contribution to policy making.

Actually, there are few economists involved in the bioeconomic analysis of fisheries policy, most of researchers come from mathematic, fishery biology or ecology, and resource management field. Also, the unique fishery development situations affect the bioeconomic analysis application in China. All of the existing fishery policy, including of the Fishing Certificate, Closed Season, Closed Fishing Ground, Net Restriction et al., are not based on bioeconomic analysis. The popular fishery management tools, such as TAC, ITQ based on bioeconomic model have not applied in China. So, it is necessary to explore the possible roadmap to stimulate the cooperation between fishery authorities and professionals, and provide new fishery management tools with bioeconomic analysis to sustain the fisheries in China.