

REPORT ON THE PRAWN SYMPOSIUM

The Prawn Symposium held in connection with the Sixth Session of the Indo-Pacific Fisheries Council at Tokyo on October 5, 6, 1955, highlighted the importance of the prawn fisheries to the whole area, and the apparent lack of exploitation of the offshore resources as well as the very limited development in prawn culture. The eighteen papers from ten member countries dealt with biology and ecology, capture techniques and cultural operations, utilization and marketing, and general descriptions of the status of the fishery.

A. RESUME OF DISCUSSION

I. General Biology and Ecology

2. Whilst life history studies have reached an advanced stage in certain countries, the biology of the more important species in the central sector still requires extensive study, in order to render the inshore fisheries more productive and to develop offshore fisheries and cultural practices in suitable areas. The large unsatisfied demand from fishermen for live prawns for bait suggests the urgent need for devising measures to meet it. The adoption of cultural techniques would appear to suggest a solution to this problem, further work on which is of the utmost importance in the region.

3. Certain tagging techniques were referred to, the development of which is likely to be of great assistance in the study of migrations and growth rates, information on which will assist in the rational utilization of all available stocks.

4. It was considered that a study of the reactions of fry and adults to lighting of different intensities and colours would be fruitful in developing techniques for collection of fry for cultural work, and for capture of adult stocks.

5. A study of the controlled artificial raising of fry from spawners captured in the sea indicates that success is dependant on the adequate supply of the appropriate food for each of the stages in the growth of the prawn. Moderate success has been achieved on a laboratory scale in Japan, and work is being directed towards establishing procedures for adoption on a commercial scale.

6. The enormous potential value of this fishery which is common to the whole area was stressed, as it is one of the few groups of marine animals of economic importance which can be cultivated in all countries in the region.

II. Capture and Cultural Operations

7. Nearly all operations described refer to the inshore fishery. It is apparent that there is a tremendous field for development of offshore resources and cultural techniques. The offshore fishery should be developed, keeping careful records of catches from both offshore and inshore fisheries. While biological investigation will probably throw light on this subject, the present state of knowledge tends to indicate that there is no danger of a drop in inshore yield as a result of intensive offshore fishing.

8. Cultural practices range from attracting young prawns into growing ponds for subsequent capture to the collection of fry from the sea and their introduction into growing ponds in the desired quantities. The alternate use of rice fields for prawn ponds in a rotation of crops during the dry season indicated the prospects for the fuller utilization of land which is suitably located, thus giving the farmer a protein crop and an additional source of income. The wider adoption of this technique awaits further information on the effect of this rotation on the rice crop.

9. The use of tides as a means of collecting prawns in ponds for ready harvesting of the larger stages may afford a means of production in areas where there is an appreciable rise and fall of tide.

III. Utilization and Marketing

10. The general consumer preference is for whole prawns in fresh or iced condition, and the market is largely undersupplied. In a few regions where production exceeds demand, prawns are either sun-dried, or parboiled and dried for export. The chitinous portion is removed in processing and crushed for poultry feed.

IV. General

11. There is possibly some relationship between rainfall and prawn yield which will repay fuller investigation.

12. A number of taxonomic field keys have been produced and it was suggested that these should all be consolidated into one general key for the region. It was decided that the term prawn should be applied to the Penaeids, Pandalids and Palaemonids, while the use of the term shrimp should be restricted to the smaller forms belonging to other families.

B. RECOMMENDATIONS

I. Biology and Ecology

13. A rapid evaluation should be made of the salient features of the life history and ecology of local species, in relation to information available on similar species which have been carefully studied in countries outside the region.

14. The study of the effect of such stimuli as sounds of different wavelengths, chemicals, electricity, and light of different colours and of varying intensities on adult prawns and fry should be undertaken as a means of developing new techniques for catching.

15. It may be necessary to begin collecting data on rainfall and meteorological conditions which may be of significance in determining prawn yields.

16. Careful investigation is necessary to determine specifically whether it is necessary for the prawn to return to the sea to complete its life cycle.

17. The Japanese work on the rearing of prawns under controlled conditions from egg to adult and the culture of *Skeletonema* for feeding the larvae stimulated great interest. This work should be watched closely, and full facilities afforded for reporting on progress to member countries, as this

technique will, in addition to cultural methods, provide necessary material for behaviour studies.

II. Capture and Cultural Operations

18. The exploration of offshore areas for location of fishing grounds in likely localities should be undertaken, together with the development of suitable gear and capture techniques.

19. The introduction of cultural operations in regions where they are unknown, and the capture and supply of fry for stocking culture ponds, should be undertaken. This will give a ready solution to the problem of bait supply for fishermen whose operations are dependant on the use of live prawns.

III. Utilization and Marketing

20. No marketing problem has been recognized. Work which is now in hand on handling and processing techniques appears to meet present needs.

IV. General

21. In order to achieve maximum utilization, it is necessary to maintain accurate records of catches by sizes and areas of capture.

22. It is recommended that Professor Kubo should be invited to prepare a standard field key for identification of species of prawns and shrimps.

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THE PRAWN FISHERIES OF CEYLON

by

E. R. A. de Zylva*

Fishing for prawns has been carried on in Ceylon's lagoons and estuarine waters and along certain parts of the coastline from the earliest times. The principal methods in use for the capture of prawns cannot be said to have undergone any significant development in recent times. They are simple and reasonably effective within certain limits, and the equipment is locally made of locally available material, at no great cost.

Prawns find a very welcome place in the local diet, and command a ready sale at prices which are sometimes above the reach of the average man, because demand nearly always is far greater than supply. Apart from their use as food, a great number of prawns is required daily by fishermen for use as

bait, both in live form and dead. Certain types of inshore marine fisheries cannot be conducted without live prawns for bait, and there is a close business relationship between the prawn catching fisherman and the sea-going fisherman; the latter receives live prawns from the former and pays for these by giving him a fixed share of the value of the catch of fish. This share varies, but may be over one-fifteenth of the value of the catch.

The methods of capture range from the simplest form of feeling with the hands in the fine mud of the lagoon bed to the use of extensive fences or screens, or traps, or stake nets set to capture prawns on their migration up or down channels which connect lagoons with the sea. The latter are often

* Deputy Director of Fisheries, Colombo, Ceylon.