CHAPTER-V
Summary

In the present study quantitative analysis was performed for the nutritional contents of ten selected small food fishes. The studied small fishes are mostly consumed by the local communities of Kokrajhar, BTAD, Assam. These are easily available and of low costs. In rainy seasons these fishes are found in each of the wet lands, ponds, beels, lakes etc. The rural poor people of the local area consume the fish food regularly and also sell them in the nearest market. Most of the small fishes are available throughout the year. Nutritional informations about the fish species make them pronounced for both human consumption as well as commercialization.

The experimental investigations of the nutritional contents of the studied fishes concluded that all of them were rich in protein contents. Amongst them, the highest contents of protein were shown by *channa gachua* (19.85g/100g) and the lowest of the same was reported by *Macrognathus pancalus* (14.26g/100g). Maximum amount of Crude lipid was possessed by *Chanda nama* (11.09g/100g) and the lowest was shown by the species *Xenentodon cancila* (1.58g/100g). The fish species *Rasbora daniconius* was found to contain highest moisture values (77.21g/100g and the lowest moisture contents were recorded by *Chanda nama* (68.12g/100g). Highest contents of ash was possessd by *Macrognathus pancalus* (5.79g/100g) and the lowest value of the same was found in the species *Channa punctatus.* All the studied fishes were of low carbohydrate contents.

All the studied fish species were found to contain fair contents of amino acid. The highest contents (10.0%) of essential amino acid histidine was found in *Trichogaster fasciata* which was followed by (8.36%) in *Chanda nama*. Another essential amino acid methionine was highly recorded (9.42%) in *Channa gachua*. Threonine, the non essential amino acid was

also highly contained (8.67%) by the same fish species, *Channa gachua*. The studied fish species can be recommended as ideal dietary supplementation for human health. The fatty acid profiling of the studied fish species revealed that all of the ten fishes contained low amounts of fatty acids. Palmitic acid was predominantly present in all the fish species. The presence of lower percentage of free fatty acids in the lipids of studied species might be a conclusion that the fishes are suitable for edible purposes.

All of the ten fish species were reported to have good contents of selected micro and macro elements like iron, zinc and calcium, phosphorus. The presence of the minerals in the studied fishes highlighted them to have vital potentialities regarding human health functions.

The presence of fat soluble vitamins, Vitamin A and Vitamin D is the selected fish species concluded the major role of the fish species to enrich a balanced human diet for regular consumption

On the basis of the experimental findings of the present study, it can be concluded that the common people may readily include the small fishes in their reular diet at lower expenses. Moreover, the selected small food fishes are enriched in nutritional contents. Due to their low cost and larger abundance the small fish species might be ignored and commercially less exploited. Most of the people are having an idea that popular large and costly fishes are only good for health and consumed deliciously by the communities. The poor people cannot afford so much and prefer to buy the small fishes of low cost. These small fishes are available in ponds, beels, lakes, rivers and also in wet places in the rainy season. Many local villagers opt for carrying on livelihood being a fisherman. A lot of traditional concepts lead the rural people to consume certain foods for the recovery of certain diseases. Lack of proper investigations about the nutritional properties of the small food fishes make them overlooked by the commercial sector. Proper care is not taken by the government side for the sustainable development of the fish species.

Worldwide several works had so far been done on the nutritional analysis of fish flesh and oil. But not any detailed works had been offered on the nutritional contents of small food fishes of Kokrajhar, B.T.A.D., Assam.

For the sake of less market value these small fishes had not been given major importance by the industrialists as well as the researchers. By the passage of time people starts to think seriously about the healthy life. The wind of science and technology touch each

and every corners of human life. All the natural resources are given priority to make them more enriched. As the small fishes are mostly available and more appreciated by the poorers for their low cost, scientific investigations must be carried out on their nutritional values for the development of both entire communities as well as commercialization of the lesser known fish species.

From the experiment carried out for water quality it can be concuded that all the water samples from different water bodies of Kokrajhar were suitable for drinking, bathing as well as other household activities. These water bodies can be used as place for several aquatic organisms

including fishes. However, ample care should be taken for the sustanenance of the water quality of the aquatic bodies available in this area.

The scientific informations with respect to the taxonomic position, varnicular name, edible as well as conservation status of the different fishes were gathered by investigating the Ichthyofunal diversity of fish species of the study area. The Ichthyological survey also showed that the study area is diversed in different fish fauna with vital economic potentialities. The government as well as the local people of the area should conserve the diversity by regular monitoring the fish fauna, analyzing the water quality of the different water habitats and controlling the anthropogenic activities.

Due to the lack of proper knowledge, investigation and infra structure fascilities for the research work in fisheries sector, the pisiculturists are not encouraged to contribute much in the healthy fish production of the state of Assam. The present work concludes that the studied small food fishes are nutrient- rich and can be recommended as a vital health suppliments.It can be summerised that the nutritional studies of the lesser known small food fishes carry a key role to develop scientific awareness among the rural poor people and creative attempts to utilize the fishes in the light of commercialization.

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