The study entitled “A study on the quality improvement of exportable mud crab *Scylla serrata*(Forskal)” was carried out from March 2010 to February 2011 to study the consumption assessment qualities, quality improvement methods and evaluation of organoleptic attributes on exportable mud crab from the Kakinada coast, Andrapradesh, India. The results are summarized below.

- Seasonal variations of biochemical components, microbial load, pathogenic bacteria such as *Vibrio* and Coliforms and pH were observed in the muscle of both wild and soft shelled mud crabs.
- Among the biochemical components were studied, protein was found to be higher than carbohydrate and lipids in the muscle of both hard and soft shelled crabs.
- The maximum value (18.91g/100g) of protein was recorded in hard crabs during monsoon season and minimum (16.82g/100g) during winter season.
- The minimal (1.7 × 10^6 cfu/gm) microbial load and pathogenic bacteria such as *Vibrio* (8 cfu/gm) and Coliforms sp (3.6 × 10^2 cfu/gm), were observed in soft shelled newly moulted crabs.
- In crab tissues, higher percentage (52.52%) of essential amino acid was recorded. The current result substantiate the crab tissues are good source of essential amino acid such as glutamic acid, arginine, glycine, histidine, aspartic acid etc.,
The monthly variations of pH didn’t show notable trend in the muscle of hard and soft shell crabs. The pH 6.72 – 7.07 is considered as ideal pH for maintaining the good quality of crab muscle.

Significant reduction of microbial load was observed in soft shell crabs treated with chlorine (100ppm), ozone and combined use of chlorine and ozone treated crabs.

Among three treatment methods, combined use of chlorine and ozone treated crabs bestowed significant result on microbial reduction on the palatable mud crab *S. serrata*.

The pathogenic bacteria such as *Vibrio* and Coliforms sp., were unnoticed in the crabs treated with Chlorine + Ozone combination.

No major variation on the proximate composition in the soft shell crabs treated with chlorine + ozone combination.

Aminoacid profile was not changed in chlorine + ozone treated crabs. A maximum of 20 aminoacids (inclusive 12 essential and 8 non-essential amino acids) were noted. The one more essential amino acid methionine was released after treatment in soft shell crabs.

The effectiveness of Ozone+ Chlorine treatment method was found to be a remedial method in improving the quality of the soft shelled crabs.

All the respondents (100%) overwhelmingly accepted the cooked samples of soft shelled crabs. But the percentage of acceptance is slightly varied among the juries was noticed.

The maximum (8.6) of sensory quality score was received by the combined use of chlorine and ozone treated crabs and the minimum (7.2) score was obtained by the chlorine (100ppm) treated crabs.
The processing technique, cooking altered the colour of the food products was found. But the muscle texture showed no difference even after the treatment. So, cooking process didn’t affect the quality of the product.

As a whole, it is concluded that the availability of the products in the markets is mainly depending on the processing technique whereas; the acceptability of the product among the consumers is on the quality. Even though the soft shell crabs are available in plenty in various parts of the world, their microbial load forces the food industry to find a new technique, as this parameter reflects the extrinsic as well as the intrinsic qualities of the food. In the present study, the minimal microbial load was observed in the muscle of soft shell mud crab *S. serrata* when it was treated in the combined use of chlorine and ozone. Also this technique didn’t affect the biochemical components particularly the amino acid level even after cooking. The organoleptic attributes were also evaluated by applying 1-9 point Hedonic Rating Scale which also confirmed the quality of soft shell crabs positively even after cooking. Hence, the combined use of chlorine and ozone technique could be recommended for quality improvement of exportable soft shell crab as this technique has been proved as suitable, rapid and cost effective.