Rohu is the freshwater fish belonging to the family Cyprinidae; it has been scientifically classified under *Labeo rohita*. It inhabits different water bodies in Pakistan with considering the water bodies having either freshwater salinity level. It resides in rivers, lakes and reservoirs; more predominantly in the Indus water system that forms one of the biggest water systems in the area. This fish is one of the valuable specie that are protected under commercial trade in Pakistan. It is indigenous specie of the country which is also occur in AJK, Balochistan, Punjab and Sindh. Besides the rivers in Northern and Central India, this fish has more recently been reported from the neighboring countries of Bangladesh, Nepal, Myanmar and Pakistan and from some of the rivers of Peninsular India. Morphometric and craniometric differences are recorded when Labeo rohita is subjected to several inter and intra specific factors. In fish farming of aquaculture, Rohu, scientific name Labeo rohita, is emerging as one of the most profitable species of Indian big carp. Its primary diet is plankton." While fingerling rohu larvae possess considerable favorable selection for zooplanktonic and micro phytoplanktonic foods, the adult rohu has extremely high positive selection for phytoplankton food. Rohu is said to be a columnar feeder and the fish mainly feeds on plankton. Teleost; warm water herbivore fish that mostly depend on columnar feeding herbivores. There being no significant variations in various morphometric and craniometric features, a total of 20 samples were collected from two different water bodies, namely 10 from river and 10 from pond. For the present study, thirty-one morphometric and seven craniometric variables were used. By employing different tests in multivariate analysis, the current study showed that there were great distinctions among the distinct *Labeo rohita* populations. The four major morphometric and craniometric characters mean most length of them were the pond and the least were of the river. Overall length of the fish at the pond site had significant positive allometry with other characters More negative allometry was evident at river side. Thus, for most of the characters, the week relation with skull length has been revealed in the course of the craniometric analysis of the two sites. During the sampling at these two sites regression coefficient b was noted. Negative allometric growth in different structures of *Labeo rohita* at pond site is greater than river site indicating that pond habitat is unfavorable for cranium development of the fish species in comparison to river. With regard to influence, several environmental factors such as temperature range, food availability, water current and habitat allocation influence greatly. The current study will help the taxonomists, aquaculturists and land managers through the morpho-craniometric metric description as a baseline that can be used to observe growth of *Labeo rohita* collected from the two habitats.

Key words: Physical anthropology, Morphometry, Cranial analysis, Allometry, Co-relation variation and covariance.