

## **HEIGHT ESTIMATION OF ELEPHANTS IN SRI LANKA (*ELEPHAS MAXIMUS MAXIMUS*) FROM A DISTANCE**

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The accepted methods used for bodyweight estimation involves measurements of withers height, circumference of forefeet and length from the neck to the base of the tail. There are several formulae to estimate the bodyweight if one or more of the above measurements are known. However, it is relatively difficulty to obtain such measurements in wild elephants, as they could not be reached. A technique to estimate one or more of the above measurements from a distance with a known accuracy will be of utmost importance particularly for calculation of therapeutic dosages. Therefore, simple, portable, cheap and lightweight equipment was developed to estimate the height of the elephants and its accuracy of measurements in domesticated elephants was evaluated. The device consists of electrically driven motors, horizontal cross hairs, two light emitting devices (laser pointers), two lenses and a scale. The capital cost of the instrument was approximately Rs. 15,000.00.

In this instrument, a light beam is emitted from the proposed device onto the elephant and two cross hairs on the eyepiece, are aligned with the top most and the lowest position of the elephant (e.g.: withers and the sole). As the length of the light beam emitted by equipment is known, the distance of the locations of cross hairs could be calculated accordingly. In the trial phase, the device was used to measure 3-8 feet tall stationary objects, which were 30-100 feet away with 70-80% accuracy. The height measurements of 5 domesticated elephants about 30-70 feet away from the equipment were approximately 70% of their exact heights. Difficulties encountered were the necessity for the elephants to be stationary and the spreading of the laser points on the elephants. In conclusion, this instrument has the potential to estimate the height and thereby the bodyweights of the elephants both in wild and under domesticated conditions.