ABSTRACT

Economic development of a primarily agriculture dependant state is by an large is dependant on its integrated components. In Assam, livestock is an integral part of agriculture from time immoral, yet the sector is neglected in various plans. The present study on growth of livestock in relation to farm size, farm income and socio-economic status was based on sample survey of 238 selected households in Uppor Deori and Num Deori villages in Dhekorgorah block of Jorhat district and Daithor and Teradong villages in Nirlip block of Karbi Anglong district of Assam. The survey revealed average operational land holding at 2.69 ha. The grazing land constituted only 3.00 per cent while 4.81 per cent area was under miscellaneous tree crops. The workforce (persons in the age group of 15-60 years) from the constituent sample was 74.01 percent. The work participation rate for worker and helper was found to be respectively 46.05 per cent and 29.45 per cent. The utilization of man-days per household per year in livestock activities was 78.11. Male female ratio for primary workers was observed at 29.54: 22.15. The literacy percentage was although 82.49 percent, higher education was not satisfactory.

The analysis of the growth of livestock revealed positive growth in case of in-milk cattle, goat, pig, poultry and duck and negative growth in case of working bull and buffalo. Growth in relation to farm size revealed maximum CGR in case of goat, poultry and duck in small farms, buffalo and pig in medium farm and cattle in large farm. Similar result was also observed by linear trend. The quadratic trend line also revealed that the trend of livestock product was increasing. The compositional changes in livestock revealed that except poultry and duck, medium farm possessed largest share in all livestock population.

The growth of livestock in relation to income level and socio-economic conditions showed that net income in aggregate farms and use of implements in all categories of farms had statistically significant positive impact. However, presence of multicollinearity in the surveyed data, aggregate labours use had been found to be negatively significant. Although literacy had highest positive effect, yet, it was insignificant.

The impact of livestock on agricultural production, employment and income revealed statistically significant changes in all categories of farms with an exception in case of large farms. The insignificant positive impact on agricultural production in large
farms was due to their unwillingness to invest in livestock and agriculture simultaneously. Draught animal had shown significantly positive impact on all major crop production with an exception in case of rice in large farms and potato in small farms. The insignificant impact of draught animal on rice production in large farms and potato in small farms might be due to use of power tiller in early stage in rice cultivation by the large farms and use of hand-tools on potato cultivation due to shortage of land resources in the small farm.

The fitted Cobb-Douglas production function in different category of farms revealed that in the aggregate sample, operational holding, capital investment, and livestock product had positive and recurring cost had negative significant impact. The study revealed decreasing return to scale in farm product from livestock component. However, resources in case of small farms were economically utilised.

The fitted probit model worked out optimum farm sizes at 1.32 ha for small farms, 2.68 ha for medium farms and 5.60 ha for large farms. The same when computed by Cobb-Douglas production function revealed at 1.32 ha, 2.68 ha and 5.62 ha respectively for small, medium and large firm size. The study of size and cost of livestock by the quadratic response functions showed that the average size of livestock were lower than that of derived optimum size whereas average cost were greater than that of optimum cost for all categories of farms. It was observed that total net income had been over estimated at Rs. 626.46 in small farms, Rs. 3595.23 in medium farms and Rs.8014.00 in large category of farms.

The study revealed decreasing grazing lands and ignorance of utility of fodder were the main problems of farmers in livestock rearing in the study area. The inadequate veterinary facilities, less resistance capacity because of high humidity and non-availability of organizations to supply quality breed resulted in the farmers' unwilling to replace their desi stock were the other problems observed in the study.

The study found livestock as capable supportive mode of strengthening rural economy. Proper investment policies for upliftment of livestock economy would demand not only appropriate infrastructures but also would generate adequate rural employment resulting in higher income and level of living there from. The existing production although not discouraging, yet, suitable policy measures on crop and livestock are the demand of the day.