In Jharkhand, the rural families are dependent on natural resources like land, water, livestock and forests for generating employment and for their livelihood. Among the livestock, cattle and buffaloes play a significant role and are well distributed among small and large land holders. Despite having huge cattle and buffalo population, the availability of milk as well as milk production of dairy animal in the state is low against the national average. The productivity can be increased by adopting cross breeding. But in Jharkhand, cross breeding is not widely accepted due to lack of proper breeding strategy, non-adoptions of A.I due to inadequate availability of A.I. services. To cope up with this problem, the Government of Jharkhand, Department of Animal Husbandry and Fisheries (D.A.H) made an agreement with the BAIF Development Research Foundation on 6th June, 2005. The D.A.H and BAIF is delivering the TIPs and services viz. frozen semen, vaccines, medicines, mineral mixture, fodder seed and extending technical advisory and monitoring services to the farmers. BAIF has been working in partnership with the D.A.H since four years to enhance productivity of dairy cattle and buffalo with a view to boost up the milk production and to meet the requirement of this state. To access the working of this partnership the present study with the title “Public-Private-Partnership in Dairy Development in Jharkhand” was undertaken with following specific objectives: a) To study the existing delivery system of various technical inputs to the cattle owners. Thesis Abstract 2 b) To analyze the
characteristics of the beneficiaries of the technical inputs and services. c) To ascertain the opinion of the cattle owners on the existing delivery system. d) To study the constraints experienced by the D.A.H personnel in channelizing the inputs to the cattle owners. The study was conducted in the 12 villages, coming under four blocks of Ranchi district. Out of 24 blocks, 2 blocks each for D.A.H and BAIF were selected randomly and from the above blocks, 3 villages from each block were selected purposively. These villages were Boreya, Sangrampur, Garh Husir, Kuchu Basti, Kulhi and Gangutola under D.A.H study area and Chund, Jaheer, Bargarhi, Burmu, Chakme and Geswe under BAIF study area. The farmers were selected to get their opinion about the existing system of input delivery. Besides 120 farmers, 15 officials from D.A.H at all three levels, viz., district, block and villages and 6 officials of Bhartiya Agro Industries Foundation (BAIF) working in the study were selected as respondents for the present study. The data was collected on the pre-structured interview schedule by personal interview method from all the selected respondents, during June-July, 2009. Besides, the secondary data revealed to the D.A.H and BAIF activities in terms of inputs availability, modus-operandi and utilization were taken from the officials as well as from official record to understand the existing system of input delivery. The collected data were tabulated and analyzed by using appropriate statistical tools.

3 SALIENT FINDINGS

Majority of the respondents under sample were in middle age group, having education up to high school level. On an average, a large percentage of the respondents had 6 to 9 members in their family. Large percentage of the respondents belongs to backward caste with social affiliation. Agriculture was found to be the main occupation of all the respondents. Among secondary occupation, dairying was the widely practiced by majority of the respondents, in combination with agriculture. Majority of the farmers in the study area were found as a marginal farmers having land holding upto 2.5 acres. Medium herd strength with 3 to 9 animals was found with the large number of respondents. Similarly, majority of the respondents were falling in the monthly income range of Rs. 2000-3000. Daily milk production, consumption and sale of a household ranged from 6.05 to 7.59 litres, 0.84 to 0.96 litres and 4.62 to 5.66 litres respectively. The D.A.H was mainly concerned with providing frozen semen, vaccines, medicines, mineral mixture and fodder seed to the cattle owners. Similarly, the BAIF was mainly concerned with channelizing three technical inputs viz., frozen semen, mineral medicines, mineral mixture and fodder seed. The ultimate aim to understand the existing system of input delivery was to know the effectiveness of the public-private partnership. The parameter of effectiveness were the bovine population per dispensary/DCDC and per LSA/centre-in-charge, number of villages per dispensary/DCDC and per LSA/centre-in-charge, number of A.I. done per A.I. center/DCDC per year, percentage of breedable bovines covered through A.I. Number of number of calves born in respect of A.I. done, conception rate, number of 4 insemination per conception and total number of treatment done, vaccination performed, castration done and distribution of fodder seed and mineral mixture. The findings revealed that the D.A.H was poor in technical staff in terms of sanctioned post and staff in position with inadequate storage facilities. Whereas in case of BAIF, the staffs were adequate in terms of sanctioned post with better storage facilities but inadequate to cover large area with huge cattle population. From the secondary data, the number of villages and bovine population per dispensary/DCDC was found as high as about 38/49 and 27/10 thousand respectively and similarly about 45/10 thousand bovine population spread over 38/49 villages were under single LSA/DCDC-in-charge, giving heavy load over the dispensary/DCDC and staff. Total breedable female bovine population per A.I. centre/DCDC was also found to be high. The supplied semen dose per A.I. centre per year was as 207 straw. The A.I. done per A.I. centre per year was low as compared to the DCDC. In the entire district, the percentage of breedable bovines covered through A.I. was found only 11% and 12.5% for D.A.H and BAIF respectively, whereas, in the study area this percentage was still lower to 2.75% and 6.32 respectively. The conception rate in the study area was 64% and 58% with 48% and 58% of calving percentage in D.A.H and BAIF respectively and for one conception the number of insemination done was 1.11 and 1.74 in the study area for D.A.H and BAIF respectively. Though the information was collected from the villages or adjacent villages where dispensaries were not located, a good number of respondents were not aware of the 5 D.A.H staff of their village, whereas, all of the respondents were aware of the DCDC-incharge of their village. Most of the respondents knew about vaccination, treatment, deworming, castration and A.I. as the facilities provided by the D.A.H staff and A.I. and technical advice provided by DCDC-in-charge. Quack was the most choiced person contacted by the respondents when their animals have fallen sick. Veterinary doctor or LSA was mostly consulted by the respondents when the case was beyond the comprehension of quack. The main reason for not inviting veterinary doctor to the farm for getting their sick animals treated was distant location of the
dispensaries and high fee charged by them for the farm visit. Majority of the respondents were of the opinion that they had to purchase veterinary medicines whenever their animals were taken ill. Similarly, about 67.5% of the respondents reported that they need to pay for medicine as well as treatment. The TIPs and services which are utilized by most of the respondents in the descending order of frequency were vaccination, treatment of animals, technical advice, to obtain mineral mixture and A.I of the D.A.H and A.I., mineral mixture, technical advice and fodder seed of BAIF. There were only 32 and 60 respondents who availed AI services offered by the D.A.H and BAIF respectively. Similarly, there were 73 and 98 respondents who utilized treatment and vaccination services of D.A.H, respectively. However, a good number (51 out of 60) respondents sought technical advice from the officials of D.A.H and all the 60 respondents from the BAIF on various aspects of improved animal husbandry practices. About 35% respondents reported that A.I. services of D.A.H were not always available to them. As many as 32% reported average quality and 35% of them felt that the charges for A.I. were minimal. Whereas, about 92% respondents reported that A.I. services of BAIF was always available to them. All the respondents reported good quality and 65% of them felt that the charges for A.I. were minimal. Similarly, about 42% of the respondents opined that the treatment services were irregular and 44% felt the quantity of services as good and about 32% respondents indicated the service charge as high. A good majority of respondents expressed the opinion that the vaccines were available in adequate quantity on time. 45% of the respondents expressed good quality of vaccines provided by the D.A.H. With respect to the technical advice offered by the staff of D.A.H, 40% of the respondents opined that it was available regularly and 75% expressed the quality of advice as good. However, all the respondents expressed their opinion as regular availability of technical advice and 80% as the good quality of technical advice. The respondents felt that the technical services of the D.A.H staff were not available to them on most of the days and majority of them were not satisfied or cannot express their satisfaction with the services offered by them. However, 75% of the respondents felt that the technical services of the DCDC-in-charge were available most of the days and majority (85%) of them were highly satisfied with the services rendered by them. 7 Among various constraints coming to the way of D.A.H as well as BAIF officials in channelizing the inputs and services, inadequate manpower was ranked as the most severe constraint followed by more area of coverage. Regarding constraints experienced by the D.A.H officials in conducting A.I. programme, irregular and inadequate supply of semen and insufficient supply of liquid nitrogen was the top ranked constraint, whereas, one-third of the BAIF officials identified poor knowledge of the respondents as constraint in conducting the A.I. programme. Poor storage facility for vaccines and untimely supply of vaccines from the department were the most experienced constraints, related to vaccines, by the D.A.H officials. Officials of D.A.H experienced inadequate and irregular supply of proprietary medicines as the major constraints in supplying medicines to the cattle owners. Regarding area of coverage, majority of the D.A.H as well as BAIF officials were feeling the less number of LSAs and bad condition of road as the constraint. Majority of the D.A.H officials were experiencing the non-availability of deepfreezer, sufficient number cryocans and modern gadget for storing medicines, vaccines and semen. This was immediately followed by old and bad working condition of available storage equipments, whereas, the BAIF officials were equipped with adequate and sufficient storage facilities. Poor economic condition and knowledge and awareness among farmers regarding improved AH practices were major constraints from farmer sides experienced by D.A.H as well as BAIF officials in extending TIPs and services. Non-availability of technical staffs for official work and lack of buildings to establish centres in the villages were some miscellaneous constraints faced by the D.A.H 8 officials and non-availability of technical staff by the DCDC-in-charge in effective supply of technical inputs and services. Most of the D.A.H officials (85.72%) were dissatisfied with the present system of input delivery. But only one-third of the BAIF officials were dissatisfied with the present system.