

Executive Summary

The overall cattle population in the country has shown a decline by 4.10% between the last two censuses (2007 & 2012). On further analysis of the data it was evident that the male population has declined substantially both in case of indigenous and crossbreds. The prevailing trend is to go for crossbred/ improved/ graded animals to have females having better/ improved productivity. With a view to achieving superior genetic traits in progeny, Artificial Insemination (AI) process is followed using semen of proven bulls. In this connection, the department of Animal Husbandry and Veterinary Services (AH &VS) Government of Karnataka (GOK), has been supporting BAIF Institute of Rural Development-Karnataka (BIRD-K) AI centers under the Centrally Sponsored Scheme (CSS). These centers help promote and facilitate Artificial Insemination (AI) using frozen semen of pedigree sires of Cattle and Buffaloes. The department of AH &VS, GoK entered into an agreement with the BIRD-K to promote and facilitate Artificial Insemination (AI) using frozen semen of pedigree sires of Cattle and Buffaloes. As per the agreement, BIRD has established 73 AI centres in seven districts of Karnataka.

The Government of Karnataka decided to evaluate the performance of the said scheme through Karnataka Evaluation Authority (KEA). KEA allotted the evaluation study to NABCONS, a wholly owned subsidiary of NABARD.

The main objectives and purposes of the study are:

1. To evaluate as to whether the amount provided under the scheme was utilized by BIRD-K for the purpose and objectives laid down in the scheme and MoA?
2. To examine whether there is need for continuation of the scheme in the present form?
3. To compare the performance of BIRD-K centers with the AH Dept. and KMF centers, respectively.

The field study was conducted from second fortnight of January 2016 to first week of March 2016 covering 28 AI centres of BIRD-K and seven AI centres each of KMF and Department of AH &VS, GoK. A total of 382 beneficiaries of these AI centres were also covered for the Study in seven districts of the State. The major findings of the study are summarized below:

1. Adequacy of Infrastructure Provided by BIRD

The staff and equipment provided by BIRD-K at each AI center are adequate. The qualification of each of the AI technician is as per the minimum prescription in this regard. They are trained intensively at their training and demonstration campus at S Lakkihalli, Tiptur taluk (Tumakuru district). The training includes both theory and practical which is followed by field level training/internship for a certain minimum period (say three months) to ensure that they have perfected the technique. After this they are deployed in the field.

2. Arrangements for supply of LN₂

The BIRD-K has made proper arrangement for supply of LN₂ at each center through its input supply division located at Dharwad. The LN₂ levels in the cryocans is measured from time to time. The LN₂ was topped up regularly as per the requirement.

3. Source of Semen

The Semen is sourced from the Central Research Station (CRS) of BAIF at Uruli Kanchan, Maharashtra.

4. Semen Quality

The quality testing and certification aspects of semen are taken care of by CRS, BAIF at Uruli Kanchan.

5. Adherence of Breeding Policy of Government of Karnataka

The cattle breeds whose semen is used in AI include Holstein Friesian (HF), Jersey, Khillar, Amrit Mahal, Hallikar, Krishna Valley, Deoni, Ongle while in case of buffaloes, the semen of Surti and Murrah is used. In absence of any record of dams, it is difficult to conclusively establish as to whether the semen used was in conformity with the breeding policy. By and large the breeding policy appears to have been followed. While use of semen of indigenous cattle breeds and buffaloes can be considered as per the breeding policy, the use of exotic and crossbred semen leaves some scope for doubt about higher exotic inheritance in the progeny. However, the study team did not observe many instances where the exotic inheritance has crossed 75% blood level. There is a need to have a proper checklist for use of exotic (100% blood level) as also crossbred (62.5 and 75% blood level) semen. The semen of crossbred bulls

with 62.5% and 75% blood level as also semen of murrah buffalo bulls needs to be used more judiciously.

6. Service charge for AI

The BIRD-K collects the service charges @ Rs 15 per AI as per the MoU and deposits the same to the GoK at monthly intervals regularly.

7. The Conception rate

The performance of BIRD-K centers in terms of conception rates may be treated as acceptable. The target for each center is fixed with reference to 2.5 AIs per conception and the average services per conception were 2.35 which are quite commendable.

8. Conception to Calving Ratio

As a regular follow up, the AI technician conducts Pregnancy Diagnosis (P.D). However, at the time of the examination all the animals are not available for PD due to reasons such as the beneficiary refusing to allow the animal for examination, the animal or the beneficiary not traceable, the beneficiary discontinued participation, the beneficiary sold or transferred the animal, animal died etc. Similar is the case while undertaking calving follow-up. As such there is no cent per cent follow up of animals for pregnancy diagnosis as also calving follow up in respect of confirmed pregnancies. The conception to calving percentage ranged between 25-90%. The average works out to 57%, which is very low. The correct picture in this regard will only emerge, if each and every conception/pregnancy is followed up and the reasons for non availability of pregnant animals for calving follow up are recorded and suitably accounted for. There is a need to streamline the reporting system so that correct picture emerges about success rates with reference to number of services per conception, calving percentage etc.

9. Breeding performance (Karnataka vis-à-vis other states)

Government of India (GOI), Department of Animal Husbandry and dairying (DAH&D) and NABARD Consultancy services (Nabcons), Mumbai had organized a national seminar for implementation of National Project on Cattle and Buffalo Breeding (NPCBB). As per the key note address delivered by the Joint Secretary, DAH&D, the conception rate is more than 50% (< 2 straws per conception). Under Special Development Plan (SDP), The targets fixed for services per conception are based on 40% conception rate i.e. 2.5 services per conception. The

overall no. of services per conception works out to 2.35. This compares well with the standards of GoK as also other states.

10. Variation in Achievement from District to District

The quantitative and qualitative performance under a breeding programme may be a result of complex factors. Certain factors may be beyond the control of the AI center. The qualitative achievement is always a better indication of performance which can be handled with improved management and care. The major factors can be categorized under three heads namely, environmental factors, absence of good recording system and timing of insemination in relation to oestrus. The performance of Raichur district was the lowest both in terms of quantity and quality. The ranking of Bagalakote was at the top in terms of quantitative performance. However, in terms of quality the Bagalkot district ranked fifth (At State Level also Bagalkote ranked Seventh in terms of AI done during the year 2014-15, but its rank with reference to number of conceptions and calvings was tenth). Similarly, Yadagiri district ranks first in terms of quality but quantitatively its rank is sixth.

11. Management Information System (MIS)

The BIRD-K has been submitting the required types of reports to GOK as per the prescribed periodicity.

12. Monitoring Performance of BIRD-K Centers by GOK at District level

The monitoring of the performance of BIRD-K Centers by DAH&VS was not uniform and regular at different levels in the district. The conceptions and calvings are not verified by the AD/DD at regular intervals. However, wherever such verification is done in stray cases/on random basis, the reports are sent to higher authorities for necessary action. In Raichur district no verification/follow up was done by DAH&VS during the four year period (2011-2012 to 2014-15).

13. District Level Review Committee Meeting (till the end of 31.03.2015)

As per the information provided by BIRD-K, in Kalaburgi and Yadagiri districts two meetings each were held while in the remaining districts only one meeting was held during the five year period.

14. State level Review committee meeting (up to 18.09.2015)

The state level review committee meetings were not held during the years 2010-11 and 2011-12 as also during the year 2013-14.

15. Comparative performance of AI Centers (BIRD-K, KMF and DAH&VS)

The BIRD-K centers are found to be better than the centers operated by KMF and DAH&VS. However, as regards the end result of the service, the farmers interviewed reported that the no. of services required per conception did not exceed 2 AIs per conception in most of the cases where the services were sought from all the three agencies, however the performance of KMF and DAH & VS Centers could not be precisely assessed due to non availability of data in required form.

16. Cost of AI services by different agencies

The per service cost incurred by DAH&VS was Rs 32 against which an amount of Rs 15 is recovered by the department. In case of BIRD-K the cost is Rs 282 against which an amount of Rs 15 is recovered from the farmers as per the MoU. In case of KMF centers the data are not available and as such the cost could not be worked out. The costs recovered from the farmers vary widely from society to society.

17. Feedback from farmers about the services rendered by BIRD-K AI centers

The farmers who utilized the services have good opinion about the timeliness and quality of services provided to them by BIRD-K under the scheme. The BIRD-K has gained respect and gratitude of beneficiaries in their respective areas of operation of their centers because of their ability to provide the service in effective and efficient manner. They have also developed a rapport among farmers and enjoy a good credibility in their respective areas of operation.

18. Continuation of the scheme

The scheme should be continued and expanded with mutual consent of both the parties in North Karnataka as also in other parts of Karnataka depending upon feasibility in this regard. Along with breeding service, the centers may also be involved in first aid and other related extension activities like supply of mineral supplement, fodder mini-kits, fodder demonstration, promotional activities. The breeding service being a critical one, unless there is a plan 'B' to

provide access to farmers for such a critical service, it may not be prudent to discontinue the services of BIRD-K abruptly. The BIRD-K AI centers appear to be a successful model and needs to be taken forward.

19. Overlap of efforts of DAH&VS, KMF and BIRD-K

There is no overlap of efforts of DAH&VS, KMF and BIRD-K. Such instances do not occur as there is a unwritten clear cut demarcation in the area of operations. The DAH&VS normally do not provide service wherever the services of BIRD-K or KMF are available. The area of operation of BIRD-K centers doesn't cover the villages where functional KMF dairy societies exist.

20. Methodology for calculation of conception rates

The success rate for conception of AI service may be considered with reference to number of services required per conception. In qualitative terms, this may be adopted as the only and foremost criterion/parameter for knowing/judging the performance of AI center/programme. A suitable user friendly reporting system may be devised/proposed so that the accurate/authentic success rates can be calculated easily.