F.No.3-13/2012-AHT(NPCBB)
Government of India
Ministry of Agriculture
Department of Animal Husbandry, Dairying & Fisheries

Krishi Bhawan, New Delhi.
Dated 6th June 2012.

Subject: Implementation of Standard Operating Procedure (SOP) & Minimum Standards (MS) and Evaluation Procedures for Progeny Testing Programme (PT) - regarding.

With the approval of competent authority, it has been decided to implement Standard Operating procedure (SOP) & Minimum Standards (MS) and Evaluation Procedures for Progeny Testing Programme (PTP) by all agencies identified for undertaking PTP for bovines in the country. The SOP & MS are likely to be revised from time to time depending on the animal production situation and recent developments in the field of PT.

SOP and MS have been developed after consultation with experts is enclosed herewith as ready reference. It is requested that the document may be given wide publicity and recommended for adoption by all concerned agencies in the State.

(R.S. Jayal)
Under Secretary to the Government of India

Encl: **SOP & MS for PT**
Distribution:

1. Secretary, Department of Animal Husbandry,(As per list)
2. Secretary Dairy Development(As per list)
3. Managing Director NDDB Anand
4. Director of Animal Husbandry/Veterinary Services,(As per list)
5. Managing Director Dairy Federations ,(As per list)
6. Chief Executive Officer, NPCBB (As per list)
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Standard Operating Procedures (SOP), Minimum Standards (MS) and Evaluation Procedure for implementing a Progeny Testing (PT) programme for Cattle and Buffalo

May, 2012

Standard Operating Procedures (SOP), Minimum Standards (MS) and Evaluation Procedure for implementing a Progeny Testing (PT) programme for Cattle and Buffalo

Foreword

One of the key factors affecting productivity is the genetic ability of an animal for milk production, which is an inherited character, while others provide an enabling environment. The breeding bull contributes significantly in enhancing the genetic potential of its progenies for economically important traits like milk production, fat and protein production, fertility, body conformation etc. Therefore, building an infrastructure for evaluation and production of breeding bulls with high genetic potential for milk production and other important traits and an infrastructure to transmit their genetic potential to maximum number of progenies is very important in any animal breeding programme. Progeny Testing is a method for accurately evaluating and selecting top bulls and using them to produce future bulls. This document describes the Standard Operating Procedures (SOP) and minimum standards for implementing a progeny testing programme both for cattle and buffaloes in the field for evaluation and selection of high quality bulls and for production of young bulls by inseminating best performing elite females using semen of top ranked progeny tested bulls.

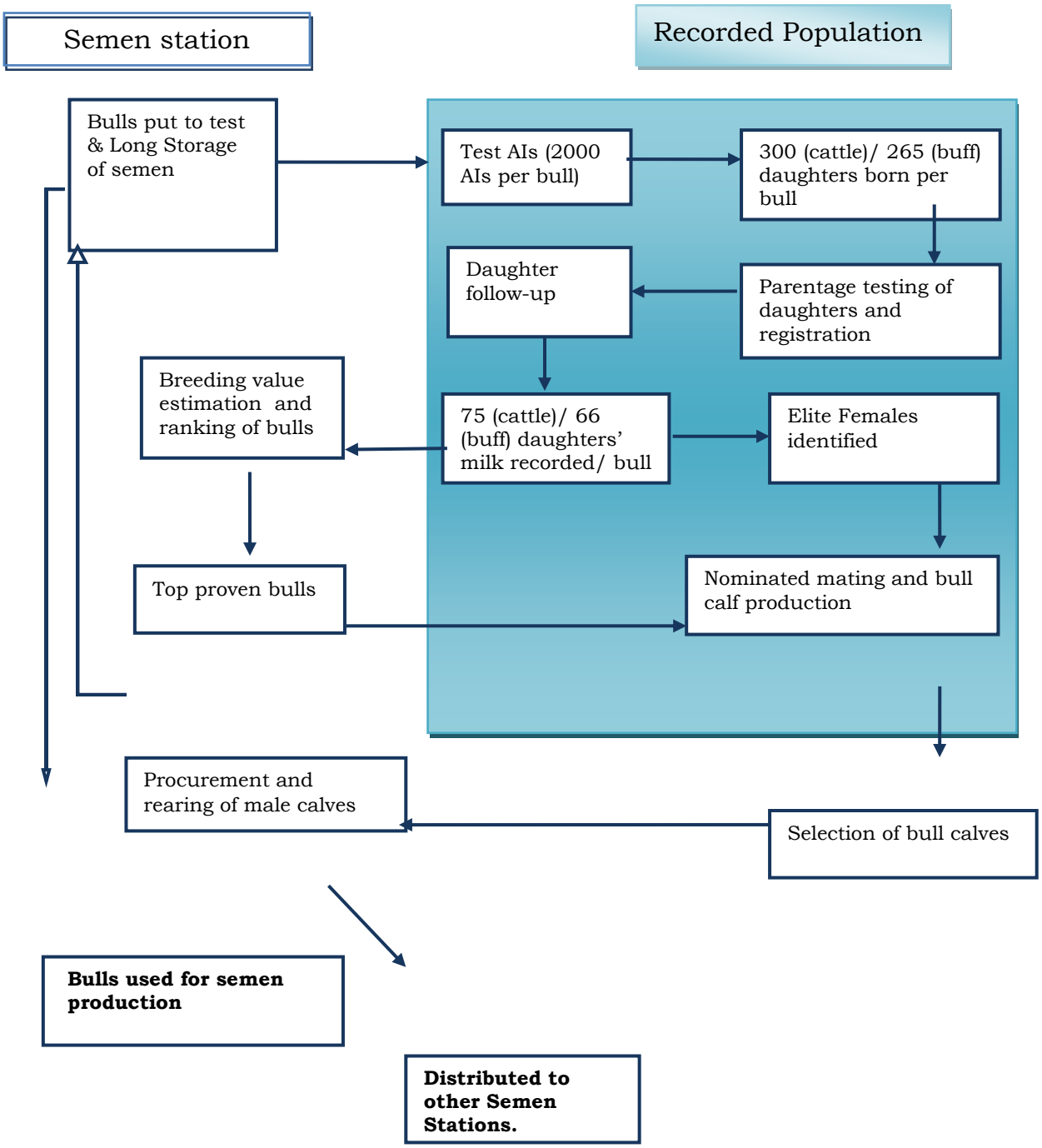
Objectives of the Programme

The main objectives of the Progeny Testing Programme are:

- To produce the required high genetic merit bulls for semen stations through progeny testing
- To achieve a steady genetic progress in the buffaloes or cattle population for milk, fat and protein yield and type characters in the villages where the progeny testing programme is implemented

A schematic representation of various activities that should be taken up under a progeny testing programme is given in Figure 1.

Figure1: A Schematic representation of a progeny testing programme



Standard Operating Procedures (SOP), Minimum Standards and Evaluation procedure

A. Standard Operating Procedures (SOP)

Test Bulls

The very best bulls that meet the "Standards of Genetic Merit of Breeding Bulls" as specified in the Minimum Standards for Production of Bovine Frozen Semen prescribed by DADF, GOI should be put under test. Preference should be given to young bulls, less than 4 years in case of cattle and less than 5 years in case of buffaloes. A test bull should be inducted for test mating preferably after producing a minimum of 5000 doses – 2000 for test mating and 3000 for long term storage.

The test doses should be produced at a Semen Station graded 'A' or 'B' by CMU, DADF, GOI. The number of bulls put under test shall be raised from minimum of 20 to start with and increased to minimum 40 within five years.

If a sufficient number of test bulls are not available with the semen station, semen doses (minimum 2000 doses for Test AIs and 3000 doses for long term storage) from quality bulls meeting "Standards of Genetic Merit of Breeding Bulls" as specified in the "Minimum Standards for Production of Bovine Frozen Semen" prescribed by DADF, GOI, shall be procured from other grade 'A' or 'B' semen stations.

Animal Identification

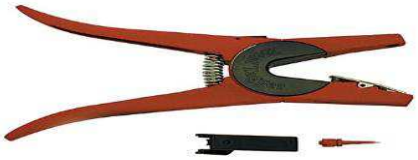
All female animals that are inseminated with test doses, all daughters that are born under the project and all male calves that are born out of nominated mating shall be identified by applying ear tags.

Only polyurethane laser printed ear tags having a 12 digit number and a bar code shall be used. The numbering system followed shall be unique with the last digit of the number being a "check digit" to ensure that no two animals are tagged with the same number. Only

numbers supplied by an agency identified by DADF shall be used for unique identification of animals.

Figure A.1: Ear Tag

Figure A.2: Tag Applicator



The specifications for the ear tag shall be: The male tag as a button shall be with a minimum diameter of 27 mm with a metal point and the flag shaped female tag with a closed head shall be with a minimum size of 55 x 65 mm. 12 digits to be printed in two rows of six digits each; second/lower six digits should be relatively much larger than first/upper six digits.

The ear tag shall be applied inside the ear of animals, in the center of the ear lobe with the female part of the tag inside the ear.

Figure A.3: Ear Tagged animal

If the ear tag falls off, a new ear tag shall be applied within 10 days and the information shall be immediately updated in INAPH.

Test Inseminations

Minimum 2000 doses of each test bull shall be distributed amongst the project villages spread over a test insemination period to carry out at least 2000 test inseminations.

Test insemination period for a bull should be between 12-18 months.

If different PT programmes for a breed in different locations are sharing their bulls, test doses and long term storage doses of each bull should be equally shared (a minimum of 200 doses per bull) among all the programmes so that daughters of each bull are produced in all the locations

The AI Service Provider shall arrange for regular supply of test doses and LN and other consumables to all their AI technicians.

A bull wise, centre wise and month wise semen distribution schedule for all the AI centres covered under the programme shall be prepared and the timely procurement of test doses from semen stations and their timely distribution to all AI centres as per the distribution schedule shall be ensured by the AI Service Provider.

The AI technician would inseminate animals with the test doses supplied to him for that month. When an animal is inseminated for the first time, the animal would be ear-tagged and registered as a dam under the programme and then inseminated. Subsequently, the animals

will be examined for pregnancy after 90 days of AI and then followed for calving.

Daughters' Registration

Upon receiving the information about the birth of daughter, the AI technician along with the concerned supervisor and the Milk recorder should visit the animal and physically verify the animal and the ear tag number of the dam within 45 days of birth. He should also verify the insemination particulars of the dam for verifying the sire number. The daughter then shall be ear-tagged.

Once the daughter is identified, AI Technician shall also record the body measurements to estimate initial body weight.

Parentage verification

Records of all daughters or male calves born of nominated mating, where the gestation period is found to be less than 265 days (290 days in buffaloes) and greater than 290 days (320 days in buffaloes), should be re-checked for the correct parentage. In all doubtful cases, a blood sample should be taken from both mother and progeny (daughter/ son) and semen sample from the sire, for parentage confirmation using DNA markers.

A blood sample of randomly selected 10% of the daughters born under each AI centre and all male calves born out of nominated mating should be collected for parentage confirmation.

A parentage verification database should be created to give feed back to the concerned AI Technicians and supervisors.

Follow up of Daughters

All daughters born under the programme shall be followed up after birth for growth, AI, pregnancy, calving, and lactation. The milk recorder

shall visit all daughters of test bulls at an interval of at least 6 months.

A monthly schedule for such visits shall be prepared. During such visits the milk recorder should check for the loss of ear tags, take body measurements and de-worm the daughters. Follow-up of daughter for growth shall be carried out at least at 6 monthly intervals, de-worming every six months, and vaccination of all female calves between 4-8 months of age in the project villages for brucellosis

The follow-up of the daughters shall continue till the daughter calves, dies or is sold, whichever is earlier. In case of loss of ear tags, the milk recorder should apply a new ear tag, record the particulars of new tag and report immediately.

It is also proposed to conduct calf rallies in the project area.

Recording for body measurements of daughters

The first body measurements of heart girth and length of female calves born should be taken within 45 days of birth at the time of registration and shall be repeated at least at 6 monthly intervals. The first measurement should be taken up by the AI technician and the subsequent measurements by the milk recorder.

Body weight calculated based on Heart Girth and Body Length using the prescribed formula shall be compared with the standard body weight at that age to find out whether a calf is growing satisfactorily and accordingly a feedback should be given to the farmer.

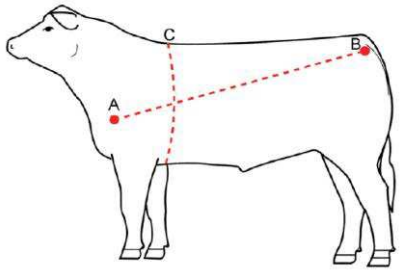
Body length of calf means measurement in inches between point of shoulder and pin bone.

Heart girth means circumference of thorax at the point of elbow.

Body weight is calculated using the following formula:

Body weight (Kgs) = (Hearth Girth (inches))^2 * Body Length (inches)/660

Figure A.4: Measurement of Body Dimensions



Milk Recording

The key points to be considered for milk recording include:

a. The milk recording work should be assigned to exclusive milk recorders. In case an AI technician is covering only one village, he could be entrusted with the responsibility of milk recording.

b. An area assigned to one milk recorder would depend on the number of animals under milk recording and the spread of animals. A milk recorder shall not do milk recording of more than 5 animals per day.

c. First recording should be carried out on or after 5 days of calving and not later than 25 days of calving.

d. Milk recording for an animal should be done once a month, morning and evening and also in the afternoon if three time milking is practiced, preferably on a fixed day of the month (plus or minus 5 days) at the place of milking.

e. A monthly milk recording schedule shall be prepared, detailing the animal to be recorded, order of recording, address of the farmer, name of the village, date and time of recording.

f. Milk recording should be carried out using a transparent calibrated plastic jar with a sensitivity of 100 cc or using an accurate calibrated weighing machine.

Figure A.5: Calibrated Plastic Jug.

g. On each day of milk recording a milk sample should be taken in a sample bottle (during morning recording), properly labeled, recorded and sent to a laboratory for milk component analysis for fat, protein, lactose etc.

h. Every animal should be recorded both for milk volume and milk components on a monthly basis continuously for 11 times or until the animal becomes dry or is permanently lost from the system whichever is earlier.

i. If the animal becomes dry, the dry date should be recorded invariably.

j. If weaning is not practiced by the farmer or if the farmer could not be motivated to practice weaning, at least on the day of milk recording, the calf should not be allowed to suckle its mother. Milk collected from all four quarters should be measured and the farmer should be advised to feed the calf separately.

k. Milk yield should not be recorded on the day when it has dropped by 50% of the previous recording or when the animal is suffering from some form of illness. In such cases the reason for drop

should be recorded and the milk recording should be reattempted after a period of at least five days.

l. If the animal gives milk only one time, then only that should be recorded and the other timing should be left blank.

m. The milk recorder shall also record the details of the recorded yield in a milk recording card that is kept with the animal owner.

n. Standard Lactation Yield of the milk recorded animal should be calculated using the Test Interval Method (A4) described at Section 2.1.5.1 of the International Agreement of Recording Practices published by International Committee for Animal Recording (ICAR).

Procedures for supervision

The main points to be considered for putting in place an appropriate supervision system include:

a. One supervisor should exclusively be made responsible for supervising all the activities including milk recording. The number of supervisors should depend on the number of villages a supervisor can supervise in a month, the work load and the distance between the villages.

b. Supervisors should preferably be matriculate with skill in AI operations.

c. Each supervisor should every month check all the events happening in that month such as – 100% of daughters born, 100% of male calves reported born through nominated mating and at least 30% of randomly selected milk recordings, subsequent body measurements, pregnancy results etc. in his assigned villages. He should submit a tour diary every month.

d. For checking the milk recordings, the supervisor should conduct a surprise check by visiting the site of milking, at the time of the scheduled milk recording and check the procedure of recording, the records and the functionality of the equipment used. Alternatively, the supervisor, on the day of visit to a particular village, should visit a randomly selected animal, which is currently under recording, at the time of milking and measure the quantity of milk produced and record the data. This shall be used to compare the preceding milk recording data of the same animal.

e. In addition to supervisors, activities should also be supervised and monitored by other officers through regular and surprise field visits, bimonthly review meetings, AITs review meetings etc.

f.

Body typing of daughters

All the daughters born to the test bulls and that are entering the milk recording phase should be subject to body typing. This should be done by the supervisors who are trained in body typing of animals. The trained supervisors should type and score the daughters during the peak phase of first lactation. The type traits that may be measured are: stature, chest width, body depth, angularity, rump angle, rump width, rear legs set, rear legs rear view, foot angle, fore udder attachment, rear udder height, central ligament, udder depth, teat placement rear view, teat length, and rear udder attachment. A methodology for body conformation trait measurement for our breeds and breed combinations is being standardized.

Breeding Value estimation and Nominated mating

a. Breeding value of bulls and milk recorded cows/ buffaloes should be estimated using all recorded data obtained through INAPH. Procedures for estimation of breeding values will be decided by an independent six members expert team constituted by DADF

representing GoI, ICAR, SIAs/SLBs, Cooperatives, NDDB, NGOs and Universities.

b. Actual computation of breeding values shall be done using NDDB's computing facilities every four months using all recorded data obtained through INAPH. Breeding values would be published by the above-mentioned Independent Expert Team.

c. If more than one PT programme is being implemented for a breed in different locations, it shall be ensured that some minimum number of daughters of each bull is produced under each of those programmes. In this case, test doses and long term storage doses of each bull shall be shared among all the programmes so that daughters of each bull are produced in all the locations. Not more than Top 10% of the bulls within each breed (minimum five different bulls every year) should be used for nominated mating to produce young bulls to be put under test in next cycle for all the PT programmes meant for that particular breed.

b. It should be ensured that only the semen from not more than top 10% (minimum five different bulls every year) of proven bulls should be used for nominated mating.

During the initial few years of the projects, when proven bulls from the project are not available, semen of proven bulls available with other agencies or imported semen of progeny tested bulls could be used. If semen of proven bulls is not at all available, then bulls whose dam's milk yield is 20% more than the yield specified in the "Standards of Genetic Merit of Breeding bulls" in the "Minimum Standards for Production of Bovine Frozen Semen" prescribed by DADF, GOI should be used for nominated mating.

c. Top 10% females declared elite based on breeding values shall be used for nominated mating. In absence of BV, females qualifying "Standards of Genetic Merit of Breeding bulls" as specified in the

Minimum Standards for Production of Bovine Frozen Semen prescribed by DADF, GOI shall be selected for nominated mating, to produce superior male calves.

d. The elite cow/buffalo list shall be generated, updated and circulated every four months.

Male Calf Procurement

The points to be kept in mind in procurement of male calves include:

a. The male calves produced out of nominated mating should be procured at the earliest possible to avoid loss of this superior germplasm

b. A price decided by the organisation should be paid to the owner for a healthy male calf.

c. It should be ensured that all the procured bull calves have a confirmed parentage that has been confirmed using DNA markers and it should be ensured that the bull calves conform to the breed characteristics and are free from any physical and congenital abnormalities.

d. It should also be ensured that the bull calves and their mothers are free from TB, JD and Brucellosis. TB and JD to be tested by Single Intradermal Test (SIT) and Brucellosis by ELISA.

Rearing of Male calves

The following points to be considered while rearing of male calves:

a. The calves produced in the project villages should be procured and quarantined at a quarantine station.

b. All male calves procured before the age of 3 months should be brought to a pre-quarantine station and kept there at least up to their attainment of 3 months of age. The male calves should be

tested for diseases and only the ones tested free for TB, JD and Brucellosis should be transferred to the quarantine station.

c. Male calves procured after the age of 3 months should be brought to the quarantine station. It shall also be ensured that the bull calves have a confirmed parentage that has been confirmed using DNA markers and the calves and their mothers are free from TB, JD and Brucellosis. TB and JD to be tested by Single Intradermal Test (SIT) and Brucellosis by ELISA.

d. Male calves would be tested for TB, JD and Brucellosis during quarantine and only after successful completion of quarantine, the calves could be either distributed to various semen stations or reared in a separate calf rearing station and then distributed to various semen stations.

Information System

All data related to progeny testing programme such as Animal registration details, AI details, results of Pregnancy Diagnosis, Calving details, Milk recording, Milk component testing, animal re-registration details, Animal movement details, Animal ear tag change/renumbering details etc shall be captured through INAPH (Information Network for Animal Productivity and Health) Application.

B. Minimum Standards to be achieved

The project shall ensure that the following minimum standards are achieved:

a. It would be ensured that annually minimum 20 bulls would be put to test for each breed/ genetic group. However, efforts would be made to put as many bulls as possible under test. This number would be raised to at least 40 over a period of 5 years.

b. All the Test bulls should meet the "Standards of Genetic Merit of Breeding bulls" as specified in the "Minimum Standards for Production of Bovine Frozen Semen" prescribed by DADF, GOI.

c. The test doses should have been produced only at a Semen Station graded 'A' or 'B' by the Central Monitoring Unit (CMU), DADF, GOI.

d. All data related to progeny testing programme shall be captured through INAPH (Information network for animal productivity and Health) application.

e. All efforts would be made to get complete first lactation records of about 70 daughters per bull spread over a minimum of 5 villages; however, breeding values of bulls put to test will not be published unless complete first lactation records of minimum 30 daughters per bull spread over a minimum of 5 villages are available.

f. If more than one PT programme is being implemented for a breed in different locations, it shall be ensured that complete first lactation records of about 70 daughters per bull is produced together by all these programmes.

g. At least 80% of the daughters that are tested for parentage using DNA markers shall have correct parentage as recorded.

h. For the proven bulls that are used for the nominated mating programme for production of bulls, the reliability of their breeding values shall not be less than 75%.

i. It would be ensured that only the semen from not more than top 10% (minimum five) of proven bulls would be used for nominated mating. However, during the initial few years of the projects, during which proven bulls from the project are not available, semen of proven bulls available with other agencies or imported semen of progeny tested bulls could be used. If semen of proven bulls is not at all available, then bulls whose dam's milk yield is more than 20% of the yield

specified in the"Standards of Genetic Merit of Breeding bulls" in the Minimum Standards for Production of Bovine Frozen Semen, prescribed by DADF, GOI should be used for nominated mating.

j. It would be ensured that not more than Top 10% females declared elite based on breeding values and conforming to breed characters shall be used for nominated mating. In absence of BV, females qualifying "Standards of Genetic Merit of Breeding bulls" as specified in the "Minimum Standards for Production of Bovine Frozen Semen" prescribed by DADF, GOI shall be selected for nominated mating, to produce superior male calves.

k. All bull calves selected through nominated mating shall have confirmed parentage through DNA testing.

l. Both bull calves that are procured and their dams shall be free from TB, JD, Brucellosis, and any physical deformities.

C. Evaluation of the project

General:

- The evaluation would be done by a committee (minimum of 4 members) constituted by the Management Committee of the respective pprogramme.
- All the committee members would reach the district on the previous day of the scheduled dates (at least 2 full days) of evaluation.
- A minimum of 3 committee members should be available.
- Each member of the committee should score agency level and field level activities (check list No.1.1, 1.2 and 2.1) and submit the score sheets to chairman for overall score (average of all the score sheets).
- The evaluation of the programme will be done in two phases

Phase 1: Surprise milk recording validation by committee

Phase 2: Qualitative evaluation of activities of the programme

Phase 1

1.1. Surprise milk recording validation:

- The Evaluation Committee (EC) will obtain from the District Coordinator/ Project Coordinator the advance milk recording schedule for the particular month in which the Committee visit is scheduled.
- The EC randomly decides the three milk recording centres and three farmers whose animals are scheduled to be milk recorded by the respective Milk Recorders (MRs) on that date. The committee divides into three teams and each team makes surprise visit to each of the selected village during morning hours. The procedure of recording by the MR is checked as per the **Check List 1.1**.

1.2. Qualitative evaluation of the programme activities at Agency level

- Activities mentioned in the **checklist 1.2** should be evaluated by the committee at the Agency level.

Phase 2:

2.1. Qualitative Evaluation of activities at field level

- For selecting the village, initially select three supervisors from the Project at random and one AI Centre at random from each supervisor. From the selected AI centres, the committee will select one village each.
- Activities mentioned in **checklist 2.1** will be used at village level for evaluating the field related activities in all the three selected villages.

- Fill Sl. No 2, 4 and 8 from information available at AI centre/ INAPH
- Fill Sl. No 1, 3, 5, 6 and 7 at households/Farms.

Checklist 1.1: Surprise milk recording check (Total Marks 50) in 3 separate milk recording centres

Farmer Name:_____ **Milk recorder's name:**_____

ID of Animal under Milk Recording:

Sr. No.	Item description	Answer	Marks assigned	Marks obtained
1	Milk recorder reached the household before/ at the time/ after the farmer started milking the animal	Before/ during/ after	7/ 5/ 2	
2	Animal under Milk recording is ear tagged	Yes / No	4/0	
3	Ear tag number matches with the tag number in Milk Recording Register/ PDA	Yes / No	5/0	
3	Milk recorder is carrying Milk recording register/PDA	Yes / No	2/0	
4	The milk recording Register/card is updated till the previous day/ data has been entered in PDA.		On 4-0 scale	
5	Milk recorder is carrying apparently clean Measuring Jar		On 4/0 scale	
6	Pen/ pencil available with the MR at the time of milk recording	Yes / No	2/0	
7	Milk recorder is carrying Sampling bottles	Yes / No	3/0	
8	Milk Recording card is present at farmer's house.	Yes / No	2/0	
9	Milk recording card with farmer is updated and filled up to date.		On 2-0 scale	
10	Measuring is accurate		On 3-0 scale	
11	Sample was collected after proper mixing of the milk.	Yes / No	2/0	
12	Sample bottle was properly labelled.	Yes / No	2/0	
13	Calf was **not** allowed to suckle? (Suckling only for milk letdown should be allowed)	Yes / No	3/0	
14	Awareness of MR about PT activities		On 5-0 Scale	
		Total	**50**	

If the milk recorder didn't turn-up for recording then zero mark is allotted for the whole session

Checklist 1.2: Qualitative evaluation of the programme activities at Agency level (Total 50 marks)

Sl. No.	Item	Criteria	Marks assigned	Marks obtained
1	Exclusivity of the officers assigned by Agency to the project	Exclusive with no other responsibilities	10	
		Exclusive but looks after some specific assignments in addition to the PTP work like attending infertility camps, health care programme etc. in PT area.	5	
		Looks after additional work allotted by the management from time to time in other than PT Area	0	
2	Data Entry in INAPH (crosscheck any of the recent formats/registers with the transaction list)	Is updated till the last date of previous month for all centres. Up to activities done 10 days before in PDA center (including online center doing desktop data entry) and up to last but one completed month in Non PDA center (Who are sending formats to Project)	10	
		Entry pending for activities done between 10-20 days for PDA center or 2 months (excluding this month) data entry is pending for few centres for Non PDA center.	5	
		Entry pending for activities done 20 days before for PDA center or >2 months (excluding this month) data entry is pending for few centres for Non PDA center.	0	
3	Timely Dispatch of the monthly reports (Check incidences of last three months)	All the reports are dispatched before the deadline set by the project (MR Schedule, DC Tour report, Supervisor advance tour programme and tour reports, DC Monthly report, Three Reports generated by DC from INAPH –Bull Production, PT Project and Milk Recording).	5	
		Some of the reports dispatched after the deadline	2	
		All the reports submitted after deadline.	0	

Sl. No.	Item	Criteria	Marks assigned	Marks obtained
4	FUR / reimbursement claim submission* (Check incidences of last two occasions)	Within 45 days of period ending(month/ quarterly as the case may be with all supporting documents	5	
		within 45 days but some of the supporting documents missing	4	
		After 46-60 days of period ending	3	
		After 60 days of period ending	0	
5	Semen Distribution (check for 5 villages randomly - last 2 months) Short supply from SS side should be considered	As per schedule in all the 10 incidences	5	
		Not as per schedule - 2 incidences	3	
		Not as per schedule - 4 incidences	1	
		Not as per schedule > 4 incidences	0	
6	Supervision (assessment of at least 2 supervisors)	Carried out >5/ 2-3/< 2 morning milk recording supervisions during last month.	0-5	
		Cross verifications of field activities(regular / occasional/ rarely)	0-5	
		Analytical abilities (good /average/ poor) Use of INAPH application on Netbooks. Ask him to generate any three reports from INAPH system.(Transaction, operational and AIMS reports)	0-5	
		Total	**50**	

***Period for submission of FUR may vary from programme to programme and the format may be modified accordingly.**

Checklist 2.1: Qualitative Evaluation of field level activities in 3 villages

(Activities in Sl. No 1, 3, 5, 6 and 7 to be carried out at households/Farms and rest at AI centre)

SN	Activity Description	Method of evaluation	Criteria	Marks assigned	Marks obtained
1	Registrations and Tag application	Random check of 5 recent registrations from T01 formats / PDA and cross check the details	All correct	5	
			1 not correct	3	
			2 not correct	1	
			>2 not correct	0	
2	Test AI Follow up % for PD	Check % of AI cases of three to four months back, followed for PD	>90%/ 80-90% /<80%	10/5/0	
3	Checking correctness of pregnancy diagnosis	Check at random about 6 PD done cases from last 1- 2 months (positive and negative equally) and check for the correctness	All correct	5	
			Not tallying - 1	4	
			Do - 2	3	
			Do >2	0	
4	Calving follow up %	Check % of PD positive cases of eleven months back, followed for Calving	>90%/ 80-90%/ <80%	10/5/0	
5	Checking correctness of calving report	Check at random about 8 calving from last 1- 2 months (male and female equally) along with correctness of dam and daughter numbers	All correct	5	
			Not tallying - 1	4	
			Do - 2	3	
			Do >2	0	
6	Body Measurement Technique- **AIT**	AIT- ask AIT to measure 2 animals at random and check the technique	Correct/ not	Rate on 0-5 Scale	
7	Body Measurement Technique- **MR**	MR- ask MR to measure 2 animals at random and check the technique If village selected has AIT cum MR, marks and percent marks	Correct/ not	Rate on 0-5 Scale	

		obtained may be calculated out of total 45 instead of 50 marks			
8	Follow up % for FBM and SBM	Check % of eligible cases followed for last 3 months for FBM and SBM	>90% cases followed	5	
			80-90% cases followed	2	
			< 80% cases followed	0	
			Total	**50**	

Note: *If ear tag is not available on the animal that is crosschecked- it is treated as wrong/ not tallying/ not followed-up.*
All the three villages are scored based on the above mentioned method (Please use the working sheet attached). An average of the village scores is to be calculated and added to the above section

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Summary of Scores

Section	Marks obtained	Max Marks
1.1 Surprise milk recording check		50
1.2 Qualitative evaluation of the Project activities at EIA level		50
2.1 Qualitative Evaluation of activities at field level		50

Summary of Findings:

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Recommendations:

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Name and Signature of the Evaluation committee

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4.