



DR. MOKHTAR HUSSAIN, MVSC (ARGO)

SENIOR TECHNICAL OFFICER,
ICAR-National Research Centre on Yak
Dirang, West Kameng District
Arunachal Pradesh-790101

E-MAIL: hussainmokhtar61@gmail.com

Web: www.nrcy.org.in

PHONE: +91-3780- 242389 [Extn.261]

Fax: +91-3780-242273

Mobile +918415011168, 9401906054

CAREER OBJECTIVE

To work in an organization that can utilize my talent in its fullest and also provide me an environment so that I can give my full devotion and grow along with it. My current research focus is on animal reproduction for development of assisted reproductive technologies, such as *in vitro* maturation, *in vitro* fertilization, embryo culture, embryo transfer, estrous synchronization, artificial insemination and sperm cryopreservation, which have been using successfully in to make genetic improvement of yak husbandry. Other than that, I am also interested in health and management of yak and other animals, participating and organizing different animal health camp and other extension activities.

ACADEMIC QUALIFICATIONS

Qualification	Institute	University / Council	Year	Discipline
MVSc (Animal Reproduction, Gynaecology and Obstetrics)	CVSc, Guwahati, Khanapara – 22	AAU	2011	Animal Reproduction, Gynaecology & Obstetrics
BVSc & AH	CVSc, Guwahati, Khanapara – 22	AAU	2008	Veterinary Medicine and Animal Husbandry

SIGNIFICANT ACHIEVEMENT

Key member of the research team involved in the span of **Four years** to r successful produced **First Test Tube** yak calf which was born on 15th July, 2013 at National Research Centre on Yak, ICAR, Dirang, Arunachal Pradesh.

MVSc DISSERTATION

Studies on *in-vitro* maturation of oocytes in cattle and yak.

PROFESSIONAL EXPERIENCE

Sl. No.	Office/Institute/ Organization	Post held	Period	Nature of duties performed
1.	ICAR-National Research Centre on Yak, Dirang, West Kameng District, Arunachal Pradesh- 790101	Senior Technical Officer	1 st November, 2014 to till date.	Different research activities of the various projects as well as the institute like IVF technique, Ovum pick up, ETT, RIA, ELISA etc. Beside the above activities, treatment and management of yak and other animals, participating and organizing different animal health camp and other extension activities etc. Some special duty assign by Director Sir related to daily activity of our institute.
2.	Srishti Hospitals and Research Centre, Paltan Bazar, Dibrugarh, Assam	Clinical Embryologist	11 th March to 31 st October, 2014	Evaluation of human semen samples and preparation for IUI, IVF and ICSI. Handling of human oocytes for <i>in-vitro</i> fertilization and <i>in-vitro</i> culture as well as production of Embryos.
3.	Department of Microbiology, College of Veterinary Science, AAU, Khanapara, Guwahati-22	Senior Research Fellow	29 th July 2013 to till 10 th March, 2014	Different research activities of the various projects as well as the institute. Handling of sophisticated instruments like PCR, RIA, ELISA etc. Beside the above activities, treatment and management of different animals etc.
4.	NRC on Yak	Senior Research Fellow	8 th March to 25 th July, 2013	Different research activities of the various projects as well as the institute. Handling of sophisticated instruments like HPLC, Ovum pick up machine, RIA, ELISA reader etc. Beside the above activities, treatment and management of yak and other animals, participating and organizing different animal health camp and other extension activities etc.

5.	NRC on Yak	Research Associate	1 st June 2011 to 7 th March, 2013	Different research activities of the various projects as well as the institute like IVF technique, Ovum pick up, ETT, RIA, ELISA etc. Beside the above activities, treatment and management of yak and other animals, participating and organizing different animal health camp and other extension activities etc.
6.	NRC on Yak	Research Assistant	6 th Nov'2008 to 31 st Jan' 2009	Treatment and management of yak and other animals, participating and organizing different animal health camp and other extension activities etc.

ACADEMIC AWARDS

Merit Cum Means Based Fellowship from Ministry of Minority Affairs, Govt. of India, 2009-2011.

Passed with Distinction in MVSc (Animal Reproduction, Gynaecology & Obstetrics) 2011

PROFESSIONAL SKILLS & TECHNIQUES KNOWN

1. Expert hand in preparation of human semen sample for IUI, IVF and ICSI and evaluation of semen quality.
2. Expert hand in techniques of evaluation of human oocytes for *in-vitro* fertilization and *in-vitro* culture as well as production of Embryos.
3. Expert hand in techniques of collection and evaluation of oocytes for *in-vitro* maturation, *in-vitro* fertilization and *in-vitro* culture from slaughter house ovaries.
4. Expert hand in collection of oocytes from live animal through OPU technique.
5. Expert in handling of ultra sound ovum pick up machine.
6. Expert hand in cryopreservation and vitrification of immature as well as mature oocytes.
7. Expert hand in production of *in-vitro* yak embryos as well as *in-vitro* hybrid embryos.
8. Expert hand in preparation of semen straws and evaluation of semen quality.
9. Handling of Cold Handling Chamber for freezing of semen.
10. PCR, Extraction of Biomolecules (DNA, RNA), Cell culture, biochemical techniques, ELISA, HPLC etc.

OTHER QUALIFICATIONS / EXPERIENCE

1. Diploma in computer application.
2. Treating, handling and managing different animals at different farms and other places during the 6 months period of internship of the B.V. Sc & A.H course.

3. N.C.C 1 and 2 courses (term of 2 years) and attended the combined annual training camp, 2004 at NCC Group, Guwahati.
4. Won several medals as an athlete at college level as well as in inter college meet of A.A.U, Jorhat, Assam.
5. Participation of All India Inter Agricultural University Sports & Game Meet.

TRAINING/CONFERENCE / WORKSHOP / SYMPOSIUM ATTENDED

1. Participation in the “**Workshop on Standardizing Semen Analysis by World Health Organization, 2010**” criteria by **Dr. Daniel R Franken** at Guwahati on 21/04/2014 organized by Academy of Clinical Embryologist, India.
2. Participation in the **National training on “IVF Technology”** sponsored by DBT, Govt. of India, Organized at National Dairy Research Institute (Deemed University), Karnal-132001 (Haryana) India from January, **10-30**, 2013.
3. Participation in the “National Symposium on Addressing Animal Reproductive Stresses through Biotechnological tools” & XXVIII Annual Conference of ISSAR held on November, **21-23**, 2012 at CVSc., AAU, Khanapara, Guwahati-22.
4. Participation in the “National Symposium on Physiologic Research in changing environmental scenario for Sustainable Livestock and Poultry Production” & XXI Annual Conference of SAPI held on November, **06-08**, 2012 at Navsari, Gujarat-396450.
5. Participation in the “**International** Symposium on Advances in Physiologic Research for Sustainable Development of Livestock and Poultry Production” & XX Annual Conference of SAPI held on November, **02-04**, 2011 at Belgachia, Kolkata-700037.
6. Participation in the “National Symposium on Reproductive Biotechnologies for Augmenting Fertility and Conservation of Animal Species with Special Reference to North Eastern Hill Region” & XXVII Annual Convention of ISSAR held on September, **27-29**, 2011 at Selesih, Aizawl, Mizoram-796014.
7. Participation in vii Mid-Annual Convention and National Seminar on “Application of Forensic and Allied Sciences in Veterinary Anatomy” organized by Dept. of Anatomy & Histology, C.V.Sc. A.A.U, Khanapara, Assam on **29th** April, 2010.
8. Participation in **International** Symposium on “Expanding the Horizons of Reproductive Technologies for Augmenting Fertility in Farm and Pet Animals in the Global Scenario” organized by Tamil Nadu Veterinary and Animal Science University at Department of Animal Reproduction, Gynaecology and Obstetrics, Veterinary College and Research Institute, Namakkal, India, during **10th - 12th** December 2009.
9. Participated in “State level seminar on Animal Reproduction and Artificial Insemination” conducted by the Indian Society for Study of Animal Reproduction (Assam Chapter) on April **22**, 2008 at C.V.Sc, A.A.U, Khanapara.
10. Participated in the Seminar on “Strategies for drought management on livestock, fishery and agriculture in Asom” organized by students union on October **7th – 8th**. 2006 at C.V.Sc. A.A.U, Khanapara.

PUBLICATIONS

RESEARCH PAPER

National

1. **Hussain M**, Chakravarty P, Soren S, Deori S and Begum S S, 2015. Effect of recovery technique and culture media on *in vitro* maturation of indigenous cattle oocytes of Assam. *Indian Journal of Animal Research*, **49** (1): 51-54.
2. **M. Hussain**, P. Chakravarty, M.S. Chauhan, S. Soren, B.K.D. Borah, J. Doley and P. J. Das. Quality assessment of yak oocytes for *in vitro* production of yak embryos (2014). *Indian Journal of Animal Science* **84**(9): 969-971.
3. **M.Hussain**, P.M.Baruah, R.K.Biswas, D.Dutta, V.Paul, P.Chakravarty, B.C.Deka and B.C.Sarmah (2012): *In vitro* maturation of indigenous cattle oocytes. *The Indian Veterinary Journal* **89**(2): 59-62.
4. S. Deori, P. Chakravarty, **M. Hussain**, A. Saikia, D. Hazarika, K. K. Baruah and J. Goswami. Efficacy of Ovsynch Protocol on Ovarian Response and Progesterone Profile in Yak (*Poephagus grunniens*) (2013). *Indian Journal of Animal Science* **83**(3): 276-278.
5. P. Chakravarty, **M. Hussain**, S. Soren, S. Bhuyan and D. Baishya, B. Jatiana, D. J. Dutta, V. Paul and S. Deori. Comparative study on recovery rate of yak and cattle oocytes by aspiration and post-aspiration slicing technique. Accepted for publication in *The Indian Veterinary Journal*.

International

Chakravarty P, **Hussain M**, Chauhan MS, Manik RS, Baishya D, Bhuyan S, Soren S, Deori S, Paul V, Das PJ, Doley J, Borah BKD, Krishnan G, Dutta DJ and Deb SM, 2015. *In vitro* yak embryo production through conventional and ovum pickup methods. *Reproduction, Fertility and Development*, **27**(1): 218.

ABSTRACT PRESENTED & PUBLISHED

1. P. Chakravarty, S. Bhuyan, D. Baishya, S. Soren, **M. Hussain**, B.K.D. Borah, D. J. Dutta, S.Deori, B. Jatiana, M.S. Chauhan, K. K. Baruah and B. C. Sarmah (2010). Recovery of oocytes from yak (*Poephagus grunniens* L.) and cattle ovaries by aspiration followed by slicing techniques. Published in the **International** Symposium on Biotechnologies for Optimization of Reproductive Efficiency of Farm and Companion Animals to Improve Global Food Security and Human Health & XXVI Annual Convention of ISSAR held on November, **10-12**, 2010 at GBPUAT, Pantnagar, Uttrakhand.
2. P. Chakravarty, S. Bhuyan, D. Baishya, S. Soren, **M. Hussain**, B.K.D. Borah, D. J. Dutta, S.Deori, B. Jatiana, M.S. Chauhan, K. K. Baruah and B. C. Sarmah (2010). *In-vitro* production of yak hybrid embryos. Published in the ISSRF-2011 Conference to be held at NDRI, Karnal in February, 2011.
3. P. Chakravarty, S. Bhuyan, D. Baishya, S. Soren, **M. Hussain**, S. Deori, B.K.D. Borah, V. Paul, K. K. Baruah, M.S. Chauhan, B. Jatiana, B. C. Deka, B. C. Sarmah, D. J. Dutta and M. Sarkar (2011). Conservation of Yak Germ Plasm

with special Reference to IVF technique. Published in the International Conference on Emerging Trends on Food and Health Security In Cold Desert, held on September, **23-25**, 2011 at DIHAR, DRDO, Leh-Ladakh.

4. S. Deori, P. Chakravarty, V. Paul, M.S. Chauhan, R. S. Manik, **M. Hussain**, S. Soren and B. Jatiana (2011). Collection of oocytes through transvaginal ultrasound-guided aspiration of follicles in yak (*Poephagus grunniens* L.). Published in the National Symposium on Reproductive Biotechnologies for Augmenting Fertility and Conservation of Animal Species with Special Reference to North Eastern Hill Region & XXVII Annual Convention of ISSAR held on September, **27-29**, 2011 at Selesih, Aizawl, Mizoram-796014.
5. **M. Hussain**, P.M. Barua, R.K. Biswas, P. Chakravarty, D. J. Dutta and S.S. Begum (2011). Recovery rate of different types of oocytes from ovaries of indigenous cattle of Assam using dissection and aspiration techniques. Presented in the National Symposium on Reproductive Biotechnologies for Augmenting Fertility and Conservation of Animal Species with Special Reference to North Eastern Hill Region & XXVII Annual Convention of ISSAR held on September, **27-29**, 2011 at Selesih, Aizawl, Mizoram-796014.
6. **M. Hussain**, P.M. Barua, R.K. Biswas, P. Chakravarty, B. C. Sarmah and S.S. Begum (2011). *In-vitro* maturation of oocytes recovered from ovaries of indigenous cattle of Assam in three different media. Presented in the National Symposium on Reproductive Biotechnologies for Augmenting Fertility and Conservation of Animal Species with Special Reference to North Eastern Hill Region & XXVII Annual Convention of ISSAR held on September, **27-29**, 2011 at Selesih, Aizawl, Mizoram-796014.
7. S. Deori, B.K.D. Borah, P. Chakravarty, D. Hazarika and **M. Hussain** (2011). Semen cryopreservation in yak: A tool for Ex-situ conservation. Published in the National Symposium on Reproductive Biotechnologies for Augmenting Fertility and Conservation of Animal Species with Special Reference to North Eastern Hill Region & XXVII Annual Convention of ISSAR held on September, **27-29**, 2011 at Selesih, Aizawl, Mizoram-796014.
8. **M. Hussain**, P.M. Barua, R.K. Biswas, P. Chakravarty, D. J. Dutta and B. C. Sarmah (2011). Comparative study on *in-vitro* maturation of oocytes recovered from ovaries of indigenous cattle of Assam in three different media. Presented for **Young Scientist Award** in the **International** Symposium on Advances in Physiologic Research for Sustainable Development of Livestock and Poultry Production & XX Annual Conference of SAPI held on November, **02-04**, 2011 at Belgachia, Kolkata-700037.
9. S. Deori, P. Chakravarty, **M. Hussain**, A. Saikia and J. Goswami. Efficacy of Ovsynch Protocol on Ovarian Response and Progesterone Profile in Yak (*Poephagus grunniens*). Published in the International Symposium on Advances

in Physiologic Research for Sustainable Development of Livestock and Poultry Production & XX Annual Conference of SAPI held on November, **02-04**, 2011 at Belgachia, Kolkata-700037.

- 10. M. Hussain**, P.M. Barua, R.K. Biswas, P. Chakravarty, D. J. Dutta and B. C. Sarmah (2011). *In vitro* maturation, fertilization and embryonic development of morphologically classified yak oocytes. **Poster presented** in the “National Symposium on Physiologic Research in changing environmental scenario for Sustainable Livestock and Poultry Production” & XXI Annual Conference of SAPI held on November, **06-08**, 2012 at Navsari, Gujarat-396450.
- 11. M. Hussain**, P.M. Barua, R.K. Biswas, P. Chakravarty, D. J. Dutta and S.S. Begum (2011). In vitro performance of oocytes collected through transvaginal ultrasound-guided aspiration of follicles from cyclic yaks. Presented in the “National Symposium on Addressing Animal Reproductive Stresses through Biotechnological tools” & XXVIII Annual Conference of ISSAR held on November, **21-23**, 2012 at C.V.Sc., AAU, Khanapara, Guwahati-22.

POPULAR SCIENCE (LAYMAN) ARTICLES

- 1.** Simson Soren, Bharath Kumar B.S, **Mokhtar Hussain** and Achun Pamei, (2015). BLACK GOLD OF INDIA. Accepted for publication in the journal of “Beverage & Food World”.
- 2.** Begum S. S and **Hussain M**, (2012). Sagali Palanere Krisakar aarthik Unnati. Pushu-kalyan. Vol.2: 43-44, 2012.
- 3.** Begum S. S and **Hussain M**, (2013). Hairy & hardy yaks. **Science Reporter**. 50(1):47-48.
- 4.** Begum S. S and **Hussain M**, (2011). Advantages of rearing the poor man's cow. The Sentinel Maghalaya, 25th Nov., Page No. 04.
- 5.** Begum S. S and **Hussain M**, (2014). Environmental challenges for animals. **Science Reporter**. 51(06):34-35.

BOOK/ CHAPTER/MANUAL/LEAFLET/COMPENDIUM

- 1.** Chapter “Common diseases of yak and their managerial control” in training manual “Handling and Management of Yak” by Doley J, **Hussain M**, Karthick S, Das PP, Medhi D, Bera AK, Bam J, Bhattacharya D, Sarma P, Ali E, Maiti S and Das PJ from National research Centre on Yak, ICAR, Dirang, west Kameng District Arunachal Pradesh-790101, India.
- 2.** Chapter “Physiological adaptation of yak to high altitude” in training manual “Handling and Management of Yak” by Krishnan G, Paul V, Hanah SS, Maiti S, **Hussain M** and Das PJ from National research Centre on Yak, ICAR, Dirang, west Kameng District Arunachal Pradesh-790101, India.

3. Chapter “Importance of complete feed block and ensiling technology for winter scarcity of feeds and feeders” in training manual “Handling and Management of Yak” by Medhi D, Sarma PP, Tsering K and **Hussain M** from National research Centre on Yak, ICAR, Dirang, west Kameng District Arunachal Pradesh-790101, India.
4. Chapter “An orientation of reproductive physiological techniques in yak” in training manual “Handling and Management of Yak” by Paul V, Chouhan VS, Krishnan G, Hanah SS and **Hussain M** from National research Centre on Yak, ICAR, Dirang, west Kameng District Arunachal Pradesh-790101, India.
5. Technical Bulletin “Sanitation and Hygiene for promoting better environment” under ‘Swachh Bharat Abhiyan’ compiled and edited by Doley J, Medhi D, Das PJ, **Hussain M**, Maiti S, Bera AK, Bhattacharya D, Paul V, Bam J, Hannah SS, Krishnan G, Namje P, Pegu S, Das PP, Karthick S and Deb SM from ICAR-National research Centre on Yak, Dirang, west Kameng District Arunachal Pradesh-790101, India.
6. Chapter “Judicious selection of yak for packability” in training manual “Handling and Management of Yak” by Krishnan G, Hanah SS, Paul V, Maiti S, **Hussain M** and Das PJ from National research Centre on Yak, ICAR, Dirang, west Kameng District Arunachal Pradesh-790101, India.
7. Leaflet compiled in assamese “Sagali and Bherar PPR Bema” Begum SS, Deka NN, **Hussain, M**, Khalek A and Sarma K. Goat Research Station, Bornihat, Assam Agricultural University, Khanapara, Guwahati-781022, India.
8. Book “Colour Atlas on Zoonotic Diseases” by FUA Ahmed, J Bam, AK Bera, J. Doley, S. Deori, **M. Hussain**, A Saikia, C Maji, A Managyang and D Bhattacharya from National research Centre on Yak, ICAR, Dirang, west Kameng District Arunachal Pradesh-790101, India.
9. Training manual on “Disease Management of High Altitude Animals” from 27th to 29th March, 2012 by J. Doley, S. Deori, **M. Hussain**, B.K. Dutta Borah, P. Chakravarty and A.K. Bera in National research Centre on Yak, ICAR, Dirang, west Kameng District Arunachal Pradesh-790101, India.
10. Leaflet “Common health problem of yak and their first aid care” Bera, A.K., **Hussain, M.**, Bhattacharya, D., Doley, J., Maji, C., Maity, S., Bam, J., Biswas, T.K. and Deb, S.M. from National research Centre on Yak, ICAR, Dirang, West Kameng District Arunachal Pradesh-790101, India.
11. Leaflet “Common health problem of brokpas and their first aid care” Bera, A.K., **Hussain, M.**, Bhattacharya, D., Doley, J., Maji, C., Maity, S., Bam, J., Biswas, T.K., Deb, S.M. and Dr. S.K.Singh, SMO, Community Hospital from National research Centre on Yak, ICAR, Dirang, West Kameng District Arunachal Pradesh-790101, India.
12. Chapter “Breeding soundness examination of yak bulls” in training manual “Recent advances in artificial insemination” by G. Krishnan, S. S. Hanah, B. K. Dutta Borah and **M. Hussain** from National research Centre on Yak, ICAR, Dirang, west Kameng District Arunachal Pradesh-790101, India.
13. Chapter “Semen collection, evaluation and cryopreservation of yak semen” in training manual “Recent advances in artificial insemination” by B. K. Dutta

- Borah, **M. Hussain** and G. Krishnan from National research Centre on Yak, ICAR, Dirang, west Kameng District Arunachal Pradesh-790101, India.
14. Chapter “Recent advances of semen preservation” in training manual “Recent advances in artificial insemination” by G. Krishnan, S.S. Hanah, B. K. Dutta Borah and **M. Hussain** from National research Centre on Yak, ICAR, Dirang, west Kameng District Arunachal Pradesh-790101, India.
 15. Chapter “Importance of frozen semen in the reproductive biotechnology” in training manual “Recent advances in artificial insemination” by P. Chakravarty, B. K.D. Bora and **M. Hussain** from National research Centre on Yak, ICAR, Dirang, west Kameng District Arunachal Pradesh-790101, India.
 16. Chapter “Biotechnological advances in animal reproduction” in training manual “Recent advances in artificial insemination” by J. Doley, **M. Hussain**, A.K. Bera, P. Chakravarty and D. Bhattacharya from National research Centre on Yak, ICAR, Dirang, west Kameng District Arunachal Pradesh-790101, India.

OTHER EXPERIENCE AND PROFESSIONAL MEMBERSHIP

- ❖ Member of Indian Society for Study of Animal Reproduction.
- ❖ Member of Society of Animal Physiologists of India and Blue Cross Society of Assam
- ❖ Member of Blue Cross Society of Assam
- ❖ Member, Veterinary Council of India
- ❖ Member, Assam Veterinary Council (Practitioner’s regd. No: ASM-2381)