



JOINT FAO/IAEA DIVISION
OF NUCLEAR TECHNIQUES IN FOOD AND
AGRICULTURE
INTERNATIONAL ATOMIC ENERGY AGENCY
FOOD AND AGRICULTURE ORGANIZATION OF THE
UNITED NATIONS



**Co-ordinated Research Project on “Integrated Approach for Improving
Small Scale Market Oriented Dairy Systems”
(D3.10.23)**

**REPORT ON
THIRD RESEARCH CO-ORDINATION MEETING**

14-18 March 2005

Pretoria, South Africa

1 Introduction

The FAO/IAEA Co-ordinated Research Project (CRP) on “Integrated Approach for Improving Small Scale Market Oriented Dairy Systems” (D3.10.23) was initiated in October 2001, with the award of ten Research Contracts, four Research Agreements and one Technical Contract. The first Research Co-ordination Meeting (RCM) was held at IAEA, Vienna, Austria from 8 to 12 April 2002 and the second RCM in Asunción, Paraguay from 21 to 25 July 2003.

2 Third Research Co-ordination Meeting

The third RCM was organized by the Onderstepoort Veterinary Faculty of the University of Pretoria and held at the Kwalata Game Ranch, Pretoria, South Africa from 14 to 18 March 2005. It was attended by nine of the ten Research Contract (RC) holders (the RC holder from Venezuela had suffered an accident immediately prior to the meeting), all four Research Agreement (RA) holders and the Technical Contract (TC) holder. The local organizer was Dr. Leon Prozesky, the RC holder from South Africa. The meeting was conducted by the IAEA Project Officer (PO, Dr. Paul Boettcher) and an IAEA consultant (Dr. Oswin Perera). The meeting agenda is given in **Annex 1** and the list of participants in **Annex 2**.

The objectives of the meeting were to:

- a) Review results of diagnostic investigations, interventions and partial budget analyses conducted by each RC holder since the second RCM;
- b) Summarize major achievements;
- c) Develop individual work plans for the remainder of the project;
- d) Discuss methods to assess the impact of the interventions made and proposed, including economic analyses; and
- e) Make conclusions and recommendations.

Before the meeting, the RC holders were requested to prepare a written report and an oral presentation containing the results from their work. The RA and the TC holders were requested to prepare a review or technical paper, in line with the specific expertise for which they were invited to participate in the CRP, to serve as resource materials and guidelines for specific activities in the work plans of RC holders.

The meeting was formally opened by Prof. N. P. J. Kriek, Dean of the Onderstepoort Veterinary Faculty. Dr. Boettcher welcomed the participants on behalf of FAO/IAEA and thanked the host Government and the Onderstepoort Veterinary Faculty for their assistance in organizing the meeting.

The scientific proceedings commenced with a presentation by Dr. Perera outlining the background to the CRP, its objectives, planned activities and the expected outputs from the third RCM. This was followed by presentations from the RC holders and discussions after

each presentation. The presentations by the RA and TC holders focused on aspects of eco-regional research, use of databases in field livestock research and farmer services, nutrition-reproduction interactions and cost-benefit assessment of reproductive technologies and interventions. A general discussion of the presentations was then undertaken and the final programme for the rest of the meeting was defined.

At the halfway stage of the meeting a field visit was made to the Onderstepoort Veterinary faculty, where the veterinary hospital for small and large animals was toured, and to a breeding farm for cheetahs and other wildlife, where various animal conservation activities were discussed.

During the later stages of the meeting each RC holder worked with his/her assigned RA or TC holder to further develop and refine their individual work plans, including the protocols for continuing integrated interventions and cost-benefit analyses. The progress and achievements of each RC were reviewed, and is summarized in **Annex 3**. Based on this and the future requirements of the project, a set of conclusions and recommendations was drafted. Among the major recommendations made were that an IAEA TECDOC be prepared that will present the results of the Participatory Rural Appraisals (PRA) and Economic Opportunity Surveys (EOS) that each RC holder performed in his/her respective country during the initial stages of the CRP. A timeline for delivery of initial and final drafts was established. In addition, it was decided that a CD-ROM detailing the recommended protocol for performing PRA and EOS, together with the related software (e.g. Microsoft Excel spreadsheets), be produced. The CD-ROM will then be made available to other scientists wishing to perform similar surveys in their countries.

On the final day of the meeting the RC holders made presentations on their updated work plans and provided electronic copies to the PO. The overall project work plan and schedule of activities were reviewed and updated in accordance with individual work plans. According to the original plan of the CRP, the venue for the final RCM was expected to be in Asia at the end of 2006. The RC holders from Bangladesh, Pakistan, and Sri Lanka each offered to host the meeting. Based on a vote of the participants, the recommendation was for Sri Lanka, and the dates will be 4-8 December 2006. Possible topics for a new or follow-up CRP were also discussed, but no definite conclusions were reached and all participants were asked to continue to consider and discuss possibilities in the coming months. An informal e-mail discussion forum was recommended as a medium for continuing contacts and exchange of information in future.

Finally, the conclusions and recommendations given below were presented, discussed and adopted. The meeting was closed with Drs. Paul Boettcher and Oswin Perera thanking the host institute, local organizer and all participants.

3 Conclusions

- 3.1 The third RCM reviewed the work conducted by each RC holder.
- 3.2 The project has resulted in increased research capacity within participating institutes. It has established new linkages with national stakeholders and other international donor agencies.
- 3.3 The holistic approach was considered feasible and appropriate for achieving the goals of the project.
- 3.4 The participatory and multidisciplinary activities were consistent with the holistic design of the project.
- 3.5 The interventions were developed based on the farmers' needs and opinions.
- 3.6 Preliminary results indicate that the interventions based on the holistic approach are showing economic benefits.
- 3.7 The participating farmers have developed confidence in the research teams.
- 3.8 The contribution of RA and TC holders from different disciplines was essential.
- 3.9 The RCMs were essential for exchange of experiences among participants.
- 3.10 Procedures for conducting Participatory Rural Appraisal (PRA) and Economic Opportunity Survey (EOS) were developed, validated and applied in all participating countries. A computer database Livestock Information Management Application (LIMA) was also developed and is being used in all countries.
- 3.11 The project highlighted the necessity of record keeping by farmers for day-to-day farm management. Simple recording procedures are being developed.
- 3.12 The project has already generated several scientific publications and presentations.
- 3.13 The training activities conducted in each country have been an integral part of the project.

4 Recommendations

- 4.1 The results from PRA and EOS should be published as an Agency TECDOC. The time schedule for submission of manuscripts is:
 - First draft to RA and TC holders and to IAEA: 1 July 2005
 - Comments of RA and TC holders sent back to RC holders: 15 July 2005
 - Final manuscripts to IAEA: 1 October 2005

- Submission to IAEA Publications Committee: December 2005
- 4.2 A CD-ROM that can be used by other researchers and stakeholders should be prepared containing the following:
 - PRA – Guidelines and references
 - EOS – Guidelines and software
 - LIMA – Description and demonstration
 - 4.3 Collection of data from interventions must be completed by July 2006 for final assessment.
 - 4.4 The results from investigations and interventions should be included in the manuscript prepared for the final RCM. The schedule for submission of manuscripts is:
 - First draft to RA and TC holders and to IAEA: 1 September 2006 (mandatory for travel approval)
 - Comments of RA and TC holders sent back to CHs: 15 September 2006
 - Updated manuscripts to IAEA: 15 November 2006
 - 4.5 Final RCM should be held 4-8 December 2006 in Kandy, Sri Lanka or Mymensingh, Bangladesh;
 - 4.6 A simple data recording system should be developed by participants for use by farmers in their own countries.
 - 4.7 Impact assessment, including financial analysis, must be undertaken during the final year of the project;
 - 4.8 Mechanisms for cost recovery for services and inputs provided should be established by all participants.
 - 4.9 Action must be taken for in-country dissemination of methods and results to national livestock services and other stakeholders.
 - 4.10 Participants must ensure that project activities are incorporated in routine practices, in order to guarantee sustainability beyond Agency support.
 - 4.11 Regular communication must be improved between RC, RA and TC holders and the Agency Project Officer.

5 Follow-up

Electronic versions of all documents of the meeting, including written reports, Power-point presentations, individual work plans, photographs taken during the meeting and field visits, this meeting report and its Annexes were placed on a CD-ROM and distributed to all participants. The meeting report is also available on the Website of the Animal Production and Health Section of the Joint FAO/IAEA Division at:
(<http://www.iaea.org/programmes/nafa/d3/index.html>)

Annex 1

JOINT FAO/IAEA DIVISION
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Co-ordinated Research Project on “Integrated Approach for
Improving Small Scale Market Oriented Dairy Systems”
(D3.10.23)

Third Research Co-ordination Meeting

14-18 March 2003

Pretoria, South Africa

PROGRAMME

Monday, 14 March

- 09.00 - 09.30 **Opening:**
- Welcome: *Prof. Leon Prozesky, RCM Organizer*
 - Address by Scientific Secretary, IAEA, Vienna: *Dr. Paul Boettcher*
 - Opening Address by Chief Guest: *Prof. N. P. J. Kriek, Dean Onderstepoort Veterinary Faculty*
- 09.30 - 10.15 Overview of the Co-ordinated Research Project, objectives of the meeting and expected outputs - *Dr. Oswin Perera (IAEA Consultant, Sri Lanka)*
- 10.15 - 11.00 Coffee/Tea
- Session I: Presentations by Contract Holders**
Chairperson: Dr. C. Devendra
- 11.00 - 12.00 Community based health, reproduction and nutrition services in small holders' dairy farms of Bangladesh - *M. Shamsuddin, H. Momont, W.J. Goodger, M.S. Hossein, M.A.R. Siddiqui, A.H.M.S.I. Khan, T.U.Ahmed, R. Klos, T. Bennett, M. Rahman, A.S.M. Sayem*
- 12.00 - 12.30 Improving small scale market oriented dairy systems in Tunisia - *J. Rekhis, N. Slimane, A. Ben Younes, A. Mzah, F. Saaidani, M. Laamouri, K. Khlif, S. Jelliti*
- 12.30 - 14.00 Lunch
- 14.00 - 14.30 On farm investigation and on farm testing of proven technologies with selected smallholder dairy farms in Sri Lanka - *H. Abeygunawardena, P.G.A. Pushpakumara, I.S. Abeygunawardena, R. Kaluphana, I. Perera, W. Gamage*
- 14.30 - 15.00 Improving Productivity in Small Scale Dairy Systems in Paraguay - *N. Ferreira,*

C. Caceres, J. Cattoni, J. Frutos

- 15.00 - 15.30 Improvement of dairy producers in the cañete region of Peru - *Carlos A. Gómez, I. Salazar, E. Heredia, I. Saldaña, M. Fernández*
- 15.30 - 16.00 Coffee/Tea
- 16.00 - 16.30 An integrated approach for improving small-scale market orientated dairy systems in the North West Province of South Africa - *L. Prozesky, C.M.E. McCrindle, P.J. Sebei*
- 16.30 - 17.00 Integrated Approach for Improving Small Scale Market Oriented Dairy Systems in Tanzania - *B.M. Kessy, R. Nkya, Z. Lyimo, B. Msangi, F. Turuka, K. Mtenga*

Tuesday, 15 March

Session I: Presentations by Contract Holders

(Contd.)

Chairperson: Dr. D. Cavestany

- 08.30 – 09.00 Integrated Approach for Improving Small Scale Market Oriented Dairy Systems in Pakistan: Economic opportunity survey and diagnostic and surveillance studies - *Abdul Ghaffar, Nematullah and M. Qasim Khan*
- 09.00 - 09.30 Small scale dairy systems in Cameroon: Characterization and impact of interventions - *P.H. Bayemi, M.J. Bryant, D. Cavestany, B.M.A.O. Perera, J. Mbanya, V. Munji, D Pingpoh, H Imele, D Whitaker, V Tanya, M Ngo Lihep, P Naoussi, J Awoh, H Njakoi, A Ngoucheme*

Session II: Presentations by Agreement Holders

Chairperson: Dr. L. Prozesky

- 09.30 – 10.15 Farming systems research and ecoregional research - *C. Devendra*
- 10.15 - 10.45 Coffee/Tea
- 10.45 - 11.30 Use of database application to guide data acquisition and improve delivery of on-farm veterinary services in Bangladesh - *W.J. Goodger, M. Shamsuddin, A.A. Mamun, H. Momont, G. Frank, R. Klos, T. Bennett*
- 11.30 - 12.15 Observations on nutrition and fertility - *D. Whitaker*
- 12.15 – 13.00 Database applications in livestock research - *M. Garcia*
- 13.005 - 14.00 Lunch

Session II: Presentations by Agreement Holders and Work Assignments

(Contd.)

Chairperson: Dr. D. Whitaker

- 14.00 - 14.45 Increasing technology in dairy farms, expenditure or investment? - *D. Cavestany*
- 14.45 - 15.30 General Discussion and Update on Revised Meeting Programme

15.30 - 16.00	Coffee/Tea
16.00 - 17.30	Individual discussions between Contract Holders and Agreement Holders
20.30 – 22.30	Individual discussions continued...

Wednesday, 16 March

08.00 - 18.00	Field Visits: <ul style="list-style-type: none"> • Onderstepoort Veterinary faculty • Breeding farm for cheetahs and other wildlife
20.30 – 22.30	Updating individual work plans

Thursday, 17 March

Session III: Review and Work Plans
Chairperson: Dr. M. Garcia

08.30 - 10.00	Review of progress and summary of achievements – <i>Contract Holders (max. 5 minutes each)</i>
10.00 - 10.30	Coffee/Tea
10.30 - 12.30	Formulation of Conclusions and Recommendations <ul style="list-style-type: none"> • Current status • Focus and schedule for future work • Improving communication • Publication (s); CD-ROM (?) • Manuscripts and time schedules • Final RCM
12.30 - 14.00	Lunch
14.00 - 15.30	Formulation of Conclusions and Recommendations (contd.)
15.30 - 16.00	Coffee/Tea
16.00 - 17.30	Finalisation of individual work plans

Friday, 18 March

Session IV: Presentation of Work Plans, Conclusions and Recommendations
Chairperson: Dr. W. Goodger

08.00 - 10.00	Presentations by Contract Holders (each of 10 min + 5 min discussion)
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10.00 - 10.30	Coffee/Tea
10.30 – 12.00	Presentations by Contract Holders (Contd.)
12.00 – 13.00	Finalization of conclusions and recommendations
13.00 – 14.00	Lunch
14.00 – 16.00	Finalization of individual work plans and submission of electronic documents to Scientific Secretary
16.00	Closure of meeting

Annex 2

FAO/IAEA Co-ordinated Research Project on “Integrated Approach for Improving Small Scale Market Oriented Dairy Systems”

Third Research Coordination Meeting

List of Participants

	Name	Address	Contact Info	RC Number
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Annex 3

FAO/IAEA Co-ordinated Research Project on “Integrated Approach for Improving Small Scale Market Oriented Dairy Systems”

Third Research Coordination Meeting

Summary of Progress and Achievements

Country	PRA (No. Farms)	EOS (No. Farms)	Investigations	Interventions	Econ	Linkages	Other
BGD	36	1444	Feed, production, nutritional balance, mastitis, vet service delivery	Training, reproductive management, udder health, nutrition, Napier silage, vet services, training (1444)	Yes	BGD Milk co-op, Dept Livestock Services, AI service, banks, in-campus project	Database, milk chilling plant, farmer training manual, breeding calendar
CMR	137	61	Recording system, nutrition, progesterone monitoring	Training, feeding package (25)	Yes	Dairy farmers Co-op, veterinarians, NGOs	Review of dairying in CMR, publications
PAR	15	9	Ovarian activity in heifers	Training, nutritional supplementation and sanitation (2)	No	JICA Dairy Project, Vet Faculty, Extension Service, Dairy Association	LIMA (LF), recording on notebook (SF)
PAK	80	80	Trace mineral supplementation, progesterone monitoring	Vaccination, de-worming, teat dipping, reproductive management (33)	Yes	Livestock Department, field veterinarians, NGOs	Recording on notebook

Country	PRA (No. Farms)	EOS (No. Farms)	Investigations	Interventions	Econ	Linkages	Other
PER	18	6	Testing for diseases, nutrition, record keeping	Training, concentrate feed supplementation (11)	Yes	Ministry of Agriculture, NGOs	Student projects, extension leaflets
SAF	15	15	Feeding, mastitis control	Training, record keeping, business plan, nutrition, mentoring by commercial farmers (15)	Yes	NW Province Farmers, Regional Laboratory, Veterinary Services	Milk quality improved, student research
SRL	?	?	Uterine infections and mastitis, incidence of pathogens, ABST	Training, treatment protocols for uterine infections, teat dip and dry cow therapy, fertility clinics, record keeping (49)	No	National Livestock Development Board, Dept Animal Prod & Health, field veterinarians, NGO	LIMA (Large farms), conference presentations
TUN	60	30	Nutrition, training on reproduction, management, CMT, record keeping	Nutrition, reproductive management, health control (free vs. paid) (10)	Yes	Govt Extension Service, field veterinarians, milk collecting centre	Recording form, student research
URT	25	25	Nutrition, testing for diseases	Training, record keeping, concentrate feeding, vaccination (15)	Yes	Govt extension services, Livestock Research Institute	Training leaflets, publications
VEN (Did not attend)	1257	604	Parasite monitoring, detection of cyclicity, suckling	Dietary supplementation, implants			Training sessions

