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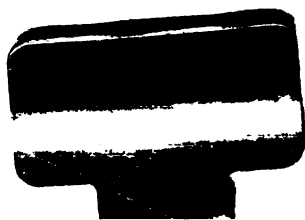


Consultant Final Report
IICA/EMBRAPA-PROCENSUL II

PROGRAMMING, EVALUATION AND FUTURE NEEDS
IN ANIMAL ECOLOGY, EL PANTANAL

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PROGRAMMING, EVALUATION AND FUTURE NEEDS
IN ANIMAL ECOLOGY, EL PANTANAL

Consultant Final Report
IICA/EMBRAPA-PROCENSUL II

Thomas E. Lacher, Jr.

Brasília, fevereiro de 1989

INSTITUTO INTERAMERICANO DE COOPERAÇÃO PARA A AGRICULTURA
EMPRESA BRASILEIRA DE PESQUISA AGROPECUARIA

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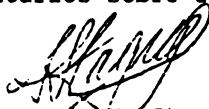
APRESENTAÇÃO

A reprodução e difusão dos Relatórios de Consultores, no âmbito restrito das Diretorias das Unidades do Sistema Nacional de Pesquisa Agropecuária, vinculado à EMBRAPA, tem como objetivo principal o de divulgar as atividades desenvolvidas pelos consultores e as opiniões e recomendações geradas sobre os problemas de interesse para a pesquisa agropecuária.

As atividades de consultoria são realizadas no âmbito do Projeto de Desenvolvimento da Pesquisa Agropecuária e Difusão de Tecnologia na Região Centro-Sul do Brasil - PROCENSUL II, financiado parcialmente pelo Banco Interamericano de Desenvolvimento - BID e a EMBRAPA conforme os contratos de Empréstimo 139/IC-BP e 760/SF-BR, assinados em 14 de março de 1985 entre o Governo Brasileiro e o BID.

As opiniões dos consultores são inteiramente pessoais e não refletem, necessariamente, o ponto de vista do IICA ou da EMBRAPA.

A coordenação dos Contratos IICA/EMBRAPA agradeceria receber comentários sobre estes relatórios.



Horacio H. Stagno
Coordenador Contratos IICA/EMBRAPA



INTER-AMERICAN INSTITUTE FOR COOPERATION ON AGRICULTURE
IICA/EMBRAPA CONTRACT

CONSULTANT FINAL REPORT

1. Consultant's full name: *Thomas E. Lacher, Jr.*
2. Specialist in: *Ecologia de Mamíferos*
3. Title of IICA Project: *2.SB.3*
4. EMBRAPA Program for which consultancy is provided:

PROGRAMA: *PROCENSUL II*

SUB-PROGRAMA: *PESQUISA ANIMAL*

IICA Project Activity Code: <i>2.SB.3.03</i>		Administrative Code: <i>R 4848 BIE 03103</i>	
Title of Activity of IICA Project corresponding to this consultancy,	<i>Cooperation with EMBRAPA on research activities in the field of animal production</i>		
CONSULTANT CONTRACT PERIOD	DUTY LOCATION (Center)		
<i>July 15th. to August 4th., 1988</i>	<i>CPAP/EMBRAPA</i>		
CONTRACT EXTENSION PERIOD (If any)	DUTY LOCATION (Center)		

5. Financial support: *PROCENSUL II*

PERSPECTIVA DE PESQUISA NA ÁREA DE ECOLOGIA ANIMAL NO CENTRO
DE PESQUISA AGROPECUÁRIA DO PANTANAL-CPAP

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Huxley College of Environmental Studies
and Department of Biology
Western Washington University
Bellingham, WA 98225
USA

RESUMO

O Centro de Pesquisa Agropecuária do Pantanal da Empresa Brasileira de Agropecuária do Pantanal historicamente foi a unidade responsável para a coordenação de pesquisa sobre as atividades agropecuárias no Pantanal Matogrossense. O novo Plano Diretor do CPAP apresenta uma análise do papel do Centro. O plano recomenda um papel que é bastante mais abrangente do que cumpria no passado. O Pantanal é um ecossistema rico em flora e, em fauna que é ainda pouco pesquisado. Este novo documento coloca entre o conjunto de atividades do Centro a responsabilidade de avaliar os recursos florísticos e faunísticos da região para fornecer os dados necessários para o melhor aproveitamento destes recursos dentro de um plano de desenvolvimento econômico ecossustentado e conservacionista.

Como consultor na área de Ecologia Animal, gostaria de apresentar uma perspectiva sobre a importância do Pantanal em relação à disciplina de ecologia. Um dos objetivos principais da ciência de ecologia é descrever o padrão de ocorrência de espécies na superfície do planeta. Observa-se que a riqueza de espécies aumenta com a aproximação ao equador. Os processos ecológicos responsáveis são mal entendidos. É o caso, em particular, para o Brasil, que provavelmente abriga mais espécies de seres vivos do que qualquer outra unidade geográfica. O Brasil tem mostrado uma crescente preocupação com conservação, mas a proteção eficaz através de parques nacionais e reservas biológicas requer um conhecimento bom da composição, distribuição, e ecologia dos organismos. Estudos recentes feitos no Cerrado, indicam que pelo menos a mastofauna é muito pouco conhecida.

O Pantanal reflete este cenário nacional em uma escala menor. Existem parques e reservas, mas a fauna é pobremente conhecida. Sem um co

nhecimento da composição da fauna, estudos ecológicos a nível de comunidade são inviáveis. A aceleração do desenvolvimento da região e as possíveis ameaças à fauna torna a situação mais crítica.

Face a essa situação regional existem várias áreas de pesquisa que exigem atenção.

- 1) O CPAP tem que manter o seu papel histórico de ênfase no melhoramento de produção de bovinos. O Centro deve ampliar o nível de cooperação direta com os fazendeiros da região. Este papel principal, de melhorar e economia regional, é altamente importante, desde que o apoio dos produtores seja indispensável para o bom funcionamento do Centro.
- 2) O Centro deve ampliar o seu esforço na área de avaliação de recursos naturais da região, conforme as recomendações do Plano de Pesquisa. Tem que manter o investimento em planos de manejo para o jacaré e a capivara. Estes resultados, com valor econômico, são mais palpáveis e reforçam a apreciação de pesquisa básica. Tem que partir para levantamentos da fauna da região. Estes dados são importantes para revelar outras espécies de valor econômico, além de fornecer todos os dados básicos necessários para estudos de ecologia (predador - presa, hóspede - parasito, estrutura de comunidades) e planos eficazes de conservação.
- 3) É importante lembrar que desenvolvimento ecossustentado e conservação são processos sociais. A ciência só contribui. O respeito às tradições sociais e culturais da região são indispensáveis para o apoio popular a programas de conservação.

Tudo indica que o CPAP tem aspirações a ser um grande Centro de Pesquisa, a nível internacional. Acredito que seja possível, mas nesta fase de crescimento e desenvolvimento vai ser necessário ampliar o tamanho das equipes através de convênios nacionais e internacionais. Já existem muitos exemplos de sucesso (por exemplo, o INPA) utilizam do este modelo, desde que os projectos de cooperação internacionais sejam bem planejados e de natureza verdadeiramente cooperativa. Com dedicação e inteligência o Centro de Pesquisa Agropecuária do Pantanal pode alcançar esta aspiração.

6. ACTIVITIES UNDERTAKEN BY THE CONSULTANT AND RESULTS

6.1 RESEARCH DONE UNDER DIRECT RESPONSIBILITY OF THE CONSULTANT

Research activities developed	Results Achieved
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My primary responsibility on this project was to provide advice in programming, evaluation, and future needs in the area of animal ecology. As such, I was not involved in any direct research while in Corumba. I did however consult with a number of researchers concerning their current and future research programs, as discussed below.

6.2 SUPPORT TO RESEARCH UNDERTAKEN BY OTHER ENBRAPA RESEARCHERS

Research activities developed

Results achieved

I. Proposals for research on the management of Capybaras and Caimans

I worked with Guilherme Mourao and Zilca Campos on their past and planned future research on the management of these species. We outlined a number of future research directions, including the development of management models utilizing life-history data collected on wild animals at Fazenda Nhumirim. This phase of research could begin as soon as Z. Campos returns from INPA. The following phase, if models suggest that harvesting is feasible, would be to initiate harvest under controlled circumstances at Fazenda Nhumirim or adjacent Fazendas.

II. Studies on the ecology of the cervo-do-Pantanal.

I met on two occasions with Antonio Thadeu M. de Barros and Walfrido Moraes Tomas to discuss their proposed research on the cervo-do-Pantanal, Blastocerus dichotomus. We discussed a number of aspects of the project, and I made a number of suggested changes.

III. Studies on the "sanidade animal" of Capybaras and Caimans

I met on several occasions with researchers from the "sanidade animal" group. I read and commented on several proposals, and also spoke with these researchers concerning the design and analysis of experimental data. The individuals that I met with were Aiesca da Silva Oliveira, Renato Andreotti e Silva, Max Silva Pinheiro, and Roberto Aguilar M. S.

6.3 TRAINING ACTIVITIES DEVELOPED BY THE CONSULTANT

Date	Training subject matter	Type of event*	Number of beneficiaries	
			From ENBRAPA	From other institutions

August 1	Research perspectives in the area of animal ecology in the Pantanal	Seminar	Approximately 25 members of the research staff of CPAP	
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* Short courses, seminars, conferences, etc.

6.4 IN-SERVICE TRAINING PROVIDED BY THE CONSULTANT

In-service training subject matter	Names of counterparts
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Research planning	Zilca Campos, Guilherme Mourao
Wildlife census techniques	Antonio Barros, Walfrido Tomas
Experimental design	Aiesca Oliveira, Max Pinheiro, Renato Andreotti e Silva, Roberto Silva, Guilherme Mourao
Data analysis	Aiesca Oliveira, Max Pinheiro, Renato Andreotti e Silva, Roberto Silva, Guilherme Mourao, Zilca Campos, Maria Cristina Mazza

6.5 ACTIVITIES IN SUPPORT OF RESEARCH STRATEGY AND PLANNING

Research subject matter	Research program to which subject matter is concerned
Wildlife management	Projeto Capivara, Projeto Jacare
Experimental design and Analysis	" " " "

6.6 ACTIVITIES IN SUPPORT OF OTHER CENTERS AND UNIVERSITIES IMPROVING THE RESEARCH CENTERS LINKS WITH ABROAD

Subject matter on which links were recommended	Persons, centers and universities recommended for contact
Systematics and zoogeography	Dr. Thomas E. Lacher, Jr. Western Washington University
Wildlife management	Dr. Michael A. Mares, Univ. of Oklahoma Dr. David Schmidly, Dept. of Wildlife and Range Sciences, Texas A & M University
Quantitative Ecology.	Dr. Michael Willig, Dept. of Biological Sciences Texas Tech University

6.7 PUBLICATIONS AND REPORTS UNDERTAKEN WITH THE CONSULTAT'S PARTICIPATION

Author(s)*	Title of publication or Report and other bibliographic identification
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Although this will be an anticipated outcome of future cooperative research, my primary responsibility was advice on planning and future needs.

* Personal, institutional, etc.

6.8 SUPPORT PROVIDED TO EMBRAPA RESEARCHERS IN THESIS AND DISSERTATION WORK

Name of the student	Thesis subject matter and synthesis of advice
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Guilherme Mourao

Limnology of "baías"--advice on data analysis and interpretation

Luiz Marques Vieira

Impact of rice agriculture on soil macroinvertebrates--general advice on research design and data analysis

6.9 OTHER ACTIVITIES DEVELOPED BY THE CONSULTANT

I initiated plans with the researchers in "ecologia animal" and the chefe tecnico, Emiko Kawakami de Resende, to do a zoogeographical survey of the mammals of the Pantanal. The survey would be the first large scale survey of its kind in recent history in Brazil and would provide information on: species composition and abundance, zoogeographical affinities, relations between wild and domestic animals, densities and foci of economically important species (capivara, vampire bat, etc), areas of high species richness and/or priority areas for conservation and protection.

7. OTHER NATIONAL SYSTEM CENTERS, APART FROM DUTY STATION CENTER, ASSISTED BY THE CONSULTANT

Research center	Area of assistance provided by the consultant
None	

8. CONSULTANT'S SUGGESTIONS AND TECHNICAL OR INSTITUTIONAL RECOMMENDATIONS FOR THE
IMPROVEMENT OF THE RESEARCH SERVICE

The laboratory at Corumba (CPAP) professes to aspire to international stature. It is currently a very good laboratory. In order to improve it will need additional support. The most obvious needs are in terms of facilities and equipment. The planned expansion in the size of the main building in Corumba is needed and will allow the lab to expand its research into other important areas, in particular ecotoxicology. Other needs include:

At CPAP--Telemetry equipment. In order to do state of the art research on animal movements this equipment is indispensable. It is relatively inexpensive as well.

--Research journals. The library is very deficient in research journals. The expense of maintaining subscriptions to journals is small relative to the tremendous benefit derived from having researchers that are up-to-date. This is a critical deficiency that must be rectified if CPAP in fact inspires to international stature. Journals in my area of expertise that the library should receive are--American Naturalist, Ecology, Animal Behavior, Copeia, Journal of Wildlife Management, Journal of Mammalogy, Auk, Biotropica, Journal of Tropical Ecology.

--Computers. There are a number of computers now available in a central facility. In the future, every research laboratory should have its own computer.

At the Fazenda--There is currently no quiet area with desk space that can be used as a work area by EMBRAPA or visiting scientists. It is very difficult to work on data, field notes, etc., as there is no where to sit! The large room next to the eating area should be converted to office space.

--Laboratory. There is currently an empty room that serves as a laboratory for researchers. There are no desks, tables, or work areas in this room. There is also insufficient wiring and plugs. This room should be renovated as soon as possible, with more wiring, stainless steel work tables and sinks, tables, chairs, and desks. This will make it a functional laboratory.

The CPAP is fairly well staffed. In my estimation, there are a number of research areas that can be filled in the future (ornithologist, aquatic toxicologist, wildlife management). The most glaring and immediate deficiency is a MS level statistician. The research staff could benefit appreciably from the presence of a full time statistician.

There are currently two research groups at CPAP that overlap a great deal in their research orientation: Ecologia Animal and Sanidade Animal. Unfortunately, there is not as much communication between these groups as there should be. I recommend that there be weekly one hour research seminars given by researchers in these two areas to the combined group. These seminars should be informal and casual, and should function primarily to stimulate communication and exchange of ideas. These two groups should be working together very closely on all management projects, especially capivaras and caimans. Another important area that is being overlooked and should be explored as a joint venture is the effect of "porco monteiro" on the ecology of the two species of native peccaries.

One aspect of the current stance of CPAP that I found very favorable is the high degree of cooperation between the lab and the ranchers. This has been a very positive change in policy and the director, Nilson de Barros, is to be commended for this initiative.

One last recommendation is also related to the place of CPAP in the national and international research community. Greatness is not achieved by operating in a vacuum. In order to establish a high research profile, the lab must aggressively pursue cooperative research agreements and "convenios" with other Brazilian research centers and universities, and with foreign laboratories and universities as well. International agreements must be carefully developed; when done in this manner, however, they are extremely profitable for all involved.

9. AGREEMENTS OR COMMITMENTS ESTABLISHED WITH EMBRAPA RESEARCHERS IN-SERVICE OF
THE FUTURE DEVELOPMENT OF RESEARCH IN THE CONSULTANT'S FIELD OF SPECIALIZATION

The planned zoogeographical survey discussed in section 6.9.

10. CONSULTANT'S COMMENTS ON CIRCUMSTANCES WHICH AFFECTED THE CONSULTANCY WORK

I only have positive things to say about the circumstances. The director (Nilson de Barros) and chefe tecnico (Emiko Kawakami de Resende) provided every opportunity for me to effectively carry out the consultancy. They assisted me in every way possible. The staff was intelligent, articulate, and motivated. All researchers that I met were of the highest quality and merit opportunities for additional training (the Ph.D. in most cases).

Date: 1 Sept. 20, 1988

Signature
Thomas E. Fackel



APPENDIX---CHRONOLOGY OF VISIT

SUMMARY OF ACTIVITIES

Saturday, July 23- I flew from Bellingham to Seattle, and then from Seattle to Los Angeles. In Los Angeles I caught my Varig flight to Rio de Janeiro.

Sunday, July 24- I arrived in Rio and caught the VASP flight to Corumba. I was met at the Corumba airport by several EMBRAPA employees, including Zilca Campos, Guilherme Mourao, and Claudio Brust. In the evening we got together and discussed the research plans and options currently being explored by CPAP.

Monday, July 25- I spent the day at CPAP. I met briefly with the director, Nilson de Barros, the future director, Urbano Gomes Pinto de Abreu, and the Chefe Tecnico Emiko Kawakami de Resende. I took care of some paperwork regarding the contract as well. In the afternoon I met with Luiz Marques Vieira to discuss his proposed research at Fazenda Sao Francisco.

Tuesday, July 26- I left for Fazenda Nhumirim in the early morning. We arrived in the late afternoon and I was given a tour of the new facilities. There are now excellent dormitory facilities and an improving laboratory area. The

laboratory facilities will need continued improvement. There is also a small room for maintaining collections, although there is no climate control. The room will serve for temporary storage only. I observed some of the mammal specimens that Zilca Campos collected over the past year. There are some interesting new additions to the species list, including probably two species of Marmosa. The specimens were already quite degraded in quality. In the future, a collections room will need to be established in Corumba.

Wednesday, July 27- I spent the day in the field with Zilca Campos and Guilherme Mourao. In the morning we examined the area of the Fazenda that has been set aside as a reserve. It is an area of approximately 600 ha that contains good forest, grassland, and cerrado habitat. This area will be important for future basic research in animal and plant ecology. The reserve has only been recently established. In the afternoon we went out to the "cercado" that was established for the "Projeto Capivara". The area is in need of some repair for future use. Currently there is some parasitological work being done on the capivaras, but research on management is currently stopped due to lack of personnel to work on both the "Projeto Capivara" and "Projeto Jacare". In the evening Guilherme and Zilca discussed the new Plano Diretor de Pesquisa of CPAP. It is a very forward looking document that could dramatically change the future research direction of CPAP by broadening its scope.

Thursday, July 28- I spent the morning with Zilca Campos and Guilherme Mourao discussing their current research emphases in the "Projeto Jacare". They discussed their mark-recapture procedure, as well as their surgical procedure for identifying the sex of the young animals. They have received excellent orientation from William Magnuson of INPA. We walked out to a couple of their study ponds to release a few young animals that had been captured the previous day. In the afternoon we drove out to Fazenda Campo Dora to examine the abandoned campsites of "coureiros". The current research on the effects of illegal hunting on the age-class structure and sex ratio of the Caiman population is of very good quality and will yield valuable results.

Friday, July 29- I spent most of the day travelling about the Fazenda with Zilca Campos observing mammals and birds. In the afternoon I had the opportunity to do a brief census of large mammals in the ultralight airplane that was just purchased by EMBRAPA. I was able to see with ease many species of large mammals (Mazama americana, Nasua nasua, Hydrochaeris hydrochaeris, Cerdocyon thous). The ultralight will be a valuable tool for future census work for mammals, birds, and caimans in the Pantanal.

Saturday, July 30- We packed up material in the morning and after lunch returned to Corumba. We arrived in Corumba after dark.

Sunday, July 31- Zilca Campos was to return to Manaus today, so I met with her and Guilherme in order to discuss their perspectives on the role of research in animal ecology in

the Pantanal in relation to the new Plano Diretor. In the afternoon we took her to the airport.

Monday, August 1- In the morning I had lengthy meetings with a number of researchers. I first met with Emiko Kawakami de Resende. We discussed progress on the two management projects, "Projeto Capivara" and "Projeto Jacare", and also talked about how the research might progress in the future. We also discussed other potential research projects in light of the priorities of CPAP. We agreed in principal to move ahead on a proposal for a systematic survey on the mammals of the Pantanal. The survey would also collect data on zoogeography and ecology, and the interactions of mammals with agriculture and cattle ranching. The proposal would be funded through international grants.

Later in the morning I spoke with Walfrido Moraes Tomas and Antonio Thadeu M. de Barros. I had previously reviewed their proposal to the World Wildlife Fund, to work on Blastocerus dichotomus. We discussed my comments and recommendations. I also met briefly with Urbano Gomes Pinto de Abreu.

In the afternoon I presented a seminar to the research personnel of CPAP entitled "Perspectiva de pesquisa na area de ecologia animal no Centro de Pesquisa Agropecuaria do Pantanal." I have enclosed a copy of the abstract attached to the end of this summary of activities.

Tuesday, August 2- I met Luiz Marques Vieira early in the morning and left for a visit to Fazenda Sao Francisco on the bank of the Miranda River. Luiz Vieira plans to do his doctoral

research at the Universidade de Campinas on the effect of intensive rice agriculture on soil macroinvertebrates. After arriving at the fazenda we spent the day touring the area and looking at potential sites. We also conducted an intensive interview with the fazenda manager, and obtained a great deal of information on the treatment of the soil, use of fertilizer, use of agricultural chemicals, and general schedule of harvest. The manager of the fazenda also was interested in encouraging research on the fate and transport of the agricultural chemicals used on the rice plantation. He was open to the participation of EMBRAPA-CPAP in these projects. We arrived back in Corumba after midnight.

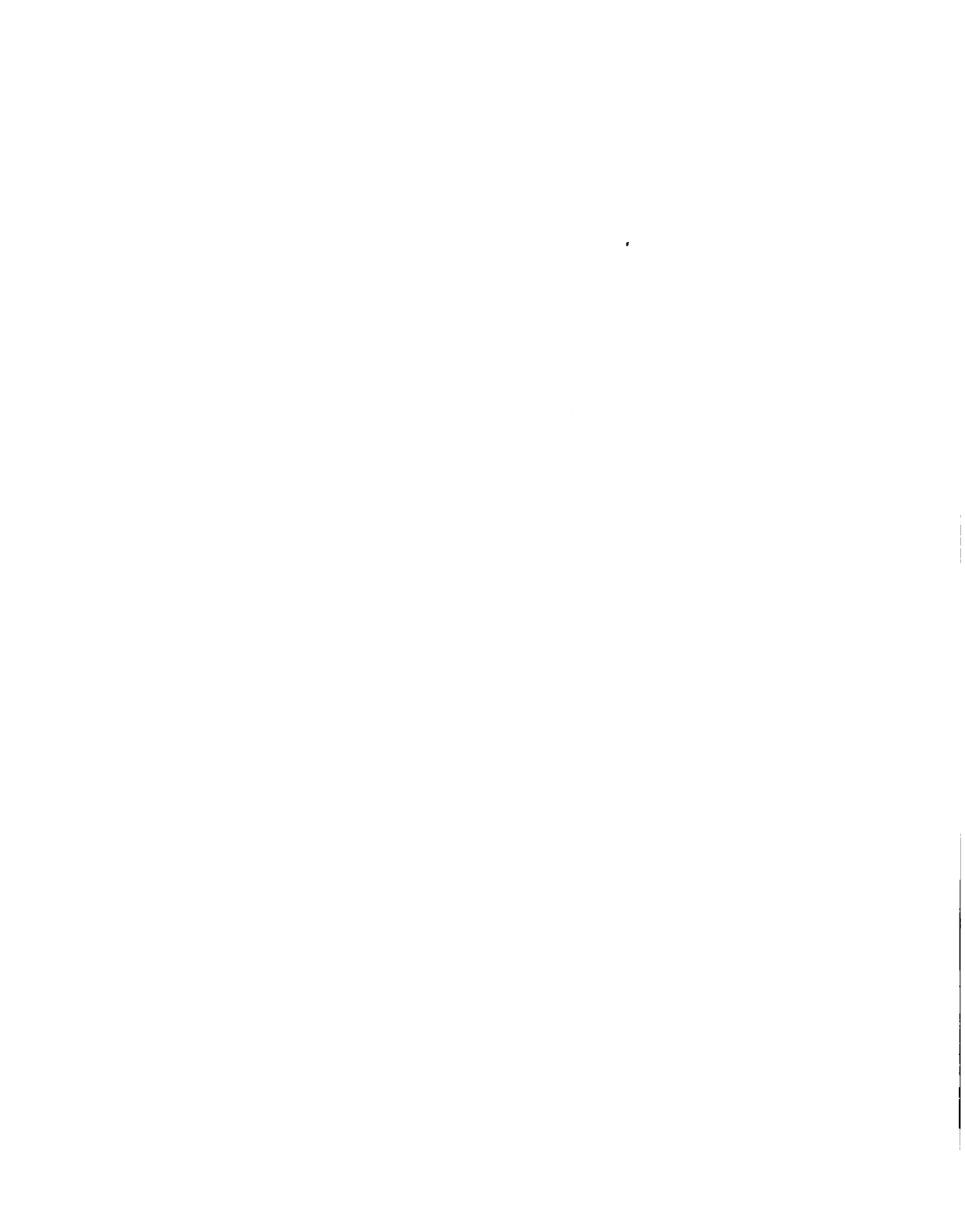
Wednesday, August 3- I spent a large part of the day working with the researchers in the area of "sanidade animal". I read and commented on draft proposals prepared by a number of investigators (Aiesca da Silva Oliveira, Renato Andreotti e Silva, Max Silva Pinheiro, Roberto Aguilar M. S. Silva). I also met personally with all of the above researchers. I found all of these individuals to be highly motivated, and very qualified. CPAP is fortunate to have young researchers of such high quality on their staff. I also spent part of the day preparing a written summary of my presentation for general distribution.

Thursday, August 4- I continued my series of meeting with the staff of CPAP. I met again with Aiesca Oliveira and Maria Cristina Medeiros Mazza to discuss some approaches to statistical analysis of some data that they have collected.

I also had an extended meeting with Luiz Marques Vieira concerning his draft proposal for his doctoral research. I feel that he has constructed a strong proposal. In the afternoon I had the opportunity to have a long discussion with the director of CPAP, Nilson de Barros. He is a man of vision with great aspirations for the emergence of the research facility at CPAP as a research laboratory of international stature. CPAP has made great progress towards that goal under his leadership.

Friday, August 5- I was able to spend a few hours at the lab in the morning before I caught my flight to Rio. I had the opportunity to converse briefly with staff members and thank them for their hospitality. At noon I caught my flight to Rio de Janeiro, and in the evening I caught my plane for Los Angeles.

Saturday, August 6- I arrived in Los Angeles in the morning; I then caught flights to Seattle, then Bellingham, arriving in the late afternoon.



Programa II. Geração e Transferência de Tecnologia

O Programa de Geração e Transferência de Tecnologia é a resposta do IICA a dois aspectos fundamentais: (i) o reconhecimento, por parte dos países e da comunidade técnico-financeira internacional, da importância da tecnologia para o desenvolvimento produtivo do setor agropecuário; (ii) a convicção generalizada de que, para aproveitar plenamente o potencial da ciência e da tecnologia, é necessário que existam infra-estruturas institucionais capazes de desenvolver as respostas tecnológicas adequadas às condições específicas de cada país, bem como um lineamento de políticas que promova e possibilite que tais infra-estruturas sejam incorporadas aos processos produtivos.

Nesse contexto, o Programa II visa a promover e apoiar as ações dos Estados membros destinadas a aprimorar a configuração de suas políticas tecnológicas, fortalecer a organização e administração de seus sistemas de geração e transferência de tecnologia e facilitar a transferência tecnológica internacional. Desse modo será possível fazer melhor aproveitamento de todos os recursos disponíveis e uma contribuição mais eficiente e efetiva para a solução dos problemas tecnológicos da produção agropecuária, num âmbito de igualdade na distribuição dos benefícios e de conservação dos recursos naturais.

INSTITUTO INTERAMERICANO DE COOPERAÇÃO PARA A AGRICULTURA

O Instituto Interamericano de Cooperação para a Agricultura (IICA) é o organismo especializado em agricultura do Sistema Interamericano. Suas origens datam de 7 outubro de 1942, quando o Conselho Diretor da União Pan-Americana aprovou a criação do Instituto Interamericano de Ciências Agrícolas.

Fundado como uma instituição de pesquisa agrônômica e de ensino, de pós-graduação para os trópicos, o IICA, respondendo às mudanças e novas necessidades do Hemisfério, converteu-se progressivamente em um organismo de cooperação técnica e fortalecimento institucional no campo da agropecuária. Essas transformações foram reconhecidas oficialmente com a ratificação, em 8 de dezembro de 1980, de uma nova convenção, que estabeleceu como fins do IICA estimular, promover e apoiar os laços de cooperação entre seus 31 Estados membros para a obtenção do desenvolvimento agrícola e do bem-estar rural.

Com um mandato amplo e flexível e com uma estrutura que permite a participação direta dos Estados membros na Junta Interamericana de Agricultura e em seu Comitê Executivo, o IICA conta com ampla presença geográfica em todos os países membros para responder a suas necessidades de cooperação técnica.

As contribuições dos Estados membros e as relações que o IICA mantém com 12 Países Observadores, e com vários organismos internacionais, lhe permitem canalizar importantes recursos humanos e financeiros em prol do desenvolvimento agrícola do Hemisfério.

O Plano de Médio Prazo 1987-1991, documento normativo que assinala as prioridades do Instituto, enfatiza ações voltadas para a reativação do setor agropecuário como elemento central do crescimento econômico. Em vista disso, o Instituto atribui especial importância ao apoio e promoção de ações tendentes à modernização tecnológica do campo e ao fortalecimento dos processos de integração regional e sub-regional.

Para alcançar tais objetivos o IICA concentra suas atividades em cinco áreas fundamentais, a saber: Análise e Planejamento da Política Agrária; Geração e Transferência de Tecnologia; Organização e Administração para o Desenvolvimento Rural; Comercialização e Agroindústria, e Saúde Animal e Sanidade Vegetal.

Essas áreas de ação expressam, simultaneamente, as necessidades e prioridades determinadas pelos próprios Estados membros e o âmbito de trabalho em que o IICA concentra seus esforços e sua capacidade técnica, tanto sob o ponto de vista de seus recursos humanos e financeiros, como de sua relação com outros organismos internacionais.

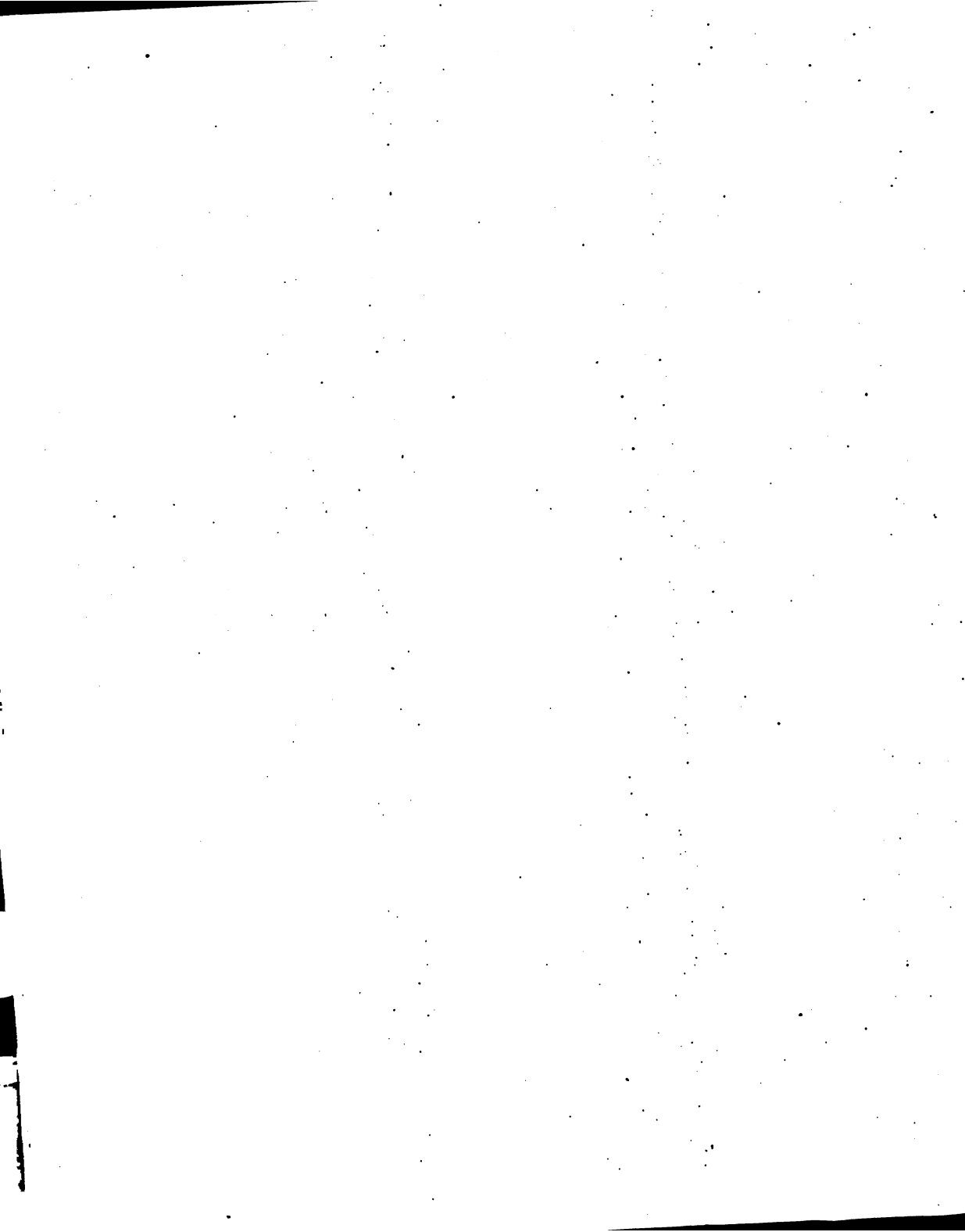
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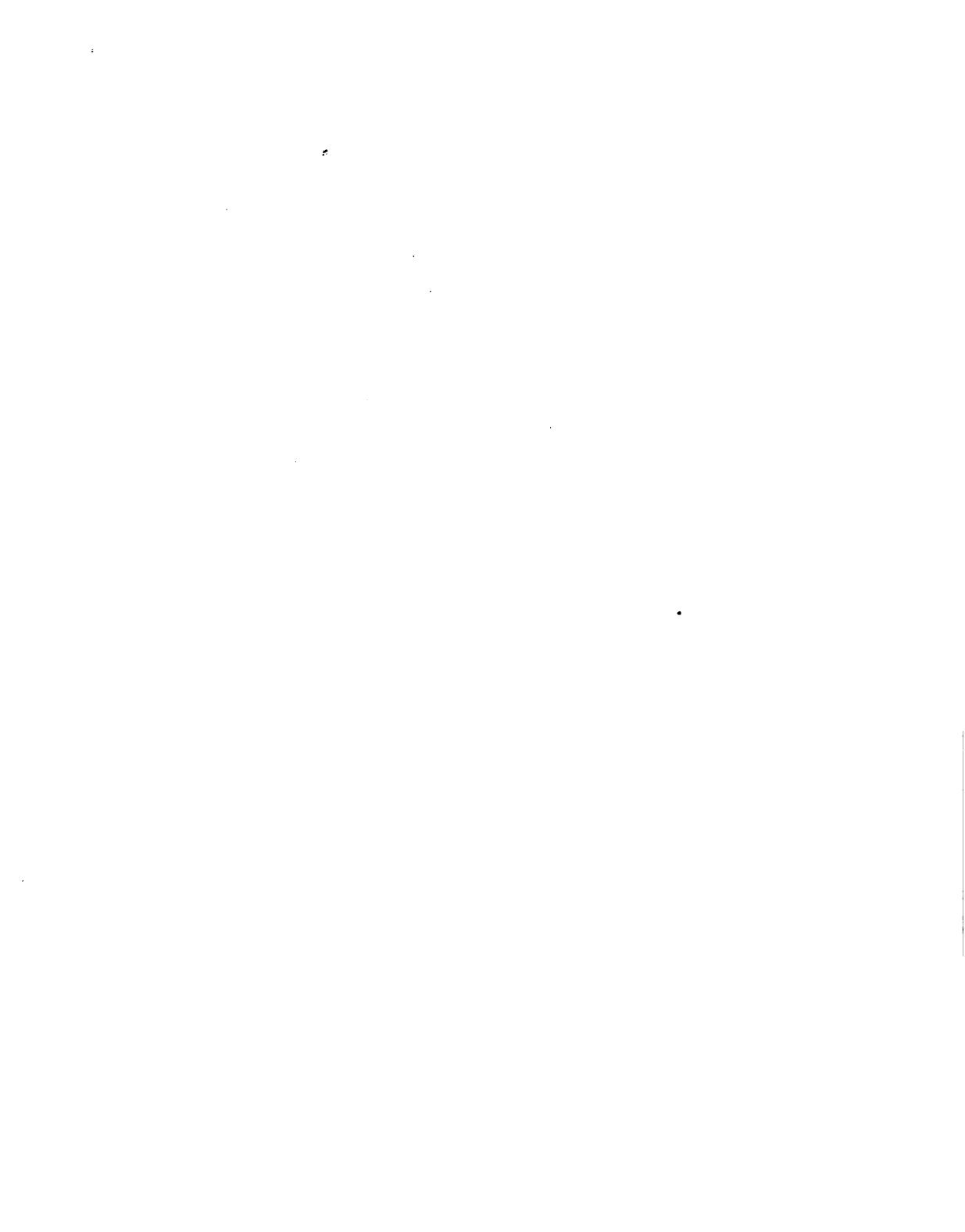
Responsáveis pela reprodução: Jadir José dos Santos e Murillo Sodré da Silva.

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Devolución

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