

CENTRE OF ADVANCED STUDIES

SIXTH ANNUAL REPORT

(2000-2001)

Dr. (Mrs.) Vijaya Khader

DIRECTOR

DEPARTMENT OF FOODS & NUTRITION

POST GRADUATE & RESEARCH CENTRE

ACHARYA N.G. RANGA AGRICULTURAL UNIVERSITY

RAJENDRANAGAR: HYDERABAD – 500 030

SIXTH ANNUAL REPORT OF CENTRE OF ADVANCED STUDIES

FOR THE YEAR 2000 - 2001

1. Project Title : Centre of Advanced Studies
2. Sanction No. : Proc.No.37735/H.Sc/A1/94,
Dt.22-9-95 of APAU
3. Report Period : April 2000 – March 2001
Report No. : VI
4. Date of start : 02-11-1995
5. A) Name of Institute/Station : Acharya N.G. Ranga Agricultural
University, Rajendranagar,
Hyderabad.
- B) Division/Department/
Section : Centre of advanced Studies
Post Graduate & Research Centre
Department of Foods & Nutrition
Rajendranagar, Hyderabad – 500-030.
6. a) Technical Programme as approved for the scheme Appendix – I
enclosed
- b) Technical Programme for the next plan period : Submitted for Approval
in the year 1999 – 2000
(Appendix II enclosed)

7. Technical Personnel employed(list vacancy, if any)

Sanctioned Posts by ICAR	Posts filled	Posts to be filled
1. Steno – cum- Typist	U.D.Stenographer Filled on 2-9-1996	NIL
2. AVA Operator	Projector Operator Filled on 16-6-1997	NIL
Sanctioned posts by ANGRAU (Non-plan)		
Attender *	Attender Filled on 1-4-1999	NIL

- The post of attender was borne by the ICAR up to 31-3-1999. Since the ICAR had sanctioned only two posts from 1-4-1999, the ANGRAU has created a post of attender from the financial year 1999-2000.

Name of the Designation	Date of Joining	Date of Leaving
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R. V.N.S. Murthy U.D.Steno	02-09-1996	----
N. Yedukondalu, Project Operator	16-06-1997	----
V. Narsinga Rao, Attender	22-06-1996	----

7. Total Outlay : **Rs. 40,15,856=45**

- Rs. 4,56,219=20 (1995-96)
- Rs. 9,61,192=90 (1996-97)
- Rs. 12,01,649=20 (1997-98)
- Rs. 9,10,103=40 (1998-99)
- Rs. 4,86,691=75 (1999-2000)
- Rs. 7,03,771=30 (2000-2001)

8. Total amount spent : Rs. 4,86,691=75
In Prevoius year (1999-2000)

9. Total amount sanctioned /spent during the year under report

a) Sanctioned : Rs. 10,99,000=00
(incl. Refund of 2.0 Lakhs sanctioned by ICAR towards civil construction)

b) Spent : Rs. 9,03,771=30
(incl. Refund of 2.0 Lakhs to University)

The following equipment was purchased during the financial year under report.

I. Colour Monitor for the existing computer was purchased.

10. Total No. of months : 12 months (From April 2000 – March 2001)
during the year

11. Summary : Report objectives wise enclosed

Signature:

Name & Designation : Dr.(Mrs.) Vijaya khader
Professor - cum- Director

**REPORT ON ACTIVITIES CARRIED OUT UNDER
CENTRE OF ADVANCED STUDIES 1998-99**

I. INFRASTRUCTURE FACILITIES:

1. Staff recruitment:

The posts of Steno-cum-typist, and Projector Operator have been filled up and the two posts are being continued under the ICAR plan during the IX Five Year plan vide F.No. 1(18)/95/CAS/HRD-II, dt. 17-9-99 of the ICAR.

The Posts of attender is being borne by the University under Non-plan scheme from the financial year 1999-2000.

2. Civil Works:

Civil Works, electrical and sanitary works have been completed and handed over to this Centre. Now the Centre of Advanced Studies and handed over to this centre.

Now the Centre of advanced Studies in Food & Nutrition has the following facilities.

- Seminar hall/ Lecture hall
- Conference hall
- Library room
- Equipment room/laboratory
- Computer room
- Office room
- Store room
- The university is constructing another conference hall costing Rs. 3.5 lakhs for this Centre above the existing P.G & R.C building for which tender notification was floated.

II. EQUIPMENT PURCHASED UNDER CENTRE OF ADVANCED STUDIES (1995-96 to 2000 - 2001)

S.No	Equipment	Cost (in Rupees)
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1. Computer; Pentium 100,640 MB, with TVS, MSP 155 Printer and HP Deskjet printer.	1,00,000-00
2. Modi Xerox machine	1,08,000-00
3. Air conditioners, Carrier Aircorn	55,000-00
4. Kirloskar 5 KVA UPS	2,10,000-00
5. Overhead Projector and slide Projector	50,000-00
6. Microwave oven	13,000-00
7. Samsung Refrigerator 420 litres	42,000-00
8. Gerhardt Kjeldatherm automatic nitrogen analyser	3,28,000-00
9. Community nutrition equipment : Height rods, diet survey sets	30,000-00
10. Electronic top loading balances	25,000-00
11. Public address system	35,000-00
12. Furniture for Seminar Hall and Conference rooms in New building	2,50,000-00
a. Chairs	: 85
b. Dias table	: 01
c. Computer tables	: 02
d. Computer chairs	: 02
e. Table for Xerox machine	: 01
f. Printer Tables	: 02
g. Rostrum	
h. Carpets and Curtains	
i. Bulletin boards\	
12. Water Cooler cum purifier	17,000-00
13. Portable refractometer and pH meter	10,000-00
14. Double glass distillation unit	15,000-00
15. Exide batteries – 2nos.	12,880-00

S.No	Equipment	Cost (in Rupees)
16.	V. Guard Stabilizer – 3nos.	10,000-00
17.	Aspirator bottle with stop clock	1,200-00

18. Magnetic letters	7,800-00
19. Essae Digital Weighing Machines (2nos.)	27,600-00
20. Executive high back chair	7,300-00
21. Prestosign letters	11,000-00
22. Hamilton HPLC syringe	2,750-00
23. Blow plast chairs (30nos.)	15,660-00
24. LCD Multi-media projector (SANYO)	
25. Panaboard (PANASONIC)	
26. Metal Halide Spare Lamp	
27. Wall Mounted screen	
28. Laser points	
29. 2 KVA UPS System	1,25,000
30. U – shaped conference table	46,000
31. Pentax camera with accessories	33,000
32. Built-in Cup-boards (20nos.)	1,10,000
33. Black/green Boards (5nos.)	16,225
34. Single blower	1,850
35. Door closers and door locks	12,000
36. PELICAN make soxplus solvent Extraction system	1,71,970-00
37. Elico pH meter with electrodes	9,005
38. Sensory evaluation lab cubicles, booths, work tables, stools	37,922
39. Solar Dryer	11,050
40. Spiral binding machine	6,380
41. Colour Monitor	19,850/-

III. Maintenance and Repairs

The following activities were undertaken under maintenance and repairs.

- Electrical wiring to UPS
- Maintenance for Xerox machine
- Deionizer servicing
- AMC of AC machine

All these years, for some of the equipment purchased warranty is covered. Now all the equipment purchased has to be maintained in tact by entering into AMCs with the firms for which proposals for an amount of Rs. 2,50,000/- have been submitted to the ICAR.

IV. Purchase of Books and Journals

- Advances in food colloids
- Food properties hand book
- Biochemical aspects of nutrition
- Child growth & Nutrition in developing countries
- Effective programming for developing countries
- Major issues in Food & Nutrition sciences
- Participatory rural appraisal methods and applications
- Participatory rural appraisal & quarterly survey
- Nutrition & diet therapy
- Functional properties & food components
- Hand book of cereal science and technology
- Post harvest technology of cereals pulses and oilseeds
- Food safety
- Diet planning through the life cycle in health and diseases
- PG diploma Home Science syllabus book
- Cooking with green leafy vegetables
- Development in milling and baking technology
- 25 years of NNMB
- Preservation of fruit processing
- Food storage and preservation
- Down to earth (Bulletins on Environment)

1. ACADEMIC ACTIVITIES

Objectives I:

To serve as a national resource and training centre for faculty in the field of Foods & Nutrition by conducting summer institutes and short courses.

Two training programmes were conducted during period under report

Current concepts on Obesity & Health (2nd August – 3rd September 2000, 30 days)

A training programme on *Current concepts on Obesity & Health* was conducted from 2nd August to 31st August, 2000 at the Centre of Advanced Studies to fulfil one of the objectives of training and up gradation of faculty members of the Department of Foods & Nutrition from different State Agricultural Universities. The participants were Assistant Professors and Associate Professors from University of Agricultural Sciences, Bangalore, Tamil Nadu Agricultural University, Marathwada Agricultural University, Parbhani, Jawaharlal Nehru Krishi Viswa Vidyala, Jabalpur, ANGR Agricultural University, Hyderabad and Koti women's college, Hyderabad, Gujarat Agricultural University, and also from traditional Universities. Profile of the participants is given as below.

LIST OF PARTICIPANTS

Sl. No	Name of the applicant	State	University/ Institute	Designation	Address
1	Kamal G. Nath	Karnataka	SAU	Associate Professor	Dept. of Foods Science, Nutrition & Rural Home Science, University of Agril. Sciences, Hebbal, Bangalore-24.
2	Dr. P. Bhanumati	Tamil Nadu	SAU	Associate Professor	Dept. Of foods & Nutrition, home Science College & res. Institute, tamil Nadu Agril University, MADURAI-4.
3	Ms Asha Arya	Maharashtra	SAU	Associate Professor	Dept. Of Foods & Nutrition, College of Home Science, Marathwada Agril. University, PARBHANI-431 302. MAHARASTRA.
4	Dr. Sheela Pandey	Madhya Pradesh	SAU	Assistant Professor	Dept. of Foods & Nutrition, College of Agriculture, JNKVV, JABALPUR.
5	Dr. V. Vijaya lakshmi	Andhra Pradesh	SAU	Assistant Professor	Dept. of Foods & Nutrition, College of Home Science, ANGRAU, Hyderabad-4.
6	Dr. S. Shobha	Andhra Pradesh	SAU	Assistant Professor	Dept. of Foods & Nutrition, PG & Research Centre, ANGRAU, Hyderabad-

					30.
7	Dr. Jagadeshwari	Andhra Pradesh	Traditional	Lecturer	Dept. of Home Science, Kothi Women's College, Hyd.

Topics related to different dimensions of obesity i.e. **physical, physiological, metabolic, biochemical and nutritional aspects of obesity, the health risks associated with obesity and management of obesity such as prevention, control and therapeutic aspects** were covered during the training period.

The participants were given practical exposure by arranging visits to Nature Cure Hospital; Energy Metabolism Unit at National Institute of Nutrition; Gandhi Gyan Mandir Yoga Kendra, Nutrifit – Diet and Nutrition Counselling and Fitness Clinic at Hyderabad. Further a demonstration was arranged using body composition analyzer i.e, Body stat – 1500 at College of Home Science, Hyderabad.

Obesity is a multifaceted problem with wide reaching medical, social and economic consequences. It is now realized that the process of Obesity management covers a spectrum of strategies ranging from prevention through weight maintenance and management of obesity co-morbidities to weight loss. Despite many scientific studies that have been conducted to determine causes and effective treatments for excess body fat, the condition remains poorly understood and resistant to **cure**. Prevention of development of obesity is therefore better than waiting to intervene until the problem is well established.

Hence, this particular short course on *Current Concepts on Obesity and Health* was planned with the following objectives.

- To sensitize the participants about obesity, the so-called civilization syndrome and to throw light on the different dimensions of obesity.
- To make the participants aware of the current practices on measurements of body composition and energy expenditure and the regulating mechanisms involved.
- To update the knowledge of participants on the health risks associated with the obesity.
- To equip the participants with the first hand experience of scientists and personnel directly involved in the Research and Management programmes related to Obesity.

The course content was planned by reviewing the current research in the field by the course co-ordinators Dr. P. Rajyalakshmi, Associate Professor, Dr. K. Uma Maheshwari, Assistant Professor, under the overall supervision of Dr. Vijaya Khader, Director, CAS and the course was finalised with the consultation of the staff of the department and resource persons.

COURSE CONTENT

The course content was framed to equip the participants with emerging issues concerning obesity which needs attention. In the 30 days scheduled programme the content of the short course was covered under five major units viz.,

- Physical, social and psychological aspects of obesity.
- Physiological, biochemical and metabolic aspects of obesity.
- Health risks associated with obesity.
- Nutritional aspects of obesity.
- Management of obesity (prevention, control and therapeutic aspects).

Experts in the relevant areas of the course within the faculty were selected for giving lectures on various aspects related to obesity and for conducting practical's. In addition to them, eminent speakers from various institutions such as Agriculture College & Veterinary College, ANGRAU, National Institute of Nutrition, Indian Institute of Health and Family Welfare (IIHFW), Gandhi Medical College, Koti Women's College, Osmania University; Nature Cure hospital and Gandhi Gyan Yoga Kendra were invited to deliver the lectures and to interact with the participants.

COURSE EVALUATION BY THE PARTICIPANTS

The participants were tested initially for their knowledge on various aspects of obesity. The questionnaire contained 24 questions related to physical, physiological, biochemical & metabolic and nutritional aspects of obesity, health risks and management of obesity.

At the end of the programme the same questionnaire was administered to the participants to know whether the course had helped in improving their knowledge.

Knowledge level of participants before and after the short course was evaluated and based on the scores obtained, there was a shift of pre-tested scores from poor and average to good and excellent at the end of the short course. The results shown below clearly indicated that there is a definite improvement in their knowledge level after attending the course.

Details	Knowledge level as assessed by score (%)	Percentage of participants	
		Before (%)	After (%)
Poor	0-25	42.9	--
Average	26-50	57.1	--
Good	51-70	--	10
Excellent	71-100	--	90

The participants were also given another detailed questionnaire to evaluate each topic with respect to usefulness and coverage of the topic as well as the overall course to obtain frank opinions and suggestions for improvement of the course if any.

Participants' views

- All the participants (100%) considered the course as very useful and useful
- The analysis indicated that 90% of the topics included in the short course were covered very well and were appropriate to the course.
- It was felt by the participants (100%) that there was a thorough and free interactions after the lectures.
- During the course the social atmosphere, trainer-trainee relationship was felt to be excellent and the duration of the course was satisfactory.
- Majority (86%) of the participants felt that the frequency of conducting such short courses should be once a year.
- The practical component of the programmes was found to be highly useful and all the field visits were said to be educative (100%).

Participants' suggestion

A few suggestions were also given by the participants to include few more topics especially with regard to practical component viz.,

- Inclusion of actual planning and preparation of low calorie diet in the laboratory.
- To handle certain instruments like body composition analyzer etc., at NIN, Hyderabad.
- Hospital visits to see actual cases of morbid obesity.
- Hospital visits to see lipo suction process.

RECENT ADVANCES IN MINERAL NUTRITION

(11th February to 3rd March, 2001; 21 days)

A training programme on recent advances in mineral nutrition was conducted from 11th February to 3rd March, 2001 at the Centre of Advanced Studies to fulfil one of the objectives of training and up gradation of faculty members of the Department of Foods & Nutrition from state Agricultural Universities. Participants were selected from Gujarat Agricultural University, Sardar Krushi nagar, Kerala Agril. University, Vellikkara, HP Agril. University, Palampur, University of Agril. Sciences, Bangalore, University of Agril. Sciences, KVK University of Agril. Sciences, Raichur, CS Azad University of Agril. Sciences, Kanpur, Tamil Nadu Agril. University, Madurai and ANGR Agril. University, Hyderabad. Out of total ten participants, 7 were from the field of teaching and 3 from the area of extension. The profile of the participants is given as below.

Sl. No	Name of the applicant	State	University/ institute	Designation	Address
1	Dr. B. G Patel,	Gujarat	SAU	Assistant Professor	ASPEE College of Home Science, Gujarat Agril. University, Sardar Krushi Nagar-385 506.
2	Dr. N K Vimala Kumari	Kerala	SAU	Associate Professor	College of Agriculture, Vellayani, Thiruvananthapuram-

					695 522.
3	Dr. Sunanda Sharan	Karnataka	SAU	Associate Professor	Dept. of Rural Home Science, GKVK, Hebbal, UAS BANGALORE- 560 024.
4	Dr. K. Uma Devi	Andhra Pradesh	SAU	Training Associate	KVK (ANGRAU), Mahanandi, Andhra Pradesh.
5	Dr. L. A Uma	Karnataka	SAU	Training Programme	KVK, University of Agril. Sciences, Raichur-584 101.
6	Ms. Seema Sonker	Uttar Pradesh	SAU	Assistant Professor	CS Azad University of Agri. & Tech., Kanpur.
7	Dr. Madhu Vajpeyi	Uttar Pradesh	SAU	Biochemist	CS Azad University of Agri. & Tech., Kanpur.
8	Smt. M R Premalatha	Tamil Nadu	SAU	Assistant Professor	Home Science college & Res. Institute, Madurai-625 104.
9	Smt. V. Pankaja Sree	Andhra Pradesh	SAU	Scientist (TOT)	DATTC, Sangareddy.
10	Dr. B. Devasena	Andhra Pradesh	SAU	Assistant Professor	Dept. of Animal Nutrition, College of Veterinary Sciences, Tirupathi.

There are some unique features of this programme. Though planned as early as the second half of 1998, it materialized as the first training programme offered by the CAS in the new millennium. Unlike other courses in previous years it is not a short course but a training programme of 21 days duration. This programme included participants from the areas of teaching, research and extension in Home Science, Agricultural and Veterinary faculties.

In the present scenario, information on recent advances in mineral nutrition and an understanding of the role of these nutrients in health and disease becomes important. Hence this training programme was planned with the purpose of updating the knowledge of nutrition scientists working in different areas.

COURSE CONTENT

The course content was planned and implemented by the course coordinators, Dr. D. Sharada, and Dr. S. Shobha with the help of the faculty of Foods & Nutrition department and experts from outside under the overall supervision and guidance of Dr.(Mrs) Vijaya Khader, Director, CAS.

The course content was designed to cover five major areas in mineral nutrition

- Minerals, their requirements and functions.
- Mineral availability and nutritional status.
- New concepts in mineral functions.
- Analysis of minerals.
- Approaches to handle mineral deficiencies and excesses.

Thirty four lectures were arranged to cover the information in these five areas. Four practical demonstrations were conducted on mineral analysis in foods, water and body fluids. A field trip was arranged to get a firsthand experience on how defluoridation of water is carried out in fluoride endemic areas. The trainees were given a chance to interact with the rural populations in this area.

An experience on preparation of project proposals in mineral nutrition was also given to the participants.

RESOURCE PERSONS

Experts in the relevant areas of the course within the University were selected for giving lectures and conducting practicals. In addition to these eminent speakers from other institutions were also invited to deliver lectures and interact with the participants. A list of host and guest faculty is enclosed.

Analysis of minerals such as iodine and fluorine in water and salt, estimation of serum ferritin by ELISA, and use of atomic absorption spectroscopy in mineral analysis were demonstrated.

A field trip was arranged to see the defluoridation plant at Nalgonda.

Participants were given the opportunity to visit the library at National Institute of Nutrition.

PROJECT PROPOSALS

Preparation of project proposals based on ICMR, ICAR, NATP formats were explained to the participants and four project proposals were prepared by them –

- Effect of mineral and vitamin supplementation in pre-school children of ICDS.
- Effect of zinc supplementation on institutionalized elderly.
- Effect of sprouted wheat and vitamin A supplementation on nutritional status of adolescent girls.
- Effect of dietary intervention on clinical and biochemical aspects of fluoride in school children from Nalgonda district.

COURSE EVALUATION BY THE PARTICIPANTS

Pre testing of participants knowledge on various aspects related to mineral nutrition was done. Pre testing showed scores ranging between 12 - 68 %. After the exposure of the trainees to

the programme their knowledge levels showed an increase as is evident from figure 1. These ranged between 40 – 84 %. The mean increase in awareness was by 24.4 %.

PARTICIPANTS VIEWS

The participants were given a detailed questionnaire to evaluate each and every topic with respect to usefulness and coverage they have given the following views

The response of the participants was consolidated and presented below.

- All the participants felt that 95% of the topics were very useful or useful.
- 90% of the topic was declared as fully covered.

PARTICIPANTS SUGGESTIONS

- Participants suggested that individual involvement should be given in practical instead of demonstrations.
- All participants expressed that preparation of project proposals was a very useful topic and they suggested that this topic should be given more time.
- Participants felt they had sufficient time and opportunity to discuss and interact with the speakers.
- Participants express that the atmosphere in the PG & Research Centre was congenial and they enjoyed a good trainer – trainee relationship.

FIGURE SHOULD BE INCLUDED

Objective II

1. Four year degree programme at UG level has been implemented from the academic year 200-01.
2. The existing PG courses in the specific areas of **Nutrition & Dietetics** and **Community Nutrition** are modified as follows.
 - a. Macro & micro nutrients in Human Nutrition – practical component has been deleted and included in the theory.
 - b. Practicing dietetics (0 + 5 credits)
(0 + 3 course is converted as 0 + 5 for dietetics students)
3. An inter faculty self supportive M.Sc. programme in **Food Science & Technology** will be offered from the academic year 2001-02.
4. Certificate courses viz., 3 months duration certificate courses in the **Bakery & Confectionary** have been conducted for school drop outs, housewives and persons working for self-employment.

ALLOCATION OF SEATS UNDER P.G. PROGRAMME

M.Sc.

Over and above the sanctioned strength of 12 M.Sc. Students, four more candidates who have been nominated by ICAR were admitted under Centre of Advanced Studies (one each from Bihar, Orissa, Rajasthan and Uttar Pradesh)

Ph.D.

Two regular students have been admitted in the existing Ph.D. programme.

DEVELOPMENT OF TEXT BOOKS

1. A book entitled **Poverty, Household Food Security and Nutrition in Rural Areas** has been published during the year under report.
2. A **Brochure** on centre of advanced studies in foods & nutrition has been published.
3. A book entitled **Rural Women – A Focus on Socio Economic Development** has been published and released by this centre.
4. A university level text book entitled **Food Science & Technology** with the financial support of the ICAR is in the press.
5. Two CD-ROMs viz, (i) **β Carotene for prevention of Vitamin A deficiency; and (ii) Iron for Health – are being developed.**
6. Two chapters on **Food Fats and Fallacies** and **Nutrition in Emergencies** have been contributed by Dr. Vijaya Khader for the text book **Community Nutrition** which will be published by the ICAR.

OBJECTIVE III

This centre is conducting refresher courses and arranging lectures of eminent scientists for the benefit of the staff members as well as students and for the benefit of the technical staff working in the Nizam's Institute of Medical Sciences, National Institute of Nutrition, State Directorate of Women and Child Welfare etc.,

Dr.(Mrs) Vijaya Khader, Director, is a member of the council of State Food & Nutrition constituted by the Government of Andhra Pradesh. This council periodically sits in order to give recommendations/suggestions to the government in formulating the low cost nutritious supplementary foods.

OBJECTIVE IV

To disseminate nutrition information to personnel of different sectors.

ACTION PLAN

To bring out quarterly issue of Foods & Nutrition bulletin for circulation among the lien departments and the organizations involved in nutritional related programmes.

QUARTERLY ISSUE OF FOODS & NUTRITION BULLETIN

Three quarterly issues of *Foods & Nutrition News* were brought out for circulation among the lien departments and the organizations involved in nutritional related programmes to disseminate nutrition information to personnel of different sectors.

Sl.No.	Title	Month	Year	Volume	Numbe	Issue Editor
1	Food Security	April	2000	5	1	Dr.K.Uma Maheshwari
2	Preschool Child Nutrition	August	2000	5	2	Dr.P.Yasoda Devi
3	Food Additives	December	2000	5	3	Dr. Kamini Devi

Faculty improvement in terms of teaching, research and extension

- Two independent Adhoc research projects on various aspects are on- going in the department.
- All India Coordinated Research Project in the Department of Foods & Nutrition on-going from the inception of the project.
- Two inservice students and one regular student have obtained Ph.D degree during 2000.

ON GOING RESEARCH PROJECTS

TITLE	Agency
All India Co-ordinated Research Project	ICAR
Development of nectar from fruit and fruit blends available in AP and their storage studies	ICAR
Formulations of ready to bake cake mixes and to study the acceptability and nutrient composition	ANGRAU (completed)
Studies on Fisher Women in Coastal Eco system of Andhra Pradesh, Karnataka, Kerala and Tamil Nadu	NATP (Yet to commence)

SEMINARS/SYMPOSIUM/WORKSHOPS

1. Dr. Vijaya Khader, Director had undergone a training programme on “Multimedia Courseware for Distant Education” jointly organized by Common-wealth Educational media centre for Asia (CEMCA) New Delhi and Osmania University held from 19th June to 7th July 2000 in the Osmania University campus. During the course of the training programme Dr. Vijaya Khader has developed a CD-ROM on β - Carotene foods for Combating Vitamin A Deficiency.
2. Dr. D. Sharada, Associate Professor, Dr. S. Sumati, Associate Professor, had attended the Annual Conference of the Indian Dietetics Association (IDA) held at Baroda from 12 – 14th October. 2000.
3. Dr. D. Sharada, Associate Professor, Dr. S. Sumati, Associate Professor, Dr. S. Shobha, Assistant Professor, Dr, N. Lakshmi Devi, Assistant professor had attended the Workshop on Diet & Disease 2001 held at Osmania Medical College, Hyderabad. On 28-1-2001.

ABROAD TRAINING PROGRAMMES/SEMINARS/WORKSHOPS ATTENDED BY THE STAFF

Dr.P. Yasoda Devi, Assistant Professor, has undergone a four months training under AHRD Project at IOWA State University, USA on *Advances in Human Nutrition* from 6-1-2000 to 10-5-2000.

Dr. S. Sumati, Associate Professor, has attended a conference on zinc and human health which was held at Stockholm, Sweden from 12-14th June 2000. She has presented a paper *Impact of agronomic practices and dietary factors in zinc Nutritional status* at the conference. International zinc Association, Belgium has financed the visit.

Dr.M. Uma Reddy, Professor, has participated in the 13th International Congress of Dietetics held at Edinburgh, Scotland, UK from 23- 27th July,2000. She has presented a paper *Changes in Protein, tryptophan, lysine and in vitro availability of iron in food grains during germination*. Her visit was financed by AHRD Project.

Dr. P. Rajyalakshmi, Associate Professor has attended South East Asia Pacific Regional Meeting on Carotenoids in Bangkok, Thailand, organized by International **Carotenoid** society and FAO from 4 – 5th August, 2000. She has presented a paper on *Effect of processing on stability of carotene from forest green leafy vegetables consumed by tribals*.

Dr. K. Manorama, Assistant Professor, had proceeded on **Post Doctoral Fellowship** initially for two years to **Centre for Molecular Sciences, Dept. of Human Biological Chemistry & Genetics, University of texas, USA**. She was relieved from the Dept. of Foods & Nutrition on 31st December 1999 enabling her to do post-doctoral research in USA.

OVERSEAS STUDY TOUR

Dr. V. Vimala, Associate Dean, Bapatla, has undertaken a study tour abroad under AHRD project from 8-5-2000 to 27-5-2000 her programme consisted of 3 weeks tour to Thailand,

Philippines and Australia. She has visited various Universities in three countries to establish linkages and collaborative research work.

POPULAR ARTICLES

About 25 popular articles on nutritional significance of various food products and importance of various foods in human nutrition, fallacies with regard to papaya consumption, methods of preventing food losses, etc., have been published in news papers and magazines such as Swathi, Vartha, Annadata, Swarna Sugam, by the staff members of the centre.

TV PROGRAMMES

TV programmes on Mushroom cultivation and spawn preparation by the Director, CAS was telecast in Annadata a distant program of ETV, Hyderabad.

RADIO TALKS

15 radio talks on various aspects of Nutrition including deficiency diseases and their cure, Nutrient composition of food stuffs, reducing processing losses, etc were delivered by the staff.

SCIENTIFIC PAPERS

Twelve papers have been published by the staff of Department of Foods & Nutrition on various aspects such as Nutritional significance of Red Palm Oil, geriatric foods, product development, Nutritional anthropometry, diet and morbidity of tribal school children in Kurnool district of A.P., Development and storage of cereal based papaya products etc., which were published in various national and international journals such as, *Indian Journal of Social work, Journal of Food Science & Technology, Plant foods for human nutrition, and Asia Pacific Journal of clinical nutrition etc.,*

AWARDS RECIEVED BY THE STAFF

DR. (Mrs) M. Uma Reddy, Professor, Dept. of Foods & Nutrition has received state level Best Teacher award for the year 2000-01 on 5th September, 2000.

Dr. Vijaya Khader had received Bharata Mata Award jointly instituted by the Astrological project and the Viswa Jyothish Vidyapeeth at the XXIV – Annual International Astrological Conference held on 8-1-2001 in Kolkata. This award was given away by Dr. V. T. Patil Vice Chancellor, Pondicherry University. Dr. Vijaya Khader has been selected for this coveted award for her contribution to the Foods & Nutrition.

OTHER ACTIVITIES

National Agri Fair

In the National Agri Fair organized by the ANGRAU from 1 – 4th March 2001, this centre has established a stall. A book entitled Rural Women – A Focus of Socio Economic Development which was published by this centre was released on 3-3-2001 by Shri. T. Devender Goud, Hon'ble Home Minister Govt. of Andhra Pradesh.

Dr. (Mrs) Vijaya Khader, Director, CAS had assumed charge as the Associate Dean, College of Home Science, Hyderabad on 29th July, 2000.

WORLD FOOD DAY

World Food Day was celebrated at Peddashapur village, Shamshabad Mandal, Ranga Reddy District, A.P. A debate on Food for Health and quiz competition were conducted for school children. Dr. Vijaya Khader, Associate Dean, College of Home Science, ANGRAU explained the importance of World Food Day. A talk was given by Dr. G. Sarojini, Unit Coordinator, AICRP, Home Science, ANGRAU. Other staff of Department of Foods and Nutrition, the MEO, village sarpanch, teachers and school children actively participated in the programme. On this occasion, an exhibition depicting the source of various nutrients, nutritional deficiency disorders, health and hygiene was organized for the benefit of the participants.

WORLD DIABETIC DAY

Staff and students of Department of Foods & Nutrition celebrated World Diabetic Day on 14th November 1999 at Osmania Medical College in collaboration with juvenile Diabetic Foundation. In this connection a diet exhibition was organised and several diets suitable for different age groups and activity were displayed. The exhibition was inaugurated by Dr. G. Shyam Sunder, Vice Chancellor, NTR University of Health Sciences. More than thousand people have visited the exhibition. Dr. Karkarla Subba Rao, Director, NIMS; Dr. C. Chandrasena, Director, Medical Education and Dr. M.M. Reddy, Principal, Osmania Medical College also participated in the programme. Insulin packages were distributed to juvenile diabetic children. An exhibition on hypoglycaemic drugs, insulin syringes, clothing and foot wear for diabetics was displayed by various pharmaceutical companies.

INTERACTION MEETINGS

This centre has interaction meetings with the government, NGOs and other Lien Department. This centre has interaction meetings with the Dietetic unit of Mediciti Hospitals and planned collaborative research project on nutritional assessment of Adolescent girls.

This centre has also interaction meetings with the IDA AP Chapter to have continuous linkages for the future activities like counselling and consultancy programmes in the area of Dietetics and analytical work.

NUTRITION WEEK

Nutrition week was celebrated at Peddashapur village from 1 – 7th September, 2000 by the department of Foods & Nutrition. Lectures on anaemia, Vitamin A deficiency and iodine deficiency were delivered by the staff of the department. About 30 rural women and adolescent girls attended the programme the exhibition arranged on these topics had attracted much attention. The students interacted with the women and answered their queries.

VISITORS

Dr. Kaila Kailasapthy, Centre of Advanced Food Research, University of Western Sydney, Richmond, Australia had visited this centre on 19th March, 2001 and delivered a lecture on '*Functional Foods : The role of Probiotics in Disease Prevention and health promotion*'.

Mr. Nirmal T. Fernando programme officer, Common wealth Education Media Centre for Asia (CEMCA), New Delhi, had visited this centre on 25th July, 2000.

A meeting was convened on 20th October 2000, by Dr. (Mrs) Vijaya Khader in regard to the Research Project entitled "*Studies on fisherwomen in coastal ecosystem of Andhra Pradesh, Karnataka, Tamil Nadu and Kerala*" to discuss about the implementation of the project. The following scientists had visited this centre on the above topic.

1. Dr. (Mrs) Krishna Srinath, Head (Extension), CIFT, Cochin
2. Dr. R. Sathiadas, Principal Scientists & Head, CMFRI, Cochin.

A German delegation visited this Centre on 12th January, 2001 and the director, CAS along with the Director of Extension of ANGRAU had explained the research activities going on in the University to the visitors.

APPENDIX – I

WORKPLAN FOR CENTRE OF ADVANCED STUDIES

Department of Foods & Nutrition
Post Graduate & Research Centre
Andhra Pradesh Agricultural University
Rajendranagar, Hyderabad 500030

I. OBJECTIVES

1. To serve as a national resource and training centre for faculty in the field of foods & Nutrition.
2. To upgrade the curriculum and courses of Foods & Nutrition to strengthen teaching and evaluation at UG and PG level.
3. To support the government in training personnel.
4. To disseminate nutrition information to personnel of different sectors.

II. OUTPUTS / PROGRAMMES TO BE IMPLEMENTED DURING THE IX PLAN PERIOD

Objective 1

To serve as a national resource and training centre for faculty in the field of Foods & Nutrition in State Agricultural Universities.

Action plan

A. SHORT COURSES

Conducting one Summer Institute Programme or one Short Course in priority areas of Foods & Nutrition every year.

Priority areas identified for summer Institute Programme / Short Courses

1. Recent developments in therapeutic nutrition.
2. Fruit and vegetable processing.
3. Grain processing
4. Nutritional assessment and methods
5. Nutrition toxicology

B. ALLOCATION OF SEATS UNDER PG PROGRAMME

Provision of seats in M.Sc. and Ph.D. in Foods & Nutrition to outside State candidates selected by ICAR through a common test would be decided (as a policy matter) under AHRD subject to the approval of State Government.

Objective 2

To update the curriculum and courses of Foods & Nutrition and strengthen teaching and evaluation at UG and PG level.

Action Plan

To implement the course curriculum for UG programme keeping in view the recommendation of Deans Committes (Workshop organized on 7th-12th June, 1993 at ANGRAU, Hyderabad) IV year degree programme will be implemented.

To organize one work shop for developing PG curriculum during III year of the programme.

To organize workshop

Preparation of CD-ROM lesson and two video lessons.

Practical Mannuals preparation at P.G. level

Food Chemistry/ Maternal and child nutrition/ Assessment of food standards and quality control.

Objective 3

To support the Government in training personnel and in implementation and evaluation of nutrition programmes.

Action Plan

Assessing and developing the training needs of the line departments (women's Development & Child Welfare; Social & Tribal Welfare; Panchayat Raj & Rural Development) through meetings and group discussions. Food & nutrition information through mass media (TV, adio and Press).

Objective 4

To disseminate nutrition information to personnel of different sectors.

Action Plan

To bring out quarterly issue of Food & Nutrition Bulletin for circulation among the line departments and the organizations involved in nutrition related programmes.

Title of the Topic	Month of Issue	Issue Editor
1. Iodine & Nutrition	April, 2002	Dr. Anuradha
2. Development of fishery products	August, 2002	Dr. J. Lakshmi
3. Stability of β -carotene in mango powders	December, 2002	Dr. Hymavathi

III. EXPECTED OUTCOME BY THE END OF THE PLAN PERIOD

Providing common resource material for teaching and evaluation of food and nutrition programmes at UG and PG level.

Faculty improvement in terms of teaching, research and extension.

Strengthening postgraduate Education and research in Foods & Nutrition in other State Agricultural Universities.

Conducting need based multicentric studies to provide feed back to the planners and policy matters.

**PROPOSALS FOR THE YEAR 2000 -2001
APPENDIX II**

**WORKPLAN FOR CENTRE OF ADVANCED STUDIES
FOR THE NEXT PLAN PERIOD FOR APPROVAL**

**Department of Foods & Nutrition
Post Graduate & Research Centre
Rajendranagar, Hyderabad – 500 030**

I. OBJECTIVES

- 1) To serve as a national resource and training centre for faculty in the field of Foods & Nutrition.
- 2) To update the curriculum and courses of Foods & Nutrition to strengthen teaching and evaluation at UG and PG level.
- 3) To support the government in training personnel.
- 4) To disseminate nutrition information to personnel of different sectors.

**II. OUTPUTS/PROGRAMME TO BE IMPLEMENTED DURING THE
CURRENT PLAN PERIOD**

Objective 1

To serve as a national resource and training course for faculty in the field of Foods & Nutrition in State Agricultural Universities.

Action plan

A. SHORT COURSES

Conducting two short courses in priority areas of Foods & Nutrition.

Priority areas identified for Summer Institute Programme/Short Courses

1. Recent developments in Mineral Nutrition
2. Programme planning and evaluation
3. Role of food additives in food processing.

B. ALLOCATION OF SEATS UNDER PG PROGRAMME

Provisions of seats in M.Sc and Ph.D in Foods & Nutrition to out side State candidates selected by ICAR through a common test would be decided (as a policy matter) under AHRD subject to the approval of State Government.

Objective 2

To update the curriculum and courses of Foods & Nutrition and strengthen teaching and evaluation at UG and PG level.

Action plan

- To implement the course curriculum for UG programme keeping in view the recommendation of Dean's Committee. (Workshop organised on 7th – 12th June, 1993 at ANGRAU, Hyderabad). IV year degree programme will be implemented.
- To organise one workshop for developing PG curriculum during III year of the programme.
- Preparation of one CD-ROM lesson and two video lessons.

Intermediary metabolism, Material and child nutrition, Assessment of food standards and quality control.

Objective 3

To support the Government in training personnel and in implementing and evaluation of nutrition programmes.

Action plan

- Assessing and developing the training needs of the lien departments (Women's Development & Child Welfare; Social & Tribal Welfare; Panchayat Raj & Rural Development) through meetings and group discussions.
- Food & Nutrition information through mass media (TV, Radio and Press).

Objective 4

To disseminate nutrition information to personnel of different sectors.

Action plan

To bring out quarterly issue of Food & Nutrition Bulletin for circulation among the lie departments and the organisations involved in nutrition related programmes.

<u>Title of the topic</u>	<u>Month of issue</u>	<u>Issue Editor</u>
1. Food Security	April, 2000	Dr. Uma Maheshwari
2. Determinants of nutritional Status in preschool children	August, 2000	Dr. Yasoda Devi
3. Food Additives	December, 2000	Dr. Kamini Devi
4. Energy Balance	April, 2001	Dr. V. Vijaya Lakshmi

III. EXPECTED OUT COME BY THE END OF THE PLAN PERIOD

1. Providing common resource material for teaching and evaluation of food and nutrition programmes at UG and PG level.
2. Faculty improvement in terms of teaching, research and extension.
3. Strengthening Post Graduate Education and Research in Foods & Nutrition in other State Agricultural Universities.
4. Conducting need based multi centric studies to provide feed back to the planners and policy makers.

BUDGET PROPOSALS FOR 2001 – 2002

1. Salaries of staff (Two no's)	Rs. 2,50,000/-
2. TA/DA	Rs. 40,000/-
3. Books and Journals incl. News letters	Rs. 25,000/-
4. Maintenance & Repairs incl. Vehicle	Rs. 2,50,000/- Justification follows
5. Recurring contingencies	Rs. 2,00,000/- -do-
6. Op. Cost of training programmes	Rs. 4,44,000/-
7. Publishing of F&N Newsletters	Rs. 35,000/- -do-
8. Renovation of existing labs	Rs. 50,000/-
9. Non recurring equipment	Justification follows
- UV-Vis Spectrophotometer	Rs. 3,25,000/-
- Electronic single pan balance	Rs. 1,00,000/-
- Laser printer	Rs. 1,00,000/-
- Digital Camera	Rs. 50,000/-
- Scanner	Rs. 20,000/-
- Laminating Machine	Rs. 20,000/-
Total	Rs. 19, 09,000/-

1. Justification for F & N Newsletters

Publishing of F & N Newsletter is one of the main objectives of this centre. Annually three Quarterly issues of Newsletters are released. For every issue of F & N News letter (500 copies) a sum of Rs. 10,000/- (approx) is estimated by the University press. Therefore, a sum of Rs. 35,000/- is proposed under publishing of F & N Newsletters.

2. Justification for Maintenance and Repairs incl. Vehicle

1. Overhead projector	Rs.	11,400/-
2. Slide projector with accessories	Rs.	26,000/-
3. Computer with printer etc,	Rs.	1,00,000/-
4. 5 air conditioners with stabilizers	Rs.	1,53,000/-
5. Public address system	Rs.	35,000/-
6. Modi Xerox machine with stabilizer and stand	Rs.	1,08,000/-
7. UPS System (2 no's)	Rs.	3,20,000/-
8. Exide Batteries	Rs.	13,000/-
9. Stabilizers	Rs.	10,032/-
10. Euro cooler-cum-purifier	Rs.	16,500/-
11. Micro.-wave oven	Rs.	13,000/-
12. Digital weighing machine	Rs.	27,600/-
13. Samsung Refrigerator	Rs.	42,900/-
14. Double distillation water still vencil	Rs.	14,900/-
15. Elec. Digital weighing machines	Rs.	23,330/-
16. pH meter	Rs.	4,100/-
17. Hand refracto meter	Rs.	5,720/-
18. Gerhardt Kjeldatherm Digestor	Rs.	3,27,963/-
19. LCD Multi-Media Projector	Rs.	3,80,000/-
20. Solar powered solar air drier	Rs.	11,050/-
21. Pelican Soxplus solvent extraction system	Rs.	1,72,000/-
22. Elico pH meter	Rs.	9,000/-
Total		Rs. 18,23,595/-
		Say
		Rs. 18,24,000/-

The firms/companies supplying the aforesaid equipment offer to maintain at 10% (approx) of the total value. The equipment furnished above was purchased at Rs. 18,24,000/- and an amount of Rs. 1,82400/- is worked out being 10% of the total cost. Therefore, an amount of Rs. 2,50,000/- is proposed under Maintenance and Repairs incl. Vehicle.

3. Justification for Recurring Contingencies

All these years, a sum of Rs. 1,00,000/- per annum is being provided toward srecurring contingencies. Since all the prices of the day-to-day consumables/chemicas hiked and doubled, a

sum of Rs. 2,00,000/- is required under recurring contingencies, which also includes the PG Research Programme expenditure.

4. Justification for Non-recurring equipment

The Foods & Nutrition department of this University has introduced a new PG Course 'Food Science & Technology' to be taught from this academic year 2001 – 02. Therefore, the existing lab facilities, as a special case.