

CENTRE OF ADVANCED STUDIES

EIGHTH ANNUAL REPORT

(2002-2003)

Dr. (Mrs.) V. Vimala

DIRECTOR

DEPARTMENT OF FOODS & NUTRITION

POST GRADUATE & RESEARCH CENTRE

ACHARYA N.G. RANGA AGRICULTURAL UNIVERSITY

RAJENDRANAGAR: HYDERABAD – 500 030

**EIGHTH ANNUAL REPORT OF CENTRE OF ADVANCED STUDIES FOR
THE YEAR 2001-2002**

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 2002 – March 2003.
Report No. : VIII
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-500030.
6. a) Technical Programme as approved for the scheme } Appendix I
b) Technical Programme approved for the year } enclosed
- c) Technical Programme approved for the next year : Appendix II
enclosed
- d) Technical programme for the next plan period : Submitted
for approval
(Appendix II)
7. Technical Personnel employed(list of vacancies, 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)		
3. 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 and the post is still continued.

It is requested under the report that the post of attender may also kindly be sanctioned in the ICAR Plan Scheme during the X-Five Year Plan.

Name of the Designation	Date of Joining	Date of Leaving
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	----

8. Total Outlay : **Rs. 63,94,603=70**
- 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)
 - Rs. 5,28,023=90 (2001-2002)
 - Rs. 4,53,986=50 (2002-2003) upto Dec.2002
9. Total amount spent : Rs. 5,28,023=90
In Previous year (2001-2002)
10. Total amount sanctioned /spent during the year under report
- a) Sanctioned : Rs. 6,22,000/-
 - b) Spent : Rs. 4,53,968 =50

No no-recurring grant was made during the year under report

11. Total No. of months : 12months (From April 2001-March
During the year 2002)

12. Summary : Report objective wise enclosed.

Signature:

Name & Designation : Dr. (Mrs.) V. Vimala
Professor – cum- Director

REPORT ON ACTIVITIES CARRIED OUT UNDER CENTRE OF ADVANCED STUDIES 2004-2005

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 and X Five Year Plan vide F.No. 1(18)/95/CAS/HRD-II, dt. 17-09-1999 and 02-07-2001 of the ICAR.

The post of attender is being borne by the University under Non-Plan scheme from the financial year 1999-2000. It is requested under the report that the Post of attender may also kindly be sanctioned in the ICAR plan Scheme during the X- Five Plan in order to avoid two establishment rolls.

2. Civil Works:

Civil works, electrical and sanitary works have been completed and handed over to this centre. Now the Centre of Advanced in Foods & Nutrition has the following facilities.

Seminar hall/Lecture hall
Conference hall
Computer room
Library room
Office rooms
Class rooms
Store room
Equipment room/Laboratory

The University has constructed another conference hall costing Rs.3.5 Lakhs for this Centre above the existing P.G. & Research Centre building.

**II EQUIPMENT PURCHASED UNDER CENTRE OF ADVANCED
STUDIES (1995-96 TO 2001-2002)**

SI.No.	Equipment	Cost (in Rupees)
1.	Computer, pentium 100,640MB, with TVSE, MSP 155 printer and HP Deskjet Printer	1,00,000/-
2.	Modi Xerox machine	1,08,000/-
3.	Air Conditioners, Carrier Aircon	55,000/-
4.	Kirloskar 5 K V A UPS	2,10,000/-
5.	Overhead projector and Slide projector	50,000/-
6.	Microwave oven	13,000/-
7.	Samsung refrigerator 420 litres	42,000/-
8.	Gerhardt kjedatherm automatic nitrogen analyzer	3,28,000/-
9.	Community nutrition equipment : Height rods, diet Survey sets	30,000/-
10.	Electronic top loading balances	25,000/-
11.	Public address system	35,000/-
12.	Furniture for Seminar Hall and conference rooms in New building	2,50,000/-
	a) Chairs : 85	
	b) Dias table : 01	
	c) Computer tables : 02	
	d) Computer chairs : 02	
	e) Printer tables : 02	
	f) Table for Xerox Machine : 01	
	g) Rostrum	
	h) Carpets and Curtains	
	i) Bulletin boards	
13.	Water cooler cum purifier	17,000/-
14.	Portable refractometer and pH meter	10,000/-
15.	Double glass distillation unit	15,000/-
16.	Exide batteries – 2 no's	12,880/-

17. V.Guard Stabilizer – 3nos	10,000/-
18. Aspirator bottle with stop cock	1,200/-
19. Magnetic letters	7,800/-
20. Essae digital weighing machine (2 no)	27,600/-
21. Executive high back chair	7,300/-
22. Prestosign letters	11,000/-
23. Hamilton HPLC syringe	2,750/-
24. Blow plast chairs (30nos)	15,660/-
25. LCD Multi-media projector (SANYO)	
26. Panaboard (PANASONIC)	
27. Metal halide spare lamp	
28. Wall mounted screen	
29. Laser pointers	
30. 2 KVA UPS system	1,25,000/-
31. U – Shaped conference table	46,000/-
32. Pentax Camera with accessories	33,000/-
33. Built – in cup – boards (20nos)	1,10,000/-
34. Black/green boards (5 nos)	16,225/-
35. Single blower	1,850/-
36. Door closures and door locks	12,000/-
37. PELICAN Soxplus solvent extraction system	1,71,970/-
38. Elico pH meter with electrodes	9,005/-
39. Sensory evaluation lab cubicles, booths, work tables	37,922/-

Stools

40. Solar dryer	11,050/-
41. Spiral binding machine	6,380/-
42. Colour monitor	19,850/-
43. Blow Ups – 15 Nos.	12,000/-

Furniture:

The following furniture and furnishings have been purchased to furnish the seminar hall, conference hall, Computer room etc.,

List of Furniture and furnishings:

a) Seminar hall chairs	:	85
b) Dias table	:	01
c) Computer tables	:	02
d) Printer tables	:	02
e) Computer chairs	:	02
f) Table for Xerox machine	:	01
g) Rostrum	:	01
h) Carpets and curtains		
i) Bulletin Boards		

III. MAINTENANCE AND REPAIRS

The following activities were undertaken under maintenance and repairs:

- Electrical wiring to UPS
- Maintenance for Xerox machine
- Deioniser 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 intact by entering into AMCs with the firms for which proposals for an amount of Rs. 75,000/- have been submitted to the ICAR.

IV. PURCHASE OF BOOKS AND JOURNALS:

- ❖ Advances in food colloids
- ❖ Food properties hand book
- ❖ Bio-chemical aspects of nutrition
- ❖ Child growth and nutrition in developing countries
- ❖ Effective programming for developing countries
- ❖ Major issues in F & N science
- ❖ Participatory rural appraisal & quarterly survey
- ❖ Participatory rural appraisal method and applications
- ❖ Nutrition and diet therapy
- ❖ Functional properties and food components
- ❖ Handbook of cereal science and technology
- ❖ Post harvest technology of cereals, pulses & oilseeds
- ❖ Food safety
- ❖ Diet planning through the life cycle in health & diseases
- ❖ PG diploma Home Science syllabus book
- ❖ Cooking with green leafy vegetables
- ❖ Development in milling and baking technology
- ❖ 25 Years of NNMB
- ❖ Food storage and preservation
- ❖ Preservation of fruit processing
- ❖ Down to earth (Bulletins on Environment)
- ❖ Heart Health at your finger tips
- ❖ The honoured Best Citizens of India

V. ACADEMIC ACTIVITIES

OBJECTIVE I

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

A training programme entitled Food Quality and Safety was conducted from 26th November to 16th December, 2002.

The Centre of Advanced Studies, Department of Foods and Nutrition, Faculty of Home Science, Acharya N.G. Ranga Agricultural University, Hyderabad has been functioning as a resource and training centre for the faculty in the field of Foods and Nutrition from State Agricultural Universities since 1995. Organizing advanced training programmes is one of the major functions of this centre. Till today 14 training programmes on different aspects of Food and Nutrition have been conducted. During the year 2002 – 2003, one training programme entitled **Food Quality and Safety is the 13th programme to be organized in Foods and Nutrition, at the Post Graduate & Research Centre from 26th November to 16th December 2002.**

Problems of food quality and safety are hampering the growth of International food trade and are increasingly creating consumer concerns in Europe, according to the UN Food and Agricultural Organisations (FAO). Food quality and safety issues have become a very important issue in trade, as per FAO representative at the recently held FAO regional conference at Europe. There are indications that food products from Europe are being rejected due to the food quality and safety problems. Figures released by FDA show that for the first months of 1998 around 770 shipments from 25 countries were rejected by the United States. Products rejected ranged from cheeses to fruits and vegetables to fish products. The reasons for rejection were contamination with pathogenic bacteria, failure to meet safety regulations for low acid canned foods, non-permitted food additives, among others. Unfortunately, information on the extent of such problems within the international markets is not available. FAO therefore, urges the countries to collect and publish information about their food trade problems more regularly.

WHO estimates that hundreds of millions of people worldwide annually suffer from diseases caused by contaminated foods. Many people don't give much thought to food safety until a food-related illness prompts concern. But threats are real, numerous and varied. So one should think of 'Food Safety from farm to Table'. Personal responsibility coupled with common sense and education may go a long way to reduce food-borne illness. The food safety initiative promises concentrated action designed to reduce the incidence of food-borne illness in this country.

With international food trade growing to more than \$ 400 billion / year and expected to grow further, the ramification of lack of international controls and monitoring of food safety are grossly apparent. For the international exports of food products the food legislations need to be urgently revised and updated especially in the countries whose systems are often fragmented, resulting in gaps or duplication of controls. A particular challenge is to harmonize the food legislations with international requirements to protect consumer and improve the quality and safety of foods. FAO called upon countries to participate fully in the work of the FAO / WHO Codex Alimentarius Commission to protect the health of consumers and to ensure fair practices in food trade, Codex Alimentarius established International Standards, residue limits, recommendation and guidelines of food. Our motto should be ‘Making the world a safer place to eat’. Both quality control and safety are essential and the main life line of the food industry. Food Industry in India is the main line to improve the economy of the country.

In view of the importance of food quality and safety in the present global scenario, the training programme was planned with an objective to update the knowledge and skills of faculty members of Agricultural Universities.

PROFILE OF PARTICIPANTS

There are ten participants for the training programme in the cadre of Associate Professor. The participants came from University of Agricultural Sciences, Bangalore, Home Science College and Research Centre, Madhurai, Assam Agricultural University, Jorhat, Rajendra Agricultural University, Samastipur, S.G.Institute of Dairy Technology, patna and Krishi Vigyan Kendra and College of Fisheries, Muthukur, Acharya N.G. Ranga Agricultural University. Two participants were in the field of extension and eight were from teaching.

LIST OF PARTICIPANTS

Dr.Leelarani Saha, Assistant Professor	Rajendra Agril. University, Samasthipur – 848 125
Sunita Kumari Instructor	Rajendra Agril. University, Samasthipur – 848 125

Dr. Charulatha Mahanta,	Dept. of Food & Nutrition, Assam Agril. University, Jorhat – 785 013
Dr. P. Jyothi Kumari, Lecturer	Dept. of Nutriton, St. Theresa's College for Women, Eluru – 534 003
Dr. K.Dhanapal, Assistant Professor	College of Fisheries, Muthukur – 524 344
Mr. Rakesh Kumar,	S.G. Institute of Dairy Technology, BVC Campus, Jagadeopath, Patna – 800 014
Dr.M.R. Premalatha,	Dept. of Food Science & Nutrition, Home Science College & Res. Instt., Madurai – 641 003
Dr. (Mrs.) K.Krishna Kumari, Training Associate	K.V.K., Mahanandhi
Dr. Sunanda Sharan, Associate Professors	Home science, U.A.S Banglore – 560 06

COURSE CONTENT

The course content was designed to cover three major areas of food quality and safety

- Subjective and objective evaluation of foods.
- Quality and Safety aspects of foods.
- Globalization of Indian foods industry.

Twenty five lectures were arranged to cover the information in these areas. In addition to the class room teaching , the participants were exposed to certain field visits. Along with theory classes and field visits, the trainees were involved in practicals like preparation of products and conducting sensory evaluation of their products, individual experience of operating specializaed instruments for evaluation of quality and softometer for measuring the texture and also minobiological evaluation of some common foods.

RESOURCE PERSONS

Faculty members of Department of Foods and Nutriton, College of Agriculture and College of Veterinary Science of Acharya N.G. ranga Agricultural University were

selected for giving lectures apart from eminent speakers like Dr. Nagaraj from Directorate of Oilseeds Research; Dr. R.V. Bhatt from National Institute of Nutrition ; Dr. M.V. Rao from Institute of Public Enterprise, Osmania University, Hyderabad; Dr. K. Sudhakara from College of Fisheries, Mangalore and Dr. T. Nageshwar Rao from Biotechnology unit , ANGRAU.

HOST FACULTY

COURSE DIRECTOR

Dr. V. Vimala,
Professor-cum-Director,
Centre of Advanced Studies.

COURSE COORDINATORS

Dr. M. Uma Reddy
Professor & University Head

Dr. V. Vijayalakshmi
Associate Professor

Dr. S. Sumathi
Associate Professor

RESOURCE PERSONS

Dr.M. Uma Reddy	Professor
Dr.D. Sharada	Professor
Dr. S. Sumathi	Associate Professor
Dr. P. Rajyalakshmi	Associate Professor
Dr. Anurag Chaturvedi	Associate Professor
Dr. V. Vijaya Lakakshmi	Associate Professor
Dr. Kamini Devi	Associate Professor
Dr. K. Uma maheshwari	Associate Professor
Dr. K. Uma Devi	Associate Professor
Dr. N. Lakshmi Devi	Associate Professor
Dr. S. Shobha	Associate Professor

GUEST FACULTY

FACULTY OF AGRICULTURE, ANGRAU

1. Dr. Y. N. Reddy Professor & Univ. Head,
Dept. of Horticulture
2. Dr. Kulkarni Professor & Univ. Head
Dept. of Mathematics & Statistics
3. Dr. T. Nageshwar Reddy Associate Professor,
Dept. of Genetics and Plant Breeding
4. Dr. CH. Srinivasa Rao Scientist, AICRP in Pesticides and
Residues, Dept. of Entomology
5. Dr. Dilip Babu Associate Professor,
Dept. of Horticulture

FACULTY OF VETERINARY SCIENCE, ANGRAU

1. Dr. K. Kondal Reddy Associate Professor,
Dept. of LPT
2. Dr. Sundhakara Reddy Associate Professor,
Dept. of LPT
3. Dr. Dhanalakshmi Associate Professor,
Dept. of Microbiology

SCIENTISTS FROM NIN

Dr. Ramesh V. Bhatt Deputy Director

OTHER GUEST FACULTY

Dr. M.V. Rao Chairman B.P.C., Biotechnology Unit, Institute of
Public Enterprise, O.U. Campus

Dr. K. Sudhakara	Associate Professor, College of Fisheries, Mangalore
Mr. Kamalakar Nimje	Indian Grain Storage Management & Research Institute, Rajendranagar
Dr. T. Nagaraj	Principal Scientists, Directorate of Oilseeds Research, Rajendranagar.

IMPLEMENTATION OF THE COURSE

After the registration of the participants, the training programme was started on 26th November 2002 at Centre of Advanced Studies, P.G. & Research Centre, ANGRAU, Hyderabad , with a lecture by Dr. M. Uma Reddy, Professor, Dept. of Foods and Nutrition and Coordinator on Food Safety and Quality Assurance.

In addition to the class room teaching, certain field visits were also organised. A visit to the sensory evaluation laboratory, of Modern Foods, Uppal, Hyderabad, Food quality control lab, Nacharam, Hyderabad, under the Indian Prevention Medicine, Vijaya Dairy, Lalapet, Hyderabad, and Food and Drug Unit of National Institute of Nutrition, Hyderabad, and Meat Processing Unit, Sangareddy, Medak District. Participants were also given an opportunity to visit the library at National Institute of Nutrition.

FOOD QUALITY AND SAFETY
26-11-2002 – 16-12-2002
PROGRAMME

Date	Time	Topic	Resource person
26-11-2002 Tuesday	9.30 – 11.00 11.00 – 1.00 2.00 – 3.30	Registration Pre evaluation Food quality and safety	Dr. M. Uma Reddy
27-11-2002 Wednesday	9.30– 11.00 11.01 – 1.00 2.00 – 3.30	Horticultural products – challenges and opportunities Sensory attributes of foods Principles and methods of sensory evaluation	Dr. Y.N. Reddy Dr. P. Rajyalakshmi Dr. P.Rajyalakshmi
28-11-2002 Thursday	9.30 – 11.00 11.00 – 1.00 2.00 – 3.30	Sensory evaluation of a product – practical Sensory evaluation of a product- practical Sensory evaluation of a product- practical	Dr. K. Uma maheshwari Dr. K. Uma maheshwari Dr. K. Uma maheshwari
29-11-2002 Friday	9.30 – 11.00 2.00 – 5.00	Visit to sensory evaluation Lab Modern Bakery, Uppal, Hyderabad. Visit to Food Quality control Lab Nacharam, Hyderabad.	Dr. Lakshmi Devi Dr. Lakshmi Devi
30-11-2002	9.30 – 11.00 11.30 – 1.00 2.00 – 3.30	Objective methods of assessing food quality Evaluation of textural qualities of food- 1- Practicals (Softometer) Evaluation of Textural qualities of foods – II- Practicals (Instran)	Dr. V. Vijayalakshmi Dr. K.Uma Devi Dr. V. Vijayalakshmi
02-12-2002 Monday	9.30 – 11.00 11.30 – 1.00	Evaluation of textural qualities of food-III- Practicals (Instran) Evaluation of textural qualities of food-IV- Practicals (Instran)	Dr. V. Vijayalakshmi Dr. V. Vijayalakshmi

	2.00 – 3.30	Evaluation of textural qualities of food-V-Practicals (Instran)	Dr. V. Vijayalakshmi
03-12-2002 Tuesday	9.30 – 11.00 11.30 – 1.00 2.00 – 3.30	Application of statistical methods in sensory evaluation Pesticides residues and safety in food – the safety concern Assessment of Pesticides residues by Gas Chromatography - practicals	Dr. Kulkarni Dr. Cherukuri Sreenivasa Dr. Cherukuri Sreenivasa
04-12-2002 Wednesday	9.30 – 11.00 11.30 – 1.00 2.00 – 3.30	Cultivated oil seeds- composition and quality Quality assessment of oil seeds – practicals Food contaminants and remedial measures	Dr. Nagaraj Dr. Nagaraj Dr. D. Sharada
05-12-2002 Thursday	9.30 – 11.00 11.30 – 1.00 2.00 – 3.30	Grain quality and safety – quality of stored grains Assessment of grain quality – practicals Food Additives	Mr. Kamalakar Nimja Mr. Gupta
ID-UL-FITR (RAMZAN) - HOLIDAY			
07-12-2002 Saturday	9.30 – 11.00 11.30 – 1.00 2.00 – 3.30	Correlation between subject and objective evaluation of foods Quality control of processed foods in India Quality control and parameters for fruit and vegetable processing with special emphasis on packing	Dr. Kamini Devi Dr. Anurag Dr. Dilip Babu
SUNDAY			
09-12-2002 Monday	9.30 – 11.00 11.30 – 1.00	Microbiological evaluation of common foods – practicals Microbiological evaluation of	Dr. Dhanalakshmi Dr. Dhanalakshmi

	2.00 – 3.30	common foods – practicals Microbiological evaluation of common foods – practicals	Dr. Dhanalakshmi
10-12-2002 Tuesday	9.30 – 11.00	Sea food quality assurance and safety	Dr. K. Sudhakara.
	11.30 – 1.00	Quality and safety of meat and meat products – I	Dr. Sudhakar Reddy
	2.00 – 3.30	Consumer studies in food evaluation	Dr. Kamini Devi
11-12-2002 Wednesday	9.30 – 5.00	Visit to Sanga Reddy Meat & Meat Processing unit	Dr. Sudhakar Reddy
12-12-2002 Thursday	9.30 – 11.00	Quality control aspects of dairy products	Dr. Kondal Reddy
	11.30 – 1.00	Application of biotechnological approaches for quality assurance in dairy industry	Dr. Kondal Reddy
	2.00 – 3.30	Visit to Vijaya Dairy Industry, Lalapet, Hyderabad	Dr. Kondal Reddy
13-12-2002 Friday	9.30 – 11.00	Food regulation in global context HACCP, ISO series, Codex Alimentarius	Dr. R. V. Bhatt
	11.30 – 5.00	Visit to Food and Drug unit & Library – NIN	
14-12-2002 Saturday	9.30 – 11.00	Quality certification and its importance in Global context	Scientist from BIS
	11.30 – 1.00	Challenges for Indian Food Industry in new millennium	Dr. M. V. Rao
	2.00 – 3.30	Safety of Genetically modified foods	Dr. Chokka Reddy
SUNDAY			
16-12-2002 Monday	9.30 – 11.00	Course evaluation	
	11.00 – 1.00	VALEDICTORY LUNCH	

Note : 11.00 – 11.30 am (Tea)

1.00 pm – 2.00 pm (Lunch)

Evaluation of Participants

Pre and post evaluation of the participants knowledge on different aspects of Food Quality and Safety was assessed using a proforma. Pretesting of participants showed scores ranging between 26 – 80%. After the exposure of the trainees to the programme their knowledge levels showed an increase between 63-85. The mean increase in awareness was by 32.3 %.

COURSE EVALUATION BY THE PARTICIPANTS

The participants were given a detailed questionnaire to evaluate each and every topic with respect to the usefulness and coverage. The response of the participants was consolidated and presented below.

- All the participants felt that 93% of the topics were very useful or useful
- 90% of the topics were declared as fully covered.
- Participants felt that they had sufficient time and opportunity to discuss and interact with the speaker
- All the participants were impressed by the field visits as they gained a lot of awareness and knowledge on the various measures used in taking care of quality and safety of foods and also suggested that visits to small scale food industry units could have been arranged.
- Participants felt that the atmosphere in the Centre of Advanced Studies, PG & Research Centre, ANGRAU, Rajendranagar, Hyderabad was congenial and enjoyed a good trainer – trainee relationship.
- The general opinion of participants about the programme was very good and lot of information on Food Quality and Safety was given and very well conducted.

- All the participants suggested that the further training programme can be planned on the same topic with more practical components for a period of three months.

OBJECTIVE II

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

UG PROGRAMME

1. Four year degree programme at UG level has been implemented and strengthened during this year. Further strengthening of the programme is underway by conducting student seminars, printing pamphlets, posters and using mass media communication, ICAR has nominated students for the course.
2. Keeping present day job opportunities in mind, a diploma course in catering technology is being formulated to train students start income generating activities.

PG PROGRAMME

1. During the year 2002 – 2003, the students strength has been increased from 12 to 15 in the inter faculty self supportive post graduate programme in Food Science and Technology. A total number of 15 students (Both boys and girls) have been admitted to the programme.
2. The first batch of PG students of Food Science and Technology have evaluated the first semester course, and the courses are being modified taking suggestions into consideration.
3. The first batch of PG students of Food Science and Technology were placed in different food industries (Beverage Industry, Fruit and Vegetable Industry, Dairy Industry, Grain Processing Industry etc.) for

six weeks to gain hands on experience. This type of field placement in food industries is first to its kind in the entire University.

PG DIPLOMA COURSES

MEDICAL NUTRITIONAL THERAPY

During the past several years the demand for nutritional support services in connection with the delivery of health care has increased dramatically.

Nutritional support is an important component in the overall management of the critically ill patients. Nutritional support depends on giving a balanced formulation of nutrients as a drink, as a tube feed directly into the stomach or as an infusion into a vein. In view of the importance of nutritional support services in the management of critically ill patients, and also unavailability of trained professionals in this field it is felt necessary to start a one year P.G. Diploma programme in Medical Nutrition Therapy.

COMMUNITY NUTRITION

The proposed programme P.G. Diploma programme trains the students to handle the rural development programmes specially programmes related to nutrition and health care. After completing the 1 year P.G. Diploma in Community Nutrition, they will be equipped with knowledge and skills in the areas of ecology of foods and Nutrition, Nutritional and Health problems of vulnerable groups of population, suitable intervention programmes to overcome the problems, nutritional status assessment of communities, nutrition and communication etc. the course will equip them to plan, implement monitor and evaluate any rural development programme / health and nutrition intervention programme. This is a one year diploma course.

ALLOCATION OF SEATS UNDER PG PROGRAMME FOR M.Sc.

Over and above the sanctioned strength of M.Sc. students, one student was nominated by ICAR and admitted under Centre of Advanced Studies.

GUEST LECTURES TO PG STUDENTS & STAFF

The following guest lectures have been arranged at Centre of Advanced Studies for the benefit of both staff and students.

TABLE 1. GUEST LECTURES ARRANGED

SI.No	Resource persons	Date	Title of guest lecture
1.	Ms.Lakshmi Murthy, Assistant Director, MANAGE, Hyderabad	11-03-2002	Documentation and information management
2.	Dr. Haridas Rao (RTD), CFTRI, Mysore	26-09-2002	Recent advances in milling technology
3.	Dr. Saraswathy Buluses, National Programme Officer, New Delhi.	03-10-2002	Stretegies for combating micro nutrient malnutrition
4.	Mr. S.A. Majeed, Marketing advisor, SERP, Hyderabad	08-11-2002	Export potential of fruits and vegetables
5.	Mr.Ameer Uzzamam, Deputy Director, Bureau of Indian Standards, Nampally, Hyderabad	23-11-2002	Significance of HACCP in food industry
6.	Dr. M.V. Rao, Chairman, Biotechnology Unit,	14-12-2002	Challenges in food industry in the new millennium

	Institute of Public Enterprise, Osmania University Campus, Hyderabad		
7.	Mr. Deepak Deshpande, Manager, HRD, Tetra Pak India (PUT) Ltd., Pune	09-11-2002	A septic processing

PUBLICATIONS OF TEXT BOOKS

1. Centre of Advanced Studies – Achivements (1995 - 2002) compiled by :
Vijaya Khader, K. Uma maheshwari and N. Lakshmi Devi.
2. Edible forest foods to Tribals of South India, 2002 : P.Rajya Lakshmi
3. Foods and Nutrition and Health : Vijaya Khader
4. Diet and Nutrition counseling – Preactical Manual (Vol - I): V. Vimala

OBJECTIVE III

To support the Government and income generating activites among grass root level women, farm women and house Wives, training programmes on Foods and Nutrition and skill oriented certificate courses were organised by Centre of Advanced Studies in Foods and Nutrition

TABLE 2. TRAINING PROGRAMMES AND CERTIFICATE COURSES ORGANISED

SI. No.	Title of the course	Period	Partcipants profile	No. of participants	Coordinators
1.	Cake preparation	24 th April – 3 rd May,	Farm women from Mahboobnagar	7	Ms. Kanwaljit Kaur Dr. N. Lakshmi Devi

		2002			
2.	Cake preparation	21 st May – 1 st June, 2002	Farm women from Mahboonagar	10	Ms. Kanwaljit Kaur Dr. N. Lakshmi Devi
3.	Biscuits and Bread preparation	19 th – 31 st August, 2002	Rural women from Gadwal	10	Dr. V. Vijayalakshmi Ms. Kanwaljit Kaur
4.	Assessment of nutritional status	18-3-2002	Field functionaries of NATP project from four states i.e. (Andhra Pradesh, Karnataka, Tamil Nadu and Kerala)	7	Dr. Yasodha Devi Dr. Uma Maheshwari
5.	Fruit product	3 rd May 2002	Tribal women	15	Staff of Centre of Advanced Studies
6.	Pizza and Burger preparation	25 th – 30 th November , 2002	House wives	10	Mrs. J. Lakshmi

Staff of Centre of Advanced Studies are not only involved in conducting training programmes and certificate courses on the campus, they also participate as resource persons off campus where ever, they are invited by line departments.

TABLE 3. STAFF AS RESOURCE PERSONS

Staff involved as resource persons	Institute / participants	Date	Topic
Dr. V. Vijayalakshmi Ms. Kanwaljit Kaur	Thakur Hariprasad Institute for the Mentally Handicapped – field Functionaries, Hyderabad	5 th October, 2002	Importance of nutrition for children
Dr. K. Uma Devi Dr. N. Lakshmi Devi	State mandal education officers and school headmasters of A.P. – organized by DRDA, Sanga Reddy and Medak dist	28-12-2002	➤ Importance of diet and nutrition for schoolchildren ➤ Care to be taken in food preparation for Mid day meal programme
Dr. K. Uma maheshwari	NGO's meet at Federation of AP chane her of commerce, Hyderabad	7-9-2002	Solar food processing technology

OBJECTIVE IV :

To disseminate the nutrition information to personnel of line departments, research institutes, State Agricultural Universities etc.

To disseminate research highlights of various aspects of our Nutrition to different sectors of population a quarterly issue of Foods and Nutrition News letters is being printed by Centre of Advanced Studies. During the report period three quarterly issues of Foods and Nutrition News letters were brought out for circulation among the line departments and the organizations involved in nutritional related programmes to disseminate nutrition information to personnel of different sectors.

TABLE 4. NEWS LETTERS RELEASED DURING THE YEAR 2002

SI. No.	Title	Month	Year	Vol.	Number	Issue Editor
1.	Iodine and Human Health	April	2002	7	1	Dr. M. Anuradha
2.	Carotenoids – Human Health	August	2002	7	2	Dr.T.V.Hymavathi
3.	Fish in Human Nutrition	December	2002	7	3	Mrs. J. Lakshmi

OTHERS ACTIVITIES CONDUCTED BY STAFF OF CENTRE OF ADVANCED STUDIES

CONFERENCES / THESIS / SEMINARS / WORKSHOPS /

WINTERSCHOOLS ATTENDED BY CAS STAFF

1. Eighth Annual Conference of Indian Society for parental and Enteral Nutrition (ISPEN) Dec. 6th to 8th 2002, Hyderabad – Dr. D. Sharada, Dr. S. Sumathi, Dr. S. Shobha attended.
2. Forum on challenges for plam oil in India on 26th Dec. 02, Hyderabad. Dr. Uma Reddy & Dr. S. Sumathi attended.
3. Asian productivity organization (APO) sponsored seminar on quality control of processed Food held in Hsinehu city, near Taipei in Tiwan from 8th to 14th May 2002. Dr. G. Sarojini, Principal Scientist and Unit Co-ordinator, AICRP – H.Sc., attended the seminar.
4. Dr. N. Lakshmi Devi attended 3rd Asian congress of Dietetics from 18 – 21st August 2002 at Kualalumpur, Malaysia and presented a paper on “Effect of Lactobacillus acidophilus supplementation on the adenosine deaminase (ADA) and Zinc (Zn) levels of elderly” in poster session.
5. Dr. N. Lakshmi Devi attended an Intternational seminar on “Wheat and wheat products – Global perspective from September 27 – 28th, 2002 at hotel Taj Residency, Hyderabad.
6. Entrepreneurship development of rural women in agro-based technologies winter school conducted by Central Institute of Agricultural Engineering, Bhopal from 12th Nov to 2nd Dec. 2002, Attended by Dr. S. Shobha.
7. Assessment and Remedial programme for children with special needs’ Winter school conducted by Department of HDFs, College of Home Science, Hyderabad from November 16th to December 2nd, 2002, attended by Dr. K. Uma Devi.
8. ‘food quality and Safety – training programme conducted by Centre of Advanced Studies, Post Graduate and Research Centre, Rajendranagar,

Hyderabad from 26-11-2002 to 16-12-2002 attended by Dr.K.Krishna Kumari.

9. 35th Annual National Covenction of Indian Dietetic Association held on 14th & 15th November, 2002 at Bangalore. Attended by Dr. D. Sharada.
10. Dr. Uma Reddy, Professor presented a paper on “Integrating diet therapy and diet counseling in management of obesity on alternate education programme” at the 3rd Asian Congress of Dietetics 18 – 21 August, 2002 Ku;a Lumpur, Malaysis.

TABLE 5. POPULAR ARTICLES

Staff	Name of the Article	Magazine
Dr. S. Shobha	Preparation and use of Popcorn	Annadata, December, 2002
	Good Nutrients from cauliflower and radish greens	Annadata, October, 2002
Dr. K. Uma Maheshwari	Article on preparation of Kismis and nutritive value	Padipantalu, Vol:1, No.3, August 2002 P.No. 72 -73.

TV PROGRAMMES

1. Dr. K. Aruna – Dietary Advice to mothers on infant feeding live interview on ‘Rytu Mitra’ programme of Teja TV on 6-9-2002 at 6:30 pm.
2. Dr. D. Sharada – Improving nutritive value of food with locally available grains, phone in live programme on Rytu Mitra programme of Teja TV on 2-10-2002.

3. Dr. P. Rajyalakshmi – Importance of Nutrition for growth and development of children phone in live programme on ‘Rytu Mitra programme of Teja TV on 14-11-2002.

RADIO TALKS

1. Dr. K. Uma Devi - “Importance of Balanced Diet during summer” on 12-5-2002
- “Diet for diseases common in summer” broad casted on 26-5-2002
2. Dr. V. Vijayalakshmi – “Nutritive value of green leafy vegetables” on 3-9-2002
- “Use of Legumes in daily diet” broadcasted on 17 -11-2002
3. Dr. K. Uma Maheshwari – “ Importance of water and liquid food during summer”
Broadcasted on 11-4-2002 by AIR Hyderabad.
4. Dr. P. Rajyalakshmi - “ Importance of Iodine in our diet” broadcasted on 14-11-2002
- “What type of diet should be given to growing child”
Broadcasted on 24-10-2002

WORKSHOPS ORGANISED

A National workshop on Fisher women in Coastal Eco-system of Andhra Pradesh, Karnataka, Kerala and Tamil Nadu was held from 17th to 18th October, 2002 at, Centre of Advanced Studies, Post Graduate and Research Centre, Rajendranagar, Hyderabad. Under the Guidance of Dr. Vijaya Khader, Dean, Faculty of Home Science and Principal Investigator of NATP. Seventeen participants from all the four states presented their data and decided the activites to be carried out as per the approved programme. A Brochure on studies on “Fisher Women in Coastal Eco-system of Andhra Pradesh, Karnataka, Kerala and Tamil Nadu” was released by special guest Professor Linden F. Vincent, Irrigation Water Engineering,

Wageningen Agricultural University, Wageningen, Netherlands. Dr. I.V. Subba Rao, Vice-Chancellor, ANGRAU was the Chief guest, Dr. A. Padma Raju, Director of research, ANGRAU presided over the function.

EXTENSION ACTIVITIES

- The ANDRAU has organized Agri Fair – 2002 in the sports complex at Rajendranagar campus from 5th – 7th, April 2002 with the theme “Value addition” . the College of Home Science has put up a stall on income generating activities for women. Various entrepreneurial activities in the processing of cereals, pulses, fruits and vegetables and milk were displayed for the benefit of Rural women and entrepreneurs.
- The Hon’ble Minister for Agriculture Sri Vadde Sobhanadreeswara Rao and the city Mayor Sri Teegala Krishna Reddy along with other officials of the University had visited the stalls put up by the staff and students and it was appreciated by the dignitaries.
- Training programmes were conducted by Dr. M.Anuradha, Home Scientist, DAATT Centre, Chittoor for rural women in Chittoor district in February 2002. Each of the training programmes was attended by 30 women. The training was conducted on a ‘value addition with locally available foods’. ‘preparation of milk based recipes’ and ‘Fruit and Vegetable preservation’. The income generation aspect was also stressed. These programmes evoked good response from the participants.
- The staff of the department conducted an exhibition on “Sorghum products at ANGRAU Auditorium on 27th April 2002, in the workshop conducted by the National Sorghum Research Centre, Hyderabad.
- The Associate Dean, College of Home Science, Staff and P.G. students of Department of Foods and Nutrition celebrated Nutrition week in association

with UNICEF and the voluntary organization LIFE – HRG (Health Reinforcement Group) at Government School Rajendranagar, Hyderabad and Sadasivpet, Medak district on 3-9-2002 and 4-9-2002 respectively. About 600 schoolchildren, teachers, housewives and representatives of various mahila mandals particularly DWCRA groups participated. Importance of nutrition week celebrations, food and nutrients in the maintenance of health, nutrition of the community, personal hygiene and environmental sanitation were explained to the group. An exhibition to the group. An exhibition depicting these aspects was also organized on this occasion. The anthropometric and clinical assessment of school children was carried out and accordingly diet counseling was given.

- The department of Foods and Nutrition, College of Home Science, Acharya N.G. Ranga Agricultural university, Hyderabad, celebrated World Food Day on 16-10-2002 at Shameerpet Mandal, Ranga Reddy District. The rural women, anganwadi teachers and staff of Mandal, Ranga reddy district. The rural women, anganwadi teachers and staff of mandal praja parishad in the programme. The theme of the celebrations for this year was ‘Water as a source of Food Security’. The importance of water was explained to the gathering and the need to minimize wastage of water was emphasized. A simple household defluoridation technique and preparation of oral rehydration solution were demonstrated to the participants.
- Global Iodine day was celebrated at Government High School, Khairatabad and also at Chandanagar village from 21-10-2002 to 30-10-2002 by the staff of Foods and Nutrition. On this occasion a number of activities were undertaken which include –
 - Education on importance of Iodine for health was imparted for 400 schoolchildren in urban area and 260 schoolchildren in rural areas.

- 190 Pregnant women were educated on the importance of iodine in their diets to have normal and healthy babies.
- Salt testing for iodine content was done in 60 households in urban area and 40 households in rural area.
- Iodised salt and fruits were distributed to 650 school children and 190 pregnant women.

VISITORS

- Dr. A.S. Bawa, Director, Defence Foods Research Laboratory, Mysore, visited this Centre on 22nd March, 2002. The Staff Students, the Core Committee members and Coordinators of the new Interfaculty P.G. Programme on Food Science and Technology interacted with him.
- Professor Linden F. Vincent, Irrigation and water Engineering, Wageningen Agricultural University, Wageningen, Netherlands visited the Centre on 18th October, 2002.
- M.Sc. applied nutrition students from NIN and the District Health Administration Officers of W.H.O. Fellowship holders from Bhutan visited the Centre on 9-8-2002 and appreciated the work carried out by the department.
- Dr. Suresh Babu, from International Food Policy Research Institute, Washington D.C., USA visited the centre on 8-11-2002 and interacted with the staff and students. He appreciated the activities carried out by the department in the field of Foods and Nutrition. He generously extended his co-operation and guidance in the course and research activities in the department in future.