

**CENTRE OF ADVANCED
STUDIES**

THIRTEENTH ANNUAL REPORT

(2007-2008)

Dr. (Mrs.) S.Sumathi

DIRECTOR

DEPARTMENT OF FOODS & NUTRITION
POST GRADUATE & RESEARCH CENTRE
ACHARYA N.G. RANGA AGRICULTURAL UNIVERSITY
RAJENDRANAGAR: HYDERABAD – 500 030

**THIRTEENTH ANNUAL REPORT OF CENTRE OF ADVANCED STUDIES
FOR THE YEAR 2007-2008 (April 2007 – March 2008)**

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 2007 – March 2008.
- Report No. : XIII
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. Technical Programme
- 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 2008-09
(Appendix II enclosed)
7. Technical Personnel employed (list of vacancies, if any)

| Sanctioned Posts by ICAR: Post particulars | Posts filled | Posts to be filled |
|---|---|--------------------|
| 1. Steno-cum-Typist | Senior Assistant against the post of U.D. Stenographer Filled on 19-6-2003 | NIL |
| 2. AVA Operator | Projector Operator Filled on 16-6-1997 | NIL |

Technical staff employed:

| Name with Designation | Date of Joining | Date of leaving |
|---|-----------------|-----------------|
| K. Shakuntala Senior Assistant against the post of U.D. Steno | 19-06-2003 | Continuing |
| N. Yedukondalu Projector Operator | 16-06-1997 | -do- |

| | | |
|-----------------|---|--------------------------------|
| 8. Total outlay | : | <u>Rs. 87,02,246=70</u> |
| | | - Rs. 4,56,219=20 (1995-96) |
| | | - Rs. 9,61,192=20 (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. 5,14,463=75 (2002-2003) |
| | | - Rs. 6,32,489=00 (2003-2004) |
| | | - Rs. 4,75,996=00 (2004-2005) |
| | | -Rs. 6,45,016=00 (2005-2006) |
| | | -Rs. 6,79,644=00 (2006-2007) |

Budget & Expenditure particulars for 2007-2008:

| Sl. No. | Sub head | Budget Sanctioned | | Expenditure | | Balance | |
|------------------|-------------------------|-------------------|-----------|-----------------|-----------|-----------------|-----------|
| | | Rs. | Ps. | Rs. | Ps. | Rs. | Ps. |
| 1. | Training Programme | 3,54,000 | 00 | 76,196 | 00 | 2,77,804 | 00 |
| 2. | TA / DA | 1,00,000 | 00 | -- | | 1,00,000 | 00 |
| 3. | Books | 50,000 | 00 | 49,989 | 00 | | 11-00 |
| 4. | Recurring Contingencies | 2,00,000 | 00 | 80,226 | 00 | 1,19,774 | 00 |
| 5. | Staff salaries | 4,00,000 | 00 | 3,00,576 | 00 | 99,424 | 00 |
| Total Rs. | | 11,04,000 | 00 | 5,06,987 | 00 | 5,97,013 | 00 |

9. Total amount spent : Rs. 6,79,644=00
in previous year (2006-2007)

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

a) Sanctioned : Rs. 11,04,000-00

b) Spent : Rs. 5,06,987-00

11. Total No. of months : 12 months (From April 2007 – March 2008)
during the year.

12. Summary : Enclosed.

Signature :

Name & : Dr. S. SUMATHI

Designation: PROFESSOR-CUM-DIRECTOR.

**REPORT ON ACTIVITIES CARRIED OUT UNDER
CENTRE OF ADVANCED STUDIES 2007-08**

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

2. CIVIL WORKS

The Centre of Advanced Studies in Foods & Nutrition presently has the following facilities.

Seminar hall/Lecture hall
Conference hall
Computer room
Library room
Office rooms
Class rooms
Store room
Equipment room/Laboratory
Museum Hall
Educational Technology Cell (ETC)

II EQUIPMENT PURCHASED UNDER CENTRE OF ADVANCED STUDIES

(1995-96 to 2001-2002)

EQUIPMENT :

| Sl. No. | Equipment | Cost (in Rupees) | Date of purchase | Remarks |
|----------------|--|-------------------------|-------------------------|-----------------------|
| 1 | Overhead projector and Slide projector | 50,000/- | 2-2-95 | |
| 2 | Air conditioners, Carrier Aircon | 55,000/- | 10-2-96 | |
| 3 | Microwave oven | 13,000/- | 13-2-96 | |
| 4 | Computer, Pentium 100,640 MB, with TVSE, MSP 155 Printer and | 1,00,000/- | 24-2-96 | Not in good condition |

| | | | | |
|----|--|------------|----------|-------------------|
| | HP Deskjet Printer | | | |
| 5 | Modi xerox machine | 1,08,000/- | 6-3-96 | To be written off |
| 6 | Furniture for Seminar Hall and conference rooms in new building a) Chairs : 85 b) Dias Table : 1 c) Computer tables : 2 d) Computer chairs : 2 e) Printer tables : 2 f) Table for Xerox Machine: 1 | 2,50,000/- | 11-3-96 | |
| 7 | Public address system | 35,000/- | 19-3-96 | |
| 8 | Kirloskar 5 K V A UPS | 2,10,000/- | 24-6-96 | |
| 9 | Exide batteries – 2 no's | 12,880/- | 12-12-96 | |
| 10 | Water cooler cum purifier | 17,000/- | 13-12-96 | |
| 11 | V. Guard Stabilizer – 3 nos | 10,000/- | 20-12-96 | |
| 12 | Essae digital weighing machine (2) | 27,600/- | 26-12-96 | |
| 13 | Samsung refrigerator 420 litres | 42,000/- | 6-1-97 | |
| 14 | Double glass distillation unit | 15,000/- | 15-1-97 | |
| 15 | Aspirator bottle with stop cock | 1,200/- | 15-1-97 | |
| 16 | Community nutrition equipment : Height rods, diet survey sets | 30,000/- | 31-1-97 | |
| 17 | Magnetic letters | 7,800/- | 28-2-97 | |
| 18 | Portable refractometer and pH meter | 10,000/- | 12-3-97 | |
| 19 | Blow plast chairs (30 nos) | 15,660/- | 9-5-97 | |
| 20 | Executive high back chair | 7,300/- | 15-5-97 | |
| 21 | Prestosign letters | 11,000/- | 19-5-97 | |
| 22 | Hamilton HPLC syringe | 2,750/- | 19-7-97 | |
| 23 | Gerhardt Kjedatherm automatic nitrogen analyzer | 3,28,000/- | 11-9-97 | |
| 24 | 2 KVA UPS System | 1,25,000/- | 26-3-98 | |
| 25 | U – Shaped conference table | 46,000/- | 26-3-98 | |
| 26 | Black/green boards (5 nos) | 16,225/- | 26-3-98 | |
| 27 | Pentax Camera with accessories | 33,000/- | 30-3-98 | |
| 28 | Built-in cup-boards (20 nos) | 1,10,000/- | 23-5-98 | |

| | | | | |
|----|---|--------------|----------|-------------------|
| 29 | Single blower | 1,850/- | 2-6-98 | |
| 30 | LCD Multi-media projector (SANYO) | } 3,80,000/- | 11-12-98 | |
| 31 | Wall mounted screen | | | |
| 32 | Laser pointers | | | |
| 33 | Door closures and door locks | 12,000/- | 13-2-99 | |
| 34 | Solar dryer | 11,050/- | 10-3-99 | |
| 35 | Elico pH meter with electrodes | 9,005/- | 17-3-99 | |
| 36 | PELICAN Soxplus solvent extraction system | 1,71,970/- | 23-3-99 | To be written off |
| 37 | Sensory evaluation lab cubicles, booths, work tables, stools. | 37,922/- | 23-3-99 | |
| 38 | Spiral binding machine | 6,380/- | 25-6-99 | |
| 39 | Colour Monitor | 19,850/- | 8-8-2000 | Needs upgradation |

III. BOOKS PURCHASED:

- ♣ Encyclopedia volumes 1 - 4
- ♣ Life Span Nutrition
- ♣ Nutrient – Gene Interaction in Cancer
- ♣ Nutrient – Drug interaction
- ♣ Nutritional aspects and clinical management of chronic diseases
- ♣ Nutrition Science
- ♣ Introduction to the Chemical Analysis of Foods
- ♣ Hand Book of Food & Nutrition
- ♣ Dietetics
- ♣ Principles of Food Chemistry

IV. 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.

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 for State Agricultural Universities since 1995. Organizing advanced training programmes (21 days duration) is one of the major functions of this centre. Till today 18 training programmes on different aspects of Food and Nutrition have been conducted. During the reporting year i.e. 2007 – 08, one training programme entitled “**Food & Agribusiness Management – Opportunities and Challenges**”) at Centre of Advanced Studies, PGRC, Rajendranagar (19-9-2007 to 9-10-2007) was organized. The details of the programme are as follows:

XVIII TRAINING PROGRAMME ON FOOD & AGRIBUSINESS MANAGEMENT - OPPORTUNITIES & CHALLENGES (19th September 2007 to 9th October 2007)

Agro industries which help in processing agricultural products and converting them to edible and other usable forms, though considered to be an extended arm of agriculture have not received as much attention as agriculture in India. Agribusiness is the chain of industries directly and indirectly involved in production, transformation and provision of food, fibre, chemicals and pharmaceuticals substrates. Value addition initiatives are also part of agribusiness. Modern farming is much like any other manufacturing business where farmers buy raw materials, apply their tools and machinery and knowledge and produce finished goods for the consumers. The changing times have brought a vast change in the industry. When Winston Churchill said that today's agriculture is not like yesterday's agriculture and tomorrow's agriculture cannot be like today's agriculture, he was emphasizing the change and improvement in the farming industry.

Globalization and rapid transformation in lifestyles of people offers great opportunities and potential for development of agribusiness and food industries are the major players in this area.

The share of food away from home in total expenditure on food has increased from less than 10% in the last century to nearly 50% by the beginning of the 21st century. People are moving away from raw food grains and are demanding more and more processed and convenience foods. The increase in per capita income, particularly in the middle class segment, and changing food habits of India's population as a whole, have opened up avenues for food processing industries. Ready-to-eat foods, beverages, processed and frozen fruit and vegetable products, marine, dairy and meat products among others have gained significance in the recent past. Quality and health consciousness of the consumer have forced the industry to adopt state of the art technology in the production line. This has created retail and wholesale level business opportunities.

It is estimated that there are 300 million upper and middle class consumers of processed and packaged food in the country and another 200 million are likely to be added by 2010 and this would add to the expectations from the food processing industries. Realizing the importance of food processing and agribusiness sector, the Government of India has formulated several policies and plans and the Cabinet of India has approved an integrated plan to promote the food processing sector and boost the country's agribusiness potential through initiating 500 food parks to meet the demand, not only, of the domestic market but with a focus on exports as well. As with all other business ventures, there are some constraints and challenges for any food business. However, these are not insurmountable and with support from the government, through introduction of favorable policies, an agribusiness can be made viable. Thus, considering the opportunities that this sector offers and the impact that agribusiness has on economy, the present training programme on ***Food & Agribusiness Management - Opportunities and Challenges*** has been planned for the benefit of the faculty members of Foods and Nutrition, Food technology, food science, agriculture and other allied areas, working in State Agricultural Universities.. The technical programme of the training included aspects related to production, processing, distribution of foods and also the service institutions which will provide the funding for such activities. The training programme on ***Food & Agribusiness Management – Emerging opportunities & challenges*** is the eighteenth programme to be conducted by the Centre of Advanced Studies, Post-graduate & Research Centre, ANGRAU from 19th September to 9th October, 2007. The training programme has been planned with the following objectives:

- to fill in gaps in the knowledge and experience of faculty in this area and prepare them to master the professional role in opening new avenues for the food and agribusiness industry in the global market
- to explore viable, need based exiting need based existing food technologies available

- to assess the prospects and challenges of the available technologies for industrial application.
- to develop and strengthen linkages various support institutions with the agribusiness industry

Since food processing sector establishes a vital linkage and synergy between the two pillars of economy –industry and agriculture. The growth of this industry will bring immense benefits to the economy, raising agricultural yields, enhancing productivity, creating employment and raising life- standards of large number of people across the country, especially those in rural areas. Apart from development of technologies and training it is also necessary to attend to other aspects which appreciably matter in establishment of an agribusiness and its subsequent continuance.

PROFILE OF PARTICIPANTS

A total of six participants attended the training programme. The participants were from teaching and extension faculties of Kerala State Agricultural University, University of Agricultural Sciences and Acharya N.G. Ranga Agricultural University.

LIST OF PARTICIPANTS



| Sno | Name & Designation | Address |
|------------|---|---|
| 1. | Dr M.L. Revanna Asst. Professor (S.G) | University of Agricultural Sciences,Hebbal, Bangalore Mobile : 9449749241 |
| 2. | Ms.T. Supraja Scientist (H.Sc) | DAATT Centre,AMC premises, , Guntur Dist. Andhra Pradesh Supraja29@rediffmail.com Mobile : 9440753325 |
| 3. | Dr. S. Sucharitha Devi) Scientist (H.Sc) | DAATT Centre,AMC premises, Kattamanchi, Chittoor Dist. Andhra Pradesh Mobile : 9440166830 |
| 4. | Dr. O. Sarada Subject Matter Specialist, (Agric) | Krishi Vigyan Kendra,Undi,Andhra Pradesh Mobile : 9440071373 |
| 5. | Mrs. Seeja Thomachen Subject matter Specialist(HSc) | Krishi Vigyan Kendra, Malapuram, KCAET Campus, Tavanur - 679573 Seejathomachen@gmail.com |
| 6. | Mrs. K. Mamatha Training Associate(Hort.) | Krishi Vigyan Kendra, Amadalavalasa, Andhra Pradesh Mobile : 9441089174 |

HOST FACULTY



COURSE DIRECTOR

Dr.S.Sumathi

Professor-cum-Director, CAS

COURSE COORDINATORS

Dr Kamini Devi.
Professor

Dr. T.V.Hymavathi
Associate Professor

Staff-Department of Foods and Nutrition

| | |
|----------------------------|-------------------------------------|
| Dr.P.Rajyalakshmi | Dean of Home Science |
| Dr.S.Sumathi | Professor & Director CAS |
| Dr.M.Usha Rani | Professor |
| Dr.K.Krishna Kumari | Professor |
| Dr.Kamini Devi | Professor |
| Dr.V.Vijayalakshmi | Professor |
| Dr.N.Lakshmi Devi | Professor |
| Dr.K.Uma Maheswari | Professor |
| Dr.S.Shobha | Associate Professor |
| Dr.T.V.Hymavathi | Associate Professor |

GUEST FACULTY

ANGRAU

| | |
|---------------------------|---|
| Dr. A.Janaiah | Professor & Head, School of Agribusiness |
| Dr. M.Devender Reddy | Professor & Head, Dept. of Water Technology |
| Dr.A.Sharada Devi | Professor & Head, Dept. of Apparel & Textiles |
| Dr.G. Satyanarayana Reddy | Senior Scientist & Head, Fruit Research Station, Sangareddy |
| Dr.Seema | Associate Professor, School of Agribusiness |
| Dr.G.P.Sunandini | Deputy Director, Research |
| Dr. Anurag Chaturvedi | Professor, Dept. of Foods & Nutrition, Principal Scientist, Food quality Lab |
| Dr.K.Manorama | Associate Professor, Dept.of Agric.Biotechnology |

S.V.College of Veterinary Science, Hyderabad

| | |
|---------------------|------------------------------|
| Dr. K. Kondal Reddy | Professor, Department of LPT |
|---------------------|------------------------------|

National Institute of Small Industry Extension Training (NIMSME)

| | |
|----------------------|--|
| Mr. P. Udaya Shankar | Director,centre for Industrial Credit& finanacial Services NIMSME |
|----------------------|--|

ICAR Institutes

| | |
|------------------|--|
| Dr. B.D.Tripathi | Principal Coordinator (PGPABM), MANAGE |
|------------------|--|

International Organizations

| | |
|----------------|-------------------------------------|
| Dr.Suresh Babu | IFPRI, Program Coordinator for Asia |
|----------------|-------------------------------------|

Food & Allied Institutes

| | |
|---------------------|--|
| Dr. K Bhaskarachary | Dy. Director, National Institute of Nutrition, Hyderabad |
| Mr T.Sudhakar | Manager, Agricultural and Processed Food Export Development Authority,Hyderabad |
| Mr.Prasad | Sresta Natural Bioproducts Pvt. Ltd. Hyderabad |
| Mr. V .C. Mouly | Vice-principal MRM institute of management,Hyderabad |

Consultants

| | |
|-----------------|--------------------------------------|
| Dr K. P. Shenoy | Agribusiness Consultant, Hyderabad |
| Mr.C. Gireesan | Consultant, TUV-SUD,South Asia, Ltd. |

FOCUS AREAS COVERED UNDER THE COURSE

The technical sessions of the training were planned to include the following focus areas

- Agribusiness Development
- Promotional factors for Agribusiness
- Opportunities for agribusiness in food processing sector
- Strategic and business planning, feasibility and risk analysis
- Financial management in agribusiness
- Marketing in food and agribusiness
- Support mechanisms for food and agribusiness
- Preparation of project proposals

The class room schedule consisted of lectures which extensively covered the above aspects .

1. Agribusiness – An Overview

Agribusiness which is a complex system of input sector production sector, processing manufacturing sector and transport sector is in fact a social institution which involves a large segment of people like the producers of raw materials, farm workers, financiers and government consumers, suppliers, distributors at different levels. Role of agribusiness in economic growth of the country, and the several opportunities available in this business were covered in detail.

2. Agribusiness – Promotional Factors

Agribusiness establishes a vital linkage and synergy between the two pillars of the economy— Industry and Agriculture. Agro industries help in processing agricultural products and converting them to edible and other usable forms. The role of several factors which are vital for the promotion of the food and agribusiness sector such as marketing in food and agribusiness, financial management, etc have in covered under this aspect. Enhancing agricultural productivity through food enterprises, Present status and future opportunities for agro based food industries in India- Role of food enterprises in increasing horticultural production- Development of Dairy enterprises, Potential for cereals for food industries etc were dealt.

3. Agribusiness – Opportunities in Food Processing Sector

The agribusiness and food industry are increasingly dependent on technological developments and on management knowledge in order to comply with the wide range of continuously changing customer and consumer demands. Technologies need to be developed for translating into viable agribusiness for which the scientific community should rise up to the demands of the industry. Topics such as extrusion technology, technology of new health foods, membrane technology,

organic farming, soybean processing etc were covered in this area. Natural dyes obtained from plant sources as a new potential agribusiness was also included for the benefit of the participants.

4. Future Opportunities and Challenges

Quality has become of utmost importance to society. The most drastic change in quality thinking is the change from production-oriented to customer-oriented concepts. Consumers have become more conscious of product quality and their choices are increasingly being determined by requirements on taste, health, food safety and possibilities for variation focusing on the prevention of health hazards. Providing consumers with a wide variety of foods designed to meet their needs as well as their demands is also a high priority. Newer technologies thus, have to be generated and opportunities need to be exploited to provide the customer required quality products. To understand these opportunities and challenges topics like women in agribusiness, food processing and agribusiness, personalized nutrition- a challenge for food industries etc were covered.

5. Related Topics

Apart from the above mentioned areas, related aspects which are useful to a successful and sustained food and agribusiness such as financial management in agribusiness and export opportunities and services for food and agribusiness were also included.

Sessions on development of project profiles were included towards the end of the programme. The participants were divided in to three groups and each group had to prepare project proposals for establishment of viable food and agribusiness based on the theoretical aspects covered in the training. The project proposals were then presented to the entire group followed by a thought provoking discussion. The project proposals prepared incorporating the various aspects of food and agribusiness management and presented were:

→Mushroom cultivation and processing

→Flavoured milk production

→Cultivation of horticultural, medicinal, ornamental and high value forest timber Seedlings

Details of the programme schedule is given in Appendix I

RESOURCE PERSONS

Experts from institutes like National Institute of Agricultural Extension Management (MANAGE), National Institute of Small Industry Extension Training (NISIET), Agricultural Products Export Development Authority (APEDA), National Institute of Nutrition, S.V.Veterinary University, Agriculture and Home Science faculty members from ANGRAU have enlightened the participants with the current knowledge on several aspects related to the training.

PROGRAMME SCHEDULE

FOOD AND AGRIBUSINESS MANAGEMENT – OPPORTUNITIES AND CHALLENGES

19th SEPTEMBER – 9th OCTOBER 2007

| | Date | Topic | Time | Speaker |
|---|------------------------|--|-----------------|----------------------|
| 1 | 19-9-07 WED | Registration | 9.30-11.00 AM | Coordinators |
| | | Pre-evaluation & Orientation | 11.30-1.00 AM | |
| | | About Centre of Advanced Studies in Foods and Nutrition | 2.00-3.00 PM | Director |
| I. AGRIBUSINESS – AN OVER VIEW | | | | |
| 2 | 20-9-07 THU | Global scenario of Agribusiness-challenges & opportunities for India | 9.30 -11.00AM | Dr.B.D. Tripathi |
| | | Agriculture challenges in India- can economic growth translate into food & nutrition security? | 11.30-1.00 PM | Dr.Suresh Babu IFPRI |
| | | Agribusiness for economic development | 2.00 -3.30 PM | Dr.A. Janaiah |
| 3 | 21-9-07 FRI | Indian food industry –An Overview | 9.30-11.00 AM | Dr.T.V.Hymavathi, |
| | | International standards in food & agriculture industry | 11.30 -1.00 PM | Mr. Giresan |
| | | Diversification to high value crops in India for agribusiness | 2.00 - 3.30 PM | Dr.M.D.Reddy |
| II AGRIBUSINESS -- PROMOTIONAL FACTORS | | | | |
| 4 | 22-9-07 SAT | Life Style changes and Agribusiness opportunities | 9.30-11.00 AM | Dr. K. Kamini Devi |
| | | Food retail management | 11.30-1.00 AM | Dr K.Manorama |
| | | Role of marketing in food and agribusiness | 2-.00 - 3.30 PM | Mr. K.P.Shenoy |

| | | | | |
|---|------------------------|--|---------------|----------------------------|
| 5 | 24-9-07 MON | Farmer-Market linkages in agribusiness | 9-30-11.00 AM | Dr.Seema |
| | | Food labeling for agribusiness | 11-30-1.00 PM | Dr.Bhaskarachary |
| | | Implications of WTO on agribusiness in India | 2.00 -3.30 PM | Dr.G.P.Sunandini |
| III . AGRIBUSINESS - OPPORTUNITIES IN FOOD PROCESSING SECTOR | | | | |
| 6 | 26-9-07 WED | Extrusion processing-opportunities for agribusiness | 9-30-11.00 AM | Dr.P.Rajyalakhmi, |
| | | Health foods- an opportunity for agribusiness | 11-30-1.00 PM | Dr.N..Lakshmi Devi |
| | | Tomato processing technology for agribusiness (demonstration) | 2-00 –3.30 PM | Dr.V. Vijayalakshmi |
| 7 | 27-9-07 THU | Application of membrane separation technology in food processing | 9-30-11.00 AM | Dr K.Kondal Reddy |
| | | Soya bean processing | 11-30-1.00 PM | Dr.Krishna Kumari |
| | | Sorghum processing for food and agribusiness (demonstration) | 2.00-3.30 PM | Dr.Kamini Devi |
| 8 | 28-9-07 FRI | Micro propagation – an opportunity for Agribusiness | 9-30-11.00 AM | Dr. G. Satyanarayana Reddy |
| | | Organic farming- opportunities in agribusiness | 11-30-1.00 PM | Mr. Prasad |
| | | Visit to Organic food outlet –Sresta | 2.00-.3.30 PM | Dr.S.Shobha |
| 9 | 29-9-07 SAT | Visit to Waffle Cone factory | 9-30-11.00 AM | Dr.K. Kamini Devi |
| | | Natural dyes –An opportunity for agribusiness | 11.30-1.00 PM | Dr.A.Sarada Devi |
| | | Extraction of natural dyes (demonstration) | 2.00-3.30 PM | Dr.A.Sharada Devi |
| 10 | 1-10-07 MON | Post-harvest processing-scope for agribusiness | 9.30-11.00 AM | Dr.Anurag Chaturvedi |
| | | Visit to Irradiation unit | 11-30-1.00 AM | Dr.Anurag Chaturvedi |
| | | Identification of feasible business plan | 2.00- 3.30 PM | Mr. V.C. Mouly |

| IV. FUTURE OPPORTUNITIES AND CHALLENGES | | | | |
|--|------------------------|---|-----------------|---------------------|
| 11 | 3-10-07 WED | Women in agribusiness –schemes and programmes | 9-30-11.00 AM | Dr.M.Usha Rani |
| | | Food processing as an opportunity for agribusiness in India | 11-30-1.00 AM | Dr.K.Umamaheswari |
| | | Risk analysis for Food and agricultural trade | 2.00- 5.00 PM | Dr. T. V. Hymavathi |
| 12 | 4-10-07 THU | Personalized nutrition- A challenge for food industries | 9-30-11.00 AM | Dr. S. Sumathi |
| | | Visit to Hyderabad Foods | 11.30- 5.00 PM | Coordinators |
| V. RELATED TOPICS | | | | |
| 13 | 5-10-07 FRI | Financial management in agribusiness | 9-30-11.00 AM | Mr.P.Udaya Shankar |
| | | Agribusiness project planning | 11.30-1.00 PM | Participants |
| 14 | 6-10-07 SAT | Preparation of project proposals | 9.30 – 3.30. PM | Participants |
| 15 | 8-10-07 TUE | Support agencies for agribusiness | 9-30-11.00 AM | Mr. T. Sudhakar |
| | | Project presentations | 11.30 – 3.30PM | Participants |
| 16 | 9.10.07 WED | Post evaluation | 9-30-11.00 AM | Coordinators |
| | | Valedictory function | 11-30-1.00 AM | |
| | | LUNCH | 2-.00-3.30 PM | |

IMPLEMENTATION OF THE PROGRAMME

The training programme commenced on 19th September, 2007 with registration followed by pre-evaluation of participants' knowledge. The first session after registration was an overview on the global scenario of agribusiness in India and the various challenges confronting this business industry. This was followed by sessions dealing with the impact of food and agribusiness on economic development. Several other topics such as diversification in cropping system, international standards in agribusiness etc were dealt under this theme. Each session was followed by active interaction by the participants.

Other themes such as agribusiness – promotional factors, opportunities in food processing sector, future opportunities and challenges and other related topics were handled by eminent scientists and people proficient in their field. Consultants were also invited as resource persons in the programme to take advantage of their vast knowledge in their respective areas.

Field visits were also included in the schedule to give first hand information to the participants regarding establishment, management, marketing and other relevant information on successful food and agribusiness such as spice industry, ice cream cone industry, extrusion unit, integrated snack processing unit etc. Besides being informative, the field visits were very much enjoyed by the participants.

Session on planning and presentation of project proposals for setting up of small and medium agribusiness unit was also included. Each session was evaluated by the participants for its relevance, adequacy of content, interaction etc.

KNOWLEDGE PROFILE OF PARTICIPANTS

At the beginning of the training programme, the preliminary knowledge of the participants regarding various concepts of food and agribusiness development and management. This was conducted using a schedule, as a means to evaluate their initial knowledge and knowledge gained during the programme. The results of the tests are given in Table 1 and Fig. 1.

Table 1 : Percentage gain in knowledge of participants before and after training (n = 10)

| Scores | < 20 | 20-40 | 40-60 | 60-80 | > 80 |
|---------------|----------------|--------------|--------------|--------------|----------------|
| Before | 33 | 50 | 17 | - | - |
| After | - | - | - | 83 | 17 |

COURSE EVALUATION BY PARTICIPANTS

The sessions included in the schedule and the technical input in each session were evaluated by the participants using a structured proforma (Appendix III). Each session / topic was assessed in terms of :

- Relevancy for application.
- Adequacy of the information.
- Use of appropriate AV aids
- Information transfer

Participants were also asked to give their rating for the technical lectures as Fair, Good and Excellent. Analysis of data revealed that participants felt that a majority (95 %) of the sessions were relevant for application, had vast content coverage and delivery of the content was good. Among the sessions, 41% were rated as excellent, 54 % as good and only 5 % as fair. Group discussions and interactions after each session were felt to be satisfactory and fruitful.



REGISTRATION





HOST FACULTY HANDLING SESSIONS





GUEST FACULTY HANDLING SESSIONS



FIELD VISITS



FIELD VISITS

VALEDICTORY FUNCTION

The valedictory function of the training programme was arranged on 9th October 2007. Dr. P. Rajyalakshmi, Dean of Faculty of Home Science, ANGRAU, was the chief guest and also presided over the function.

Dr.S.Sumathi Prof. & Head and Director Centre of Advanced Studies welcomed the gathering and presented a brief report on activities of the Centre of Advanced Studies.

Dr. Kamini Devi, Course Coordinator presented a report of the training programme on 'Food & Agribusiness Management – Emerging opportunities and challenges.' The participants expressed their views about the content and conduct of the programme.

The Dean of Home Science appreciated the coordinators in selecting the theme of the training programme. She highlighted the importance of this type of training, as food and agribusiness have great potential in the present day context. The demand for processed foods is increasing and there are vast opportunities for export of agro based processed foods and India is a major player in this field. She emphasized that the participants of the programme should in turn serve the community by motivating and guiding the farming community in establishment of need based agribusiness as income generating units and contribute to the nation's GDP. Later she distributed course completion certificates, training manuals and CDs of resource material to the participants.

Dr. T.V. Hymavathi, Course Coordinator of the programme proposed the vote of thanks.

Appendix III
EVALUATION PROFORMA
Part - A

Training programme on *“Food & Agribusiness management -Opportunities Challenges” held from 19-9-2007 to 9-10-2007*

| S. No. | Date | Title of the topic | Speaker | Relevancy for application | Adequacy of the information | A.V. Aids used | Information | Dis-cussion | Overall rating of the lecture |
|--------|------|--------------------|---------|---------------------------------|-----------------------------|-------------------------------|---------------------|-----------------------|---------------------------------------|
| | | | | Teaching / Research / Extension | Sufficient / not sufficient | Appropriate / Not appropriate | New / Already known | Adequate / Inadequate | Fair (1) Good (2) Excellent (3) |
| 1. | | | | | | | | | |
| 2. | | | | | | | | | |
| 3. | | | | | | | | | |
| 4. | | | | | | | | | |
| 5. | | | | | | | | | |
| 6. | | | | | | | | | |
| 6. | | | | | | | | | |
| 7. | | | | | | | | | |
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| 9. | | | | | | | | | |
| 10. | | | | | | | | | |
| 11. | | | | | | | | | |
| 12. | | | | | | | | | |
| 13. | | | | | | | | | |
| 14. | | | | | | | | | |
| 15. | | | | | | | | | |

(Please do not write your name)

Part – B

1. What other topics you would like to have included in the present training ?
a) b)
c) d)
2. What topics in the present programme you would like to delete ?
a) b)
c) d)
3. Was there enough opportunity for discussions during the session? ()
a) More than enough b) Just as equal c) Should have been more
4. Do you think that this short course has helped you have better skills and () knowledge as a teacher ?
a) Yes, to very great extent b) To some extent c) Not much
5. Do you find the social atmosphere of the short course congenial and () enjoyable ?
a) Excellent b) Quite good c) All right d) definitely not
6. What is your opinion on trainer – trainee relationship during the period? ()
a. Very good b. Average c. Needs improvement
7. In your opinion, what should be the duration of such short courses (effective days) ?
8. What should be in your opinion the frequency of organizing such () training programme ?
a) Twice in one year b) Once in one year
c) Once in two years d) Others (please specify)
9. Were you satisfied with the practical content of the programme ?
a) Highly satisfied b) Satisfied c) Not satisfied
10. What are your suggestions to improve the practical content (list the suggestions)
a) b)
c) d)
11. Was / were the field visit(s) satisfying and educative ? ()
a) Highly satisfying and educative b) Some what educative
c) Not at all educative
12. Any more suggestions?

OBJECTIVE II

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

UG PROGRAMME:

As per the ICAR's IVth Dean's Committee recommendations, UG Curriculum was revised and being implemented from the year 2007-2008.

Rural Home Science Work Experience Programme (RHWEPP):

RHWEPP for the year 2006-07 was conducted in the village Pedda Ummenthal of Pudur mandal, Rangareddy District. Sixteen girls specializing in Nutrition and Dietetics of Department of Foods and Nutrition were placed in the village for a period of 6 weeks. Initially during the RHWEPP students developed rapport with the villagers and got the right perspective of rural life, explored the resources, understood the potential problems and constraints of the community.

The students were divided into 5 groups and were allotted different projects to be carried out in 6 weeks. The various projects given to them were:

- Morbidity and mortality pattern in the village
- Assessment of nutritional status of vulnerable groups
- Nutrition education to women and adolescent girls
- Fruit and vegetable preservation with available foods
- Establishing diet counseling centre in the village

The students collected the morbidity and mortality pattern from the village and found that 15% of the villagers suffered from ulcers and 2% had cancer of stomach. The reason for suffering from ulcers were their habit of eating lot of chillies in their diet and drinking alcohol. Some of the children (10%) had diarrhea. Two persons died of cancer.

Assessment of Nutritional status showed that about 35% of women and 40% of adolescent girls suffered from anaemia. About 5-8% of preschool children were moderately malnourished. Therefore there was a need for nutrition education and demonstration of nutritious recipes to the villagers

Nutrition education was given to women and adolescent girls on the importance of balanced diet, cooking practices to minimize nutrient losses, importance of intake of fruits and vegetables as they had meager intake of vegetables and fruits, hygienic way of cooking food, personal hygiene, menstrual hygiene etc. the students also demonstrated preparation of nutritious

recipes like khichidi, pongal, palak rice, missi roti, khichidi and upma using jowar rawa, use of soy bean etc.

Preservation of fruits and vegetables was taught to the village women and adolescents. Demonstration of preparing tomato, gogu, red chilli lime pickles, preparation of squashes, jams were done. Preparation of spice mixtures like garam masala, sambar powder, rasam powder, curry leaf powder, vadiyams etc were demonstrated. Some of the village women came forward to prepare the products on a large scale and sell in the shops.

The students established a diet counseling center in the village centre at a veterinary hospital. The villagers attended the counseling centers for problems like hypertension, edema in feet, under nutrition and anemia for which the students counseled them. One of the villagers was mentioning about how he could lower his blood pressure because of diet counseling at the valedictory function. Multi vitamin tablets were got from the primary health centre and distributed to the needy persons.

Apart from the above projects the students celebrated different days like diabetic day, world heart day, nutrition week, adolescent day, geriatric day, cancer day etc., and conducted exhibitions in the village centre so that all villagers visited.

PRACTICAL MANUALS DEVELOPED

| Name | Course No. | Title |
|--|-------------------|--------------------------------|
| Dr. V. Vijayalakshmi & Dr. S. Shobha | FDNT 211 | Normal & Therapeutic Nutrition |
| Dr. K. Kamini Devi | FDNT 315 | Bakery & Confectionery |

Experiential Learning:

An amount of Rs. 60 lakhs was sanctioned by ICAR for establishing the scheme on Experiential Learning- Setting up of facilities for hands on training on preserved fruit and vegetables products unit for the year 2007-08. Under this scheme the following equipment were purchased.

List of Equipment

| S.No. | Name of Equipment | Cost |
|-------|--|--------------------|
| 1 | Auto clave | 76,388 |
| 2 | Steam generator Accessories (softener) | 1,81,500 |
| 3 | Dicing and cubing machine | 2,70,000 |
| 4 | Tray drier | 1,11,280 |
| 5 | Hydraulic juice press Accessories | 1,49,715 |
| 6 | Hammer mill | 1,84,275 |
| 7 | Juice Pasteurizer | 79,853 |
| 8 | Colour measurement system. With Accessories | 4,64,000 67,500 |
| 9 | Steam Jacketed kettle | 91,125 |
| 10 | R.O. Plant | 1,11,800 |
| 11 | Spectrophotometer (Model: UV 2601 Double beam | 2,18,000 |
| 12 | Horizontal Laminar Flow Chamber with U V Light | 51,896 |
| 13 | Working table | 90,000 |
| 14 | Pulper Food balance | 45,956 |
| 15 | Sugar Refracto metre | 30,696 |
| 16 | Electronic weighing balance | 44,831 |
| 17 | Juice Extractive Machie | 26,933 |
| 18 | Lug capping Machine | 25,515 |
| 19 | Sterilization tank | 30,240 |
| 20 | Storage of mixing tank | 49,140 |
| 21 | IQ-150 PH meter | 48,000 |

| | | |
|----|-----------------------------------|--------|
| 22 | Humidifier | 32,000 |
| 23 | Accessories equipment | 44,400 |
| 24 | Scientific & Laboratory equipment | 21,500 |

P.G PROGRAMME

Departmental Research

A research project entitled “Development & Evaluation of Millet based Therapeutic Foods for the Dietary Management of Diabetes Mellitus” was sanctioned by the university under state plan with a budgetary outlay of Rs 9.96 lakhs for the financial year 2007-2008.

Diabetes is becoming a problem throughout the world and is estimated to affect more than 350 million people by 2025. Diet or Nutrition has been viewed as the cornerstone of therapy for the management of diabetes. Extensive clinical and experimental studies have shown that diets rich in high carbohydrate and high fibre are suitable for Diabetics.

Millets are rich in fibre and starch. Nutritional quality and the product profile of the millets are comparable to other popular cereals. However, non-availability of processed products similar to rice and wheat is the primary reason for their consumption being confined to traditional consumers. In view of this, an attempt was made to develop instant breakfast mixes with three grains (sorghum, maize, foxtail millet) and to assess their effect on hyperglycemia in selected NIDDM subjects.

Materials & Methods

Sorghum, Maize and Foxtail millet were procured from research stations of ANGRAU. These grains were cleaned and autoclaved for 1hr at 15lbs pressure and cooled at room temperature and stored overnight in refrigerator at 4°C. This cycle was repeated for three times for effective formation of Resistant Starch. After 3 cycles, the grains were dried and milled into flour and semolina for product development. The flour and semolina of processed millets were utilized for development of instant idli, roti & upma mixes by incorporating at a maximum level and developed products were subjected for sensory evaluation by a panel of judges in comparison with traditional cereal products and unprocessed millet products.

Six NIDDM subjects (all females in the age range of 35-50yrs) with body weights ranging from 50-75kgs were selected for the study. Effect of feeding the breakfast items prepared with the developed instant mixes on hyperglycemia of the subjects was assessed independently with each instant mix (control, processed and unprocessed samples). After collecting fasting blood samples,

these test foods were fed to diabetic subjects & blood samples were collected at ½ , 1, 11/2hr intervals & glycemic index was calculated and compared with the values obtained after conducting the similar study by feeding the control recipes.

RESULTS

The results suggest that processed millet products were well accepted than unprocessed millet products. Among all the products, roti and upma obtained highest scores.

Processed millet products showed a significantly ($P < 0.05$) lower plasma glucose levels when compared with unprocessed millet products and control products. This decrease could be due to changes in the starch structure and gelatinization properties during autoclaving and cooling of the grains .No significant difference was observed between control and unprocessed millet products

Among the processed millet products, Idly showed lower plasma glucose levels followed by roti and upma. Among the three processed grains the hypoglycemic effect of maize products was significantly higher followed by sorghum and foxtail millet products.

Equipment purchased:

The following equipment were purchased under this project.

| S. No | Name | Cost |
|-------|-------------------|---------------|
| 1 | Dehuller | Rs. 35,000/- |
| 2 | Hammer mill | Rs.39,816/- |
| 3 | Tray drier | Rs.1,11,280/- |
| 4 | Packaging machine | Rs.1,92,178/- |
| 5 | Fibre tech | Rs.2,44,400/- |

Staff Deputation Abroad

A. Dr.S.Sumathi, Professor & Head & Dr.T.V.Hymavathi, Associate Professor were deputed to attend a program on Agribusiness Management – Accessing Global Markets organized by Sathguru consultants & Cornell University, Ithaca. U.S.A .The programme was organized in two modules. India module from 15th to 20th April 2007 at Cochin and US module from 2nd to 9th May at Cornell University Ithaca..

The programme was aimed to

- Enhance strategic capabilities of the private and public sector with exposure to global and domestic trends.
- Introduce and analyze factors contributing to the integration of the food chain and its relevance to various facets of the Agriculture and Food industry.
- Enhance leadership skills and organizational competitiveness through exposure to novel ideas
- Gain better understanding of the changing role of policy planners, Non-Governmental Organizations (NGO) and publicly run enterprises in shaping the integrated food chain.

.India Module

Topics covered under India Module include an over view of Global Food Systems, different Food Processing Technologies used in the modern food industry, various Grades, Standards & Bio Safety Regulations required for production and export of processed foods for global market. In addition to these topics several important aspects like Food Marketing, Food Retail Management, Supply chain management & Food Brand Promotion were discussed with relevant case study presentations. Crop Yield Improvement through Biotechnology was also dealt in detail with special reference to Bt cotton including the details involved in getting the Governments approval for its adoption in India. A case study with respect to implications of usage of Bt cotton in the country was discussed and the CEO of Monsanto was invited for the discussion.

US module

The important topics covered under this module include Intellectual property Rights, Technology Transfer & Licensing system, Issues on the microfinance, farm credit management in relation to the various agricultural systems, changing global trends in extension with relevance to emerging agricultural systems. In addition to these topics, the global food and nutrition issues in relation to the food production was also dealt. Development of composite material from plant & animal sources was another important topic.

In this module major emphasis was given for the visits to food industries, laboratory, and farms including university library. Some of the visits at Cornell University include food technology and milk processing laboratories, Apple Orchard & a unit of Controlled atmospheric storage of Apples. In addition to the visits at the university, other visits are made to Lake Ontario Apple farm owned by one Cornell alumni, O-At-KA (Milk industry) at Batavia, Geneva experimental station., Lambs farm at Oakfield, Organic farming fields, Wegmans (Retail food market) and Wal-Mart (retail

market).The programme concluded with the group presentations on given topics and issue of course certificates to the participants.

B. Dr. N. Lakshmi Devi, Professor & Dr. S. Shobha, Associate Professor participated in the collaborative research project on “Development of Sorghum based Nutritious snacks using extrusion technology” along with Dr. Sajid Alavi at Department of Grain Science & Industry at Kansas State University, Manhattan, USA from March to May 2008.

STUDENTS ADMISSIONS IN THE YEAR 2007-08

| Name of the Programme | No. of Admissions | |
|-----------------------------------|-------------------|------|
| | Open | ICAR |
| M. Sc. Nutrition & Dietetics | 4 | 2 |
| M. Sc. Food Science & Technology | 1 | - |
| PG Diploma in Nutritional Therapy | 9 | - |
| Ph. D. Foods & Nutrition | 1 | - |

1. Guest lectures to P.G. students & staff:

| S.No. | Resource Person | Topic | Period |
|--------------|--|---|-----------------------------|
| 1 | Dr. J. M. Reddy Retired professor & Head Dept. of Physiology S.V.VeterinaryUniversity., Rajendranagar | Physiology of human vital organs and its functions (10) | Nov, 2007 & Dec, 2007 |
| 2 | Dr. Kalakumar Associate Professor, Department of Pharmacology S.V.VeterinaryUniversity., Rajendranagar | Pharmacokinetics & Pharmacodynamics | Dec, 2007 |

OBJECTIVE III

To support the Government in training the personnel by disseminating nutrition information to personnel of different sectors.

TRAINING PROGRAMME AND CERTIFICATE COURSES CONDUCTED

To encourage self-employment and income generating activities among grass root level workers, farmwomen and house wives, training programmes on Foods and Nutrition and skill oriented certificate courses were organized by Centre of Advanced Studies in Foods and Nutrition

1. Training Programmes and Certificate courses organized (1-4-2007 to 31-3-2008)

| S.No. | Coordinators | Name of the programme | Duration | | No. of participants |
|-------|----------------------------------|---|------------|----------|---------------------|
| | | | From | To | |
| 1 | Dr. N. Lakshmi Devi | 3 days Practical Training programme on “ Better evolving practices and methods for retention of nutrients for SHG members of IKP. Given lecture cum demonstration on better cooking methods. | 29.05.2007 | 31.05.07 | 30 |
| 2 | Dr. Kamini Devi Dr. S. Shobha | Microwave cooking | 18.5.07 | 19.5.07 | 6 |
| 3 | Dr. K. Uma Devi Dr. S. Shobha | Slimming diets | 15.5.07 | 19.5.07 | 10 |
| 4 | Dr. K. Uma Devi Dr. S. Shobha | Slimming diets | 23.5.07 | 18.5.07 | 11 |
| 5 | Dr. K. Uma Maheswari | National Food Policy Capacity Strengthening Programme of Food & Agricultural Organization of United Nations, Bangladesh course in collaboration with School o Agribusiness Management ANGRAU, Hyd on ‘ Income, Price and Nutrition’ | 24-3-08 | 4-4-08 | 8 |

2. Staff as Resource persons: (outside organization):

| Name | Title of the programme | Topic | Date | Organisation / venue |
|--|---|---|---------------------|---|
| Dr. Kamini Devi | Stakeholder's workshop under NAIP | Scope of sorghum enterprises for income generation | 02.07.07 & 03.07.07 | National Research Centre for Sorghum, Rajendranagar, Hyderabad. |
| Dr. S. Shobha | OM-CAP Trainer's training | 'Soft skills for semi skilled & unskilled workers going abroad | 06.07.07 | ITI premises, Vijayanagar colony, Hyderabad. |
| Dr. Kamini Devi | Training Programme on 'Post harvest technology of food grains.' | 'Pulses-their constituents, and milling procedures' | 10-8-07 | Indian Grain storage Management & Research Institute, Rajendranagar |
| Dr. K. Uma Devi | ZREAC meeting at Nandyal | Opportunities for woman for setting up enterprises for income generation. | 25.08.07 | RARS, Nandyal |
| Dr. V. Vijayalakshmi | ZREAC meeting at Nizamabad | Opportunities for woman for setting up enterprises for income generation. | 25.08.07 | RARS, Rudrur |
| Dr. K. Uma Maheswari | Nutrition week celebrations | Management of micronutrient malnutrition through horticultural Interventions | 1-9-07 | Department of Women Welfare and Child Development and Food & Nutrition Board, Hyderabad |
| Dr. S. Shobha | Seminar on 'Soy Enterprises' | 'Utilization of soy in govt. Programmes' | 6-9-07 | KVK,CTRI, Campus, Rajahmundry. |
| Dr. K. Uma Devi | Technical assistance in conduct of Prakasam district, AP under APNL Programme | Need assessment survey | 1-10-07 to 10-10-07 | APNL Agri Biotech Foundation, Rajendranagar Hyderabad |
| Dr. Kamini Devi Dr. S. Shoba Dr. K. Uma Devi | Brain storming session | Millet popularization and utilization | 12.10.07 | NIN, Tarnaka, Hyderabad |
| Dr. Kamini Devi | Training programme on Post harvest technology of food grains | 'Scientific methods of storage of pulse varieties, their constituents and milling procedures' | 16-11-07 | Indian Grain Storage Management & Research Institute, Rajendranagar |
| Dr. K. Uma Maheshwari | Strategies for Health & Nutritional status of population | Strategies for Health and Nutritional status of population in drought prone areas | 15-12-07 | NIRD, Hyderabad |

| | | | | |
|---------------------------------|--|---|-------------------|--|
| Dr. Kamini Devi | Training Programme on Sorghum for health and business: Value addition and commercialization of sorghum and sweet sorghum | Lecture on ‘Recent advances in alternate uses of sorghum and scope for entrepreneurship development | 21-1-08 | National Research Centre for Sorghum, Rajendranagar. |
| Dr. Kamini Devi & Dr. S. Shobha | Trainer’s training programme on ‘Preparation of nutritious menu for boarders of BC hostels in the state’ | <ol style="list-style-type: none"> 1. Importance of hygiene in food preparation. 2. Methods of cooking for better retention of nutrients 3. Practical demonstration of preparation of nutritious menus | 24-1-08 & 25-1-08 | Backward Classes Welfare Department, Govt. of AP. West Marredpally, Secunderabad |
| Dr. K. Uma Maheshwari | District level workshop | Viable Home Science Technologies for rural enterprises | 10-3-08 | Promotion of Rural Industries for the benefit of self help Group members and Youth |

3. Scientific articles published:

| S.No. | Name | Title | Journal Name | Volume No. P.P. | Year |
|-------|-------------------------------|--|--|---------------------------------------|------|
| 1 | Naveen M& Kamini Devi | “Development of Acceptable Soy based Beverage using different Adjuncts & Additives”. | Beverage & Food World. | Vol.35 (1), 48-51 | 2008 |
| 2 | P. Haritha & K. Uma maheswari | Effect of Processing on antiunritritional and antimicrobial activity of Sickle Senna Seeds (Cassio Tora L.) | Legume Research | Volume : 30, No.2, 2007, P.No.108-112 | 2007 |
| 3 | K. Uma Maheswari | Organoleptic quality characteristics of a Hybrid variety of cowpea ‘Ceylon cowpea in comparison with local variety | Journal of Food, Nutrition and Dietetics | Volume 4 (2), P.no.50-53 | 2007 |

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 Nutrition to different sectors and its personnel a quarterly issue of Foods and Nutrition News letter is brought out by Centre of Advanced Studies. During the report period, three quarterly issues of Foods & Nutrition News Letters were brought out for circulation among the line departments and the organizations involved in nutrition related programmes and to disseminate nutrition information to personnel of different sectors.

TABLE :- 4. NEWS LETTERS RELEASED DURING THE YEAR 2007 – 08

| S.No. | Title | Month | Year | Volume | Number | Issue Editor |
|--------------|---|--------------|-------------|---------------|---------------|----------------------|
| 1 | Utilization of Fruits and Vegetables Processing Waste | May | 2007 | 5 | 1 | Mrs.Kanwaljit Kaur |
| 2 | Micronutrients- Macro benefits and availability | Sep | 2007 | 5 | 2 | Dr. V. Vijayalakshmi |
| 3 | Nutrition through Life cycle | Dec | 2007 | 5 | 3 | Dr. K.Uma Devi |

4. Training programmes/ seminars / workshops attended by staff:

| S.No. | Name / Designation | Training programme/ seminar/workshop attended | Organisation/venue | Period |
|-------|---|--|---|--------------------------|
| 1 | Dr.K. Uma Devi | Workshop on Market – driven Strategies for Sustainable Livelihoods of Rural Women – Emerging Issues | AICRP, PGRC, ANGRU, Rajendranagar, Hyd | 9.5.2007 to 11.5.2007 |
| 2 | All Staff members | Human Resource Development for Capacity building | Institute of Public Enterprise, Osmania University at PG & Research Centre, Rajendranagar | 21.5.2007& 22.5.2007 |
| 3 | Dr. S. Sumathi | One –day workshop on “Eco-friendly Agricultural Practices” | EPTRI, Hyderabad | 5-6-2007 |
| 4 | All Staff members | Training programme on Television production Techniques | EMRC, Osmania University | 11.6.2007& 16.6.2007 |
| 5 | Dr. V. Vijayalakshmi | Training programme on ‘Sanitation, Food Safety and Pest Control Management’ | Assocom, New Delhi at Hotel Green Park , Hyd. | 15.6.2007& 16.6.2007 |
| 6 | Dr. Kamini Devi | Stakeholders workshop NRCS, Rajendranagar | NAIP project | 02.07.2007& 03.07.2007 |
| 7 | Dr. K. Uma Maheswari | Participated in the Indo-US workshop on ‘ Capacity building for Risk Analysis and Modeling to promote Agricultural trade | ANGARU, Hyd. | 23-7-07 to 2-8-07 |
| 8 | Dr. Kamini Devi Dr. V. Vijayalakshmi, Dr. S. Shobha Ms. Kanwaljit Kaur | III International seminar on soybean- farm to kitchen at Taj Deccan, Hyd. | American Soybean Association | 24.8.2007& 25.8.2007 |
| 9 | Dr. S. Shobha | Seminar on soy enterprise | ASA& KVK, CTRI, Rajamundry | 06-09-2007 |
| 10 | Dr. K. Uma Devi | Monitoring Gender Concerns in Agriculture & Allied Sectors | MANAGE, Rajendranagar, Hyd | 26.11.2007 to 30.11.2007 |
| 11 | Dr. K. Uma Devi | National seminar on the problems of Nutrition among the rich and the poor, MGMRSA, Hyd | Sarojini Naidu School of Women studies | 27-2-2008 |
| 12 | Dr. S. Sumathi | National Conference on – | All India | 01-03-2008& |

| | | | | |
|--|-----------------|---|--|------------|
| | Dr. K. Uma Devi | Obesity, today's challenges. GMC, Secunderabad | Association for Advancing Research in besity | 02-03-2008 |
|--|-----------------|---|--|------------|

5. Popular articles published:

| S.No. | Name/ Designation | Title | Magazine/News paper/News letter | Date Month Year |
|-------|-----------------------------------|--|------------------------------------|-----------------|
| 1 | V.Vijayalakshmi & K.Rajeshwari | Tomato uthpathula thayari vidhanam Rythu nestham | | May 2007 |
| 2 | V.Vijayalakshmi & DVD Nagalakshmi | Lycopene gurinchi thelusukondi Rythu nestham | | May 2007 |
| 3 | S.Shobha & S.Spandana | Jonnala vadakamupi china chupu tagadu Annadata | | May 2007 |
| 4 | Dr. K. Uma Maheswari | ' Diet during dialysis ' Health action. P. N. 30-31 | | May 2007 |
| 5 | V.Vijayalakshmi & K.Rajeshwari | Tomato – a star vegetable Health Action –pg 27-28 | | July 2007 |
| 6 | V.Vijayalakshmi & K.Rajeshwari | Tomato gurinchi thelusukondi Annadata | | Aug. 2007 |

6. T.V. Programmes:

| S.No. | Name/ Designation | Title | Date of Broadcast | Place / Venue |
|-------|----------------------|--|-------------------|---|
| 1 | Dr.S.Shobha | Sorghum Enterprise | 23-7-2007 | TV programme telecast on Saptagiri channel of Doordarshan |
| 2 | Dr. K.Uma Devi | Nutrition in Infancy | 5-8-2007 | TV programme telecast on ETV 2, Sukheebhava |
| 3 | Dr. K.Uma Devi | Balanced diet for different age and physiological groups | 17-8-2007 | TV programme telecast on ETV 2, Sukheebhava |
| 4 | Dr. K. Uma Maheswari | Job opportunities for Foods & Nutrition graduates and Post graduates | 15-11-07 | T.V. Programme telecast on ETV-2 Naari - bheri |

7. Extension activities:

| Date | Programme | Place | Resource person |
|-----------------|---------------------|------------------------------|---|
| 6-8-07 | Breast Feeding week | Chintapatla, Yacharam mandal | Dr. K.Uma Devi |
| 7-9-07 | Nutrition week | R.R.Dist | Ms. Kanwaljit Kaur |
| 14-15 Nov.07 | World Diabetes day | College of Home Science | Dr. Kamini Devi Dr. V.Vijayalakshmi Dr.S.Shobha Dr. K.Uma Devi |

8. Visitors:

| S.No. | Name/Address of the visitor | Date |
|-------|--|----------|
| 1 | Dr. S. J. Welson Tuskqee | 02-01-07 |
| 2 | Dr.Tseqage Habtemariam | 02-01-07 |
| 3 | Dr. S.R. Tatini ,University of Minnesota | 23-02-07 |
| 4 | Dr. S.S. Magar, Ex vice chancellor, KVK Dhapol | 28-09-07 |
| 5 | Dr. Pranab Chakraborty Director General, FPMU Ministry of food & disaster management | 28-03-08 |
| 6 | Mr.B.K. Rahane Agriculture Officer, Maharastra | 01-03-08 |
| 7 | Dr,Lalitha Bhattacharya, Nutritionist, FAO | 28-03-08 |

9. Research Projects in operation:

| S.No | Project title | Investigators | Funding agency | Period / duration | Budget |
|------|--|---|------------------------------|---|----------------|
| 1 | “ Biotechnology for Nutritional Improvement – Popularization of Sorghun Enterprises for Income Generation and Nutrition” | Dr. Kamini Devi, Assoc. Professor Dr. Shoba, Assoc. Professor. Ms. Kanwaljit Kaur, Asst Professor | APNL Biotechnology Programme | Jan, 2005 to Dec,2008 | Rs. 11 lakh |
| 2 | Establishment of Rural Enterprises for Tomato products for Food & Nutritional security | Dr. V. Vijayalakshmi, Principal Investigator | Dept.of Biotechnology Delhi | 18-7-06 to 18-7-08 | Rs.13.19 lakhs |
| 3 | “ Feasibility of Introducing Jowar in MDM Programme”in three regions of Andhra Pradesh | Dr. N. Lakshmi Devi, Dr. M. Usha Rani, Dr. K. Uma Devi | Civil Supplies | 16-10-06 to 16-1-07 | 2,75,000 |
| 4 | “ Creation of Demand for Millet Foods Through PCS Value -Chain | The Department | NAIP | 20-6-2007 to continue Four and Half years | Rs.59.23 lakhs |

10. Proposals for the year 2008-09

a) Training programmes / short courses

- i) The Training Programme on ‘Nutrition and Health Policies and Programmes : Present Scenario and futuristic approaches held from 24th July and 13th August, 2008.
- ii) The Training Programme on ‘Micronutrient malnutrition – Strategies to address the problem ’ from 17-1-2008 to 6-2-2008.

11. No. of UG and PG Students completed

- B.Sc - 15
- M. SC- Nutrition and Dietetics - 3
- M.Sc Foods and Technology - 7
- PGDNT - 2
- Ph.D - 1

IV. BUDGET PROPOSALS FOR THE YEAR 2008 - 09.

| S. No. | Particulars | Amount (Rs.) |
|---------------|-------------------------|---------------------|
| 1 | Trainings (2 Nos) | 3,54,000-00 |
| 2 | TA / DA | 1,00,000-00 |
| 3 | Books | 50,000.00 |
| 4 | Recurring contingencies | 2,00,000-00 |
| 5 | Staff Salary | 4,00,000-00 |
| | GRAND TOTAL Rs. | 11,04,000-00 |

(Rupees Eleven lakhs and four thousand only).

PROPOSALS FOR THE YEAR 2008 - 09

APPENDIX – II

**WORK PLAN FOR CENTRE OF ADVANCED STUDIES
FOR THE YEAR 2008 - 09 FOR APPROVAL**

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

I. OBJECTIVES

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

II. OUTPUTS/PROGRAMMES IMPLEMENTED DURING THE X 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 two Short Courses/Training programmes in priority areas of Foods & Nutrition as per the need.

Priority areas identified for Summer Institute Programme/Short Courses

B. ALLOCATION OF SEATS UNDER PG PROGRAMME

Provision of seats in M. Sc. and Ph. D. in Foods & Nutrition and Foods Science & Technology to outside State candidates selected through a common test conducted by ICAR.

C. RESEARCH

Research proposals for X Five year plan

- i. Assessment of micronutrient bioavailability within and between food crop species.
- ii. Development of effective information, education and communication material to promote food based micronutrient interventions.
- iii. Documentation of results and enhancing dissemination of these results to other potential users (farmers, communities and policy makers).
- iv. Product development and evaluation of physico – chemical and sensory qualities of novel locally available foods.

Objective 2

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

Action Plan

It is proposed to develop a one year PG diploma programme in Community Nutrition & Public health for approval and sanction in Academic Council.

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, Radio and Press) for awareness creation.

Organizing , 5 days Training Programmes (10 No) to self help group members of 'Indira Kranthi Patham of A.P Rural Poverty Reduction Project on 'Better cooking methods and introduction to foods'

Organizing three, 6 days Crash course on 'Introduction to foods and Nutrition ' to train the master trainers and the state community resource persons (CRPs) of society of elimination of Rural Poverty (SERP) of A.P state Rural development department.

Conducting evaluation study titled "Impact assessment of food security Programme of Indira Kranthi Patham".

Objective 4

To disseminate nutrition information to personnel of different sectors.

Action Plan

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

FORTH COMING FOODS & NUTRITION NEWS LETTERS

| Title of the topic | Month of issue | Issue Editor |
|--|----------------|---------------------|
| Pearl Millet for Health & Nutrition | May, 2008 | Dr. T. V. Hymavathi |
| Prebiotics & Probiotics in human health | Sep, 2008 | Dr. N. Laxmi Devi |
| Extrusion Processing- Technology and Applications. | Dec, 2008 | Dr. S. Shobha |

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 Post Graduate Education and Research in Foods & Nutrition in other State Agricultural Universities.

Conducting need based multi centric studies to provide feed back to the planners and policy makers.

APPENDIX - I

