

RESEARCH ACHIEVEMENTS

All India Co-ordinated Research Project
on
Home Science
(1997-2011)

Compiled and Edited

by

Prof. D. Murali (Principal Investigator)

Dr. T.N. Khan (Unit Co-ordinator)

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College of Home Science
Marathwada Krishi Vidyapeeth, Parbhani



Indian Council of Agricultural Research

Chaudhary Devi Lal Outstanding
All-India Co-ordinated Research Project (AICRP) Award
2003

The Chaudhary Devi Lal Outstanding All-India
Co-ordinated Research Project (AICRP) Award
for the year 2003 is presented to

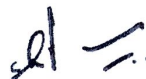
AICRP on Home Science

for outstanding contribution in the field of

Home Science



Mangala Rai
Director-General



Sharad Pawar
Union Minister for Agriculture

New Delhi
19 October 2004



International Conference attended by scientists in November 2007

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Foreword

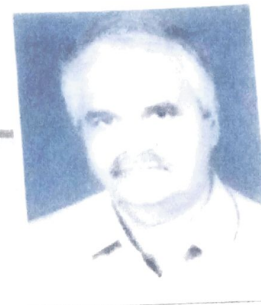


Farm and home are two vital components in agricultural development as the farming households have to derive a sustainable living mainly through agriculture and related enterprises and hence effective utilization of both the resources are important to them. The All India Coordinated Research Project on Home Science sponsored by ICAR and coordinated by DRWA, Bhubaneswar with nine centers located in state Agricultural universities focuses on agriculture as a family enterprise, which engages rural women in varying activities with larger work hours in different agro-climatic regions. Empowerment of women in agriculture to enhance the quality of life of farm families, provide equal opportunity to the adolescent girls and farm women to develop their knowledge, utilize their skills and improve access to education and training, health care and economic resources, achieve food and nutritional security and improved family resource management practices. The project combines basic, applied and strategic research in five major disciplines of Home Science namely Foods and Nutrition, Child Development, Clothing and Textiles, Family Resource Management and Home Science Extension Education.

The comprehensive report is the achievements of All India Coordinated Research Project on Home Science, since inception to recent years. It will be of great use to researchers, academicians, students to get acquainted with the developed technologies to reduce the drudgery of women and to empower farm women.

Dr K.P. Gore
Vice Chancellor

Preface



In the context of women's empowerment and improving the quality of life of rural families the All India Coordinated Research Project on Home Science has a very crucial role to play. The project outcomes facilitate and provide directions for developing cost-effective and women-friendly strategies and technologies for advocating holistic development of rural households. The thrust of the project rotates around strategical planning, efficient management and scientific evaluation of problem-solving, demand-driven and need-based approaches in order to attain its mandate.

This report can act as catalyst for women development planners and practitioners as the ongoing project goes beyond blue-print approach and uses creativity to work with farm families especially to empower rural women.

This booklet will be a quite valuable tool to young scientist / entrepreneurs and academicians. The book will keep students updated with the current status of advanced research technologies.

Dr. G.R. More
Director of Research

Preface



All India Coordinated Research Project on Home Science is implemented in the year 1980 in six state Agricultural Universities with 3 components viz., Foods and Nutrition, Family Resource Management and Child Development. In the year 1996, two more components i.e. Clothing and Textiles and Extension Education were included and the project was extended to three more state Agricultural Universities.

The AICRP on home science with its focus on interdependencies and interrelationships among agriculture and family life has been carrying out research under five disciplines of Home Science. The broad objective of the multidisciplinary project was to improve the quality of life of rural families in general and economically weaker section in particular. The technology empowerment intervention mechanism of all the components of AICRP in Home Science has been integrated in the adopted villages for holistic development of rural families and affecting qualitative changes in rural life. The major achievements under the project was development of database of farm families, drudgery reduction in agriculture, nutritional and health security, utilization of farm waste with emphasis on promotion of vocational skills among adolescent girls, child care practices and empowerment of rural girls for quality life.

The information provided in this technical bulletin will be of great importance and a guide to women who want to enter into the business world and face the challenges. This bulletin provides the information and areas in which women can start small scale or cottage level enterprise to gain the economic independence.

The authors are indebted to Hon. Vice Chancellor Dr. Gore K.P. and the Director of Research Dr. More G.R. for the inspiration, motivation, encouragement and financial approval for the preparation and publication of this technical bulletin.

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Introduction

Women play a critical role & perform unique duties in the wellbeing of all households in general and farm households in particular. Since women by nature do their chores in a gentle way, they are more adept in adopting simple science based environmentally benign technologies, which can help in enhancing income, nutritional status of their families and reduce drudgery by increasing physical efficiency and reducing fatigue and body hurt while helping to maintain a sound and clean environment. In spite of women's enormous contribution in household and agricultural field they are neglected in many important decisions. Hence there is a need to empower women in general rural women in particular.

In this context All India Coordinated Research Project on Home Science sponsored by ICAR New Delhi was initiated in the year 1982 in VI year plan in six state Agricultural Universities namely Punjab Agricultural University, Ludhiana, Haryana Agricultural University, Hissar, Maharana Pratap University of Agricultural & Technology, Udaipur, University of Agricultural Sciences, Dharwad, Acharya N.G. Ranga Agricultural University, Hyderabad and G.B. Pant University of Agriculture & Technology, Pantnagar with three components viz. Foods & Nutrition, Family Resource Management and Human Development & Family Studies. In the year 1996 two more components i.e. Textile & Clothing and Home Science Extension Education were included and the project was extended to three more state Agricultural Universities viz , Assam Agricultural University, Jorhat, CSK HP Krishi Vidyapeeth, Palampur and Marathwada Krishi Vidyapeeth, Parbhani. Thus at present the project is in operation in nine state Agricultural Universities. In XI five year plan the AICRP on Home Science has been merged with National Research Centre for Women in Agriculture, Bhubaneswar. Subsequently the Bhubaneswar centre has been upgraded to Directorate of Research on Women in Agriculture.

The broad objective of the multidisciplinary project has been to improve the quality of rural families in general and economically weaker section in particular. The AICRP on Home Science has achieved improvement in the quality of life of rural families through inter disciplinary approach by empowering them through creating awareness, enhancing knowledge & developing skills and ultimately to economic

empowerment. The technology empowerment intervention mechanism of all the components of AICRP in Home Science has been integrated in the adopted villages through self help groups for a holistic development of rural families and training about qualitative changes in rural life. Besides the targeted research work decided at National level in unit meetings and annual workshops the AICRP unit is also involved in Community Welfare activities in five adopted villages of Parbhani District by disseminating the knowledge and technologies to rural women and adolescent girls through short term training programmes.

To achieve the objective of empowerment of rural families in general, rural women in particular, the following broad objectives has been set for the five components of AICRP on Home Science.

1. Nutritional implications for Human health in Agrarian Eco system
2. Ergonomics of farm women's drudgery in Home, farm and allied fields.
3. Comprehensive child care through farm crèche and Home Intervention
4. Value addition of Agro and Animal based fibers.
5. Data base on rural women

Choudhary Devilal outstanding All- India Coordinated Research Project (AICRP) award for the year 2003 was presented to AICRP in Home Science for outstanding contribution in field of Home Science by ICAR, New Delhi on 19th October 2004. The award was received by Coordinator Dr. (Mrs) Tej Verma and five Technical Coordinators on behalf of nine centres of AICRP on Home Science. The certificate of award was distributed in AICRP XV Annual workshop at College of Home Science, MPUAT, Udaipur in January 2005 which was received by Dr. S.N. Kale, Unit Coordinator of Marathwada Krishi Vidyapeeth, Parbhani centre from Dr. Katyal Deputy Director General (Edu) ICAR, New Delhi.

Objectives and Achievements

Phase I

(1997 to 2002)

Department of Foods and Nutrition

Nutritional implication for human health in Agrarian ecosystem

Objectives

- Development of software as Nutriguide based on regional foods for normal and therapeutic purposes.
- A pilot study on nutritional intervention for prevention and control of iron and vitamin A deficiency among children in rural areas.
- Screening of food and water from different zones of different regions of Maharashtra state for iodine content.

Achievements

- Recipes prepared in Maharashtra state were analyzed for proximate composition, vitamins, minerals. software "Nutriguide" was developed at national level by utilizing the analyzed data.
- Five supplementary foods rich in iron, Bata carotene were developed. Intervention was carried out for 90 days for school going children. At the end of intervention study significant improvement in hemoglobin and serum retinol of subjects was observed (6.70 to 10.8 mg/dl and 23.35 to 32.94 g/dl).
- Total 1191 samples of salt, water and food were collected from three zones of Maharashtra State and were analyzed for its iodine content. Tata (28.05 ppm), Captain cook (25.92 ppm) and Annapurna (19.57 ppm) branded salt samples were found to contain more iodine than other branded salt (7.4 to 15.88 ppm). Water samples were found to contain 3 to 3.5 ppm of iodine. It was higher magnitude in fruits, leafy vegetables, nuts and oilseeds among analyzed foods.
- Nutrition education on weaning food, supplementary foods, preservation of fruits and vegetables was imparted to women, adolescent girls of adopted village Tadborgaon.

Recommendation

- Daily supplementation of 65 to 100 g of Drumstick leaves paratha or Fenugreek or coriander leaves paratha or sesamum chikki is recommended for rural agricultural children. It should be included in Women and Child Welfare Scheme as a supplementary food.

Department of Family Resource Management

Ergonomics of farm women's drudgery in home, farm and allied activities

Objectives

- To make an inventory of all the activities performed by the rural women in home, farm and allied fields.
- To study the health status of women worker involved in various drudgery prone activities.
- To measure the ergonomic cost of frequently performed drudgery prone activities in terms of physiological, cardiovascular and muscular stresses on the women worker.
- To identify/ devise the suitable tools/ technologies for women worker to reduce their physiological, cardiovascular and muscular stresses for frequently performed, time consuming activities.
- To study the impact of improved tools/ technologies in terms of reduction of drudgery of the women workers and enhancement of work efficiency.

Achievements

- Completed the inventory of the household, farm and allied activities performed by the rural women of three agro climatic zones of Maharashtra.
- Calculated the difficulty scores of the activities performed by rural women on the basis of perceived exertion.
- Identified the drudgery prone activities performed by the women in household, farm and allied fields.
- Completed the assessment of cardio-vascular, muscular and physiological stresses of activities viz. Fetching water, Cutting & bringing fodder, dibbling and weeding performed by rural women
- Evaluated suitable tools to minimize the drudgery in selected farm activity- dibbling.

- Designed and developed apron for cotton picking and it was ergonomically tested for the farm activity- cotton picking

Department of Child Development & Family Relationships

Comprehensive Child Care through Farm Creche and Home Intervention

Objectives

- To establish a farm crèche
- To develop educational packages for rural families on child care
- To implement comprehensive child care intervention for the selected rural young children and to study its efficacy
- To develop collaborative research tools/ scales required for the research work of the project.

Achievements

- The comprehensive child care services (CCCS) provided through home intervention and farm crèche to the 42 experimental group rural children (6 days to 36 months) in Pedgaon village improved their mental and motor development and helped in maintaining them at normal level of development with their advancing age as compared to the control group children
- The educational package developed on Antenatal and Neonatal Care for educating rural families on maternal and child care was found to be very effective
- Total 5 research tools and 4 educational packages were collaboratively developed

Department of Clothing and Textiles

Value Addition to Agro and Animal based Fibers

Objectives

- Identification and utilization of Agro and Animal based fibers according to agro climatic zones of Maharashtra.
- Identification of naturally available dyes and value addition with natural dyes through standardizing condition for dyeing cotton, silk and wool and assessing colour fastness to sunlight, washing, perspiration and rubbing

Achievements

- A survey was conducted on identification and utilization of Agro and Animal based fibers according to agro climatic zones of Maharashtra.
- The locally available five sources of natural dyes such as flame of forest flowers, wavdinga seeds cosmos flowers, Acacia flowers ,and Pipal bark were identified as dye source for dyeing wool, silk and cotton and various dyeing conditions were optimized. Shades were developed from light yellow to dark brown with excellent fastness to sunlight, washing, perspiration and rubbing.
- Paithani a traditional textiles of Maharashtra and safe eco-holi colours have been successfully developed with these natural dyes.

Department of Home Science Extension Education

Data Base on Rural Women

Objectives

- To study work profile of rural women in terms of their involvement and time use pattern in farming and homestead activities for comprehensive data base at national level.
- To study decision making pattern of rural women in farm, animal husbandry and home spheres.
- To scientifically validate indigenous technologies and conduct modified acceptability trials of technologies for documentation.
- To develop information and technology kits on distance education for rural women and development functionaries.
- To develop media package for technology dissemination.
- To explore linkages with women development agencies (GO/NGO) for strengthening development activities for rural women.

Achievements

- Data base on rural women' was collected from three agro-climatic zones of Marathwada region regarding work profile, decision making and time use pattern and participation of rural women in farm, animal husbandry and home spheres. Computer analysis of the data was done and a book on 'Data base of rural women' was published at national level.

Therapeutic Foods (Diabetes)



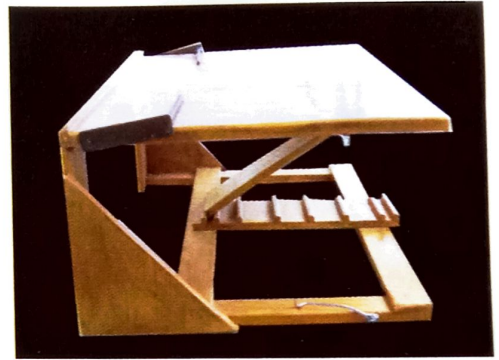
Cotton Picking Apron



Developed supplementary foods



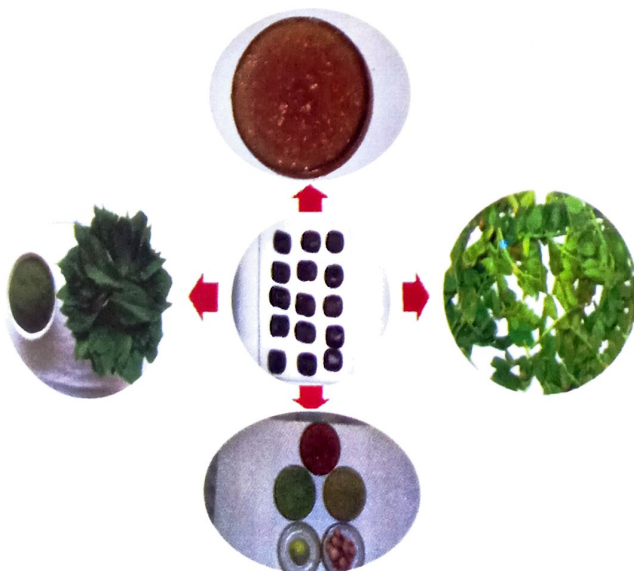
M.K.V.Tailoring Table



Gopal Khore



Developed Iron rich toffees



M.A.U. Revolving Milking Stand and Stool



Research Activities

Child Development

Clothing & Textiles



Established Child Development Centre at Erandeshwar village



Empowerment of Rural Women through Entrepreneurial Activity



Operational Anganwadi for Early Child Care Intervention Programme



Different sources of natural dyes



Developed Eco-Holi Colours



Protective clothing for farm activities

Research Activities Extension Education



Establishment of Herbal Garden



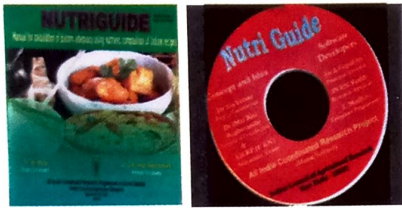
Entrepreneurship development in Grocery shop



Formation of Youth Club

AICRP Publications

Nutriguide Manual & CD (FN)



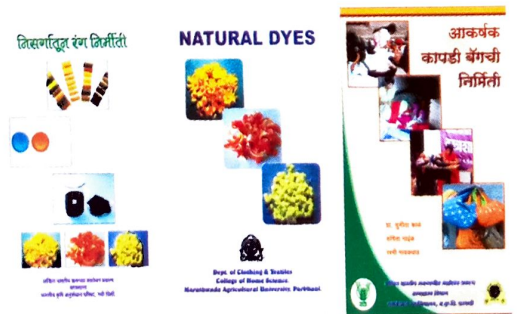
Training Module for Drudgery Reduction (FRM)



Educational Packages (CD & FR)



Module, Manual & Booklet (CT)



Booklet (EXTN)





Annual Workshop of AICRP Home Science (2002)



KVK Workshops organized by College of Home Science (2010)

- Qualitative data regarding socio-economic status of rural women and time use pattern was collected from three agro-climatic zones of Marathwada region and published at national level.
- Indigenous technological knowledge of rural women was studied regarding maternal health practices, medicinal plants, child care practices, dairy herd management practices, eco-friendly storage structures and women based dry land farming practices and the data was published at national level.
- Developed technology kit on Postnatal care, asset building of girl child in which poster, flip chart, video cassette, booklets (2), folders (2), flash cards set, slide set were prepared.
- Printed material of technology kits from other centers was translated in to local language for message dissemination.
- Village mapping and data collection through time line and time trend were done in adopted villages Tadborgaon and Wangi (PRA technique).

Phase II

(2002 to 2007)

Department of Foods and Nutrition

Nutritional security for human health in agrarian ecosystem

Objectives

- To estimate the fluoride levels in food and water samples from 3 different agro climatic zones
- To transfer the agro based technologies for the rural households for nutritional improvement.
- To formulate the functional food products and evaluate its clinical implications.
- To develop supplementary foods for vulnerable group
- To evaluate the acceptability and nutrient composition of developed supplementary foods

Achievements

- Total 2288 samples of water, food and milk were collected from three zones of Maharashtra State and were analyzed for its fluoride content. Higher level of fluoride content was found in the samples collected from Yeotmal district of Vidharbha Zone.
- Established thirty nutrition gardens which has helped to improve the nutritional and socio economic status of beneficiary families.
- Diet I and Diet II were developed utilizing low glycemic index foods for NIDDM subjects. The results of clinical implication showed the glycemic index of Diet I and Diet II was 37.06 ± 2.26 and 31.46 ± 1.54 respectively.
- Developed supplementary foods Soya poha laddu, Dal chiwda, Ragi biscuit, Sago biscuit were nutritious and rich source of protein, calcium and iron. These foods were low cost, highly acceptable and have shelf life for 60 days. Hence Dal Chiwada, Ragi Biscuit, Sago Biscuit and Soya Poha laddu were recommended for distribution to beneficiaries by various extension functionaries in different government schemes.

Recommendation

- The supplementary foods developed namely Dal Chiwada, Ragi Biscuit, Sago Biscuit and Soya Poha laddu are nutritious and rich source of protein, calcium and iron. These foods are low cost, highly acceptable and have shelf life for 60 days. Hence Dal Chiwada, Ragi Biscuit, Sago Biscuit and Soya Poha laddu are recommended for distribution to beneficiaries by various extension functionaries in different government schemes.

Department of Family Resource Management

Ergonomics of farm women's drudgery in home, farm and allied activities

Objectives

- Assessment of ergonomic cost of drudgery prone selected activities and evaluation of suitable technology in order to reduce the drudgery and increase work efficiency of rural women.
- Exploration of available technologies on reducing the drudgery of women workers.
- Testing the available technologies on women worker in terms of drudgery reduction and making recommendations to make these women friendly.
- Intervention programme on developed technology and transfer of technology to the farm women.
- Transfer of technology to the adopted village in the areas of hygiene and sanitation.
- Village adoption for dynamics of integrated improvement in quality of life of rural families.

Achievements

- Completed the assessment of cardio-vascular, muscular and physiological stresses of rural women while performing the activity- uprooting of cotton stalks, collection of stalks and stubbles and weeding performed by farm women in existing and improved conditions.
- Designed women friendly dibbler
- Established a resource center in adopted village for transfer of technology.
- Successfully carried out demonstration of soak pit in three selected villages of Parbhani district with the financial assistance from Ministry of environment and forest, Govt. of India under NEAC programme through RRA BAIF Pune.

- Established Physical fitness clinic in the Department for men and women on payment basis.
- Completed an intervention programme on 'Acceptability of saral khurapi- an improved weeding tool (designed and developed BY Dharwad center), adoption of apron for cotton picking and Acceptability of newly developed weeder
- Designed and fabricated weeder to minimize the drudgery of farmwomen while performing the activity weeding
- Completed the benchmark survey of selected villages through participatory rural appraisal with respect to health hazards of women in agriculture and existing knowledge and practices regarding drudgery reducing technologies.
- Conducted the training programmes on
 - Health and hygiene
 - Entrepreneurship- vermi compost, candle making
 - Drudgery reducing technologies
- Designed and developed "Eared cutter" for reducing the drudgery of farm women while performing Jowar harvesting, completed ergonomic evaluation of the developed technology.

Recommendation

- Rural women should be encouraged and motivated to use the apron and scarf while performing cotton picking activity in field. Intervention programmes should be undertaken for the rural women to motivate them for the use of improved tools such as finger blades to reduce their drudgery in cotton picking
- Weeder is light in weight, simple in fabrication and easy to operate. This device can cover the 94 per cent more area as against the traditional method. It also eliminates postural stress by reducing angle of deviation from normal in erect position. Hence, weeder is recommended for performing weeding efficiently.

Department of Child Development & Family Relationships

Empowerment of Rural Girls for Quality Life

Objectives

- To study the profile of rural girls

- To develop and implement intervention modules on selected components to empower the rural girls
- To study the efficacy of the intervention modules and intervention programme
- To alleviate reproductive and child health hazards of farm women through intervention programme.

Achievements

- For planning intervention programme for rural adolescent girls' empowerment, the situational analysis of 1210 rural girls (3-18 yrs) was accomplished from randomly selected 50 villages of 10 districts of 5 Agro climatic zones of Maharashtra state.
- The intervention programme was planned and executed for a period of 1 and ½ years through various media for 180 randomly selected rural girls (10-18 yrs) in the five selected villages of Parbhani taluka namely sayala, Brahmangoan, Wangi Parwa, Nandkheda. Intervention brought significant improvement in rural girls, with regard to health, nutrition, personality, general knowledge and vocational skills.
- Developed an educational package on Antenatal and Neonatal Care in regional language. The intervention programme on reproductive and child health, executed for a period of four months (i.e. weekly once for 3 hrs) in five villages of Parbhani district (MS) namely Asola, Bharaswada, Erendeshwar, Tamaswadi and Ukhalad through lectures cum group discussions, case studies, models, flip charts posters & quiz for 150 rural mothers (30 from a village) in the age group 20-50 yrs brought out significant improvement in their knowledge about reproductive and child health.
- Total 4 research tools were collaboratively developed

Department of Clothing and Textiles

Value Addition to Agro and Animal based Fibers

Objectives

- Identification of naturally available dyes and value addition with natural dyes through standardizing dyeing condition for dyeing cotton, silk and wool using mordent combination and dye combination and assessing colour fastness to sunlight, washing, perspiration and rubbing.
- Preparation of value added products using natural dyes and of Eco-holi colours.
- Standardization of printing procedure on cotton and silk with natural dyes.
- Intervention on dyeing and printing with natural dyes.

Achievements

- The locally available source of natural dyes waddinga seeds was identified as dye source for dyeing wool, silk and cotton and various dyeing conditions were optimized. A wide range of Shades were developed using mordent combinations and dye combinations with excellent fastness to sunlight, washing, perspiration and rubbing
- Under technology intervention the training was given to the weavers at Leprosy Rehabilitation Center Nerli and to the dyers of the paithani weaving center at Yeola and Paithani dyed with natural dye was prepared. The release of Paithani dyed with natural dyes was done at the hands of Hon. Agricultural Minister.
- Natural dyes were successfully used for printing cotton and silk fabric using the technique of block printing and screen printing and fastness to sunlight, washing, perspiration and rubbing was tested.
- Eco-holi colours were developed from the natural dye sources and were popularized through exhibitions and sale and also trainings were given in preparation of these colours in adopted villages, school and colleges in Parbhani town.

Department of Home Science Extension Education

Empowerment of Rural Women

Objectives

Broad Objective: Empowerment of rural women

- To empower rural women for improving quality of life focusing on awareness, knowledge and practices in economic aspects.

Specific Objectives:

A. Multi media package

- To impart knowledge to the rural women through multimedia packages developed under various technology kits.
- To conduct field trials for utilization focused evaluation of respective multimedia packages.
- To assess cognitive development of rural women through the use of respective multimedia packages.

B. Indigenous knowledge

- To disseminate knowledge on medicinal plants for health security through establishment of herbal garden.

C. Village adoption

- To build of self actualization by channelizing the potentialities for strengthening the Self Help Groups and developing leadership.

D. Linkages

- To establish connectivity with development agencies (GO/NGOs) for facilitating eco friendly empowerment of rural women.

E. Quality of life

- To asses the improvement in quality of life due to interventions provided to the rural women.

Achievements

- Formed fourteen women self help groups in adopted villages.
- Conducted campaigns on 'Awareness about environmental sanitation' and 'Use of medicinal plants for health security' in adopted villages.
- Conducted training on 'Use of animal waste' to prepare Jeevamrut and Beejamrut in adopted villages.

- Developed forty four (44) vermi compost pits in adopted villages.
- Established nine (9) community and five (5) individual herbal gardens in adopted villages.
- Entrepreneurship was developed in adopted villages in flour milling, vermicompost selling, dhal making, grocery shop, Bangle shop in adopted villages, Erandeshwar, Ukhalad, Asola, Tamaswadi.
- Effectiveness of different media was studied through the field trials of multimedia package on 'post-natal care' and found that mean post test knowledge score was more in case of electronic media (video film), while mean gain in knowledge was more through lecture plus demonstration method.
- Awareness campaigns on health and environmental sanitation were organized.
- Training programmes were organized on preparation of vermicompost, jeevamrut, beejamrut etc.

The evaluation of training programme on use of animal and farm waste as well as awareness campaign on health and environmental sanitation showed that there was significant knowledge gain by the participants through awareness campaign and training.

Phase III
(2007-2011)

Department of Foods and Nutrition

Gender based protective foods for health promotion and security of farm women

Objectives

- Formulation and quality evaluation of region specific underutilized foods to combat micronutrient deficiency (Anaemia).
- To promote consumption of protective foods and ensure micronutrient security of farm families through establishment of nutrition garden.
- To conduct Information, Education and Communication (IEC) programmes for improving health and nutrition related practices of farm women.
- To assess the impact of IEC programme in adopted villages.

Achievements

- Iron rich toffees were developed utilizing locally available green leafy vegetable powder.
- The acceptability and nutrient content was evaluated..The developed toffees were highly accepted fulfilling the requirement of 3- 5 mg.of iron per serving
- Developed toffees were acceptable till six months of storage period
- Established 30 nutrition garden in five adopted villages consisting of 6 families from each village which has helped to improve the nutritional and socio economic status of beneficiary families.
- Nutrition knowledge was communicated among the beneficiaries through different IEC programme. The IEC programme helped to improve the health and nutrition related practices of farm women.

Department of Family Resource Management
Technology Intervention for Drudgery Reduction in Agriculture and
Enterprises

Objectives

- Technology Interventions for Drudgery Reduction in Rural Enterprises.
- Technology Interventions for Drudgery Reduction in Agriculture.
- Development of Training Modules for Drudgery Reducing Technology Intervention.
- Empowerment of Women in the Resource Management.

Achievements

- Designed and developed new tool for dung collection (MKV Gopal Khore).
- Completed the ergonomic evaluation of drudgery prone activities- dung collection by using traditional and improved method
- Designed and developed new tools for dairy activity -Milking (Revolving milking stand and stool). Completed the ergonomic evaluation of drudgery prone activities- milking by using traditional and improved method
- Translated "Trainers' Training Module for Drudgery Reducing Technology Intervention for Women In Agriculture in regional language and tested for its effectiveness.
- Organized Capacity building workshop for KVK Home scientists of Maharashtra during 4-6 Feb.2010.
- Completed pre testing and post testing of awareness and knowledge of rural people on fuel saving and water management practices, its impact and drudgery reduction practices in agriculture.
- Completed intervention programme on
 - Techniques of managing safe drinking water
 - Tips to conserve water in home and farm
 - Managing water sanitation at community level
 - Water harvesting techniques and technologies
- Designed and developed new technology i.e. M.A.U. Multipurpose tailoring table for selected Tailoring enterprise, completed the ergonomic evaluation of selected tailoring activities by using traditional and improved method.

Recommendations

- Use of newly developed dung collector to reduce drudgery and time of women involved in dairy enterprise was recommended.
- Revolving Stand and Stool were recommended for milking to reduce drudgery and loss of milk during milking.
- The technical module entitled "A Trainers' Training Module on Drudgery Reducing Technology interventions for Women in Agriculture" was recommended to prepare Master trainers to popularize the use of women friendly technologies amongst farm women for drudgery reduction

Department of Child Development & Family Relationships

Empowerment of Rural Girls for Quality Life

Objectives

- To implement the intervention programme for the rural adolescent girls to empower them to lead quality life
- To promote vocational skills amongst adolescent girls & young women
- To establish community based alternative support system for agrarian families
- Development of training modules for farm women on care and management of family members

Achievements

- Intervention provided to the rural adolescent girls were found to have significant positive impact
- For economic empowerment, rural women of SHG from village Erandeshwar have started entrepreneurship in infant clothing kit and successfully sold 200 kits in local hospitals of Parbhani.
- Established Child Development Centre at adopted village Erandeshwar with community support. Total 30 children in the age group of 2½ to 5 yrs were enrolled with monthly fee Rs 20 per child per month
- Developed training module and VCD on Empowering Rural Adolescent Girls With Life Skills
- Developed an educational package on Infant Nutrition, Hygiene and Health in regional language Marathi.

- One anganwadi was adopted from adopted village Singapur and background information of rural anganwadi children was collected and need base interventional programme on early child care is continued.
- Prepared low cost educational play material for children of adopted Anganwadi

Recommendation

- Training module and VCD developed under AICRP-CD component on Empowering Rural Adolescent Girls With Life Skills was recommended for use in Dept of Women & Child Welfare for improving life skills of rural adolescent girls

Department of Clothing and Textiles

Value Addition to Agro and Animal based Fibers

Objectives

- Development of gender specific extension methodologies and training modules.
- Utilization of degradable and non-degradable farm waste.
- Empowerment of rural women.
 - a) Empowerment of women to combat occupational health hazards and remedial measures.
 - b) Capacity building of rural women through training on dyeing & printing, weaving, embroidery, tailoring and fibre handicrafts for economic empowerment.
 - c) Helping and monitoring micro-enterprise developed by SHG in adopted villages.

Achievements

- Trainer's training modules were developed on block printing with natural dyes and renovation of clothes in English and developed training manual on Tie and dye, Fancy cloth bag making, Renovation of clothes in local language for capacity building of rural women.
- Different degradable farm wastes like fiber from waste banana stalk and non-degradable farm waste like fertilizer bags were utilized for preparing a wide range of utility items. Conducted training on different textile skills like embroidery, fabric painting, crocheting for the members of SHG of five adopted villages for their

capacity building for developing micro- enterprise.

- In order to develop protective clothing for farm activities study was conducted on screening fabrics for pesticide barrier property and other protective parameters.
- Protective clothing was designed and constructed. Field trials of developed protective clothing showed that these clothes are suitable as protective clothing.
- A group of members of SHG has started an microenterprise in fancy cloth bag making in the adopted village with the meager investment of Rs 500 /- which resulted with the turn over of Rs 50,000/- within a year.

Department of Home Science Extension Education

Data Base on Gender Perspectives

Objectives

- Develop agro climatic zone and land holding wise comprehensive database on gender perspective with reference to role, responsibility and resources in
 - i. Both field and horticultural crop production, protection and post harvest processing at farm and homestead level.
 - ii. Fisheries and livestock management.
- Prepare agro climatic zone and land holding wise database on gender perspective with regard to constraint and opportunities in-
 - i. Both field and horticultural crop production, protection and post harvest processing at farm and homestead level.
 - ii. Fisheries and livestock management.
- Identify the social motivators / animators according to the socio cultural variables.

Achievements

- Data on Gender Perspectives were collected from nine agro-climatic zones of Maharashtra and computer analysis of the data was done.
- Youth clubs of rural girls and boys were formed in Nandkheda village.
- Entrepreneurship in flour milling, goat rearing, vermicompost selling were developed in adopted villages Erandeshwar and Nandkheda.
- Village mapping and data collection through time line and time trend were done in adopted villages Brahmangaon and Taroda (PRA technique).

Workshop organized

XIII Annual workshop of AICRP on Home Science was organized by College of Home Science, MKV, Parbhani during 2-4 December 2002. Distinguished dignitaries present for inaugural function were Hon. Dr. Vimalji Mundada, Minister of State for Women & Child Welfare (Maharashtra), Hon. Dr. Tej Verma, Assistant Director General (H.Sc.) ICAR, New Delhi, Mr. Tukaramji Renge Patil, MLA and Member of MKV Executive Council, Hon. Dr. Vinayakrao Pawar, Vice Chancellor, MKV, Parbhani, Dr. Vithalrao Shelke, Director of Research, MKV, Parbhani, Dr. M.B. Dhoble, Dean and DI, MAU, Parbhani, Dr. Mrs. Snehalatha Reddy, Associate Dean and Principal.

The Three days workshop was concluded with valedictory programme on 4 December 2002. Hon. Mrs. Fauzia Khan, Member of Legislative Council (MS) and Executive Council Member, MAU, Parbhani and Hon. Dr. Mrs. Tej Verma, Assistant Director General (H.Sc.) ICAR, New Delhi were the chief guest for the programme. Hon. Dr. V.M. Pawar, Vice Chancellor, MAU, Parbhani presided over the programme, Dr. V.B. Shelke, Director of Research, MAU, Parbhani, Dr. M.B. Dhoble, Dean and DI, MAU, Parbhani, Dr. Mrs. Snehalatha Reddy, Associate Dean and Principal, Mrs. Jaya Bangale, Organizing Secretary of the workshop were the other dignitaries present on the dias. The chief guest of the function in her key note address highlighted the present scenario of women in rural areas. The eminent experts of different components graced the occasion were Hon. Dr. P. Sundaram expert in Family Resource Management and Ex-Vice Chancellor, Saint Mother Teresa University, Kodaikanal and President of International Federation of Women in Agriculture (IFWa); Dr. O.P. Singh, Ex. Technical Co-ordinator (CT); Dr. Ravikala Kamat, Professor, SNTD Women's University, Mumbai, expert in Child Development; Mr. T.R. Chate, General Manager, Haldiram Foods International, Nagpur, expert in Foods & Nutrition; Mr. Khalil Ahmed Ansari expert in Textile Dyeing and Printing, Malegaon.

Capacity building workshop from 4-6 February 2010 was organized for KVK Home Scientists of Maharashtra in view of transferring developed technologies to rural women at Marathwada Agricultural University, Parbhani by AICRP, College of Home Science. Twenty five participants including subject matter specialist and programme co-ordinators from various KVK's of Maharashtra State attended the workshop.



The release of Paithani dyed with natural dyes at the hands of Hon. Agri.Min. Shri Govindraoji Adik with Shri Anil Deshmukh, Dr Nimbalkar, Dr. Puri, Dr.Pawar, Shri Saharia and Dr.Sunita Kale



Mahila Melawa organized by AICRP Home Science