

TAMIL NADU AGRICULTURAL UNIVERSITY

PROCEEDINGS

**7th Scientist Meet on Community Science 2020
(June 1, 2020)**

Lead Center

**Community Science College & Research Institute
Madurai - 625 104**

**Directorate of Research
Tamil Nadu Agricultural University
Coimbatore 641 003**

PROCEEDINGS

7th Scientist Meet on Community Science 2020 (June 1, 2020)

The 8th Community Scientist Meet was conducted on 1.6.2020 in Anna Auditorium involving 60 scientists on-line from Community Science College & Research Institute, Madurai and other Campuses & Research Stations and more than 20 scientists off-line in TNAU, Coimbatore. **Dr. N. Kumar**, Vice Chancellor, TNAU, presented his opening remarks and narrated the importance of value added products in ensuring food and nutritional security of the State. Moringa based products are being given importance and can be integrated for the fortification of foods. It is reported that vitamin C rich foods are known to improve immune system to protect from the spread of COVID 19. The research on anti-diabetic rice may be strengthened to improve the health of people of the State.

Dr. K.S. Subramanian, Director of Research indicated that the percentage of processed food hardly exceeds 10% while China is more than 60%. The community scientists are to commercialize already released technologies like rice analogue and B12 fortified beverage. Further, fortified rice with carotenoids and Fe require testing for bioavailability that attracts Institutional Ethics Clearance from the university. Value added products can be manufactured with the available facility for augmenting income generation.

Dr. S. Amutha, Dean, CSC & RI, Madurai, presented the research highlights and Action Taken Report on the recommendations of the 7th Community Scientists' Meet held in 2019. **Dr. G. Hemalatha**, Prof. & Head, Dept. of Food Science & Nutrition, **Dr. S. Kanchana**, Prof. & Head, Dept. of Human Development & Family Studies, **Dr. P. Parimalam**, Prof. & Head, Family Resource Management & Consumer Science, presented the thematic areas on Food Processing & Value Addition, Nutrition & Health and AICRP - FSN projects, respectively. The Vice Chancellor, TNAU, Coimbatore, indicated that the products developed have to be commercialized through ABD. The Director of Research summarized the event. **Dr. S. Amutha**, Dean, CSC & RI, Madurai, proposed a formal vote of thanks on-line from Madurai.

Action Taken Report

(On the Recommendations of 6th CSM 2019)

Research Project	Remarks
Theme I – Food Processing and Value Addition	
<p>1. HSCRI/MDU/FSN/2017/002</p> <p>Exploitation of Tamarind varieties for product diversification</p>	Recommended tamarind candy for technology release / patenting.
<p>2. HSCRI/MDU/FSN/2018/004</p> <p>Extraction of biocolours from Pasalikeerai fruits (<i>Basella alba</i>) and Sappathikalli fruits (<i>Opuntia ficus-indica</i>) and their utilization in the value added products</p>	Popularization of bixin powder as a natural colorant may be released as technology / patented.
<p>3. HSCRI /MDU /FSN 2018/001</p> <p>Standardisation of Texturized Vegetable Protein blending Mushroom and Underutilized Pulses</p>	Texturized vegetable protein is recommended for technology release / patenting.
<p>4. CSCRI/MDU/FSN/2020/002</p> <p>Development of functional beverage from banana Pseudo stem</p>	Functional properties in pseudo stem beverage to be completed.
<p>5. CSCRI/MDU/FSN/2020/001</p> <p>Development of value added products from Palmyrah tuber (<i>Borassus flabellifer</i>)</p>	External funded project may be proposed in line with this project on or before 1 st of July, 2020.
<p>6. CSCRI/MDU/FSN/2019/005</p> <p>Development and evaluation of value added products from bamboo shoots</p>	External funded project may be proposed in line with this project on or before 1 st of July, 2020.

<p>7. CSCRI/MDU/FSN/2019/004</p> <p>Optimize the Production process for development of cereal based ice cream cones and cups by using mathematical models</p>	<p>Technology for production of ice cream cones may be released / patented.</p>
<p>8. AECRI/CBE/ PHT/ 2018 /CPO23</p> <p>Processing of fruit powder from muskmelon and its stability during storage.</p>	<p>Recommended for Technology release/ patenting of musk melon powder and products from the fruit powder.</p>
<p>9. AECRI/CBE/PHT/FSN/2018/CP024</p> <p>Extraction of Nutraceuticals from grape wastes for utilization as bio food additives</p>	<p>Extraction and Utilization of Grape seed oil may be explored. The action taken in this regard may be presented to the Dean, Community Science before to avoid duplication of research before July 30th,2020.</p>
<p>10. AEC&RI/CBE/PHT/FSN/2017/002</p> <p>Development of Millet based Functional Milk Beverage</p>	<p>Commercialization of the technology may be carried out in coordination with Director, ABD. The action taken in this regard may be reported to the undersigned.</p>
<p>11. CSCRI/MDU/FSN/2018/CP092</p> <p>Development and standardization of protein enriched fruit beverages</p>	<p>Recommended protein enriched fruit beverage for technology release / patenting.</p>
<p>12. CSCRI/CTN/FSN/2018/CP104</p> <p>Optimization of Process Parameters Using Response Surface Methodology for Osmotic dehydration of cashew apple (<i>Anacardium occidentale</i> L.)</p>	<p>Recommended the osmo dried cashew apple for technology release/ patenting.</p>
<p>13. AEC&RI / CBE / PHT / FSN / 2018/ CP025</p> <p>Development of value added products from sapota</p>	<p>Work may be carried out as per the objectives</p>

<p>14. CSCRI/MDU/FSN/2019/003</p> <p>Assessing the Impact of Value addition technologies developed by CSC & RI , Madurai</p>	<p>Work may be carried out as per the objectives</p>
<p>Post Doctoral Fellow</p>	
<p>15. AEC&RI / CBE / PHT / FSN / 2018/ CP025</p> <p>Standardization of appropriate processing Technology for developing value added products from sapota (<i>Achras sapota</i>. L)</p>	<p>Dr. G. Hemalatha, Mentor of Post Doctoral Fellow and Dr.M.Baskar is requested to reframe the objectives to process the underutilized fruits for value addition using innovative research ideas. The action taken in this regard may be presented to the Dean on or before 30.06.2020. He must publish research papers NAAS >6 at least 2 per year throughout his PDF program</p>
<p>Theme II Nutrition and Health</p>	
<p>16. HSCRI/MDU/FSN/2017/001.</p> <p>Quality evaluation and value addition of Horse gram (<i>Dolichos biflorus</i> L.)</p>	<p>The technology for horse gram soup may be submitted for technology release / patenting.</p>
<p>17. HSCRI/MDU/FSN/2017/003</p> <p>Phytochemical and Therapeutical profile of conventional foods (<i>Solanum torvum</i>, <i>Hibiscus sabdariffa</i>, <i>Coccinia indica</i>)</p>	<p>Technology may be given for information. Based on this study, an external funded project may be proposed.</p>
<p>18. HSCRI/MDU/FSN/2018/001</p> <p>Assessing the hypoglycemic effect of selected medicinal plants for Type II Diabetics</p>	<p>Antidiabetic property of potential medicinal plants (Gymnema) may be included in the study after consulting with Professor and Head, Dept. of Medicinal and Aromatic Plants, TNAU, CBE. Based on this study, an external funded project may be proposed.</p>

<p>19. CSCRI/MDU/FSN/2018/001</p> <p>Efficacy of equitable interventions in combating health and nutritional disorders among AC&RI, ECK college students and staff</p>	<p>The data collected on the effect of interventions addressing anaemia may be shared to replicate in other College campuses and schools. The developed nutrimitix may be provided to all the hostels in TNAU.</p>
<p>20. HSCRI/TRY/FSN/2018/001</p> <p>Formulation of millet based therapeutic breakfast foods</p>	<p>Work may be carried out as per the objectives</p>
<p>21. CSCRI/MDU/FSN/2019/001</p> <p>Study on fortification of Iron in idli batter</p>	<p>Iron extracted from natural sources may be fortified in idli batter may also be experimented. Ethical clearance may be obtained to test the fortified idli batter.</p>
<p>22. CSCRI/MDU/FSN/2019/002</p> <p>Standardization and Development of Seaweed based value added products</p>	<p>Work may be carried out as per the objectives. The project may be proposed for external funding.</p>
<p>23. HSCRI/MDU/FSN/2018/003</p> <p>Nutritional and sensory evaluation of tempeh prepared using <i>Dolichos lablab</i>.</p>	<p>Therapeutic properties of the products may be experimented.</p>
<p>24. DST/HSCRI/MDU/FSN/2016/R013</p> <p>Development of functional fermented millet based drink for combating vitamin B12 deficiency</p>	<p>Commercialization of the technology may be carried out in coordination with Director, ABD. The action taken in this regard may be reported to undersigned</p>
<p>25. DR/P7-4/ P1.Biotec.Dept.,CBE & HSCRI, MDU/DBT-BIRAC (GoI)</p> <p>Enhancing nutritional security of pregnant women, infants and young children in rural households at Tamil Nadu, India through agricultural intervention</p>	<p>The Kavuni rice which is in pipeline for release may be studied for its suitability in making biryani and GABA content and functional property may be studied using animal models.</p>
<p>26. DST/ HSCRI /MDU /HSC / 2015 / R010</p> <p>Manufacture of simulated rice analogues from millets using extrusion technology</p>	<p>The morphological changes during cooking of simulated rice may be studied and compared with control rice.</p>

<p>27. TANII/ HSC&RI/ MDU/ FRM/ 2016/ D001</p> <p>Mitigating occupational drudgery of farm women through ergonomic interventions</p>	<p>The project may be carried out as per the objectives and completed within stipulated time. Any suitable technology may be recommended for release/patent.</p>
<p>28. DR /P7:4/New ASO/ Diff.Ab.St. dept., MDU/GOI MI (Tr) MISC-MSJE/Skill Dev.ofPwDs under SIPDA/ AEX</p> <p>Financial Assistance for undertaking various activities for Person with Disabilities under the Scheme for Implementation of Persons with Disabilities Act (SIPDA)“</p>	<p>Work may be carried out as per the objectives</p>
<p>29. DR/P7/GOI-DBT/CSC&RI, MDU/ ASO/2018</p> <p>Enhancement of livelihood security based on locally available Resources for Disabled women</p>	<p>Work may be carried out as per the objectives</p>
<p>Post Doctoral Fellow FW KC Core Project</p>	
<p>30. Impact of evidence based Ayurvedic food for revitalization of mental health among 3-10 years ADHD affected children.</p>	<p>Suitable product may be developed for ADHD children & efficacy trail may be done after obtaining ethical clearance.</p>
<p>II All India Coordinated Project on AICRP Home Science</p>	
<p>1. Food Science and Nutrition</p> <p>Development of region specific therapeutic foods for prevention of diabetes.</p>	<p>Work may be carried out as per the objectives</p>
<p>2. Dietary approach for management of dual burden of malnutrition among farm women.</p>	

3. Reproductive health care in Agrarian Families	
4. Development of Parenting Index for Rural Families	
5. Drudgery Reducing Farm Technologies for Gender Equity	
6. Ergonomics for Work Improvement and Gender Equity in Agro-Enterprises	
Textile Science and Design	Work may be carried out as per the objectives
7. Comprehensive use of underutilized natural fibres for livelihood of rural women	
8. Utilization of renewable plant sources and agro waste for herbal functional finishes	
9. A social pursuit through popularization and product diversification of ethnic crafts on textiles with ICT application.	Work may be carried out as per the objectives
Extension Education and Communication Management	Work may be carried out as per the objectives
10. Promoting Farm Women Knowledge Groups (FWKGs) for Enhanced Use of ICT in Agriculture and Allied Sectors	
11. Empowerment of Farm Women on Climate Change.	
12. Scoping IFS Models From Gender Perspective With Focus on Enhancing Farm Income	

III. Action Plan 2020 -21	
1. Instant fat filled milk powder : Processing parameter optimization and Shelf stability evaluation	Dr.M.Ilamaran, Assistant professor (FSN) is requested to propose this for external funding. The proposal should be sent on or before August 2020.
2. Standardization and Development of Synbiotic Misti Dahi, a Functional Dairy Based Dessert	Dr.T.Uma Maheswari, Assistant professor (Agrl. Micro) is requested to propose this for external funding. The proposal should be sent on or before August 2020.
3. Product development from the traditional antimicrobial polyherbs and study its efficacy	Dr.V.Veeranan Arun Giridhari, Assistant professor (FSN) is requested to propose this for external funding. The proposal should be sent on or before August 2020.
4. Exploitation of underutilized pulses to achieve nutritional security	Dr.E.Tamilselvi, Assistant professor (FSN) is requested to propose the topic as University Research project. The work may be carried out and reported in the monthly report periodically from June, 2020.
5. Studies on the formulation of Value added products from red colour Manila Tamarind (<i>Pithecellobium dulce</i>) var. Under commercial Exploitation	Dr.V.Vani, Asst. Prof, HC&RI, Periyakulam is requested to propose to propose the topic as University Research project. The work may be carried out and reported in the monthly report periodically from June, 2020.
6. Standardisation and evaluation of value added products utilizing wood apple (<i>Lymonia Acidissima</i>) genotypes	Dr.V.Vani, Asst. Prof, HC&RI, Periyakulam, is requested to propose to propose the topic as University Research project. The work may be carried out and reported in the monthly report periodically from June, 2020.
7. Development of Antimicrobial functional finishes for safe and hygienic handling in the society	Dr.R.Saravanakumar, Assoc. Prof and Head (ADM) is requested to propose this for external funding. The proposal should be sent on or before August 2020.
8. Effect of anticarcinogenic compounds of <i>Annona muricata</i> during processing of value added products	Dr.S.Kanchana, Prof and Head (HDT&FS) is requested to propose this for external funding. The proposal should be sent on or before August 2020.

9. Development of gluten free fruit mocha (rice cake) for celiac patient	Dr.K.Jothilakshmi, Assistant Professor (FSN) is requested to propose this for external funding. The proposal should be sent on or before August 2020.
10. Lauric acid enriched fruit smoothie	Dr.P.Geetha, Assoc. Prof, AEC&RI, CBE is requested to propose this as an University Research project.

Remarks of Vice Chancellor

1. Efforts may be taken to commercialization of the products released by UVTRC
2. The facilities available in DARS, Chettinad may be utilized for processing and used for income generation
3. The facilities available in AC&RI Killikulam for palmyrah processing may be utilized.
4. NRC for grapes may be collaborated for research on grape seed oil
5. The cheap sources of vitamin C like West Indian cherry, Thavasikeerai / Chekkurmanis / multivitamin spinach may be exploited as source of immune booster. The iron rich foods may be also be used for extraction of iron used for biofortificant.
6. Researches which address COVID pandemic may be planned and carried out with quick results. Project proposals / concept note to be submitted on or before 16.6.2020 (Action Dr.R.Sarvanakumar (Assoc. Prof and Head (TDS)) , Dr.G.Sashidevi (Assoc. Prof) and Dr.R.Vijayalakshmi (Assoc. Prof))

Remarks of Director of Research:

- 1 Toxicity of cotton seed milk (Gossypol) which affects male fertility may be clarified
- 2 In the fortification studies, bioavailability of nutrients may be assessed in detail involving medicos
- 3 Innovative products from palmryha may be explored such as spray dried neera or nungu etc

4. Millet based value added products may be popularized using stakeholders in collaboration with Dr.C. Vanniarajan, Professor and Head, Dept. of PB&G, AC&RI, Madurai
5. Testing newly developed products the following must be followed.
 - Institutional ethics committee.
 - Involve medicos in sample collection.
 - Animal models can be used.
6. Linkage with other institutions like IIFPT, NIFTEM, CFTRI and DFRL may be encouraged

**7th Scientist Meet on Community Science 2020
(June 1, 2020)**

PARTICIPANTS

Scientists from CSC&RI, Madurai

1. Dr.S.Amutha, Dean, CSC &RI, Madurai
2. Dr.G.Hemalatha, Professor and Head (FSN)
3. Dr.S.Kanchana, Professor and Head (HDFS)
4. Dr.P.Parimalam, Professor and Head (FRM& FS)
5. Dr.J.Jane Sujatha, Professor and Head (EE&CM)
6. Dr.R.Saravanakumar, Associate Professor and Head (TSD)
7. Dr.K.Shanthi, Assoc. Professor (FSN)
8. Dr.R.Vijayalakshmi, Associate Professor (FSN)
9. Dr.G.Sashidevi, Associate Professor (FSN)
10. Dr.K.Shanthi, Assoc. Professor (FSN)
11. Dr.P.S.Geetha, Assoc. Professor (FSN)
12. Dr.A.Janakirani, Assoc. Professor (Agrl.Extn)
13. Dr.S.Kamalasundari, Assistant Professor (FSN)
14. Dr.V.Meenakshi, Asst.Professor (FSN)
15. Dr.V.Veeranan ArunGiridhari, Asst. Professor (FSN)
16. Dr.M.Ilamaran, Assistant Professor (FSN)
17. Dr.B. Nallakurumban, Assistant Professor (FSN)
18. Dr.K.P.Sivakumar, Assistant Professor (FSN)
19. Dr. E.Tamil Selvi, Assistant Professor (FSN)
20. Dr.L.Karpagapandi, Assistant Professor (FSN)
21. Dr.K.Jothilakshmi, Assistant Professor (FSN)
22. Dr.M.Baskar, PDF, CSC&RI, Madurai
23. Dr.Amaravathi, PDF, CSC&RI, Madurai

Scientists from other Department / Station

1. TPO to Vice Chancellor, TNAU, Coimbatore
2. Director of Research, TNAU, Coimbatore
3. Dean, AEC&RI, TNAU, Coimbatore
4. Dr.V. Thirupathi, Dean, AEC&RI, Kumulur
5. Dr. V.K.Paulpandi, Dean, AC&RI, Madurai

6. Dr.P.Masilamani, Dean, ADAC&RI, Trichy
7. Dr.R.Viswanathan, Professor, Agrl. Engineering, ADAC&RI, Trichy
8. Dr.C.Vanniyarajan, Professor and Head (PBG), AC&RI, Madurai
9. Dr.P. Rajkumar, Professor, AEC&RI, TNAU, Coimbatore
10. Dr. M. Balakrishnan, Associate Professor (FPE), AEC&RI, TNAU, Coimbatore
11. Dr. Z. John Kennedy, Professor (Microbiology) and Head, CPHT, AEC&RI, TNAU, Coimbatore
12. Dr.S.Selvam, Professor and Head, Dept of Social Science ADAC&RI, Trichy
13. Dr.M.Raveendran, Professor and Head (BioTech), CPMB, TNAU, Coimbatore
14. Dr. P.Vennila, Professor, CPHT, AEC &RI, TNAU, Coimbatore
15. Dr. G.Gurumeenakshi, Associate Professor, CPHT, AEC &RI, TNAU, Coimbatore
16. Dr.P.Geetha, Associate Professor , CPHT , AEC &RI, , TNAU, Coimbatore
17. Dr.S. Jesupriya Poornakala, Assistant Professor (FSN), DARS, Chettinad
18. Dr.V. Vani, Assistant Professor, Department of Fruit science, HC&RI, Periyakulam
19. Dr.M.Murugan, Professor and Head , Dept of Entomology, AC &RI, Coimbatore
20. Dr. K.Geetha, Assistant Professor (FSN) , ADAC&RI , Trichy
21. Dr.G.G.Kavithasree , Assistant Professor(FSN), AC&RI, Eachangkottai, Thanjavur
22. Dr. A. Kavithapushpam, Assistant Professor (FSN), AC&RI, Killikulam
23. Dr. P.K.Padmanaban, Assistant Professor (Engg), AEC&RI, Kumulur.
24. Dr.S.Thambidurai, Assistant Professor (Engg), AEC&RI, Kumulur
25. Dr.M.L.Mini, Assistant Professor, Department of Biotechnology, AC&RI, Madurai
26. S. Vellaikumar, Assistant Professor, Department of Biotechnology, AC&RI, Madurai
27. Dr.V.Sivasankari, Assistant Professor (Maths), Department of Agricultural Economics, AC&RI, Madurai

DIRECTOR OF RESEARCH